

*"The world is doubled
by reflections in still
water; down becomes
up."*

Photo by Nick Wheeler



Boathouses: Buildings for Re-creation

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The experience of being in a boat on the water is exhilarating and slightly unsettling. We float, not quite so in control of ourselves as we are accustomed to being. We are isolated. Our perspective is low and the world we experience becomes flatter, with horizon lines echoed by tree lines above. Our view is broad and the water is undifferentiated. The sun pervades unimpeded by trees or other obstructions. The world is doubled by reflections in still water; down becomes up. As a portal to these unique experiences, boathouses capture our imagination.

Boathouses are unusual because they are located at the intersection of water, earth and sky. They are vertical objects that interrupt the flatness of the water and the horizon beyond. Boathouses are also signposts, helping to define location in the sameness of the water all around. As a gateway, they are ambiguous; which side of the building is its front?

Boathouses can also appeal to our sense of culture and history. They create nostalgia in connecting us to an era of social elitism: the realm of wealthy recreation and the private club.

Yet, most importantly, a boathouse is a building with a function: a structure on or near the water, built to store and protect a boat or boats when not in use. When stored in a boathouse, a boat may be completely removed from the water, so that it is protected from the action of tides or waves, from saturation or rot, or from barnacles, worms or other degradation. Such boathouses also protect their contents from sun, rain, and snow. Boathouses built on the water often protect a boat as it floats and allow use without the need to put the boat in and out of the water. Many of these structures are used seasonally.

Boathouses have certainly been in use for thousands of years and in thousands of ways. Most of them have been built either on freshwater lakes and rivers or in sheltered saltwater locations; boats that are large enough and rugged enough to weather the open ocean do not generally need protection from rain or snow. Further, the larger the boat that needs to be protected, the larger and more expensive the structure needs to be to do so. Economy and the nature of the boats themselves have constrained the kinds of boathouses that have been built.

Rowing and Recreation

Although the variety of boathouses is nearly endless, those presented in this book fall essentially into two categories. First, there are residential boathouses that serve to shelter privately owned boats. Second, there are boathouses that accommodate rowing shells and the equipment and activities related to the sport of rowing. Beyond the obvious similarity that both of these kinds of boathouses house and protect boats near or on bodies of water, there are also considerable differences.

Private boathouses frequently house a small boat or boats used by an individual or just a few people. The boats they protect range from canoes to rowboats to “guideboats,” to small motor boats. They are generally small structures, although some contain secondary functions often related to their role as the arrival point on wilderness lakes. These buildings are generally pastoral and private. Indeed, the boats they shelter are used by people who want isolation, whether they are fishing, hunting, or exploring the wilderness.

Rowing boathouses, in contrast, are often both collegial and collegiate. They are typically much larger and house a number of rowing shells. Most of these shells are designed for four or eight rowers and a coxswain; the activity they serve generally requires active engagement with others. In many ways, rowing is the ultimate team activity; other than the single scull, rowing demands unparalleled synchrony amongst teammates. As they serve large numbers of people, these boathouses are typically easily accessible and often located in urban areas or affiliated with clubs or educational institutions. Further, as meeting places for large groups of people, frequently with views of and over the water, institutional boathouses often contain spaces that complement the boat storage functions. These additional spaces can range from locker rooms to training spaces to meeting spaces. The most elaborate and impressive of these contain magnificent “Club Rooms” with fine finishes, trophy cases, and memorabilia

acknowledging the grand history of that institution’s rowing program.

Despite the substantial differences between these structures, both private and institutional boathouses as building types became prominent in the 19th century and continue, within modern constraints, to this day. These buildings both trace their history back to reactions against changes brought on by the industrial revolution.

19th Century Urban Life

Industrialization caused continuous and profound change in US culture throughout the 19th century. Early in the century, mechanization began to supplant physical labor as a means of production. The changes were incremental at first, but in the second half of the century, and particularly after the Civil War, they became rapid and dramatic. Among other things, they led to the rise of recreational activities.

Cities in the 19th century were difficult places. As mechanization vastly improved agricultural efficiency, a smaller proportion of the population was necessary to work in agricultural production. At the same time, manufacturing processes evolved from cottage industries to factories. These factories needed people to work in assembly lines or sweatshops, and were thus located in population centers. The resultant redistribution of the population from rural to urban areas, also fueled by a steady influx of immigrants, created cities of staggering density.

The rookeries and tenement houses that housed much of the urban population were built amongst unpaved streets filled with potholes, sewage, and garbage. Horses and free-roaming pigs also contributed to the filth. Disease was rampant and spread easily amongst the closely packed citizens. Coal use jumped dramatically, first in the production of metal goods, and then as the power source for the steam engine, which powered industrial machinery as well as steamboats and trains. The

new widespread use of coal coated industrial cities in soot. Chemicals also found new uses in metallurgy, fabric dyeing, leather tanning, and as pharmaceuticals, explosives, and fertilizers. There was no understanding of their toxicity, and no means of appropriately disposing of chemical waste; it was often dumped in the open where it contributed to the city's pollution.

Dirty, smelly, noisy, and fostering disease, the city, originally the seat of humane civilization, became, in many cases, a dangerous place from which escape, both physically and spiritually, was desirable. Spiritual escape sometimes took place with intense physical activity that required focus and exertion that forced one to forget the oppressive forces of the city. This activity led to the development of rowing as a sport and the need to build boathouses to facilitate the activity. The other desire, to physically leave the city behind, spurred the ultimate development of private rural boathouses as part of a new interest in recreational vacations. The boathouses shown in this book were built as a result of these two different means of finding an escape from the difficulty of urban life.

Leisure and the Vacation from Urban Stress

The increased efficiency of industrial production, combined with the number of immigrants who could do the more difficult or dirty work, created an expanded upper class that was now able to spend time in activities not related to industrial or agricultural production. This new freedom, along with the oppressive urban conditions, created a powerful desire to reconnect with things that were missing in their lives—most notably, clean air and the natural world. Many Americans, especially the upper class, now sought out nature as a desirable experience, as opposed to the longstanding attitude that its rigors were something to be endured rather than enjoyed.

This desire was reflected in the development and expansion of urban parks, the migration

of the upper class to the fringes or other undeveloped parts of the city, and eventually in the creation of residential suburbs, particularly along rail lines. Central Park was established as the first landscaped urban park in 1857. In 1871, the first public playgrounds were built there. (Mumford, p. 429). Further from the city, the movement to protect natural resources began to pick up speed. In 1864, Yosemite was set aside for preservation and, in 1872, Yellowstone became the first national park. Concurrently, resort hotels were developed in remote locations (but near enough to cities) to entice wealthy city dwellers to visit the countryside, such as the Adirondacks in upstate New York.

Transportation allowed reconnection with nature in different ways. The proximity of the Adirondacks to New York and Boston made them an appealing destination. However, in the first half of the 19th century, access was not easy. The stagecoach was the main means of access to the central Adirondacks (Kaiser, p. 34), and small parties or individual hunters were the most typical visitors to make the journey. In the middle and latter half of the century, Thomas Durant and others oversaw the extension of rail lines throughout the Adirondacks. In 1869, William Murray published "Adventures in the Wilderness; or Camp-Life in the Adirondacks." This book, which became incredibly popular, caused a dramatic increase in visitors to the Adirondacks. Indeed, many lamented that the special charm of the area had been ruined.

Adirondack Camps: A Rural Escape

This new access and popularity led to the establishment of a number of Adirondack hotels specifically intended to cater to the new "leisure class." Eventually, some wealthy families felt that buying or leasing their own land would provide them with a better wilderness experience. The hotels, with their guides and package trips (including tents and all other necessary equipment) could no longer provide them with the solitude they sought. In many cases, the sheer numbers of people taking

advantage of the opportunity simply convinced the wealthiest families that this vacation routine had become too pedestrian. The incredible Prospect House hotel, built on Blue Mountain Lake, illustrated the problem perfectly. It had over 300 rooms, with electric lights, running water and steam heat. It also had its own fenced-in deer corral. For some, this was not a satisfactory wilderness adventure.

Although the primary motivation for purchasing remote property was often to ensure a more authentic backwoods vacation, accommodations were made to facilitate the process; tent platforms and other minor amenities were often constructed on these remote sites. Some families grouped together to form clubs or associations. In a variety of ways, the wilderness experience and the social aspects of vacations in the Adirondacks began to merge. As houses and support buildings became part of the vacation lifestyle, so did social visits and teas. The trips became more and more complex, involving large numbers of people and huge quantities of equipment and provisions.

Never to be outdone when it came to spending, the wealthiest Adirondack vacationers, including such families as the Vanderbilts, Whitneys, Carnegies, and Morgans, began to build increasingly larger estates, complete with hunting lodges, ice houses, carriage houses, work shops and, of course, boathouses. These estates were less palatial than those of, for example, Newport or Southampton. The buildings themselves tended to be more rustic in appearance. Additionally, functions were often broken out of the main house and accommodated in separate outbuildings, thus reducing the scale and even the formality of the main structure. To reinforce the rustic impression, the owners called these estates “camps.”

Adirondack architecture was based on indigenous log construction, but also drew on styles found in other alpine areas; Swiss chalets were a prominent source, but elements of Japanese, Bavarian, Russian, and Scandinavian design were present as

well. Elements such as broad roof overhangs to protect the building below from snow were drawn from these styles. Ideas and craftsmanship drawn from rustic furniture making was extended to provide decoration of many Adirondack structures. These designs used materials endemic to the regions—stone and wood, in new and creative ways.

Boathouses were frequent and important components of Adirondack camps. Indeed, the region is noted for its collection of unique waterfront structures. These buildings were often the first point of arrival for guests who arrived by boat. As such, they were required to make a favorable first impression on the guests, and many directly faced the water in a formal manner. As time passed, some of these boathouses became more sophisticated, adding fancy game rooms, club rooms or other functions that might complement their roles as gateways to the estates. Many of these structures manage to be simultaneously rustic and elaborate. Two of the most striking examples are at the camp called Topridge, where the boathouses features incredible detailing fashioned from tree roots and branches, forming brackets and an ornate frieze that is essentially woven stick work. This is a later structure, and represents the culmination of the style that had evolved over the previous 50 years or so.

A similar pattern of leisure resort development followed in other wilderness areas with reasonable proximity to urban centers. The developments in the Muskoka region in Canada mirrored the Adirondack development. Resort hotels were built there too, with its own Prospect House, Royal Muskoka Hotel and Deerhurst Inn. Ultimately, grand residences with outbuildings appeared, again following the pattern in the Adirondacks. The Muskoka region also became particularly known for its numerous and unique boathouses.

Leisure resorts of varying styles and with varying features developed throughout much of the settled areas of the country. Grand hotels were built in many of these resorts, in such places as the White Mountains, on Lake Champlain and

The second boathouse at Topridge features a stone base, log construction and ornate decoration of woven branches and stumps. (Photo by Doug Shick)



along the St. Lawrence River. Spas opened in central Pennsylvania, Saratoga, N.Y., West Virginia, and Arkansas. While these regions may not be known for boathouses in the way that Muskoka and the Adirondacks are, these structures could be found in most places where there was water, and were built with frequency until the onset of the Depression.

As rural development gave birth to a number of remarkable private boathouses, in the cities people found different ways to escape the burdens of 19th century life. Another group of people, generally much less wealthy—at least initially—found relief through physical activity.

Rowing: A Physical Outlet

With increased efficiency and reduced physical labor, industrialization provided people with both leisure time and the energy to engage in physical activity during that time. Athletic endeavors became more popular early in the 19th century and grew exponentially

in the latter half of the century. During this time, a number of new sports were invented or formalized, including baseball, basketball, and volleyball in the U.S, and soccer (football) in England. The Modern Olympics were established in 1896.

The nature of 19th century athletic activities was limited by access to the space necessary for those activities. In urban areas, without expansive open land available for games, boxing grew in popularity, as did sandlot baseball. At the same time, huge numbers of people made their living on the water, fishing, shipping or ferrying passengers across rivers. Races between ferrymen were common, generally accompanied by betting. Other rowing races took place between crews of ships moored in New York Harbor (Miller, “The Wild and Crazy Professionals”). Many of the successful rowers, and even their boats, became famous. Some rowers were so successful that they no longer needed to work outside of their competitive rowing: they were some of the earliest modern professional

athletes.

Amongst the upper class, both in England and the U.S, rowing took hold initially as a social activity among universities and social clubs: boat trips with lunches that eventually became competitive. In 1829, Oxford raced Cambridge in the first of what is now the longest running athletic event. The first Henley regatta was held 10 years later. In the U.S, 1852 marked the first race between Harvard and Yale, the longest continuous US collegiate competition. Yet as collegiate rowing grew, much of the interest remained focused on professional rowing. Even Henley, originally intended as a wholly amateur event, was quickly marked by prize money and substantial betting even amongst the competitors. (Dodd, p. 53).

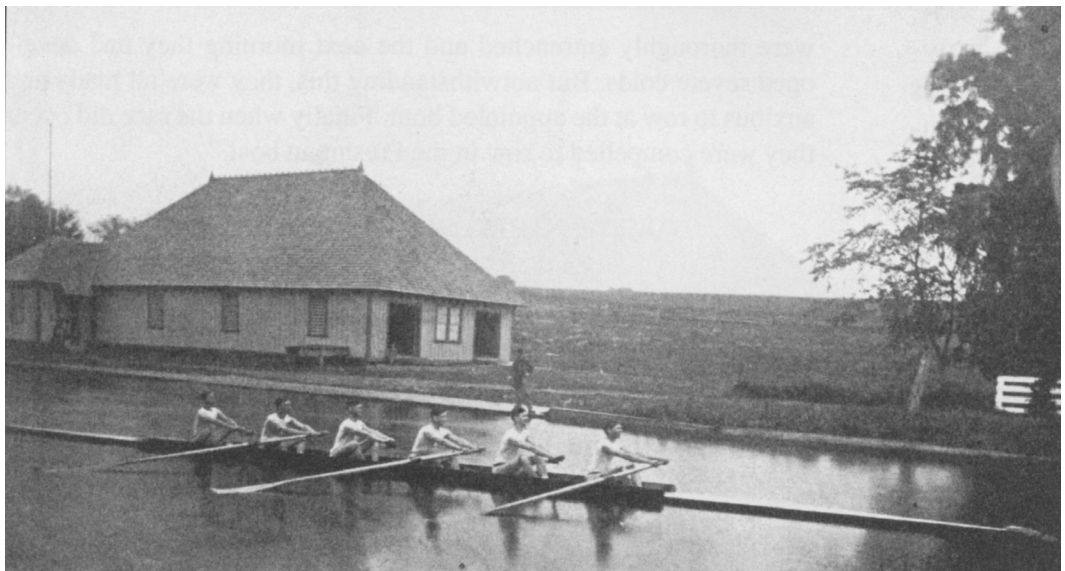
Thousands watched rowing races, and certainly thousands gambled on them as well. Rowers became local heroes and legends followed by many avid fans. By the 1860's rowing had exhibited spectacular growth; in 1869, Oxford defeated Harvard in front of an enormous crowd along the Thames River, variously estimated from 500,000 to 750,000 spectators (Weil, and Miller, "The Great International Boat Race")! This must have been one of the largest spectator events up to that time. The popularity of collegiate rowing exploded soon after; within two years, the

Rowing Association of American Colleges was formed and rowing became the first organized collegiate sport in the US.

The growth of the sport also meant that more structures were necessary to house the boats. Many of the early boathouses were simple sheds, doing nothing more than protecting boats from snow and rain. The first boathouse for the Undine Barge Club, built in 1856, was "a shed, fifty feet long, by eight feet wide, costing one hundred dollars." (<<http://www.undine.com/about.php>>). A number of clubs and colleges built boathouses in the next 40 years or so. Many of these were quite simple, as well; Princeton University's first boathouse, built in 1874 on the Delaware and Raritan Canal, was a 70 foot by 30 foot single story structure with few adornments. (Presby, p. 19).

In some circles, rowing boathouses became more than functional. In Philadelphia, the Fairmount Park Commission was established in 1867 to regulate the property around the city's water works. The commission, influenced by city leaders, promoted the idea that the sport represented a moral ideal that should be encouraged. It also felt that the architecture of the boathouses should reflect that moral rectitude, and they required that all existing clubs dismantle their buildings and rebuild them in a proper style (Beischer,

*The original Princeton University boathouse was a simple two-bay shed on the Delaware and Raritan Canal
(Photograph courtesy of the Princeton University Rowing Association).*



p. 300). What this meant varied over the years, although strict spacing, orientation to the water, and dimensional requirements were enforced. Ultimately, the competition between the clubs extended to the architecture of their buildings, resulting in a forty-year period of architectural one-upsmanship. Many consider the high-point of the architectural battle to be the construction of the new Undine Barge Club boathouse in 1888. Designed by noted architect Frank Furness, the boathouse pushed the picturesque qualities of its Boathouse Row neighbors to new limits, using different materials to house different functions, while still responding to Fairmount Park Commission's strictures. In a sense, by its own boldness, the design of the Undine Barge Club opened the door to consider boathouse design as a serious endeavor.

The first decade of the 20th century saw a flourish of boathouse construction; as the new century dawned, many of the earlier boathouses were ready for a new generation of buildings to replace them. With precedent at Boathouse Row showing boathouse design to be a worthy architectural endeavor, many of these new buildings, at some of the finest colleges, were designed by leading architects of the time. At Harvard, the prominent firm of Peabody and Stearns designed both the Newell (1900) and Weld Boathouses (1906). Five years later they designed a grand structure for archrival Yale: the Adee Boathouse which opened in 1911. (Unfortunately for Yale, the water of New Haven Harbor proved to be congested and dangerous, forcing them to build anew elsewhere some two decades later).

Some of these second generation boathouses were more ambitious as projects than they were successful as works of architecture. Princeton's Class of 1887 Boathouse, completed in 1913, was an unusual collegiate gothic stucco structure with Craftsman Style proportions, designed by Pennington Satterthwaite. A bit ungainly but not without charm, it was a sprawling structure with seven bays, a huge club room and balcony, lockers, showers, kitchenette and director's room. At Yale, James Gamble Rogers designed the

replacement for the Adee Boathouse in 1923. Not fully completed, the resulting building was a lukewarm stucco structure that seemed out of place in Derby, Connecticut. The Gould Boathouse at Columbia, occupied in 1920, is a plain and undistinguished colonial block.

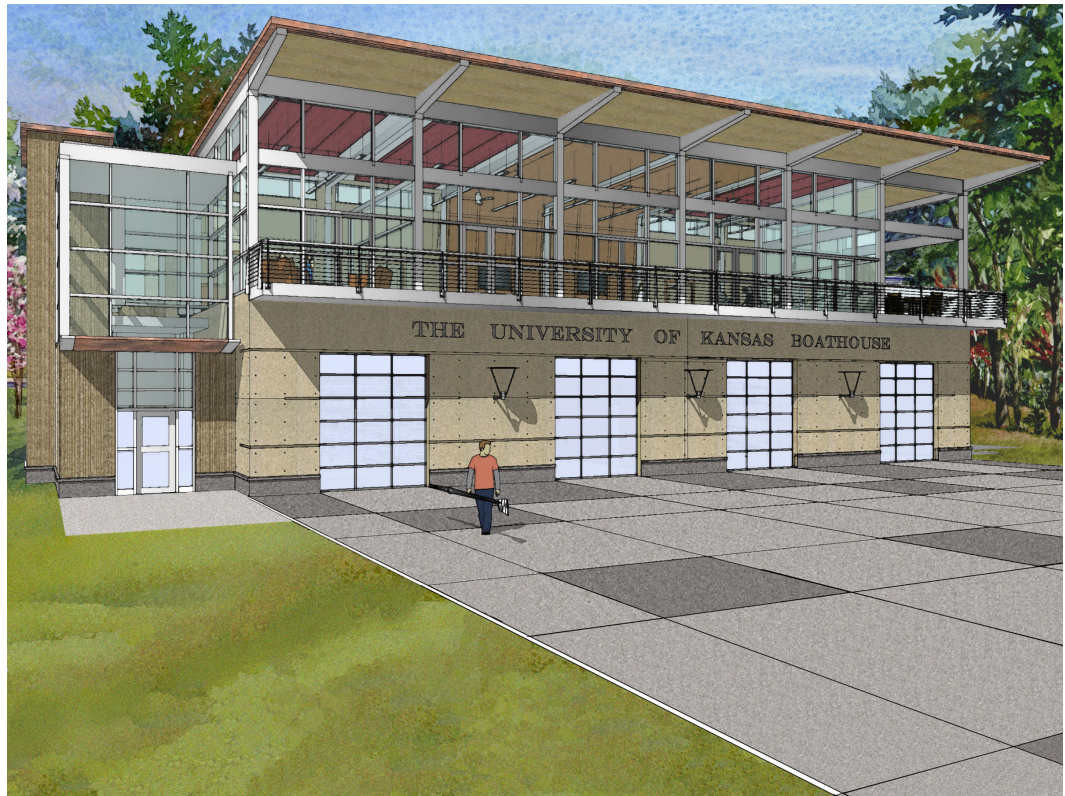
After the Wars

As was the case with leisure boathouses, the Depression and World War II slowed the construction of rowing boathouses. After the war, as modernism continued to gain prominence in the architectural realm, it was slow to take hold in the conservative rowing world. Even so, modernist boathouses were constructed for two of the nation's most storied rowing programs. The University of Washington, who had rowed out of a lighthouse-like structure early in the century, then a rebuilt hangar, opened the Conibear boathouse in 1949, a large, blocky, flat-roofed structure. Cornell built the Collyer Boathouse in 1958, a three-bay structure with a broad low-pitched gable roof.

One of the most notable modernist boathouses, MIT's Pierce boathouse was built in 1966. A floating, flat roofed structure, it is infamous in that the oars did not fit in the boatbays, requiring that holes be cut into the first floor to accommodate them.

Beginning in the 1980's, the nostalgia inherent in a postmodern approach to design fit the conservative rowing community well. In 1986, the Friends of Dartmouth Rowing Boathouse opened on the Connecticut River, with arched boatbay doors and a large "Palladian" second floor window. Two other historicist boathouses were built on one of rowing world's most hallowed rivers, the Charles. First, Northeastern was able to move out of its long time home at Riverside Boat Club when they opened the Henderson Boathouse (which recalls Harvard's Newell Boathouse a few miles downstream) in 1989. Boston University opened the DeWolfe boathouse (which recalls its predecessor building on the site) a decade later.

The proposed new boathouse at the University of Kansas features a flood-proof lower level and a second floor with a glass-enclosed club room. (Design Architect: Peterson Architects. Architect of Record: Treanor Architects)



Although federal gender-equity legislation called Title IX was passed in 1972, the growth in collegiate rowing has been most dramatic in the 21st century. Refreshingly, this growth has been reflected in a substantial wave of bold new boathouses. Many of these new modern structures have moved past the bland functionalism of their early modern predecessors; they combine bold forms, simple and elegant detailing, and thoughtful response to their sites. Many also provide cross-sectional excitement by including dramatic vertical spaces to serve as counterpoints to the horizontality of the on-the-water experience. Structures such as those at the University of Wisconsin, Tufts University, the University of Washington, and the proposed boathouse at the University of Kansas illustrate the new vigor of the sport.

Boathouses and the Environment

Environmental issues have impacted both private and institutional boathouse design even

prior to the current interest in “green” design. For example, FEMA regulations have impacted what can be constructed in a 100-year flood plain. Boat storage is generally allowed within this zone, but many of the support functions, such as lockers and showers, are not. These support components can be built above the boats (at a floor level above the flood elevation), but, for institutional buildings, this solution can be complicated by the need to provide handicap access, generally with an elevator, within that same flood area.

Conservation laws have also had a direct impact on boathouse design. Historically, most rowing boathouses were configured with their storage bays perpendicular to the water. The boathouse thus formally addressed the water and defined its own space between the building and the shore. Often this space was a vast inclined pier, providing a sloping apron from building to dock. In many states, current conservation regulations require setbacks from the water’s edge and also protect plants within those zones. The traditional perpendicular

configuration does not work with these regulations; the aprons put shore plants in shade and violate setbacks. One solution to these issues is to set the building back farther from the water or to locate and orient the building so that boat maneuvering within the sensitive zones is minimized.

In many states, the same setback requirements have made the private boathouses at the water's edge nearly impossible to build. Some states have effectively banned them. For example, in New Hampshire, regulations state that "no person shall excavate, remove, fill, dredge or construct any structures in or on any bank, flat, marsh, or swamp in and adjacent to any waters of the state without a permit from [Department of Environmental Services]." (New Hampshire Legislation RSA 482-A:3)

In some states, on-the-water structures have historically been allowed if they either float or are built completely over the water. The flooding in the Midwest in 2007 called the allowance of these boathouses into question. After some boathouses were torn loose in the high water, the Iowa Department of Natural Resources ordered floating boathouses removed, stating that dock structures were not allowed with roofs and side walls. The argument that floating boathouses were actually boats themselves was not accepted. It would be premature to state that residential boathouses are a thing of the past, but it is certainly true that these water-side structures command more attention than they have previously.

Back to Nature Again

Environmental sensitivity need not prevent the construction of boathouses for rowing. However, with greater awareness of the possible impacts of building on the water's edge comes a greater responsibility to do it well.

Probably the most critical issue one considers when designing a building with the environment in mind is how the building is sited. By their nature, boathouses are dependent on

proximity to water. Not surprisingly, building construction is not considered to be an optimal environmental use of delicate waterfront property. However, rowing can be a net benefit to this habitat. Such use is generally non-polluting and not otherwise detrimental, and creates a new group of people to whom the well-being of the water is important. Urban infill and brownfield sites should be favored for boathouse construction if possible. These sites should then be carefully designed to consider how stormwater retention, "heat-island" effects, shoreline preservation, plant retention and other environmental issues can be dealt with in ways that will mitigate the impact the building will have on its site.

A boathouse on an urban or brownfield site can create a new appreciation and connection between a community and its waterfront. Such a reconnection has, in fact, occurred at the newly constructed Tufts boathouse in Massachusetts. In a letter to Rowing News Magazine titled "Boathouses Helping the Environment," Tufts' Director of Rowing Gary Caldwell noted "Our new boathouse has been a catalyst for redevelopment and reconnecting the Malden River to the surrounding community," as part of a broad effort to "reclaim an urban wasteland and cesspool and return it to beauty and usefulness." (Caldwell, p. 17).

Caldwell's letter highlights the joy of a community finding new appreciation of its long-abused waterfront. This observation brings us full circle to the very point for which boathouses were first built in the Adirondacks and for competitive rowing: to provide for people a way to "re-create" themselves in a setting apart from the stresses of everyday life. As such, boathouses are gateways to a new life, one in which nature has the upper hand, where wind and waves alter our absolute control over ourselves and our surroundings.

The Shoemaker Boathouse at Tufts University was constructed on remediated brownfield land. The project has allowed the neighboring community to rediscover its waterfront. (Photograph by Edua Wilde)



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