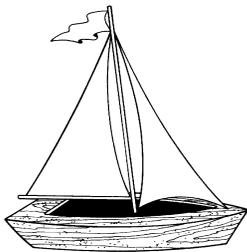


The

# Seabreeze



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May/June—2011



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Derek Fiddes	250-746-4416
<b><i>Past Commander</i></b>	
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<b><i>Executive Officer</i></b>	
Paul Richards	250-746-8612
<b><i>Training Officer</i></b>	
Gary Cline	250-748-0487
<b><i>Secretary</i></b>	
TBA	
<b><i>Administration Officer</i></b>	
Paul Richards	250-746-8612
<b><i>Treasurer</i></b>	
Holly Fowler	250-748-8994
<b><i>Membership Officer</i></b>	
Ian deVerteuil	250-748-6506
<b><i>Assistant Training Officers</i></b>	
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TBA	
(North)	
TBA	
(South)	
Hugh Lawrence	250-743-7808
(Adv.& Elect.)	
P/C Ion Barnes	250-743-9855
(VHF)	
P/C Ion Barnes	250-743-9855
<b><i>Chief Proctor</i></b>	
TBA	
<b><i>Cruise Master</i></b>	
TBA	
<b><i>Student Cruise coordinator</i></b>	
Patrick Thomson	250-748-6599
<b><i>Supply Officer</i></b>	
Phil Devitt	250-324-5512
<b><i>Electronic Communications/Website</i></b>	
Ian deVerteuil	250-748-6506
<b><i>Seabreeze Editor</i></b>	
Wayne Smiley	250-715-0228
<b><i>Public Relations Officer</i></b>	
P/C Wayne MacDonald	250-246-3884
Matt Gilliam (sales)	250-246-4074
<b><i>Historian</i></b>	
P/C Ted Giles	250-245-3707
<b><i>Port Captain</i></b>	
TBA	
<b><i>MAREP &amp; Hydrographic</i></b>	
Barry Young	250-246-2292
<b><i>Reviewer for Squadron</i></b>	
Mandy Richards	250-746-8612
<b><i>Environmental Officer</i></b>	
Phil Devitt	250-324-5512
<b><i>Safety Officer</i></b>	
Greg Sutfin	250-748-6611



### *Commander's Report April 2011*

This is my last report to the Seabreeze as your Commander. It's amazing how quickly the past two years have gone.

We are celebrating our 52<sup>nd</sup> year of operation while adjusting to some significant changes in the make-up of the Cowichan Power and Sail Squadron.

In my opinion, not many of these changes have made us healthier, stronger, safer or better-off. Over the years we have diluted our Basic Boating Course as well as dropping the level of proficiency required to pass this course.

This year we "downgraded" the status of our "Voting" Membership to include "Associates". This is anyone who has passed the CPS-PCOC course, now being renamed "Boating Basics" to further confuse our true mandate.

While we continue downgrading our Training and membership, Transport Canada the regulators for Marine Radio and PCOC courses are demanding significant increased expectations: in "key knowledge requirements", "instructors competency" and more rigid "Testing Regime".

CPS – who's fifteen week "Basic Boating" or "Introductory Boating" or the "Boating Course" is now not recognized as "Competent Boaters" unless they meet this whole new criteria called "Boating Basics".

This while "we" who perform the "training" know full well that PCOC criteria falls well below our present standards. If the direction taken continues, it will further under mind and lower our standards resulting in the serious loss of education and training in what we believe is safe "BOATING THROUGH EDUCATION".

Our downfall started when CPS National decided that offering the PCOC was such a good money maker that they have essentially lost the reason for our 73 years of existence.

Instead on a National level, "we" fail to retain members, "we" decertify Squadrons almost weekly, "we" downgrade our existence and "we" overextend our spending with reportedly a ¼ million dollar deficit.

I can assure you that our Squadron has had very little input and even less impact on driving these "changes". But we are expected to accept them and are "blamed" for the lack of success for the organization. According to reports at the last District Meeting, individual Squadrons across this nation are not doing enough "training" or "membership retention" and therefore there is a serious shortfall in Nationals operating budget.

While I share these feelings of frustration and anxiety with you about the National scene, I feel confident that I leave you with a Squadron that is vibrant, busy both in training and in social events, as well as financially healthy - "a Model of Success" for others.

To this success, I owe and acknowledge the dedicated efforts of everyone who belongs to our Squadron, for maintaining your membership and to everyone who has contributed as participants of Social events and Training courses, to all the Instructors and Proctors and most importantly the Bridge and Committee Members.

Thank You for making this a very resounding and enjoyable two years. I wish continued success to the incoming Bridge. Please continue your support and commitment to them as well.

Respectfully Submitted;  
Cmdr Jim Peakman

As some of you may not be aware, after the AGM we have a lot of new faces added to the bridge, also we have a new commander as well. I would like to take this opportunity to welcome him to the Helm. Following is a welcome message from the new commander.

### *Commanders Greeting*

Thank you for the opportunity to take the helm of our Squadron. Along with the valued assistance and the vast experience of P/C Jim and members of his bridge your New Bridge will be working hard to provide courses in safe boating for new students and promoting further courses for members, along with our traditionally enjoyable social events. Many of us who took our boating course some time ago might have difficulty obtaining a pass mark today... Getting involved in training is one of the best deals around in these tough economic times. By Proctoring you essentially get the training again AT NO COST. Instructing will provide you with the opportunity to not only pass on your knowledge but to experience the revelation as to just how much you really do know about the subject.

We still are in need of volunteers to step up and stand time on watch so please give this serious consideration and contact me or any bridge member for more information..

I look forward to meeting all of you at the Mothers Day weekend.

Safe Boating.....

Cmdr Derek Fiddes



**Cowichan Power & Sail Squadron**  
A unit of Canadian Power and Sail Squadrons



383-2628 Beverly St, Duncan BC V9L 5C7 Ph: 250-709-3629 <http://cpscowichan.com>



**COWICHAN POWER AND SAIL SQUADRON**  
Is hosting a

## **MUSTANG LIFE JACKET SEMINAR**

**WEDNESDAY JUNE 8<sup>TH</sup>, 2011**  
1900 hrs - 2100 hrs  
at  
Cowichan Exhibition  
7380 Trans Canada Hwy, Duncan

*A Mustang Representative will demonstrate proper care and servicing of your life jacket*

*Lakes Marine will be on hand with replacement cartridges at special prices*

*Limited seating for members and partners in Safe Boating Community*

*Coffee and Tea provided*



**Calendar of Events**

**PCOC**  
**May 2, 3, 5**  
**Shawnigan Lake Community Center**

**Mother's Day Rendezvous & Pig Roast**  
**May 6, 7, 8**

**Special Speaker Coastal Marine Watch**  
See website for updated details

**Bridge meeting — 19:00 hrs**  
**Wednesday May 11, 2011 at MBYC**

**VHF**  
**May 10, 11, 17**  
**Shawnigan Lake Community Center**

**PCOC**  
**June 6, 7, 9**  
**Shawnigan Lake Community Center**

**Bridge meeting — 19:00 hrs**  
**MUSTANG LIFE JACKET SEMINAR**  
**Wednesday June 8, 2011 at Cowichan Exhibition**

**VHF**  
**June 14, 15, 17**  
**Shawnigan Lake Community Center**

**PCOC**  
**July 2, 3, 5**  
**Shawnigan Lake Community Center**

**PCOC**  
**August 2, 3, 5**  
**Shawnigan Lake Community Center**

**Bridge meeting — 19:00 hrs**  
**Wednesday August 10, 2011 at MBYC**

**Remember there is always room for volunteers as  
 we have a few vacancies in the bridge**



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**Cowichan Power and Sail Squadron  
Year End Financial Report**

As of March 31, 2011, we have cash in our current account of \$9,334.29 and a GIC of \$5,933.05 for a total of \$15,267.34. The squadron has total current assets with inventory of \$20,650.50. Max Vogel has audited the year's financial records and has approved and signed the audited statements. These have been forwarded to the district and CPS headquarters.

The squadron had almost \$18,000 in course revenue this year. This revenue is the result of the dedication of many volunteers who are to be commended. Our receipts and disbursements for the meetings and events were high only because we assisted at the National Conference by hosting a hospitality room. There was no cost of this activity to the squadron.

The gain for the year to March 31, 2011 was \$3,769.65.

The gain will be reduced by \$500.00 donations for each of 2010 and 2011, which will be paid to the Maple Bay Yacht Club when the Memoranda of Agreement is signed outlining the arrangement between CPS and the Yacht Club.

Further, district dues assessed for improperly constituted members in the amount of \$477.50 will be forwarded under protest as we discussed at the March Bridge Meeting. The squadron relied on CPS headquarters' promise to squadrons that the free memberships that they would bestow would not cost the squadrons money. District however has sought to assess fees for these new members even though the squadron receives no fees from new members.

The squadron has managed its activities in a cost effective manner and diligently collected revenues and thus the squadron is in excellent financial health. We look forward to a very successful coming year with a new and inspired bridge.

Thank You

Karen Lerch  
Treasurer

## Membership/Communications Report April 2011

<u>Total Membership</u>	294
Regular	206
Family Member	39
Junior Members	0
Life Members	7
Lady Associates	7
Regular Associates	27
Family Associates	7
Junior Associates	1

### *Ian de Verteuil*

Membership/Communications Officer      250-748-6506

## Characteristics of Boats

- Relationship between efficiency and conservation
  - Less fuel means less pollution and energy consumption
  - **RPM / Speed curve** illustrates efficiency concept
  - Above the point of being most efficient an increase in RPM only slightly increases speed, but continues to markedly increase fuel consumption.



Did you know that an old two stroke engine only burns **60%** of the fuel? The rest is exhausted in the water or the air... Also, the oil mix burned in these older engines is very harmful for the environment.

## Results of BoatU.S. Sponsored Fuel and Fiberglass Gas Tank Tests

Soon after the Long Island Sound area of New York switched to gas mixed with ethanol, BoatU.S. began receiving calls from boaters who owned older gas-powered boats with fiberglass fuel tanks. The tanks, it seemed, were being slowly dissolved by ethanol; black stuff was building up on valves and intakes, destroying engines and some fuel tanks were becoming soft and even weeping fuel. Since then, BoatU.S. has sponsored several tests to find out exactly what the problem is. Here are the results of what we have learned so far. We've highlighted the important aspects in each case.

### Tests of the black material from an intake valve:

"A portion of the black material was scraped from the intake valve, pressed flat, and transferred to a potassium bromide crystal plate. The sample was then analyzed by Fourier Transform Infrared Spectroscopy (FTIR), which produced an infrared spectrum. As indicated on the spectrum, the peaks at 2800-3000 cm<sup>-1</sup> are due to Carbon-Hydrogen absorptions; the strong absorption at 1730 cm<sup>-1</sup> can be from Esters or Ketones. The small sharp peaks at 1460 and 1370 cm<sup>-1</sup> are indicative of Hydrocarbons. Finally, the large broad peak seen from 1000-1200 cm<sup>-1</sup> is due at least in part from Carbon-Oxygen single bond absorbers. **It can be said that this spectrum is consistent with the presence of polyester, whoever this cannot be unequivocally proven from this spectrum alone.**"

### Test of fuel from an affected boat:

EPA 8260 fuel analysis of a sample of fuel taken from a 1968 Bertram 31 located on Long Island Sound indicated **736,426 µg/L of styrene, a component of polyester resin.**

### Test of sections of fiberglass fuel tanks from a 1967 and 1970 Bertram:

Testing Summary:

To date, the testing done by IMS, LLC indicates that the **two fuel tank samples have undergone some aggressive degradation (40% of their strength)**. The bottoms of both tanks have lost more strength than the tops. The older tank (1967) was laminated to a much higher level of quality in terms of entrapped air and fiber roll out. The mode of property reduction in the newer tank (1970) appears to be both resin softening and loss of adhesion between fiber and resin. This is evidenced by a moderate loss in both strength and stiffness. The older tank has lost nearly a similar amount of strength but has retained all its original stiffness. This indicates some resin degradation has occurred but no loss of the fiber/resin interface's integrity has occurred.

Both tanks were produced using a fire retardant resin system although we feel the base resins for each tank are of a different type. Both tanks have absorbed in the range of 4.2% fuel into their volume over time (tank bottoms). The top of the newer tank has also absorbed over 4% fuel. The top of the older tank has absorbed 2.2% fuel over time.

## Tests of Fiberglass Fuel Tank Samples

We recently analyzed intake valves having heavy, black deposits under the crowns. The valves we have received to date had been taken from gasoline engines in older yachts that had recently changed over to gasoline containing ethanol. Bent pushrods and bent valves have been reported with heavy engine damage when pistons impacted the valves.

We removed some of the black sludge from under an intake valve crown. We soaked the sludge in ethanol and, after taking the extract down to dryness, we obtained the infrared absorption spectrum. We found that the material is di-iso octyl phthalate.

We ran a series of experiments using straight gasoline and gasoline with 10% ethanol on fiberglass coupons and coupons of filler taken from one of the fuel tanks of the vessel from which the valves had been taken. Shortly before engine failure that vessel had changed over to gasoline having 10% ethanol. The results can be summarized as follows:

With both the straight gasoline and the gasoline having 10% ethanol, analysis by Gas Chromatography Mass Spectrometry (GCMS) shows that the fuel's lightest fractions were absorbed into both fiberglass and filler. Noting the very high flammability and volatility of these light organic compounds, boaters needs to be alert to possible outgassing and fire/explosion hazards.

GCMS shows that the gasoline having 10% ethanol picked up four very heavy molecules from the fiberglass and two from the filler. The molecular weights of these molecules were in the range of 281 to 379. The straight gasoline did not pick up these molecules. Evaporating the straight gasoline we were left with a thin film. Evaporating the samples that had picked up the heavy molecules we were left with heavy, brown sludge. Infrared spectroscopy showed molecular similarities between the sludge, and the material taken from under the intake valve crowns.

This is what we believe is happening:

Polyester resins, gel coats and fillers commonly incorporate phthalates. In even the best resins and layups a small proportions of these phthalates remain unreacted. There are several water soluble molecules that are found in these materials and they play a central role in blister formation and delamination. **Phthalates are only sparingly soluble in water, however many are readily dissolved by ethanol.**

Whereas gasoline free from ethanol never picks up phthalates, when ethanol was introduced the very small ethanol molecules diffused into the fiberglass, filler and gel coat materials where they dissolved unreacted phthalates. Having been dissolved by smaller molecules, and almost certainly accelerated by osmotic pressure, some portion diffused back to the surface and was dispersed in the gasoline. Based on our GCMS results to date there are some other, presently unidentified, large molecules that were also leached out by the ethanol and similarly transferred into the gasoline.

This internal solution and diffusion back to the surface is the process of leaching.

**Since they are in solution, the phthalates and the other heavy dissolved molecules are able to pass through the fuel line filters.** When the gasoline with ethanol evaporates in the carburetor the heavy molecules do not evaporate but come out of solution and are carried along in the air-fuel mix as an aerosol. When the droplets impinge on throttle plates and on the walls of the induction system they can collect as reported by Chuck Fort at BoatU.S. We do not presently know if after impingement the films are immobile or if they are able to migrate through the induction system towards the intake valves. **Some of the molecules that impinge on the hot valve stems and under the crowns decompose to leave carbon powder and ash. Others, such as the phthalates that in general have exceptional high temperature stability, remain intact or undergo only partial decomposition and then act as the binder that holds together the carbon particles and ash as the observed, black sludge.**

Frederick G. Hochgraf,  
Senior Scientist  
NH Materials Laboratory

### Other Independent Test Results

#### Chemical Resistance Data From A Leading Epoxy Supplier.

The test was made using the company's most resistant epoxy and exposing fiberglass lab samples to 10% ethanol gas and regular unleaded gas as well as diesel and aviation gas.

The results for the ethanol gas showed a 10% loss in hardness and a 10-15% loss of compressive strength over a 16 week period. It is likely that the loss of hardness and strength would continue to fall at a similar rate over time. The unleaded gas, diesel, and aviation gas tests showed virtually no change.

#### Link to an informal test done by amateur boat builder:

<http://egyptian.net/~raymacke/Cbnskif27.htm>

<http://egyptian.net/~raymacke/Cbnskif36.htm>

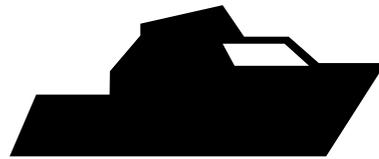
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