

The Blue Review

Independent Library of Applied Clean Waterfront Technology

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The Blue Review is a quarterly publication produced by the TECHBlue Center, Jacksonville, Florida. Brief notes are presented on applied technology for Clean Marinas, Sustainable Product Manufacturing and Clean Waterfront Development. As an email, the Blue Review is distributed to interested waterfront professionals in PDF format. As a printed copy, the Blue Review is sent to a select customer base for subscribing manufacturers. **Voluntary – Independent – Inter-disciplinary**

Waterfront Learning Laboratories

- Demonstrations
- Sustainable Learning Center
- Long Term Monitoring

The TECHBlue Center is reviewing a series of demonstration sites to assist waterfront professionals with sustainable and cost-effective choices.

Information from beta sites is collected to develop a format to study products and technology used to protect and preserve a clean waterfront.

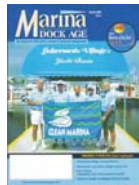
“Learning Laboratories” sites are solicited to showcase the emergence of clean waterfront technologies. Development and construction methods are review by industry standards and benchmarks. [Link to Waterfront Alliances](#)

Clean Waterfront Workshops

The TECHBlue Center has facilitated a number of workshops which focus on clean waterfront construction and development. Information on training for property owners, engineers, contractors, manufacturers and public interest groups. [Link to Workshops](#)

Clean Marina Highlights

- Fishermen’s Village Marina, Punta Gorda, FL
- Dillon Marina, Lake Dillon, CO



Marinas have long histories of finding clean waterfront solutions.

Site summaries and formats of marina master plans are archived by TECHBlue Center. Review how to check the environmental condition of your waterfront.

[Link to Marina Reviews](#)

Testing Note

TECHBlue will assist manufacturers with site specific and water body differences when comparing product advantages. [Link to Product Testing](#)

Sustainable Product Reviews

The most requested product reviews include those which improve water quality and marine habitat.

Companies producing products with extended life-cycles are usually industry leaders.

Companies which adopt management practices emphasizing strict quality control and warranty procedures consistently show an increase in market share. [Link to Product Review](#)



Upland Structure Notes

TECHBlue chronicles industry attempts to blend LEED certification with waterfront building requirements.

To determine the advantages of ‘Green’ and sustainable building criteria, should LEED credits be modified?

[Link to Drystack Library](#)

Waterfront Glossary Selection

EMP Environmental Management Practices - detailed documents which pull together a range of information and assist with the drive towards continued environmental improvements. The EMP assigns responsibilities to personnel, helping to raise environmental awareness and performance. The EMP provides a framework on which subsequent risk assessments can gauge improvements in environmental performance. [Link to Glossary](#)

The Bottom Line - Money Note

Positioning your company to be ready for funding and grant opportunities takes planning. Implementing management practices which are verified with historical monitoring is a necessary first step. [Link to How-To-Use](#)

Marina Off-Street Parking Patterns (excerpt)

By Dale Gilbert

General Waterfront Planning

Usage patterns and waterfront access vary greatly by region and by specific waterfront sites. Marinas and boat storage sites are defined by the number of boats stored (both in the water and on dry land). The common denominator for planning is 'per boat'. The terms 'per boat' or 'per boat slip' can be used as a beginning benchmark for waterfront usage patterns. When used to determine income, tax and regulatory projections the total boat or boat slip count should be specifically qualified with respect to each site.

Environmental planning factors are accepted priorities for local jurisdictions and waterfront property owners. Additional priorities are set for individual waterway communities, and a call for clean water applications is promoted and encouraged. For the purposes of this study, the activity of working waterfronts and waterfront access sites create concern and focus on:

- The impact marina development has on natural resources and waterway balance.
- The minimum and maximum parking available at working waterfronts (as an industry standard)

Because boat sizes (and usage) vary, many planning characteristics are difficult to standardize. The number of boats in storage for a given in-water or dry-land footprint will vary by boat width, length and type. Boats in drystack storage will vary by width, length, height, and weight. Again, applied standards become an average of historical and site specific use patterns.

Standard Boat Storage Patterns

The most complete industry studies on waterfront usage are included in internal company plans for waterfront development and operations. This is proprietary information. The information can be summarized, however, into working industry standards. This review includes industry standards derived from those studies and other referenced work.

For this study, boat storage and marina sites are defined (as regulatory planning elements) by the number of boats in use. Similar to using occupancy levels for building and fire code applications, parking requirements for boat storage may be guided by boat usage patterns. Similar also to parking requirements for other storage operations (i.e. mini-storage and mini-warehouses). These boat usage patterns result in lower numbers when compared to the full boat capacity of the marina. Note: There is little to no difference in usage, when wet storage boat customers are compared to dry storage customers.

Typical boat storage and marina sites have less than 25% of the total storage inventory in use during any given time of operation. The maximum 25% average includes peak usage times (i.e., Memorial Day, July 4th, Labor Day, etc.). As a standard, these patterns are consistent in all reports – year-to-year, and in every area of the country.

Total boat storage inventory is historically less than the original boat count plan. A number of exceptions to a 'total boat count method' may be recognized, which place downward pressure on numbers for total boats in use.

- Maximum usage, as an estimate of boats in storage at one time, may result in a historically unrealistic figure. Even when considered 'full', most marina businesses do not operate at the original full design capacity (90% capacity is a standard).

- The industry typically gauges a fast-track ramp-up period of 2-3 years to reach over 90% occupancy. Future site and boat inventory characteristics (i.e. changing boat sizes) are a factor in the ultimate total boat count. The final count, after ramp-up, may be 80-90% of the planned total boat count.

- Planned boat counts are inherently calculated high (most often to reflect property income). The actual boat space usage is less. A large majority of marina planning projections do not attempt to estimate each variable in the boat inventory. A total 'maximum' boat count is used with an average or conservative income per foot. The income figure may be realistic, even as the inventory changes. The total number of boats, however is always lower. For instance, double-wide and triple-wide layouts can be calculated as full (with 2 or 3 boats) for a 'maximum' boat count; but in reality do not reach those levels. Larger boats (one boat in a double-wide space, or two boats in a triple-wide space) change the final count and usage pattern, even as income is satisfied.

- Transient and holding docks do not impact parking requirements. These docks are, by definition, areas for transient boaters. The number of holding docks designed for launching boats is a factor included in the total boat storage count (as spaces for existing customers) – making it a redundant number. Parking areas, as a standard, are not utilized by transient boaters in the marina. Marina operations may plan for an 8-10% transient dock component.

- Marinas may have an average of 10% of their customers with boats out of marina storage for repair. Boats on yard stands and boats out of storage for repair or maintenance are not counted as additional storage spaces. When analyzed for parking requirements, boats out for repair decrease the total boats in inventory, and do not additionally impact parking areas.

Recommended Marina Boat Storage Parking Standards

Resulting use patterns for marinas show an average of less than 20% of all boats in inventory are used at any one time (when calculating maximum boats in storage as the basis). Calculations using a maximum boat count per plan should multiply the total by the usage factor (as a standard).

Complete White Paper is available by contacting the TECHBlue Center.