for a cleaner tomorrow

OMOA CLEAN MARINE

# CLEAN BOATER HANDBOOK

OMOA CLEAN MARINE

# CLEAN WATER IS IRREPLACEABLE!

## For a Cleaner Tomorrow Become a Clean Boater Today.


### Acknowledgements

This Clean Boater Program has been made possible by the generous sponsorship of Marine Expert Insurance and the Ontario Ministry of the Environment. Their leadership and positive vision of boating for future generations is admirable.


### About The OMOA

The Ontario Marine Operators Association has been working for many years with other recreational boating associations and the Federal and Provincial Governments to create the Clean Marine Program and promote environmentally responsible boating. Marinas throughout the province of Ontario have successfully completed the Clean Marine Eco-Rating Program. The Clean Marine Program has received many environmental awards and is considered the best marina environmental practices program in the world.

# CONTENTS

## Endorsements

The following associations, government agencies and corporations have endorsed the Clean Boater Program:

### Associations

Association Maritime du Quebec
Atlantic Marine Trades Association
B.C. Marine Trades Association
Canadian Marine Manufacturers Association
Canadian Power and Sail Squadron
Federation of Cottage Associations
Ontario Boating Forum
Ontario Marine Operators Association
Ontario Sailing Association
Tourism Federation of Ontario

### Corporations

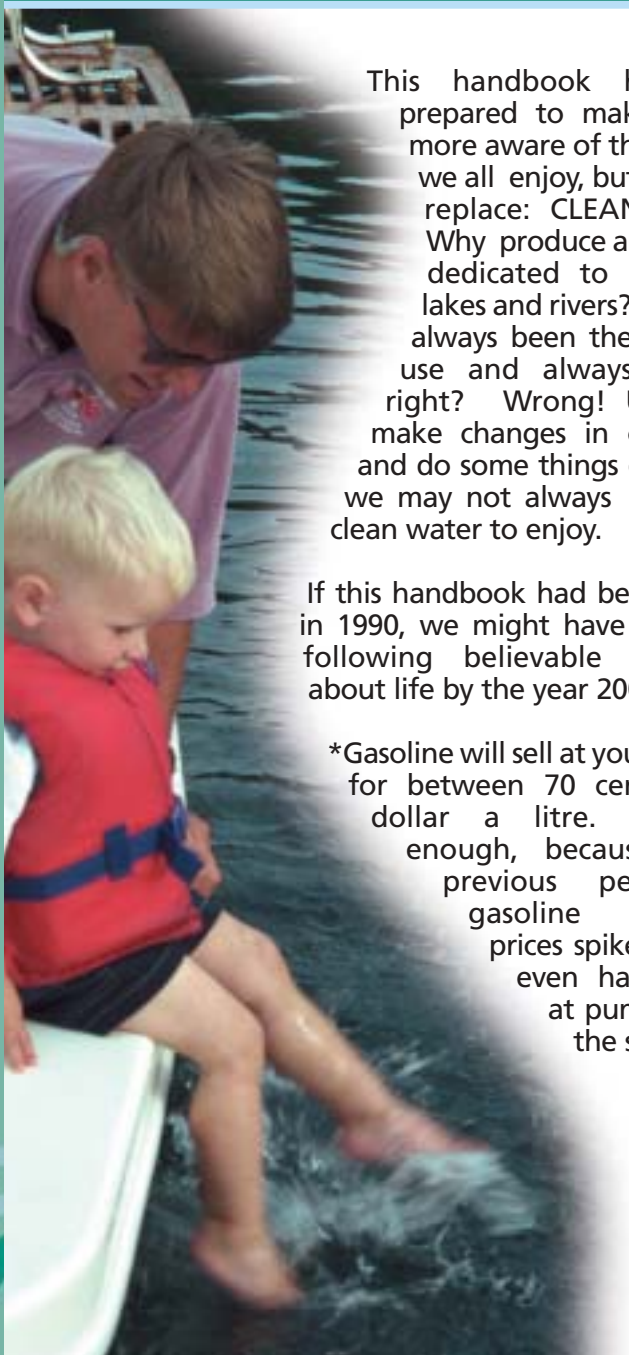
Boatcan Computer Sales Ltd.
Boats& Places Magazine
Boat Guide and Boating Business Magazines
Environmental Choice Program
Georgian College Marine Engine Techniques Program
Natural Marine / Head-O-Matic EcoLogo Products
Power Boating Magazine
Shell Canada
Terra Choice Environmental Services

### Government

Canadian Coast Guard
Ontario Ministry of the Environment
Ontario Provincial Police

OMOA CLEAN BOATER

# WATER:



This handbook has been prepared to make boaters more aware of the resource we all enjoy, but can never replace: CLEAN WATER! Why produce a handbook dedicated to protecting lakes and rivers? They have always been there for our use and always will be, right? Wrong! Unless we make changes in our habits and do some things differently, we may not always have that clean water to enjoy.

If this handbook had been written in 1990, we might have made the following believable statement about life by the year 2004:

*Gasoline will sell at your gas dock for between 70 cents and a dollar a litre. Believable enough, because during previous periods of gasoline shortages, prices spiked and we even had line-ups at pumps to buy the stuff.

# More Valuable Than Gold

How about this one for the year 2004:

*At a sporting or cultural event, you will pay $2.50 - $3.50 for a 500 ml bottle of drinking water. That one would have made you think this author had gone completely mad! My how things change in a few short years.

How could this happen? Is the world not covered with water? The unfortunate fact for us is that 97% of the world's water supply is salt. The remaining 3% is fresh, but most of it is inaccessible in polar ice caps, remote glaciers and icebergs. Less than one half of one percent of all the water on earth is usable fresh water, making it amongst the rarest substances on earth. Our own Great Lakes contain 25% of the world's fresh water, contained in lakes. One out of every three Canadians and one out of every seven US residents depend on the Great Lakes for their water. Canada's water quality is now second only to Finland, but we need to do more to prevent it from slipping.

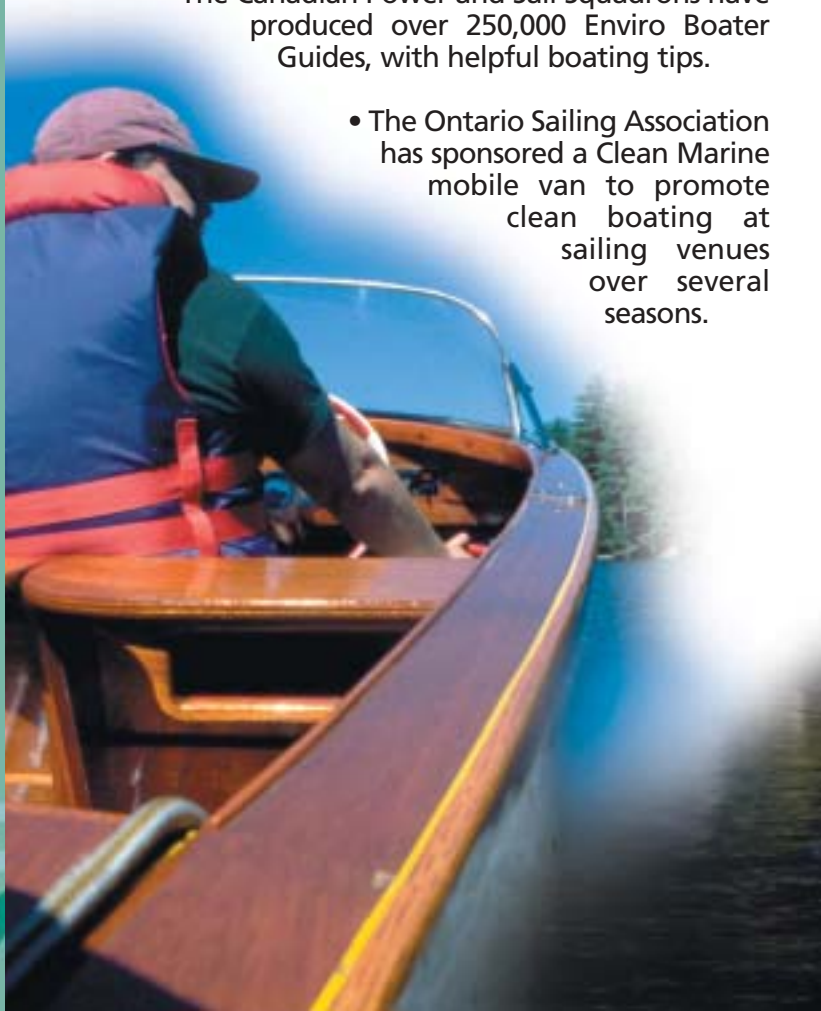
It is common knowledge that lakes and rivers in many areas are being polluted from many sources. Once pristine waters are no longer so. Of course, it had nothing to do with us; it was industry, agriculture runoff, or storm and sanitary sewer discharge causing the problems. The earth's natural cycle of rainfall flowing into streams and rivers, to lakes and oceans, to evaporate then fall back again is remarkably adaptable and is able to cleanse itself, until we add fertilizers, manure, detergents, bacteria and worse. During summer months, nearly half of all drinking water treated in expensive systems is sprayed onto lawns and gardens.

Boaters who are better informed, will result in positive changes to our recreational boating environment.

# CLEAN MARINE PARTNERSHIP.

In the early nineties a group of marine industry and boating group leaders began meeting with federal and provincial governments over environmental concerns related to boats, boaters and marinas. Many valuable world-class initiatives have resulted from that association now known as the Clean Marine Partnership. Some of those are as follows:

- The Canadian Power and Sail Squadrons have produced over 250,000 Enviro Boater Guides, with helpful boating tips.
- The Ontario Sailing Association has sponsored a Clean Marine mobile van to promote clean boating at sailing venues over several seasons.



# What is it?

• Shell Canada Limited and Natural Marine have developed many boating products achieving EcoLogo certification. The EcoLogo symbol is three doves intertwined to form a maple leaf. These products are certified to be produced in an environmentally responsible manner and perform the tasks they were meant to, while leaving the least possible environmental impact. Many new products are added each year.

**The Clean Marine Program Initiative**

In 1997, the Ontario Marine Operators Association, with support from the Ontario Ministry of Environment (MOE) and Environment Canada (EC), produced a Clean Marine Practices Handbook. Like the customers they serve, marinas unknowingly had developed habits over the years that were detrimental to good environmental management. This new handbook demonstrated "Environmental Best Management Practices" in all areas of marina operations. The Handbook was revised and updated in 2000, and currently more than 350 marinas and yacht clubs are putting it to good use by implementing environmental best management practices.

# CLEAN MARINE PARTNERSHIP.

**Environmental Certification Or "Eco-Rating!"**

In 1998 a method of auditing the environmental performance of these participating facilities was developed based on the In 1998… activities described in the Clean Marine Practice Handbook. This "Eco-Rating" audit of more than 200 business practices results in a rating from one (good performance) to five (world wide leaders in achieving environmental protection) green leaf anchors. In Ontario in 2001, 50 marinas participated in this program and another 50 marinas and yacht clubs joined in both 2002 and 2003. Marinas participating in the program fly the Clean Marine flag, and can be quickly identified to boaters.


Eco-Rated marinas are listed in the Marina Directory, published by the Ontario Marine Operators Association each year, listed on their website at www.marinasontario.com as well as on the clean boater website at www.cleanboater.com

# THE NEXT STEP

## A Clean Boater Program

**What Is A Boater And What Impact Does A Boater Have?**

Boaters are not just the rich guys with expensive yachts. They are canoeists, kayakers, sailboarders, anglers, hunters, waterskiers and all who enjoy great recreational activities on our lakes and rivers. Boaters are not major contributors to decreasing water quality if the total picture is observed, but they are contributors. One litre of spilled gasoline can contaminate 20,000 litres of water. Oily water from a messy bilge leaves a choking rainbow-hewed slick, as does the exhaust residue from an aging outboard engine many of us take pride in operating for years. Dust from sanding boat hulls and paint over water is toxic and settles into bottom sediment. Garbage thrown overboard is at least a visual pollutant, if not worse, and depending on what it is, may take tens to hundreds of years to decompose.

Grey water from galley sinks and showers is the subject of much controversy in many popular boating areas. Is it really that bad? Several studies are underway to determine what effect grey water really makes, but the Ontario Water Resources Act simply states that you cannot put anything in the water that wasn't there.

It is highly unlikely that most boaters would consciously pollute the waters they enjoy so much and hold so dear to their hearts. Without being properly informed of the consequences however, we may have adopted practices in the past that we deemed acceptable, but which we now realize may be detrimental to good water quality.

# THE NEXT STEP

**Clean Boater Handbook**

If a Clean Marine Practices Handbook is good for marinas and yacht clubs, why not a similar document for boaters? This Clean Boater Handbook and Clean Boater Certification Program is the next step in diminishing the impact marinas, boats and boaters have on the waters so important to us all. Obviously, larger power-boats have more impact than kayaks and canoes, but anyone being careless will have a detrimental effect, and therefore everyone can contribute in some way to protecting the environment. If we all do our part, commit to a more conscious effort and make informed choices, we can indeed leave these lakes and rivers to our children and grandchildren, proudly aware we passed to them a resource in the best possible condition.

# A Clean Boater Program

The Clean Boater Handbook will highlight appropriate tips in three distinct chapters, which relate to the various seasons Canadians are exposed to:

1) Spring commissioning – How to best prepare before launch.
2) Summer season - Best practices for the boating season.
3) Lay-up - Haul out and winterization practices

If you find no information or new ideas from this handbook to improve the environment, you must be congratulated. You are indeed a hero – share your knowledge; help other boaters be more committed to protecting the environment! If you find helpful hints that do diminish your impact on our precious resources, then you too are to be commended. Your children and grandchildren will thank you for your effort and consideration of their future enjoyment of our waters.

# CHAPTER ONE

Winter is finally over and it is time to prepare for launch. Spring is such a great time for boaters, and just getting the cover removed on that first warm, sunny day, brings renewed anticipation for the coming season. With all of this renewed vigor, it is a great time to remember that decisions we make today can improve our boating experience forever.

# BEFORE SPRING LAUNCH

Pre-season preparation should give the most positive environmental results with the added benefit of easier summer cleaning and maintenance. To get started on this new environmental quest, we should evaluate the products we have been using in the past. All boaters have favorite products they have been using. Some of them may be wonderful, while others could be devastating to the waters we are trying to protect. It may well be time to change some products and some habits.

No longer do municipalities spray waste oil on gravel roads to reduce dust nor do municipal parks departments spray pesticides on children's playgrounds. We knew the value of aluminum, but didn't know about recycling, so everything was sent to landfill sites. Some landfills are now being "mined" to extract the aluminum from disposal sites. Marina operators and boat owners no longer stand on the ice to sand boat bottoms, the toxic dust flying about covers the ice and later settles on the lake bottom. These activities occurred in the past because the consequences were unknown; however, We Know Now!

Let us begin by taking inventory of our favorite stuff in the cleaning locker. Does each container living there bear an EcoLogo?

This EcoLogo identifies that the product has been certified by Environment Canada's Environmental Choice Program. It ensures the product meets the following criteria:

*It has been produced in an environmentally responsible manner in a certified manufacturing facility.

# CHAPTER ONE

*It is certified to cause the least possible environmental impact.

*It accomplishes the above while performing the task it was designed to do.

EcoLogo products are available for most cleaning and maintenance chores aboard and a complete list is available at www.environmentalchoice.ca. For normal cleaning and boat maintenance use the EcoLogo product designated for the task at hand or one the following alternatives:

| **Cleaning Alternatives** | |
|---|---|
| **Instead Of:** | **Use:** |
| Detergents and Soaps | Lots of elbow grease |
| Bleach | Hydrogen peroxide or borax |
| Scouring | Salt or baking soda |

| **Cleaning And Polishing Alternatives** | |
|---|---|
| Aluminum | Two tbsps cream of tartar in 1 litre hot water<br>Wipe clean |
| Brass | Paste made from equal parts vinegar/salt/water<br>Leave on 10 minutes, clean with soft cloth |
| Chrome / Metal | Cider vinegar to clean, baby oil to polish |
| Copper | Paste made from lemon juice and salt<br>Leave 10 minutes, wipe with soft cloth |
| Wood Polish (unvarnished interior) | 3 parts olive oil and 1 part vinegar |
| Fiberglass Stains | Paste made from baking soda |

# BEFORE SPRING LAUNCH

| | |
|---|---|
| Varnish Cleaner | Wipe with 50/50 vinegar/ water solution |
| Windows | 8 to 1 water/vinegar solution |
| Floor Cleaner | 40 to 1 water/vinegar solution |
| Head Cleaner | Baking soda – scrub with brush – 1 cup vinegar Left overnight will remove stains and salts |
| Shower | Apply baking soda to wet surface Scour with cloth - rinse |
| Refrigerator / Cooler | Wipe with wet cloth dipped in baking soda |
| Drain Opener | Dismantle and clean or replace |
| Mildew Remover | Mix paste – 50/50 lemon juice or vinegar and salt |

| **Other Products** | |
|---|---|
| Holding Tanks | Use environmentally safe products – do not use products containing formaldehyde |
| Antifreeze | Nontoxic antifreeze is not environmentally safe. Drain systems, and use none, or recycle whatever type you use. |
| Canvas and Sails | Several EcoLogo cleaning products are available |

Now that we know what good new products we are going to use – remember to properly dispose of old products at a hazardous waste facility. What needs to be done next before the splash?

# CHAPTER ONE

The following tips are recommendations only, and you may choose to have your marina perform all or some of them. Some safety tips will be included with the environmental concerns. These items are listed in no particular order of importance.

**Let's Get That Cover Off And Begin**

• If your cover is a permanent one, make sure it is dry before folding for storage. If not, lay it out to dry in a place where the air can circulate, to ensure complete drying. Nothing is worse than unfolding canvas in the fall to find it needs a "haircut" to remove the mould before using again. If it needs to be cleaned choose a cleaner made for canvas that will not rot the material.

• If your boat was shrink-wrapped, be sure the old wrap goes for recycling and not to landfill. You will be required to remove strapping or webbing material, and many recyclers will not accept the stuff if it is contaminated, so keep it as clean as possible. If your marina or Y/C is performing the work, ask them to have this material recycled. You should expect to pay a reasonable fee for this service ($10-$20 depending on the distance from recycling facility).

# BEFORE SPRING LAUNCH

**In The Bilge**

• Open all hatches and perform a visual inspection for anything that appears amiss. If there are through-hull sea cocks, operate them in full open and closed positions. If they are stiff, they should be disassembled and lubricated, as build-up of lime and other deposits will score parts, causing leakage. Disassemble, clean and reassemble using a good waterproof lubricant. Be sure all engine hoses and drive belts are in good condition and all through-hull fittings must be double clamped. If accessible for inspection, also check the condition of fuel fill hoses between deck fitting and tank. The last thing you need is a bilge full of fuel on your first fill-up. Any sign of oil deposits should be cleaned thoroughly, check for the leak source and add the repair to your to-do list.

• All vessels with inboard fuel tanks should have bilge blankets, or socks, or both placed in the bilge to absorb any minor fuel or oil deposits. They must be secured in place to prevent their entangling the automatic bilge pump switch. These devices must be periodically inspected throughout the boating season and disposed of properly as hazardous waste.

• Some bilges (especially those with older diesel engines) are very difficult to keep clean. If your pump discharge leaves an oily slick, you might consider a coalescing filter on the discharge line in addition to the bilge sock. Several companies now supply products that capture up to three times their weight in hydrocarbons while preventing all oil passage, and are easily maintained. They are not cheap, but fines aren't either, and now that you're an environmentally conscious boater, you won't want that embarrassment.

• Another solution, though less preferable to the filter, is to install a hydrocarbon-sensing bilge pump switch.

# CHAPTER ONE

This switch functions normally in deeper bilge water, and shuts the pump off when floating oil contacts the switch, preventing oily discharge.

• Make sure the intake is not fouled with debris, as everything in the bilge will collect at that point. When you're in there, inspect all fluid levels and top-up with those recommended in your owner's manual.

• Engines should be tuned for the coming season. A properly tuned engine starts and runs better, for hassle-free boating. It prevents potentially hazardous, unexpected breakdowns and will produce lower levels of air and water pollution. Fuel filters or water separators should be cleaned or replaced. If you are doing this yourself, be very careful not to spill fuel into the bilge and inspect after engine start-up to ensure there are no leaks. Damaged propellers, the last link in the power train, are very inefficient and waste fuel, as well as causing damage from vibration.

# BEFORE SPRING LAUNCH

Repair or replace them before launch.

• If anti-freeze was used for engine winterizing, drain as much as possible from the cooling system before launch to prevent it ending up in the lake. You cannot differentiate here between glycol type and so-called non-toxic or plumbing types; none of them can be dumped into the lakes. Your marina can recycle antifreeze for you or save it for next year.

**Now For The Hull!**

• Now that the bilge is shipshape, let's look at the hull. For fiberglass or aluminum, a good cleaning is in order, followed by one or more coats of wax containing a U/V protectant. By washing the hull while ashore, any cleaning products required will not end up in the lake.

• Boats with non-skid on the decks used to be very difficult to keep clean and created a problem, as waxed decks were very

# CHAPTER ONE

slippery and dangerous when wet. Natural Marine now produces an EcoLogo Deck Traction Wax that solves this problem and protects the deck as well. This will allow the deck to be cleaned and rinsed with plain water during the season. Previously, only harsh detergents would perform this task satisfactorily.

• If teak trim is present, coat with natural wood oils or water based coatings. If teak is kept sealed, harsh acid-based chemicals will not be needed to renew its luster and colour. If blackened and unsightly, consider sanding to renew, instead of using those chemicals. If you must use teak cleaners, do not use over water.

• Few of us get to spend the entire summer on the water, so while you are aboard during the boating season, try this cleaning method. Simply mop the hull and decks in the morning before the dew dries or after a rain shower. Not even rinse water will be required.

# BEFORE SPRING LAUNCH

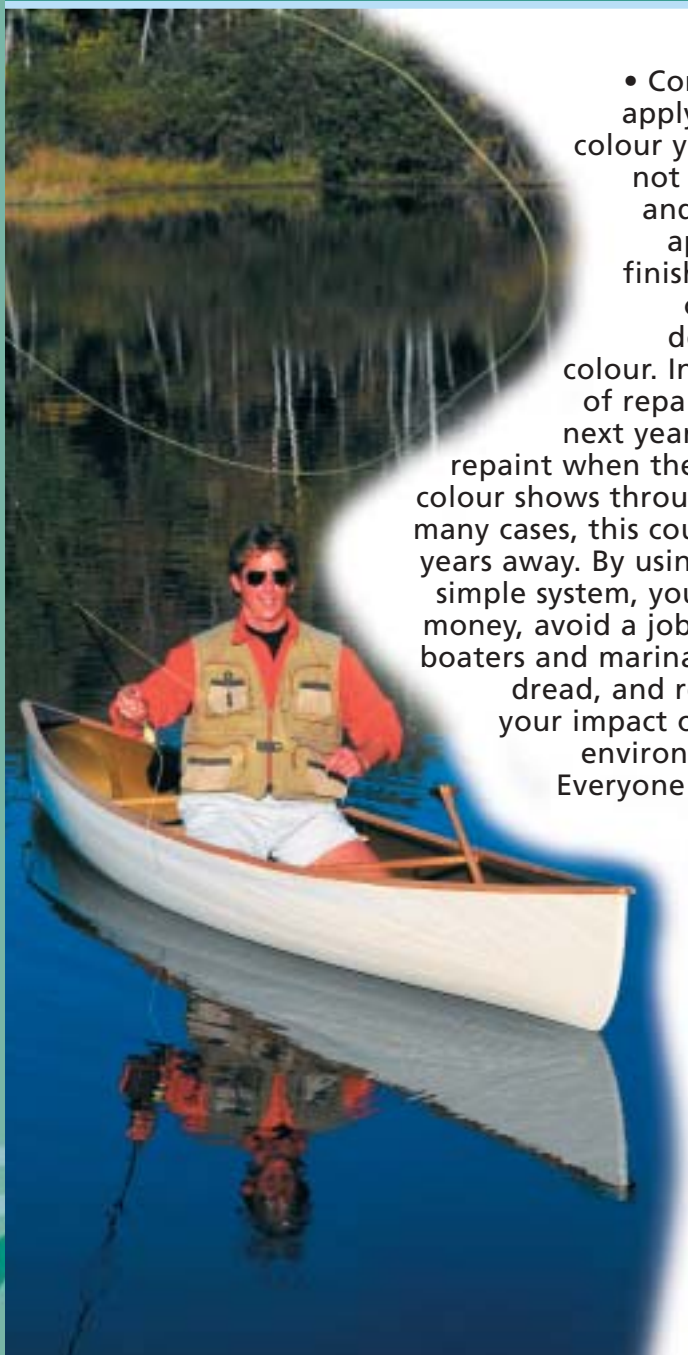
• If the bottom is not painted, a good bottom wax will slow algae growth and help prevent zebra mussels and other unwanted guests from attaching.

**Better Bottom Coatings**

• Bottom painting has undergone some drastic changes. Not long ago, bottoms were sanded and repainted each year. Where boats wintered in covered slips, this sanding usually took place in late spring by standing on the ice and sanding away. All the dust and residue that didn't end up in your lungs or on your neighbor's boat sank to the bottom of the lake. If sanding was done on land, the dust contaminated the surrounding soil. We now are very aware this practice is not acceptable.

• Many more environmentally responsible bottom paints have been developed in the past few years, with newer and better ones introduced on a regular basis. Ask your favorite chandler or marine store for advice. Pick the one best suited for the water conditions your boat lives in. In inland lakes for example, barnacle protection is really overkill. When you pick the best environmental product, follow some new application practices. If sanding is really required, (it may not be) enclose the boat with plastic, put ground sheets down and use a dustless sander. Protect yourself by using a good quality dust mask. All dust collected must be disposed of as hazardous waste.

# CHAPTER ONE



• Consider applying a colour you do not want, and then apply a finish coat of the desired colour. Instead of repainting next year, only repaint when the base colour shows through. In many cases, this could be years away. By using this simple system, you save money, avoid a job most boaters and marina staff dread, and reduce your impact on the environment. Everyone wins!

# BEFORE SPRING LAUNCH

**Time To Re-Power?**

If this is your year to replace that tired old engine, what will you purchase? This is where you can really make an impact. If you have an inboard or sterndrive your choice is easy. All of the new replacement power choices will be fuel-injected models. They are not only much more user friendly, with improved starting and reduced warm-up time, but will consume less fuel. Because they are more fuel efficient, they will emit far fewer pollutants into the air and water.

For outboards the choice is greater. As this is written, some old-technology, two-stroke engines are still available and will be until 2006. For a slightly increased investment, purchase a new-technology, direct-injected two-stroke or four-stroke model. The minimal extra cost now will soon be returned many times over, in decreased fuel cost. These models start and run better, burn considerably less fuel at all but full throttle applications, and cause much lower levels of pollution to air and water.

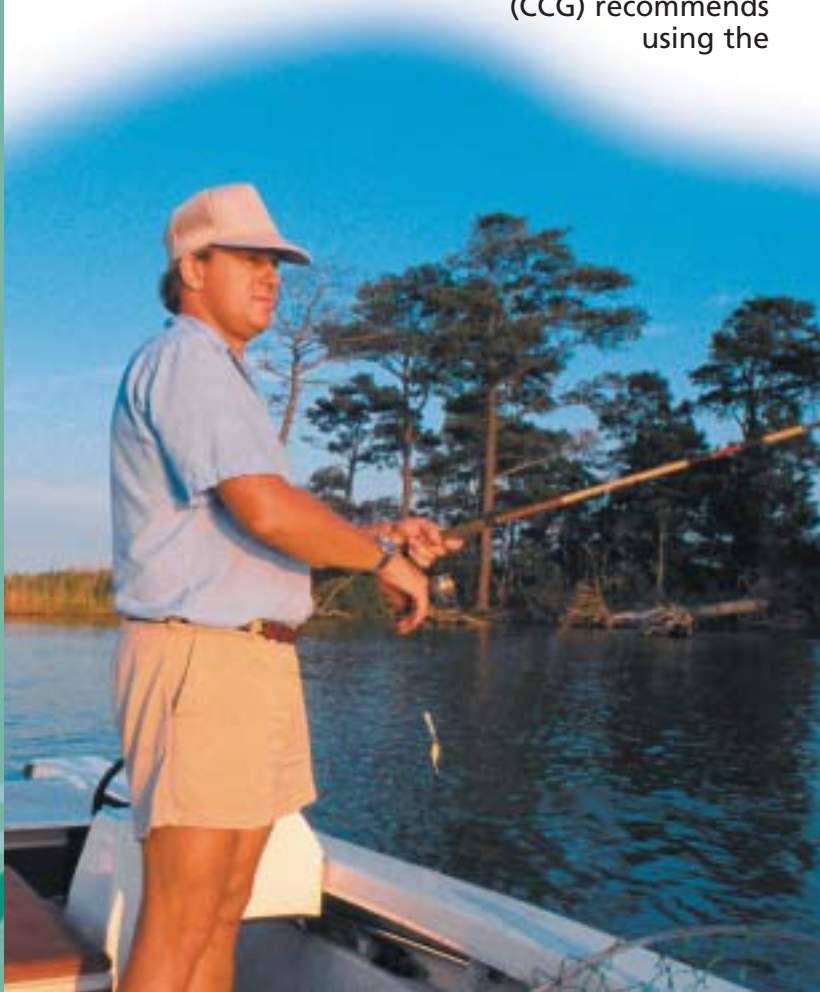
It is no longer a proud statement to claim you are still using the wonderful outboard you bought in 1953. Get rid of that old engine and its accompanying rainbow trail on the water and replace it with a fuel efficient, low-emission model!

# CHAPTER TWO

During the boating season, the most noticeable environmental impact can be attained after you have completed your spring preparations. It would be best to break this into distinct categories.

**Pre-Departure Checklist**

Before discussing environmental concerns, the Canadian Coast Guard (CCG) recommends using the



# BOATING SEASON

following check-list before setting out on your voyage, no matter how short.

*Check weather forecast before departing and monitor marine forecast while under way.

*Ensure you have your boat operator card.

*Ensure you have current charts for area and are aware of local hazards.

*Check hull and gear - is it seaworthy, ready for local conditions.

*Check running gear - battery, tools spare parts.

**This would be appropriate time to perform bilge checks listed in item 2, below.

*Check fuel - 1/3 to go - 1/3 to return - 1/3 reserve.

*Balance load evenly - distribute gear and occupants - do not overload.

*Carry safety gear specified in CCG Safe Boating Guide for your vessel type.

*Vessel operator must indicate to passengers location of safety gear and vessel layout.

*Carry approved PFD sized correctly for everyone aboard. Better still, wear

# CHAPTER TWO

them. When you really need one, it may already be too late to find one and put it on.

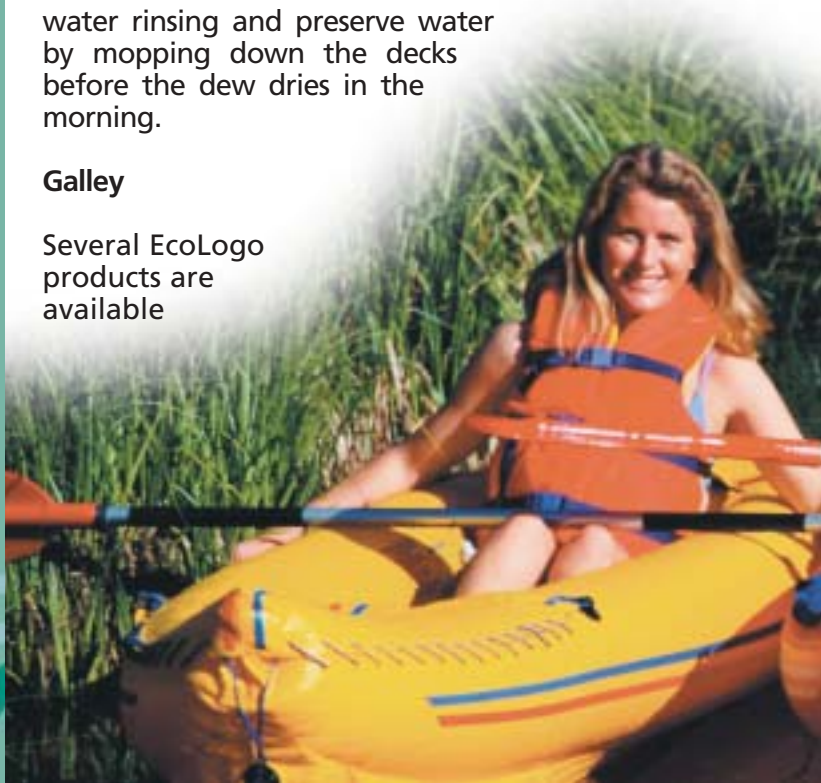
*File a sail plan – make sure a responsible person knows your itinerary and your destination arrival times. Authorities can be notified before it is too late if you are overdue.

**1. Boat Cleaning – In The Water**

Many products traditionally used in the past to clean hulls and decks contain such chemicals as ammonia, phosphates and chlorine. None of these products should be released into the water. If your boat received the wax coating we recommended before launch, only fresh water should be required for summer cleaning. We can even eliminate the need for fresh water rinsing and preserve water by mopping down the decks before the dew dries in the morning.

**Galley**

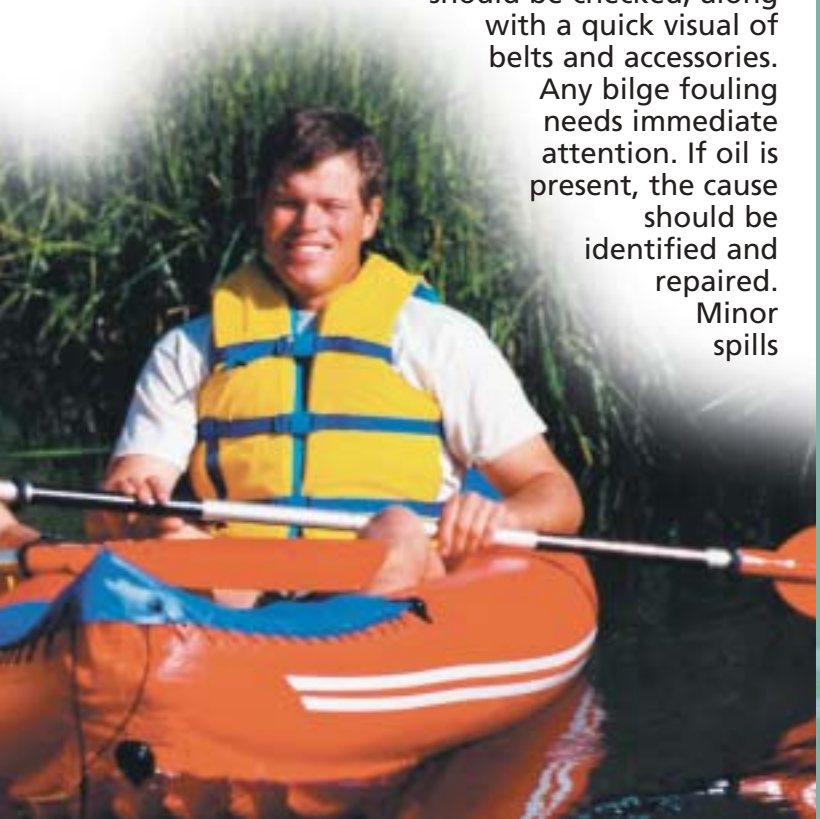
Several EcoLogo products are available



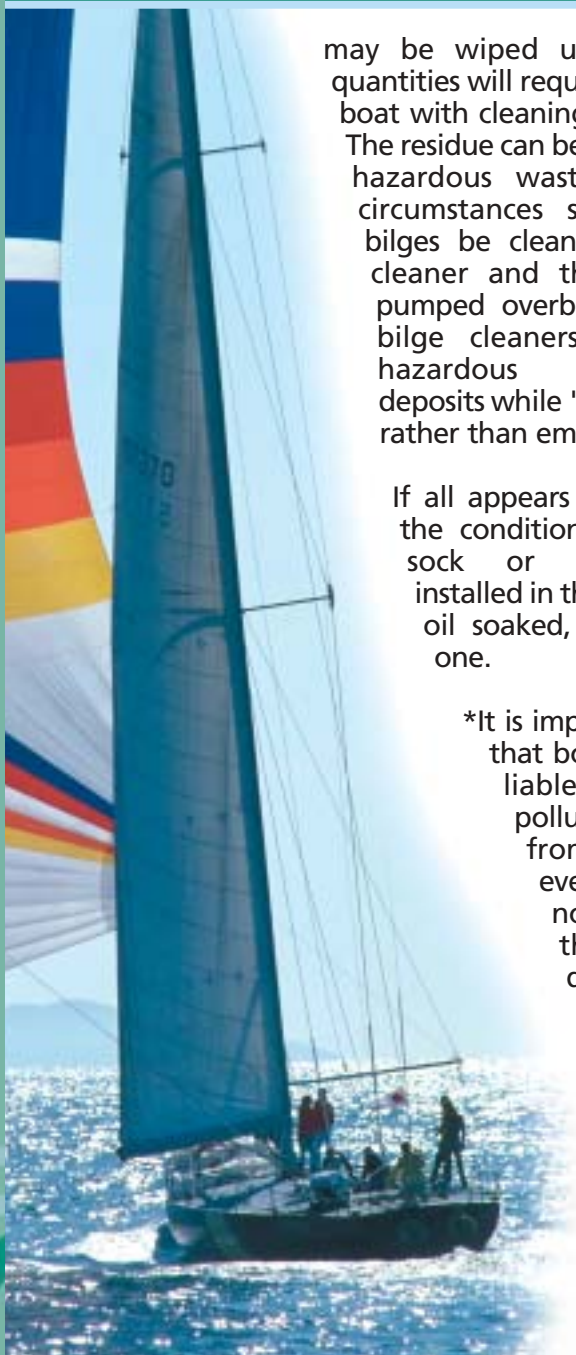
for dishwashing and general cleanup in the galley area. Avoid products with baseless claims such as biodegradable, low phosphate or environmentally friendly unless you thoroughly research the ingredients. Limit the amount of water you use in sinks. Consider wiping greasy utensils and dishes with paper before washing, to reduce quantities of detergent required for proper cleaning.

**2. Bilge**

Engine room checks before setting out on any trip, no matter how short, should be routine. At minimum, oil and coolant levels should be checked, along with a quick visual of belts and accessories. Any bilge fouling needs immediate attention. If oil is present, the cause should be identified and repaired. Minor spills



# CHAPTER TWO



may be wiped up, but major quantities will require hauling the boat with cleaning done ashore. The residue can be disposed of as hazardous waste. Under no circumstances should fouled bilges be cleaned with bilge cleaner and then the mess pumped overboard. EcoLogo bilge cleaners do prevent hazardous petrochemical deposits while "eating" the oil rather than emulsifying it.

If all appears normal, check the condition of the bilge sock or blanket you installed in the spring. If it is oil soaked, install a new one.

*It is important to note that boat owners are liable for any pollutant discharge from their boat, even if they are not on board at the time of discharge!

**3. Refueling – Avoid Spills**

Each marina/ yacht club is responsible for

refueling, and customers are not permitted to perform this procedure. Please follow all requests from the staff as they have your interest and safety as their top priority. Refueling from portable containers should not be permitted, as the possibility of spillage is great. This practice does occur in some yacht clubs, and these clubs must adopt written procedures agreed to by all members, to prevent accidental spillage.

**Inboard Tanks**

Is your boat one of the many that spits fuel from the vent fitting during refueling? If it does, consider one of the following remedies. A Davis No-Spill bottle fastens with suction cups over the fuel vent and any fuel spit-back is collected instead of causing that dreaded slick on the water. In 2002, the Canadian Safe Boating Council awarded this item the "Best New Environmental Product" award and if your marina/ yacht club isn't using one, ask why they aren't. Better still, buy one and carry it with you, but make sure no gasoline residue is left in it before stowing it back on board. For a more permanent fix, Racor makes a trap for the vent line or Perco makes a fuel fill deck fitting with a built-in vent that directs fuel back to the tank. The latter still requires strict attention, to avoid some spillage.

***It is important to note once again, that one litre of fuel contaminates 20,000 litres of water. Imagine what some inconsiderate, unaware, ill-informed gas-dock attendant could accomplish in a bad day on the job!

**Avoid Overfilling**

Avoid filling the tank to the brim if the boat is not to be used right away. Heat will expand the fuel in the

# CHAPTER TWO

tank, forcing it out the vent. Remember to run the bilge blower for 5 minutes before starting engines after refueling.

Marinas in the Clean Marine Program should be adhering to these procedures, but you should insist these practices are followed.

**Fueling With Inboard Tanks**

**Before Refueling:**

*Ensure boat is securely moored to dock.

*Ensure emergency absorbent materials are present.

# BOATING SEASON

*Estimate quantity of fuel required. (If the pump shows you have put 200 litres of fuel in 150 litre tank, you will be in great difficulty)

*Install No-Spill bottle or pad over fuel vent.

*Use absorbent donut around nozzle or at least have a rag at hand to wipe minor spills.

*Switch off all electrical devices.

*Close all ports and hatches.

*Ensure no smoking in fuel dock area.

*Ensure everyone is off boat.

*Do not leave boat.

*Do not overfill.

**After Re-Fueling:**

*Remove No-Spill bottle and dump collected fuel back into tank.

*Install deck fitting tightly.

*There should be no spills, but clean any minor ones immediately.

****Run bilge blower for 5 minutes before starting engines.

**Portable Fuel Tanks**

All portable fuel tanks must be taken ashore and placed on absorbent pads or trays to collect any gasoline

# CHAPTER TWO

spilled accidentally. Tanks must be approved by the Canadian Standards Association, and remember overfilled tanks will expand and leak when the temperature rises and spill into the boat causing environmental and explosion dangers.

**Personal Watercraft And Small Outboards**

Securely tie craft to dock where least wave action will occur. Some facilities have special fuel docks for these vessels. Again it is important to not overfill.

**Fuel Spillage**

Any fuel spilled must be reported to marina or Yacht Club management. It should be cleaned up with absorbent materials from the Emergency Spills Kit stored at the fuel dock. All used materials must be stored in a sealed container for disposal as contaminated waste.

*NOTE: DO NOT SPRAY DETERGENT ON THE WATER TO DISPERSE FUEL SPILLS. THE DETERGENT IS WORSE THAN THE FUEL!

**Fuel Waste – Avoid It**

To avoid wasting valuable fuel and producing excess exhaust emissions, do not leave engines idling for extended periods. If you need another reason for a new boat or new engine, one advantage of new technology fuel injected engines is they start without fuss and idle immediately, without extended warm-up time. Just untie your lines and set off, but do not run at high speeds until the engine/engines have reached normal operating temperature.

**4. Holding Tank Pumping**

**Black Water Tanks**

It is important to note that portable heads or Porta-Potties are NOT permitted in Ontario waters unless they are permanently fastened in place and fitted with a deck-mounted pump-out discharge fitting. It is NOT permitted to remove toilet waste from a boat other than through a deck fitting by means of a shore-based pumping system. Sea outlets for a head and/or holding tank must have no physical connection to an overboard discharge valve. Y-valves must be either removed or sealed in a position that allows raw sewage to enter the black-water holding tank only.

The introduction of bacteria into the water column is a great danger. These very small organisms can cause diarrhea, hepatitis, salmonella poisoning or other

# CHAPTER TWO

illnesses, even death, if ingested by anyone swimming or using polluted water as their drinking source.

Marinas normally perform this least desirable of tasks, but if you are responsible for doing your own pumping at your yacht club, some very specific rules must be followed.

**Before Starting To Pump Tanks:**

*Securely moor boat to dock.

*Wear waterproof gloves.

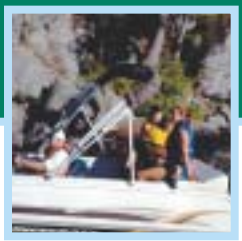
*Ensure pump-out tank is not full.

*Open deck fitting slowly to allow any pressure to release.

*Fasten deck fitting and ensure all suction hose connections are secure.

*Have sponge and water bucket at hand to clean up small spills.

# BOATING SEASON



*Pour rinse water through head.

**After Pumping Is Completed:**

*Do not dangle hose in water body, but rinse from water bucket

*Place fittings in water bucket (With mild disinfectant solution)

*Install deck fitting

**Cleaning Holding Tanks:**

*Use only water hose labeled for this purpose, NOT DRINKING WATER HOSE!

*Use as little water as possible

*Thoroughly wash hands when finished

****NOTE

Only use holding tank products that are the least harmful to the environment. Environment Canada and Health Canada have determined that exposure to formaldehyde may increase the risk of cancer in humans. Disinfectants containing formaldehyde have also been demonstrated to affect the efficiency of septic systems and sewage treatment plants. There are several holding tank products available that have been EcoLogo certified.

**Grey Water Tanks**

While boats equipped with grey water tanks are still not common, these tanks should be pumped after the black water tanks to flush the pumping system. If

# CHAPTER TWO

your boat does not have a grey water tank, inquire at your marina /Y/C on the feasibility of adding one and be sure it is on the option list for any new boat purchase.

**5. Personal Hygiene Aboard**

While not always possible, shore facilities should be used whenever they are available. Shore based showers and washrooms are connected to municipal sewer systems or approved septic systems designed to dispose of the waste. While the effects of grey water are still under debate, and water quality testing is taking place in many of our waters, we should be striving to reduce the amounts we introduce into the water. Limit the amount of water used in sinks and showers.

# BOATING SEASON

Many EcoLogo products have been approved for household and boat cleaning, and recently a number of personal hygiene products have been developed as well. Shampoos, hand soaps and body washes are now all available, so be sure to seek them out.

**6. Food And Beverages**

**Packaging**

Whether planning for a day on the water or an extended cruise, a little preparation when packing can reduce the need for limited garbage storage capacity on most boats. Everything from snacks to gourmet meal ingredients can be removed from store packaging and taken aboard in sealed reusable containers. These containers are available in many sizes, are more compact and easier to store. Even fresh vegetables may be cleaned and prepared at home to avoid garbage aboard. The packaging can go into your blue box at home and you will not have to carry the smelly stuff around looking for a disposal site. If you do have vegetable scraps and cigarette butts, keep them on board. Fish and birds do not enjoy a smoke.

# CHAPTER TWO

Remember that everything that goes aboard must be returned to shore. Better yet, bring back more than you take out. Stow all loose items, plastic bags and cups, pop can rings, etc. so they can't blow overboard. Marinas or yacht clubs and most municipalities now have both garbage and recyclable containers available for proper disposal ashore.

Beverages in cans cool faster than bottles and when crushed, take little storage space. The next best solution would be large plastic bottles, again easily crushed for storage and recycling ashore. Many environmentalists discourage these choices in favor of reusable glass bottles but both are now recyclable, and the possibility of glass breakage aboard creates a safety hazard.

**7. Damaging Wakes And Common Courtesy**

Many of today's powerboats leave humongous wakes when traveling at certain

speeds. In many locations, speed limit signs are posted, controlling speeds but not wakes. Every boat owner should know exactly what's going on behind his vessel at all boat speeds. Consideration of fellow boaters (especially those in smaller or sailing craft) is important, but shoreline erosion is a major source of water pollution and causes damage to fish habitat.

Be aware of your wake and travel at low-wake speeds within one half mile of shore, cottage docks and mooring areas. Besides the environmental concerns, if we all practiced this simple courtesy, many of the controversial cottager/boater confrontations and negative issues would go away.

When operating smaller outboards or personal watercraft in shallow water and close to wetlands, special care and consideration must be exercised at all times. These sensitive fish habitats should be navigated very slowly or (if possible) avoided altogether. They are no place for children to learn or practice boat operation even if it appears safer for them.

**8. Other Pollution**

**Noise**

Boisterous activity and noisy stereos may be pleasurable for some, but most boaters and shore dwellers are there to escape exposure to the above and prefer peace and solitude. Respect the rights of these people. If you like loud music, use headsets instead of sharing your pleasure, or pain.

**Nuisance – Don't Be One!**

Respect for others is the key here as well. Personal

# CHAPTER TWO

watercraft can provide great enjoyment, but continually circling cruising boats to jump the wake is annoying and dangerous. New models are much quieter, however continual running back and forth in front of a neighbor's cottage or moored boats, will wear very thin, very quickly. Go for a ride and enjoy. Water skiing or wakeboarding near or amongst moored boats is also dangerous and a source of great friction. Enjoy these activities away from others.

**Invading Species**

By now, most boaters are aware of the growing Zebra Mussel infestation, but there are others. The Spiny Water Flea

# BOATING SEASON

has fouled many of Canada's lakes and rivers.

Unfortunately, we are often unaware of these pests until they are well established. The greatest danger presented by boaters is transferring these pests and invading aquatic plants from one body of water to another, on or in trailerable boats. Before moving between lakes, all bilges, bait and live well tanks should be pumped and flushed and boats and trailers should be rinsed down. These pests did not arrive here in, or because of pleasure boats, but we can have an impact on their spreading to other bodies of water. Never dump live bait into an environment where they did not originate.

**Other Activities Involving Boating:**

**Fishing**

- use lead free sinkers and jig heads
- do not throw old fishing line or other debris overboard
- avoid fish spawning areas when they are spawning
- do not harass wildlife

**Water Skiing/Wake Boarding/Tubing**

- stay away from busy and narrow channels
- do not drive recklessly

**Transportation To The Cottage**

- do not overload your boat with too many people, luggage and supplies

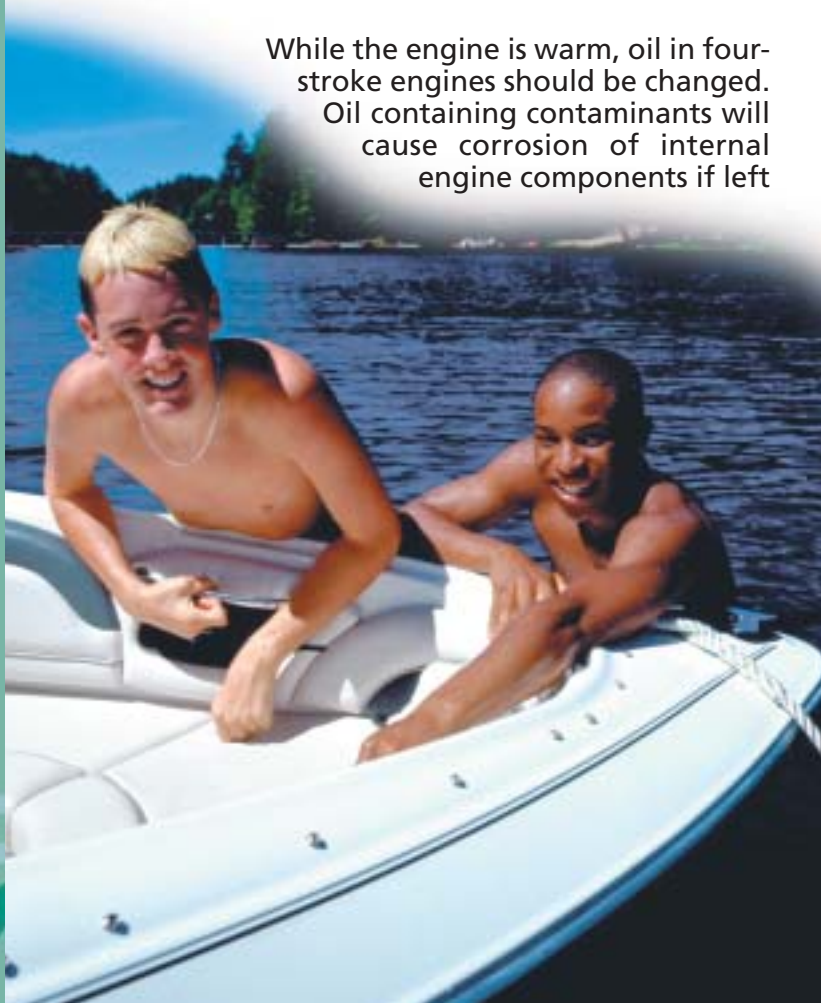
# CHAPTER THREE

This is the time of year all boaters dread. Once again, a few simple steps taken now can make our life easier next season and protect the environment.

Before haul-out, be sure your holding tanks are pumped out and well rinsed. Be sure the fuel tank is filled to prevent condensation and add fuel stabilizer to preserve fuel quality and prevent evaporation.

**Corrosion Protection**

While the engine is warm, oil in four-stroke engines should be changed. Oil containing contaminants will cause corrosion of internal engine components if left



over the storage period. Be sure the waste oil and filter are recycled. This will be done automatically by your marina, but if you change your own, take it to a municipal waste recycling site. To protect internal engine parts during the storage period, a small quantity of fogging oil should be injected into the engine intake while idling.

**Fuel Storage**

Built in tanks on boats should be filled before storing. This will prevent condensation from forming during temperature fluctuations over the winter. Fuel stabilizer should be added in the proper proportions to prevent fuel deterioration. Failure to perform this task may result in the entire tankfull having to be disposed of. This would not only be an expensive waste of gasoline, but it is also expensive to dispose of as hazardous waste. Make sure you run the engine for a short period after adding the stabilizer to distribute it through lines, pumps and carburetors or fuel injectors.

**Freezing As Well**

If care is used, all water may be drained and removed from the fresh-water cooling system without requiring the use of anti-freeze. Please note that non-toxic or plumbing-type antifreezes are both very toxic. They must also be used undiluted to provide freezing protection. To be sure there is no water left in the cooling system, all drain plugs or valves must be clear, hoses removed and dumped. It is best to blow air through the system, to be sure it is all gone. If there is any doubt about a passage or pump, pour in a small amount of glycol-based anti-freeze. Even

# CHAPTER THREE

with a 50-50 water mix, it will provide freezing protection. Close all openings to prevent rodent families from taking up residence before you return in the spring.

If you must use antifreeze, an alternative is to pump antifreeze through the system and then drain it back out for recycling or reuse. This can be done immediately or you can wait until re-commissioning is done in the spring before launch. You could forgo all of this by storing your prized possession in an indoor storage facility, heated only enough to prevent freezing. This option is becoming more popular.

Do not re-launch until the anti-freeze has been removed!!!

# WINTER LAY-UP

**Fresh Water System Too**

If your boat has a fresh water system it can be winterized in much the same way. You have a choice of using many gallons of plumbing anti-freeze, or you can use low air pressure to force the water out or a shop vacuum to draw it out. Be sure you clear all taps, showerheads, etc. as well as the traps in all drains.

**Clean The Bottom! But Not Too Clean**

As soon as the boat is hauled, the bottom should be cleaned with a high-pressure washer to remove any algae. It is important to note that the bottom will not come back to like-new, sparkling white, without using cleaning chemicals containing acid. To avoid using these harsh chemicals, you may choose to accept a slightly yellowed hull colour, which won't be seen when the boat is re-launched and floating in the water anyway.

If the bottom is coated with anti-fouling paint or EcoLogo bottom wax, a quick blast with the pressure washer is all you will need. Remember, if the base colour is not showing through, no repainting will be required before spring launch. New marinas may have a wash bay where bottom wash-water will enter a catch basin, to be filtered before re-entering the water body.

Ensure that only water is used to clean the bottom of the boat – no soaps, detergents or chemicals should be used. If cleaners are used the water should be discharged to a municipal sanitary sewer system or to the septic system. Unfortunately, this is a very expensive retrofit for existing marinas and yacht clubs and may be impossible for others. If your marina does not have a boat wash area and your boat is trailerable, you could choose to take your boat to a hand spray car wash facility, which should use proper disposal methods.

# CHAPTER THREE

**Lighten The Load**

A thorough inspection of all areas and systems is in order. One item of note here: this is an ideal time to take inventory. Boaters tend to keep bringing items aboard that are absolutely "must have." If they are not important spare parts or safety items and you have not had an occasion to use them in the past season, take them home. While it seems harmless to carry these "must haves" because you might use them, remember that each item involves some weight. Combined, they will cause your boat to sit lower in the water, reduce your speed and burn considerably more fuel. Take freezable chemicals, aerosols, and chemicals that will rust out of your boat.

Take all electronic accessories home. These items are easy targets for theft, and part of the reason insurance costs continue to increase.

**Cover It Up**

Finally, it is time for final storage. If you did not opt for the heated storage, you must provide some type of cover. Canvas covers are expensive, but have the

# WINTER LAY-UP

advantage of lasting many seasons when properly cared for. Tie-down tarps with ridgepoles are inexpensive, but have a nasty habit of collapsing under a heavy snow load - some job to repair in the middle of a snowstorm!

Shrinkwrap is an excellent way to provide protection from the elements. Make sure whoever is doing the job for you installs vents for air circulation. When the wrap is removed in the spring, be sure it goes to a recycling facility. This will cost you a few dollars, but it beats sending the stuff to a landfill site, where it might break down in about a hundred years

**A Whole Year Completed – Easy, Wasn't It!**

You have now completed a one-year cycle as a boater with a new environmental perspective. We hope you have picked up a few new tips along the way. Share them with others. If you see some inconsiderate slobs messing with our clean waters, set them straight.

If they don't seem to care, perhaps the local MOE office would like to hear about them.

## HAPPY, SAFE, CLEAN BOATING!!!

Additional sources of environmental matters
Provincial government (Ministry Of Environment, Ministry of Natural Resources)
Federal government (Environment Canada and Department of Fisheries & Oceans)
Ontario Marine Operators Association
Canadian Power & Sail Squadrons
Ontario Federation of Anglers and Hunters
Environmental Choice Program

# WEBSITE INFORMATION

Visit the Clean Boater Website at:

## www.cleanboater.com

for **NEW** program information and for a listing of all Eco-Rated Marinas and Yacht Clubs. This also includes those facilities that are Certified Vessel Environmental Inspection Facilities.


# YAMAHA PRESENTS THE WORLD'S FIRST 150HP FOUR-STROKE OUTBOARD.


## THE HARDEST THING IS DECIDING WHERE TO PUT IT.

Well, obviously, you put it on the back of your boat. The question is, which boat? The new Yamaha F150 is the perfect four stroke outboard power for everything from pleasure boats, deck boats and pontoons to deep v's and offshore craft. Sure, it's whisper-quiet, fuel-efficient and clean-burning – not to mention compact and lightweight. It even meets Federal EPA 2006 emission standards and CARB 2008 three-star requirements. Now add the kick of our powerful in-line 4-cylinder 16-valve double overhead cam, and you've got all the advantages of a four stroke with the knock-your-socks-off speed and acceleration of a corresponding V6 two stroke. The versatile F150 is the latest addition to Yamaha's family of exceptionally reliable Four Strokes ranging from 2.5hp to 225hp. But it's the first 150-horse EFI four stroke outboard in existence. Which makes it one of a kind.

**YAMAHA 4-STROKES**
**2.5 - 225HP**

**THE WORLD'S LARGEST OUTBOARD MANUFACTURER**

3 YEAR FOUR STROKE LIMITED WARRANTY

ULTRA LOW EMISSION

www.yamaha-motor.ca

REMEMBER to always observe all applicable boating laws. Never drink and drive. Dress properly with a Canadian Coast Guard approved personal floatation device and protective gear.

YAMAHA

# Marine Insurance Made Easy!

Marine Expert is a proud sponsor of the Clean Boater Program...

MARINE EXPERT
MARINE INSURANCE
A division of ELCO Insurance Group Inc.

Become a Clean Boater and receive 10% Marine Insurance Discount

ASK THE EXPERT
1-877-MARINE3
(1-877-627-4633)