The Heron Newsletter

July 2004

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THE HERON NEWSLETTER

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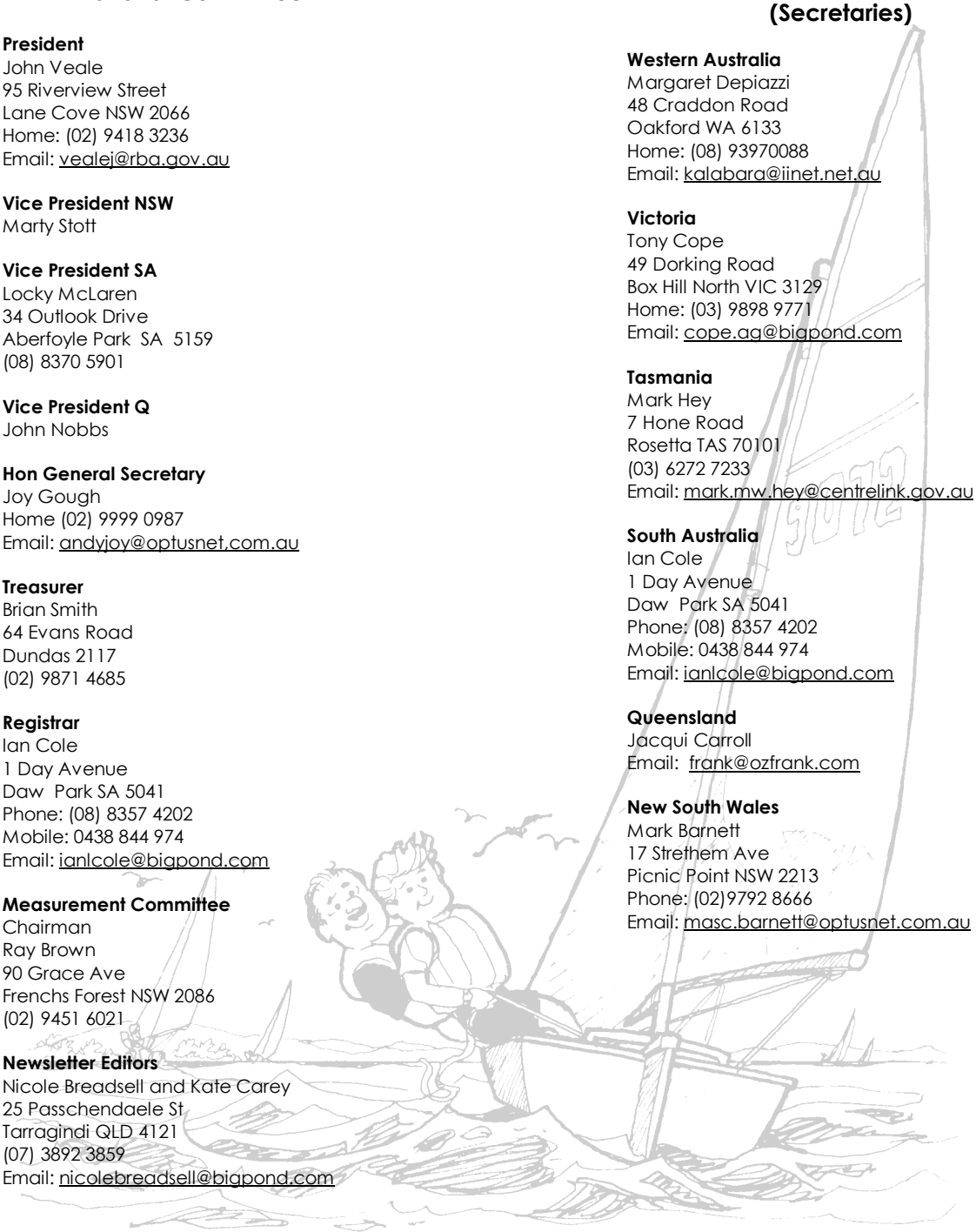

Front Cover: Mollie Carey having a ball on the shores of Lake Cootharaba for the Qld State Titles May 2004.

NATIONAL REPORT

President's Report July 2004

It is a pleasure to welcome members to this year's Annual Meeting of the Association. I know that many members cannot be here tonight, but I am particularly pleased to welcome Andy Gough to tonight's meeting following some extensive repairs and maintenance. I can report to those unable to be at the meeting that Andy looks and sounds better than ever and is already figuring out his training program for the Nationals in Victoria.

This has been another successful year for the Association. The highlight was the National Titles held by the South Australian Association at Brighton and Seacliff Yacht Club. Our members in SA did a great job of organising and welcoming those who had travelled hundreds (and thousands) of kilometres to be there. The Yacht club organised the on water activity very professionally, sometimes against difficult odds with substantial wind shifts as races were underway. Don Jamieson was a worthy National Champion once again but he was pushed all the way by Craig McPhee. Now it's time to look forward to the future with Victoria at Safety Beach in December 2004 and NSW at Georges River in Sydney in December 2005.

Members will recall that the Association has been trying to place Dee Kay, the first Heron of which the Association has records in the National Maritime Museum in Sydney. Despite a great effort over a number of years by Gary Brunton, Ray Brown and Andy Gough to document Dee Kay's history, the Museum has decided that it does not fit within its collection guidelines. We are now trying to place it in a Museum in Tasmania, where it spent most of its life.

This has been another busy year on measurement matters. Our Queensland members are working hard on building a jig for construction of stitch and glue Herons. I know that South Australia and Victoria in particular are anxious to see what progress has been made. There was considerable discussion at the National Titles about imperfections in the plug for the Mark II Heron and members in South Australia are investigating ways to address them. The challenge will be to find ways of making improvements that do not discourage our fibreglass builders from building new Herons, given that they have only limited production demand. Finally on measurement matters, the Measurement Committee has begun the process of turning over its membership. Warren Hodgkins has replaced Andy Gough and several other members who have given long and dedicated service will retire over the next year or so. Measurers interested in taking their places should contact Ray Brown to see what is involved.

Finally, let me thank the Committee members who have worked so hard for the Association over the past year. Ian Cole has had a baptism of fire as our new Registrar but has done a mammoth job to get our records right up to date. Brian Smith has continued to keep our accounts in top shape and always knows exactly what our financial position is. Joy Gough, aided by Andy, has kept track our all our meetings and distributed minutes to Committee members by email, usually within a few days of every meeting. Nicole and Kate have done a wonderful job on the Newsletter with lots of interesting content out on time. My thanks to them all for their efforts After many years of maintaining our web site Ben Short is looking to move on. Thanks to Ben for his efforts and volunteers please step forward.

I look forward to seeing many of you again over the next year. Until then happy sailng.

John Veale

Motion Outcome from AGM

A transparent panel is permitted in the mainsail. Its area shall not exceed 1290 sq cm, no part of the panel may be closer than 203 mm to any edge of the sail.

The motion voted on was passed!

IF YOU WOULD LIKE TO RECEIVE THE HERON NEWSLETTER VIA EMAIL RATHER THAN A HARD COPY BY SNAIL MAIL PLEASE EMAIL THE EDITOR WITH YOUR REQUEST

nicolebreadsell@bigpond.com.au

MINUTES OF THE NHSAA AGM HELD ON THE 11TH MAY 2003 AT THE FORESTVILLE RSL

Meeting Opened at 8.10 p.m.
Chairman J. Veale welcomed all present.

Apologies. Gary Brunton, Ian Cole,

Present. 15 members present. J.Veale, J. Gough, B.Smith, P. Macleod, Ray Brown, A. Gough, I. Cook, B. Parry, Peter Harding, Bill Peterson, James Fairlie, Don Jamieson, Sue Carrick, Peter Carrick, Alex Milne.

Minutes of the 2003 AGM were read and accepted. Moved Brian Smith, Seconded Andy Gough, carried.

Matters Arising. Dee Kay is at NLSC. Ray and John working on presentation to the Hobart Maritime Museum.

President's Report. John spoke to the meeting giving thanks to his team of workers and commending Ian Cole for efforts as Registrar from afar. Full report will be printed in the June Newsletter.

Treasurer's Report.

- Tabled and will be printed in the next newsletter. Audited by Paul Hanley. Moved that it be accepted by Ian Cook, James Fairlie, Carried.
- The decision to continue to issue free handbooks for another year was influenced by the comments of one new member "It is the best thing I have ever read"
- Cost of masts was discussed and it was agreed that when new masts were ordered the cost to the states would reflect all increases. It was agreed that Brian Smith should work out a pricing policy with the States that would allow them and the National Association to share any profits.

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Measurement Committee Report.

- Ray advised us that two meetings were held over the past year and covered the alteration of the Measurement form to match the changes in the Constitutional changes.
- Andy Gough had resigned and was replaced by Warren Hodgkins. In light of forthcoming resignations from the committee some members have expressed an interest.
- New measurers include Don Jamieson and Bill Peterson .

Registrar's Report:

- Ian expressed his concern re declining numbers and noted that the concerted effort from SA held their numbers steady. Thanks were extended to life members who continued to support their Association financially and requested all life members complete the membership form to enable the Association to keep track of boats.
- The Association has bought a new printer and the first run of Membership cards look good. Some refinement still to be done.
- New membership form widely accepted with a good response. A few changes may be required to help simplify the layout and prevent inaccurate payments and information. Handbooks are being distributed by Brian. A change of renewal date to July 1st to be discussed.
- It is a long project to update the old records and a little more work is required when time and information available.

Newsletter Editor's Report.

- This first year of publishing the Newsletter has been an enjoyable challenge.
- One concern was the cost of sending the newsletters. Whilst there were savings on printing costs, we were losing on postage. We have now purchased a 'postage paid' stamp and 'address' stamp so that we can send the newsletters as 'clean mail'. So a 16-page newsletter will cost .45c and a 20-page newsletter will cost .70c. Previously it had been costing us $1.
- This year we will canvas members re receiving the Newsletter in PDF format via email as an alternative.
- The response from the members we have been in contact with has been very positive and encouraging. People seem to enjoy the format and the mix of articles and news etc. We are more than happy to incorporate any new ideas and definitely appreciate the input from members.

John extended his appreciation to Nicole and Kate especially this last Newsletter with Nicole giving birth to Rosie Helen. Congratulations to Nicole and Greg. Kate and Nicole have set a high standard but other states are to look at taking on this important role in the future.

Election of Office Bearers.

President	John Veale nominated: Ray Brown, seconded Brian Smith			
Immediate Past President	Gary Brunton			
Vice Presidents	NSW: Brian Smith. SA: Locky McLaren QLD: John Nobbs.			
Secretary	Joy Gough	nominated Bill Parry,	seconded Peter Macleod	
Registrar	Ian Cole	nominated Ian Cook,	seconded Andy Gough	
Treasurer	Brian Smith	nominated John Veale,	seconded Don Jamieson	
Newsletter Editors	N Breadsell and K Carey nominated Joy Gough seconded John Veale			
Auditors	Alex Milne/ Paul Hanley.			

Ian Cook acted as returning officer, declared all positions vacant and thanked Dr John Veale for the past year's efforts. Nominations were invited from the floor.

The elected Officers are as follows:
John Veale resumed the chair and read the motion to alter the Constitution, Sailing Rules, and Construction Measurement Rules of the NHSAA. Members were invited to speak for and against the motion that "clause 6.1 of part 2-Construction and measurement rules" be amended by adding the following wording at the end of section 6.1

A transparent panel is permitted in the mainsail. Its area shall not exceed 1290 sq cm, no part of the panel may be closer than 203 mm to any edge of the sail.

Voting followed: For the motion: 22 against: 0 Carried unanimously

General Business

- Jim Fairley spoke to the meeting regarding the 47th Nationals to be held at Georges River Sailing Club and advised the meeting that Brian Smith had been elected as Vice President from NSW.
- Volunteers are required for the 46th and 47th Nationals.
- Victoria is desperate for help and John will ask for specific tasks that need to be filled.
- Draft Notice of Race and Sailing Instructions have been received but Ian Cook required final copies for vetting ASAP.
- Sue Carrick and Don Jamieson have volunteered to assist in Victoria for the 46th National Regatta.

Meeting Closed 9.35pm.

Letters To The Editor

To the Editors,

I am attaching a letter written by Viv Picman, who, with her husband Mel, sailed Herons at Middle Harbour for a number of years. Viv and Mel were responsible for suggesting that the NSW Heron Association set up the Junior State Titles so that the crews could have their own sailing titles. This idea was approved and the titles commenced at Narrabeen Lakes, the venue being an enclosed waterway safe for the Junior sailors.

This titles continued for many years , and then some of the Sydney clubs asked if they could host part of the series, so the venue became varied. This March, the Titles were again held at both Concorde Ryde and Narrabeen...this year celebrated twenty one (21) years of sailing this event.

We made contact with the Picmans (Mel, now retired, was a manufacturing jeweller) He had designed and donated 2 trophies – 1 for Junior/ Junior and 1 for Junior/Senior. To celebrate this occasion we asked them if they would present the prizes which they were delighted to do so and we experienced a lot of nostalgia, together with a pleasant series and good competitive sailing.

Although they do not sail anymore, they still maintain contact with the Heron fraternity.

Regards,
Ken Lenton
Wizard of Oz

21ST CELEBRATION OF THE NSW JUNIOR STATE TITLES

On 14th March 2004 Mel and I were invited, by Nola Llewellyn, from Narabeen Lakes S.C. to the 21st celebration of the NSW Junior State Titles. Mel and I had originally instigated this regatta and were told "don't bother, it will never get off the ground." How proud we were to see so many juniors taking to the water (off the ground!).

Some of the heats have been sailed at other clubs but N.L.S.C. has been the major hosts and what a magnificent weekend of pomp and ceremony and sausage sizzles etc. Interstate juniors plead your case and convince your oldies (who you crew for in National Titles) to commit to a great weekend and more than warm welcome to N.S.W.

VIV & MEL PICMAN
MIDDLE HARBOUR

TREASURER'S REPORT

NATIONAL HERON SAILING ASSOCIATION OF AUSTRALIA
INCOME and EXPENDITURE
Year to 31st March 2004

	2003/2004	2002/2003	2001/2002
Income			
Membership Subscriptions and Registrations	9640.00	10115.00	7630.00
Donations	470.00	465.00	335.00
Hand Books & Plan Sales	1100.00		
Mast Sales	423.36		
Interest (net of charges)	611.87	612.25	828.88
Advertising, Promotion, AYF(Refund)			
Refund of Term Deposit			
Refund of Cash Management Fund			
	12245.23	12140.61	10726.03
Expenditure			
Membership Subscriptions and Registrations			
Advertising, Promotion, AYF (+ Trophies 01 & 02)	75.00 }	517.00 }	1891.95
Newsletter (Inc. Postage)	2982.95	2915.30	1764.00
Bank & Government Charges(Nett)	-877.81	162.05	218.04
Cash Mangement Fund Deposit			
Secretarial (Inc. Postage)	1458.17	2054.30	1546.23
State Subsidies	885.00	918.00	1002.00
Hand Books & Masts	1587.20		
Insurance	4573.91	4388.75	2475.00
Trophies (02/03)	792.85 }	808.60 }	
	11477.27	12660.00	9848.83
Surplus for the Year	767.96	-519.39	877.20
	1570.36		

NATIONAL HERON SAILING ASSOCIATION OF AUSTRALIA
Accounts for the year to end of March 2004
BALANCE SHEET
as at 31st March 2004

	2003/2004	2002/2003	2001/2002
Assets			
Interest Bearing Deposits	10240.03	13303.19	13303.19
Cash Managemnt Fund	2145.93	0.00	0.00
Cash at Bank	3001.10	2138.14	2519.93
Stock Handbooks and Masts	1482.64	1112.96	1758.96
Debtors (Masts)	302.40	302.40	0.00
Debtors (Handbooks)	500.00	0.00	0.00
	17672.10	16856.69	17582.08
Liablities			
Unpresented Cheques	120.00	25.00	231.00
State Subsidies	890.00	890.00	890.00
Net Assets	16662.10	15941.69	16461.08
Represented by Members Funds brought forward from previous year	15941.69	16461.08	15583.88
Surplus for the year	720.41	-519.39	877.20
Members Funds	16662.10	15941.69	16461.08

I have audited these financial statements and when read in conjunction with the "Attachment to the Treasurers Report" present a true and fair view of the Associations results and financial position at the year end

Attachment to the Treasurers Report

Accounts for the year ended 31st March 2004

The result for the year is a profit of $ 720.41
Members funds at year end were $ 16662.10

Membership Subscriptions and Registrations
Are slightly down on last year. It will be interesting to see the affect of the separation of membership and boat registration fees next year.
Donations Held their own.
Interest Was up this year to a total of $757.80, with $611.87 being paid directly into our cheque account and a further $145.93 being credited into a Cash Management Fund which was opened during the year. Surplus funds from the cheque account were deposited into the CMF to earn interest until required to pay for major expenditure items such as the insurance. The smaller of our Term Deposits was also deposited in the CMF.
Profit from Plans, Handbook and Mast Sales We sold 52 Handbooks this year. The policy of providing a free handbook to new members was continued. 28 handbooks were given away. Stock was replenished with the purchase of 100 books.
Mast Sales were 6 to South Australia, 4 to Victoria and 4 to New South Wales Associations and are at cost.
A new supplier of mast steps was found and stock was replenished with the purchase of 120.
$302.40 owing to NHSAA at the end of the previous financial year for purchase of masts was received this year.
Profit of $296.52 on masts and Handbooks sold to SA and Vic has been recognised although not received in cash at year end. ($500 for handbooks has been received after closure of accounts, $302.40 for masts remains outstanding as at the date of this report.)
Advertising, Promotion & AYF A refund of $150 was received from the QHSA for the 2003 Brisbane Sailfest promotion.
Miscellaneous The item of $50 was for a donation in memorium
Trophies The donations received from members were distributed to SAHSA for general trophies at the Nationals. The National Champions trophy was also supplied from NHSAA funds.
Bank & Government Charges Alternative banking arrangements were investigated to try and reduce the impact of bank fees but it was found that the arrangements currently in place were the most economic. However Bank Accounts Service fees have increased yet again..
Newsletter (Inc. Postage) Nicole and Kate are to be congratulated on the newsletters produced during the year. They have found a cheaper printing source but due to the size of the issues postage has been up. When put together though, at $2983 the cost is only marginally more than in the previous year. The invoices for the March 2003 Newsletter were paid in this financial year. The invoices for the March 2004 newsletter are not yet to hand. No accrual for this expense was made at the year end.
Secretarial (inc. Postage) The increased use of Email by the Secretary, Treasurer and Registrar resulted in a substantial cost saving this year.
Insurance Claims Made Liability Policy under the AYF Liability Scheme is still our biggest single item of expenditure. A small increase of less than $200 was most pleasing given all the negative publicity at this time last year. The Association does not insure masts, mast steps, handbooks, plans or the plug and moulds owned by the Association. The insurance paid provides cover until 15th November 2004 and partly relates to the 2004/2005 financial year.
State Subsidy Liability This is paid to each State at the rate of $100 plus $1.00 for each member in that State in the previous year and is accrued at the year end based on estimated liability.
Moulds (Storage Fee) The invoice for this expenditure item was received after the closure of the books for audit. No accrual for this expense, (estimated at $250.00), was made at the year end.
Accounting Method The accounts are prepared on a cash accounting basis except for trading stock, outstanding proceeds of mast and handbook sales to State Associations and estimated liability for subsidies to State Associations.
Taxation Status The Association was advised by the Australian Tax Office on 28th June 1991 that it is exempt from Income Tax.
ABN Number The Association ABN number is 79 884 913 220
GST The Association pays GST on purchases and does not claim deductions from or remit GST to the Australian Tax Office and does not submit a BAS.
In Conclusion At the time of the January Management Meeting in Adelaide I forecast a small reduction in our total assets due to expenditure to replenish our stock of handbooks and mast steps. The reduced Secretarial expenditure has helped to reverse this result giving us a small profit for the year.

The result for the year is a profit of $720.41

UK CONNECTIONS

1

On his recent visit to the UK, John Palmer, Qld Heron sailor, managed to visit a club which has been sailing Herons since the early 1950's, the Eyott Sailing Club.

He was able to examine the UK stitch and glue boats , meet with the Chairman of the UK Heron Association, Derek Dodd, as well as catch up with some friendly faces, Andy Dale and Nigel Derby.

For those of you who attended the 44th Qld National Titles in Brisbane 2 years ago you will remember Andy and Nigel as great ambassadors for the UK Heron Sailing Association. True to their word, they are returning again this year to sail at the 46th National Titles in Victoria.

The UK Nationals generally have between 20-30 entrants so it is exciting for them to be involved in such a large and strong fleet here in Australia.

John Palmer is to be commended on encouraging and maintaining strong ties between the 2 countries Heron Associations.

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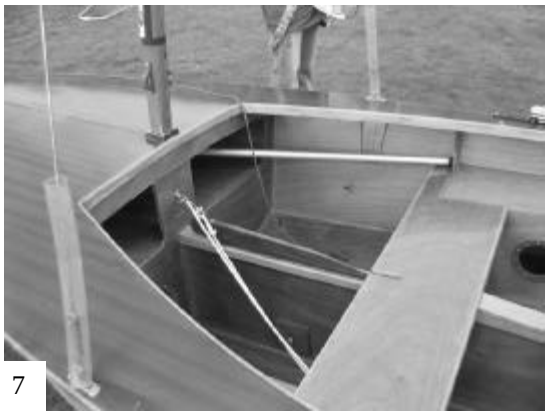

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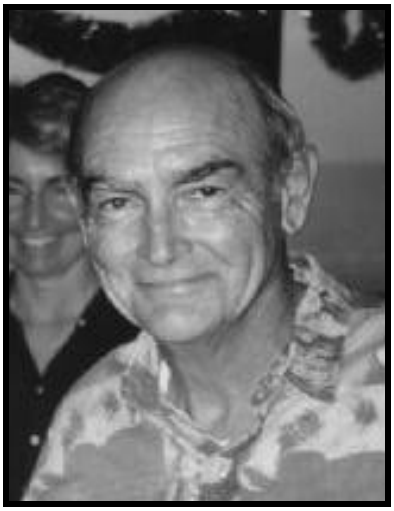
1 & 8. Eyott Sailing Club
2. Derek Dodd Chairman of the UK Assoc. & John Palmer
3. Vanessa Palmer at Eyott
4. UK Ambassadors Nigel Derby & Andy Dale with Derek Dodd
5, 6 & 7. UK Stitch & Glue boat **Nice N' Ez**
Photos by John Palmer

HERON WINTER TUNING AND PREPARATION NOTES 2004
By Don Jamieson

These coaching notes were originally prepared for a training program run last year by the Victorian Association. As they may be useful to a wider audience, I have offered them for reprinting in the NAHSA Newsletter.



The idea of winter upgrading is to ensure that all boats have good working controls and up-to-date spars and other gear, so that by the time the new season is in full swing, skippers only need to be concerned about cranking up their sailing skills. These notes are a mix of references to sailing technique and tuning, as I have found it useful to explain sail behaviour and why you need certain controls, to provide context for the advice on setting up the controls.

Essential material to support these notes is *The Heron Racing Handbook*, available for $25 from Ray Brown, 90 Grace Ave Frenchs Forest NSW 2086. Some of the comments in these notes are an updating of the Handbook, and it is recommended that a copy of the notes be taped in the back of your handbook.

Desirable winter reading material is a copy of Dr. Stewart Walker's *Advanced Yacht Racing Tactics*, which unfortunately has become a bit hard to find. More accessible is David Dellenbaugh's *Speed and Smarts*, which is available as a book, I believe, or can be found through back copies of Australian Sailing or by direct subscription to Dellenbaugh's newsletter recently advertised also in Australian Sailing.

Good sailing
Don Jamieson
Abracadabra 10101

PART A *'Changing Gears'*

Sailing technique, leading into changes you may need to make to your equipment to make it easier to shift gears up or down.

The major factors which determine the results of a Heron regatta series, over a range of wind conditions, are
- controls
- gear condition and weight
- acceptable sails
- boat handling
- going the right way

Over-arching all of this is the skipper's mindset which should be characterised by intense determination and persistence. Most of my comments in these notes are pitched at Sunday sailors who wish to move up in a national regatta from the bottom half of the fleet, to the top half of the fleet.

Controls
Many weekend warriors spend a lot of time fiddling with sail trim, struggling with poor controls, with their attention inside the boat while the world and the competition goes by outside. They lose track of where they are in the wind oscillation and risk getting out of phase; they don't see by the water surface where the current is running, and which side of the course is looking best.

To drive a manual car you need to change gears up and down, as corners, traffic, and hills dictate. Changing gears in a car becomes automatic, and is no distraction from your thoughts on where you are going. So it needs to be in sailing, even if the clutch and the gear controls look different. The automatic nature of changing gears can only be developed or improved on the water, but the controls can be sorted out in winter. First among these is the vang, and with it goes the mainsail luff control and shape.

Mainsail Shape Control
The mainsail controls are aimed at two objectives. One is to have the sail relatively flat upwind to allow the boat to point, i.e to sail as close to the wind as possible. Flattening also reduces the drag on the sail airfoil and the heeling force on the boat.

The other objective is to power up the sail on reaches by increasing the depth of the sail cross-section. The greater power comes from the increased sail curvature turning more mass of air per second through a greater arc. You can power up on reaches because the angle of the wind, and the angle of the sail cross-section to the centreline of the boat, allows the same crew weight to manage more force generated in the sail, without a corresponding increase in heeling force.
In the Heron the sail shape is controlled mainly by vang tension on the boom which translates to the sail leech tension and bends the gaff and mast more or less. A bent mast and gaff equals a flatter sail. A secondary effect on shape is achieved by the amount of luff tension. More luff tension and sail stretch pulls the maximum depth of the sail forward. Going to windward in a rising breeze, this gear change is necessary to compensate for the tendency of increasing wind pressure to push the sail shape aft. This backward displacement of the maximum depth tends to result in the leading edge of the sail luffing, while the leech tends to hook, with increased drag and heel.

Luff tension is not needed off the wind, when you want the maximum

depth of the sail no further forward than the mid point. This is achieved by having no significant luff tension (shown by lots of small wrinkles up the luff) and reduced vang tension to allow the mast and gaff to straighten, "bagging up" the sail, and allowing more twist in the leech.

The Vang

Just as a manual car, gearshift must be handy to the driver at all times. The vang MUST be adjustable from either side of the boat while hiking. Ideally it should be adjusted by the skipper, who will have the best feel for it. For example if your main looks a bit too twisted going upwind, or you are not pointing as high as boats around you, it is necessary to pull on the vang (a change of gears).

A good two-sided vang system for Herons is described in the handbook, on pages 49 and 74. Since the book was written, I have come to the conclusion that the vang wire end should always lead to the front of the boom, (Fig 3.9 position b) where it acts as a more or less automatic downhaul.

Since writing the handbook, it has become apparent that the "b" arrangement in the handbook provides more downward force than needed on the gooseneck an sail luff, particularly for Brewer sails and others built from similar lightly calendered cloth.

A clear-cut improvement, devised by Bill Peterson (a regular top-placer at Nationals), is to split the downward force on the gooseneck in half by installing a small all-metal pully (Ronstan RF560) at the bottom of the king post. (See sketch). In words, the vang wire is shortened and swaged to this pully about 150mm short of the bottom of the king post. A separate wire is shackled to the king post, led through the new pully, back through the original pully at the bottom of the king post, then up to the goose neck. This maintains the 12:1 ratio on the vang, acting at the boom strop, as set out in the handbook, but limits the tension in the end of the wire going to the forward end of the boom. With this arrangement, the sail luff is less likely to be overstretched and the operation of the uphaul by the for'ard hand, (to balance the downward force from the vang), becomes less critical. Bill and I both used this vang set-up at Brighton-Seacliff.

The Uphaul

The uphaul is essential, as it gives a positive control of the boom position and the sail luff tension, and avoids extraneous effects due to different wind strengths, and different "stretchiness" of the sail luff. The uphaul design shown in the handbook (p50) photo shows a turning block well above the boom, with a single wire leading down to a 4:1 purchase system with a block containing two pulleys and an integral cleat. Any less mechanical advantage is unworkable as there is a large load on the uphaul when the boom is pulled up against the vang downhaul wire tension.

The integrated pully / cleat shown on the uphaul in the handbook is rather difficult for small crews to release. I upgraded my cleating system, following Rob Brewer's lead, by installing a self-aligning turning block and cam cleat assembly on the back of the mast just above the foot. Expensive but effective. Rob goes further on his rigs by locating the 4 x purchase uphaul system inside the mast. Very neat but a bit tricky to install.

The uphaul on the boom is adjusted with every change in vang tension, to avoid excessive luff tension upwind, or to move the depth of the sail back for downwind legs. As it represents fine tuning of the vang effect on the sail, I find it OK for the crew to operate the uphaul, but like all controls it must be operable by the skipper if the crew is struggling with something else.

The Outhaul

Sail shape and boat speed are less sensitive to adjustments of the foot of the mainsail than to the vang and luff controls. So if I am suffering overload in a race from too much traffic or tricky tactical stuff going on, I tend to set the foot in a position where it is pulled right out but not stretched, and leave it alone.

As the wind gets up, and the boat is frequently overpowered, then you need to pull on the outhaul to further flatten the sail upwind. Having done that, you are committed to ease it off on the reaches to generate enough power to keep the boat planing and stable. An over-flat sail is dangerous off the wind as it operates in a narrow groove between fully loaded and unloaded. This means you can easily go in backwards, if the boat luffs from weaving around a bit, as it tends to do in big seas. Just as I did in the Nationals at Henley many years ago.

The outhaul must allow you to move the leech cringle in and out by 60mm, with a minimum of effort. A mechanical ratio of 8:1 is necessary so that this can be done against a lot of friction, without the need to unload the vang. This ratio is best achieved with a 4:1 fine wire purchase between the cringle and the end of the boom, leading to a 2:1 purchase along or inside the boom. This second purchase will be made with a soft fat cord on which you can get a good grip.

This cord should be led forward through an eye, a small cam cleat, and around a pulley shackled near the gooseneck. With this arrangement either the skipper or the crew can pull on the outhaul, at any angle from anywhere in the boat, with good effect.

Changing Gears

To get a feel for the shifting of gears, get out on the water half an hour before the race and practice setting the vang up-wind, resetting it on a reach, and resetting it again upwind.
In setting the vang, first check that the gooseneck is held in position on the mast track, with the up-haul cleated. Now pull on the vang until obvious crease lines appear in the mainsail, radiating from the outhaul clew on the outer end of the boom, towards the mast and the gaff. (For an illustration see the "Rig Doctor" section of the handbook, page 46.)

You feel the effect instantly as the boat initially heels a bit more, and points a few degrees higher. But the job is only half done. Now ease the uphaul off a little **under careful control**, allowing the boom to move down (or if you have a Cunningham, pull that on for the same effect) until the crease lines diminish. They should not be eliminated entirely because in that case the sail cloth becomes featureless and more difficult to "read", and you have probably over-flattened it with some loss of power.

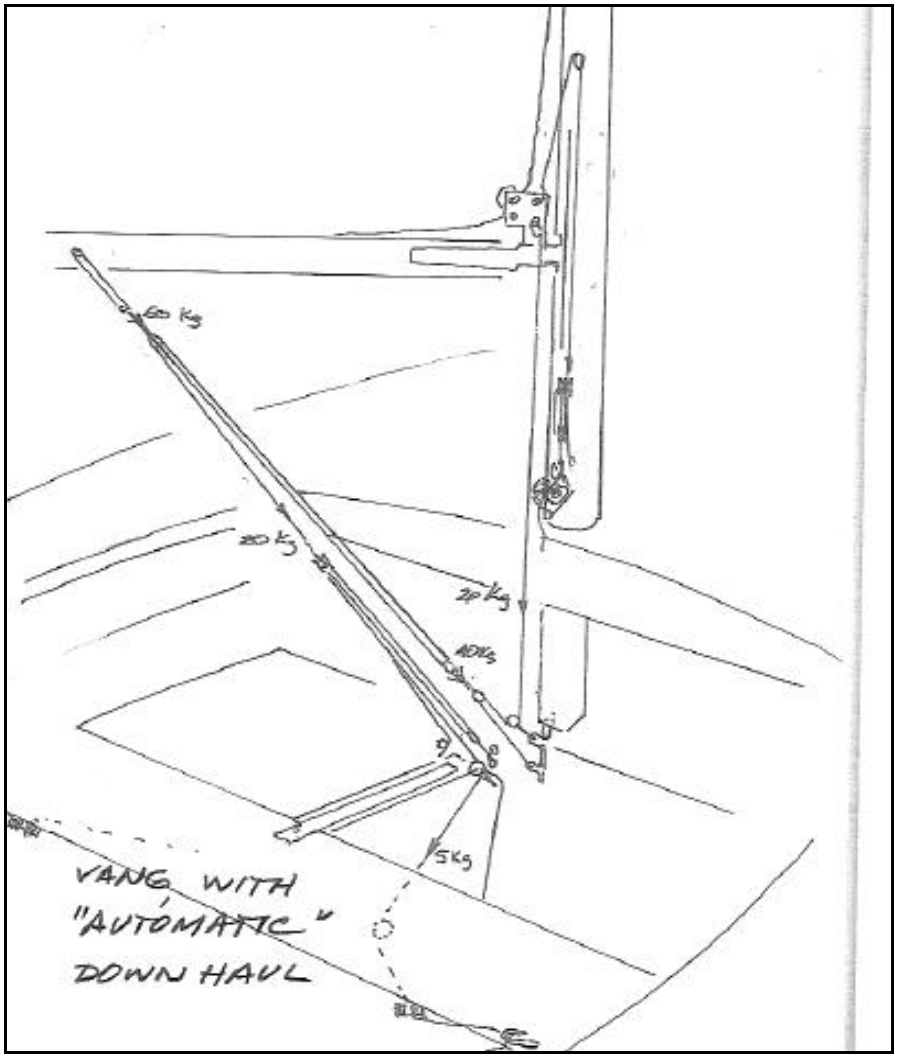
Note that as the gooseneck comes down, the boom tends to "rock" around the fixed vang attachment point, and the end of the boom will move upwards, taking some of the pressure back off the leech. This is simple geometry, and with a stiff boom, a 2 cm downward movement of the gaooseneck will result in up to a 4cm upward movement of the end of the boom. With a bendy boom the effect is a bit less. This effect means that sometimes you will need to make another, smaller tightening of the vang

Sail on for a bit and check your height and speed. If you are pointing high but have slowed noticeably, the vang has been overdone; take it off a bit by reversing the procedure.

Be aware that as the sail is flattened, it will operate in a narrower groove between partly luffed and partly stalled, which will need more frequent ,finer tiller handling. (For explanation, if you have full sails and are generally pointing 5 degrees low, or you are on a close reach, then a 4 degree luff of the boat caused by a steering error, a wave, or a lull in wind strength will have little effect. But if your sail is flat and you are pointing to the max, such a luff will stop you dead, and must be avoided by keener anticipation and more accurate steering and feel for the speed of the boat through the water.)
In terms of whether you have the vang on too hard or not enough, it is difficult to get the desired degree of "feel" if the for'ard hand operates the vang. I believe that vang adjustments should be as integral to the skipper's movements as mainsheet adjustments. In most winds you should expect to change gears with the vang several times on most legs of the course.

Luff Stretch
The luff is stretched or released simply to control the shape of the sail cross-section. Revisit Fig 1.5 on page 7 of the handbook. Luff stretch is controlled by a separate downhaul, or (preferably) by a wire which is part of the vang system.

How much downhaul tension is needed on each boat depends mostly on the elasticity, or lack of it, which the sailmaker has built into the luff of your main, and the type of cloth he has used. With a typical Brewer soft cloth main the luff stretches easily about 70mm to 90mm from fully "baggy" to fully flat, while a Blue Peter hard cloth main may need more force but stretch less before the sail shape looks right for a particular wind strength and point of sailing.



Some luffs on older mainsails take a large force to stretch sufficiently because the bolt rope may have shrunk (even though it is synthetic this can happen) and/or the sailmaker has used heavy cloth in the luff tape, and maybe it has shrunk a bit. If your main luff measures well under maximum, and the luff looks overly crinkly, it may be luff rope shrinkage. Take it to a sailmaker who will cut the rope anchoring stitches, let it out and restitch it, or you can do it yourself. It is not necessary for the strength of the sail that the luff or foot ropes go around the tack cringle, or even right up to it. The main function of these ropes is to keep the sail in the track. And you need a full size main, plus the bonus from the stretch.

Some further thoughts on mainsail luff tension control: With a recently built sail, you needn't worry too much that your main luff is more or less stretchy, because on the water, you will be pulling on the vang / downhaul the right amount to get the perfect sail shape by eye, and there is plenty reserve power in the recommended vang design.

Also, it is now permitted to tension the luff using a "Cunningham Eye", a cringle about 200 mm up from the tack. You can convert your uphaul (as it is not needed In this case) to a downhaul for the Cunningham simply by removing the turning block and adjusting the wire length. The use of a Cunningham eye simplifies the control of draft in the sail, and saves some adjustment of the vang, as the boom does not "rock" around the vang fixing point as the luff is tensioned. The only cost is a very small loss of sail area. Most sailmakers will happily retrofit a Cunningham eye if you wish to try one.

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