

Working Towards Green Marinas

Sustainability is impacting many industries, but the marina industry has lagged behind in embracing green practices. Moreover, in the eyes of regulators and the public, marinas don't have a positive environmental reputation. That can make life more difficult than it should be for marina operators and developers. However, attitudes in the marina world may be changing and there are many good reasons for it.

The benefits of sustainable design, construction, and operations include:

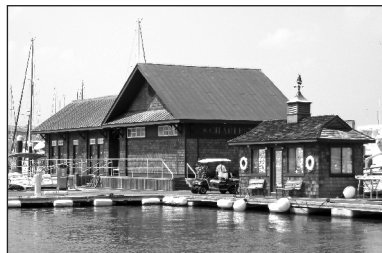
- Reduced need for dredging
- Reduced need for costly environmental clean-ups
- A cleaner, more attractive facility
- Giving the public the impression that the facility is well planned and well run
- Making permitting go smoothly for expansion and new projects
- Savings on utility bills

It makes good business sense for marinas to go green, both individually and as an industry, according to **Dale Gilbert**, landscape architect and consultant with extensive marina experience. "The industry," he says, "has room for improvement on sustainability, but also has been tagged with a more negative image than it deserves."

Gilbert points out that marinas have made significant strides over the past 20 years. Programs involving spill-recovery, hazard and emergency preparedness, waste management, and most notably, making pump-outs widely available have yet to rehabilitate its image. A negative environmental impression, he notes, hurts marina owners and developers. "Too many times I have been working on site development and local officials, citing environmental regulations, didn't want to allow the project. Mistakenly, those staff recommendations translate into public pressure against recreational boating and there is a continuous circle of resistance."

Gilbert, a founder of the website, **The Clean Waterfront** (www.cleanwaterfront.net) and the

TECHBlue Center, suggests that the industry embrace a "water-neutral" philosophy. Like the term "carbon-neutral," used to describe policies that yield no increase in global warming emissions, a water-neutral marina prevents pollutants from entering the body of water.



Green siting, planning, and construction

Creating a water-neutral facility is an ambitious target, but some marinas are aiming squarely for that. Palmetto Bluff, a 20,000-acre planned residential community located along the May, New, and Cooper Rivers on the South Carolina coast, has adopted many sustainable concepts. The development's green ethos has already been reflected in the siting of its planned marina, and will be a key component of construction and operations.

"The premise of the development is conservation on land and water," says

Patty Kennedy, Executive Director, **Palmetto Bluff Conservancy**. Just as

the development will conserve land by clustering homes in compact villages, it aims to conserve waterfront by banning private docks, and will locate its community marina within a naturally deep tidal river with an ample current. The site

requires no initial or maintenance dredging and will exhibit good water quality due to the natural flushing of the tidal current. The location, a former barge landing site, will promote light impact construction. Contractors will be required to deploy floating silt curtains during pile driving to prevent increases in water turbidity. They will also be required to have response and mitigation plans ready in case of a fuel spill. Such environmental protections will be required in construction contracts.

Green operations

Creating a marina with a water-neutral impact primarily depends on implementing and enforcing sustainable operations.

GREEN GUIDELINES AND PROGRAMS

Several groups provide guidelines for sustainability and offer programs or certifications for sustainable marinas.

U.S. Green Building Council – The USGBC devised the Leadership in Energy and Environmental Design (LEED) program that rates buildings on sustainability. LEED guidelines cover several different types of projects such as healthcare, homes, and retail, but to date, there is no specific LEED program for marinas. However, green building principles used in LEED can be applied to the marina industry. Some credits are applicable to marina design and construction, such as minimizing site disturbance during construction, controlling stormwater runoff, providing collection areas for recyclables, reducing construction waste, reusing materials during renovations, and using recycled, regional, and/or rapidly renewable materials and certified wood.

Clean Marina Initiative – The Clean Marina Initiative is a voluntary, incentive-based program promoted by NOAA and others to encourage facility operators and recreational boaters to protect coastal water quality by engaging in environmentally sound operating and maintenance procedures. While Clean Marina Programs vary from state to state, all programs offer information, guidance, and technical assistance to marina

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Some initiatives, such as providing restrooms and bathhouses within the marina so boaters will refrain from using their heads when docked, are simple in concept. The **Charleston City Marina**, Charleston, SC, ups the ante with a laundry facility located at its floating bathhouse. The more boaters use dock bathhouses, the less likely boats will discharge waste into the body of water.

Charleston City Marina also provides floating pump-out services in addition to a fixed station. The floating pump-out service is much more convenient than the fixed option, with a pump-out boat coming by appointment to the boater, says **David Rogers**, the marina's harbormaster. Many boaters are reluctant to battle wind and current, or try to start an engine that hasn't been used in a while, to reach a fixed pump-out. The number of boats using marina pump-outs increased dramatically after floating service was offered, Rogers points out. "That kind of makes you wonder where the waste was going before," he says.

Safety equipment and procedures can also prevent water pollution. Charleston City Marina has extensive firefighting equipment. "You want to put out boat fires as quickly as possible so they don't result in fuel spills," Rogers explains. The marina also has a cooperative relationship with a salvage firm to provide rapid assistance to sinking vessels.

Boaters must do their part to preserve water quality. Palmetto Bluff plans to use "carrots and sticks" to ensure that patrons comply with water quality rules. It is considering offering dock fee discounts for boaters who take boat operation courses that will include green practices. Boaters that violate the marina's environmental rules would risk being banned from the marina, Kennedy says.

Maintenance and repair facilities can also have a significant impact on developing a water-neutral boating industry. The **Charleston City Boatyard**, located just north of Charleston Harbor on the Wando River, has taken extraordinary steps to reduce pollutant discharges. In recent years, the facility has:

- Placed reusable blankets under vessels to capture paint chips and other solids.
- Recycled all solvents, used engine oil, coolants, and disposable batteries.
- Begun work on a stormwater management system that will capture all solids.
- Installed a \$50,000 filtration system for pressure wash water; recovered water is reused.

These steps were costly, but boatyard officials believe they were worthwhile. "Protecting the environment

is part of our overall investment," says **Ron Gift**, general manager. Boaters, he notes, want to enjoy clean, natural environments. Thus, preserving water quality is crucial to the industry's well-being. What's more, with the environmental consciousness of the public rising, more boaters will be attracted to boatyards and marinas that follow sustainable practices. That will increasingly provide a competitive advantage for green facilities, he says.

It's also likely in the future that regulators will clamp down on marinas and boatyards, as they have done on other industries, and mandate more sustainable practices. Charleston City Boatyard's efforts to reduce water pollution would only become more expensive to implement in the future, Gift notes.

Officials at Charleston City Marina, Palmetto Bluff, and Charleston City Boatyard are displaying a new green mindset. In time, this outlook is likely to become the norm, and it should make for a healthier marina and boating industry. ●

[GREEN GUIDELINES AND INFORMATION, continued]

and boatyard operators, local governments, and recreational boaters on Best Management Practices (BMPs) that can be used to prevent or reduce pollution. Marinas that participate in the Clean Marina Program are recognized for their environmental stewardship.

Blue Flag – The Blue Flag is a voluntary eco-label owned and run by an independent non-profit organization that has awarded certification to over 3,200 beaches and marinas in 37 countries. The program's criteria address water quality, environmental education and information, environmental management, safety, and other services and provide information for the public, decision makers, and tourism operators.

International Organization for Standardization (ISO) – ISO promotes development and implementation of voluntary international standards for products and environmental management issues. ISO 14001 is an environmental certification, and about a dozen U.S. marinas have received this designation, which includes commitments to prevention of pollution, continual improvement of the Environmental Management Systems leading to improvements in the overall performance and compliance with all applicable statutory and regulatory requirements.

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