



This off-the-grid Ohio family cabin perches atop a pristine, sheltered rise overlooking a well-stocked pond on this reclaimed former mining property.

вецмонт соинту, оню, takes its name from the French word for "beautiful mountain." It is what early settlers likely reflected upon as they opened the land for agriculture and looked

# A Cabin Off the Grid

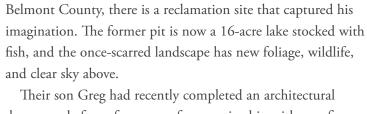
across meadows at the western side of the Appalachian Mountains. It is the beauty of what John Dutton knew in his youth before open-pit mining in the 1970s reshaped that view. While he recognizes that mining contributed to his welfare, he is particularly pleased that reclamation has now brought beauty back to the scene. Ohio environmental laws of the time required coal companies to install ponds and plant trees and native grasses.





**TOP** The surrounding property is pastureland for the family's cattle farm.

**ABOVE** From the outside, the rectangular cabin looks like a utilitarian shed with a rusty red roof.



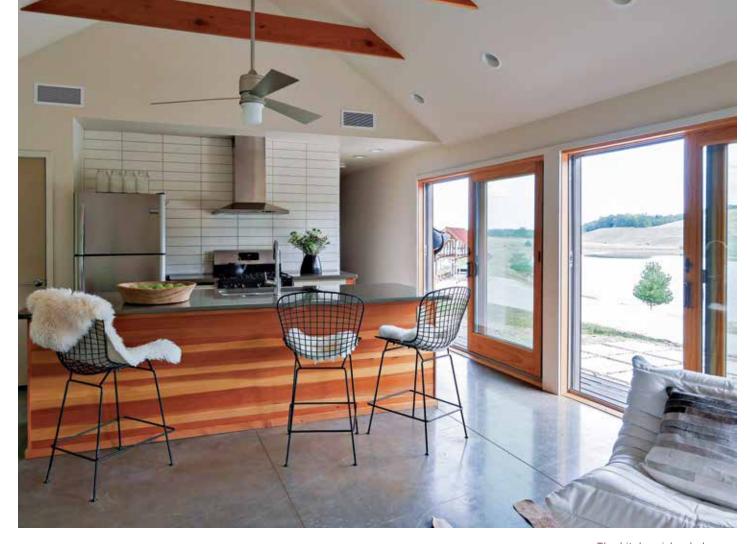
On the cattle farm that he and his wife, Rita, own in

Their son Greg had recently completed an architectural degree, and after a few years of apprenticeship with area firms he was looking for a project of his own. He took it upon himself to design a cabin for the reclamation site and presented the design to his dad on Father's Day 2012, with a commitment to see it built. Greg was encouraged by the building site his parents had selected, a place he'd frequented often as a teenager, riding horses or ATVs and sneaking the occasional beer.

Greg envisioned the cabin as a simple, long vernacular shed, with two bedrooms at the east end, a modest living and kitchen space in the middle, and an open porch with a fireplace where the family could enjoy sunset views to the west. The cabin is built with a basic palette of materials: cedar siding and Cor-ten metal roof on the outside and drywall and polished concrete floors on the inside.

In the environmental spirit of the reclamation, it is purposely off-grid and low maintenance. Power is supplied by a solar cell array 50 yards from the cabin, and energy is stored in a battery bank located in an adjacent shed. During the overcast days of winter, the system is backed up by a propane-fired generator. The south-facing windows allow an intimacy with







**ABOVE** The kitchen island also serves as breakfast counter or buffet entertainment when dining moves to the porch.

**LEFT** The south-facing glass adds to passive solar heating, warming the concrete floor inside.

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**OPPOSITE** An evening of fine food and a roaring fire brings friends outside onto the spacious sunset porch.

nature and also play a role in the passive solar design. Heated by the sun, the concrete floors return the heat to the space when temperatures cool. A natural spring on the property contributes water that is stored in a cistern.

The cabin was completed in July in preparation for Greg's wedding at the site in August. But they would need one additional structure: a pavilion to shelter their guests. Although his fiancée, Liz, knew of the project, she wasn't aware of the scope, scale, and ultimately delightful character of the pavilion. The wedding was planned for the first weekend in August, and Liz had left for work in California in May and wasn't returning home until a couple of days before the event. Construction of the pavilion didn't start until less than two weeks before the wedding. In Greg's words, "I think getting it completed was the only part of the wedding I was nervous about. We were working on it up until the big day and getting finished just under the wire."

The cabin and the pavilion have now become a popular location for events for family and friends, with Rita taking on the role of chief scheduler. John has extensive plans for relocating an old barn to the property to use as event space, and they are developing trails, docks, and a walkway bridge. The family is grateful to be able to share the beauty of their land with others and to honor the history of farming, mining, and social gathering of this region.

In Greg's words, "This beautiful piece of ground that was enjoyed passively by few is now a hub of gathering my family and our friends. It is where we have weddings, reunions, birthday parties, and fun fall nights by the fire. In the morning, you look out of the living room's floor-to-ceiling windows to see the fog lifting off the lake, a school of geese making their way across the water, and a herd of cattle grazing in the pasture. It's incredible!"



**ABOVE** A bank of sliding-glass doors opens the cabin to a terrace with views over the manmade lake.

BELOW A pavilion on the property makes an ideal spot for events for family or friends, from weddings to banjo-picking concerts.



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"I'LL HUFF AND I'LL PUFF and I'll blow your house in," said the Big Bad Wolf to the Three Little Pigs. The wolf successfully demolished two houses made of straw and sticks, but

# Concrete Cabin

finally the house of masonry saved the frightened little pigs.

Designer/builder Sandy Lawton and architect Eleanor D'Aponte didn't need to experiment with houses of straw or sticks but went straight to poured concrete for the first house in the conservation development Sandy had developed in upstate Vermont. A New York City client was looking for a modest cabin with low maintenance and high longevity. Sandy's knowledge

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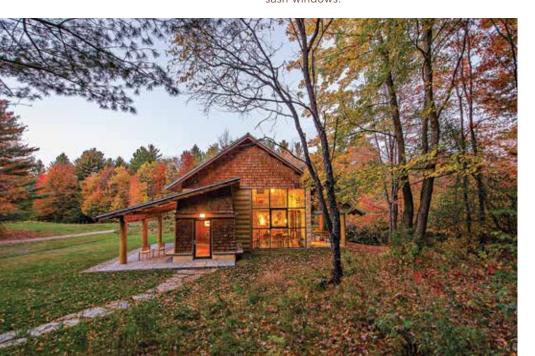
of and experimentation with concrete and her proximity to the site made for an easy choice of designer and a great collaboration.

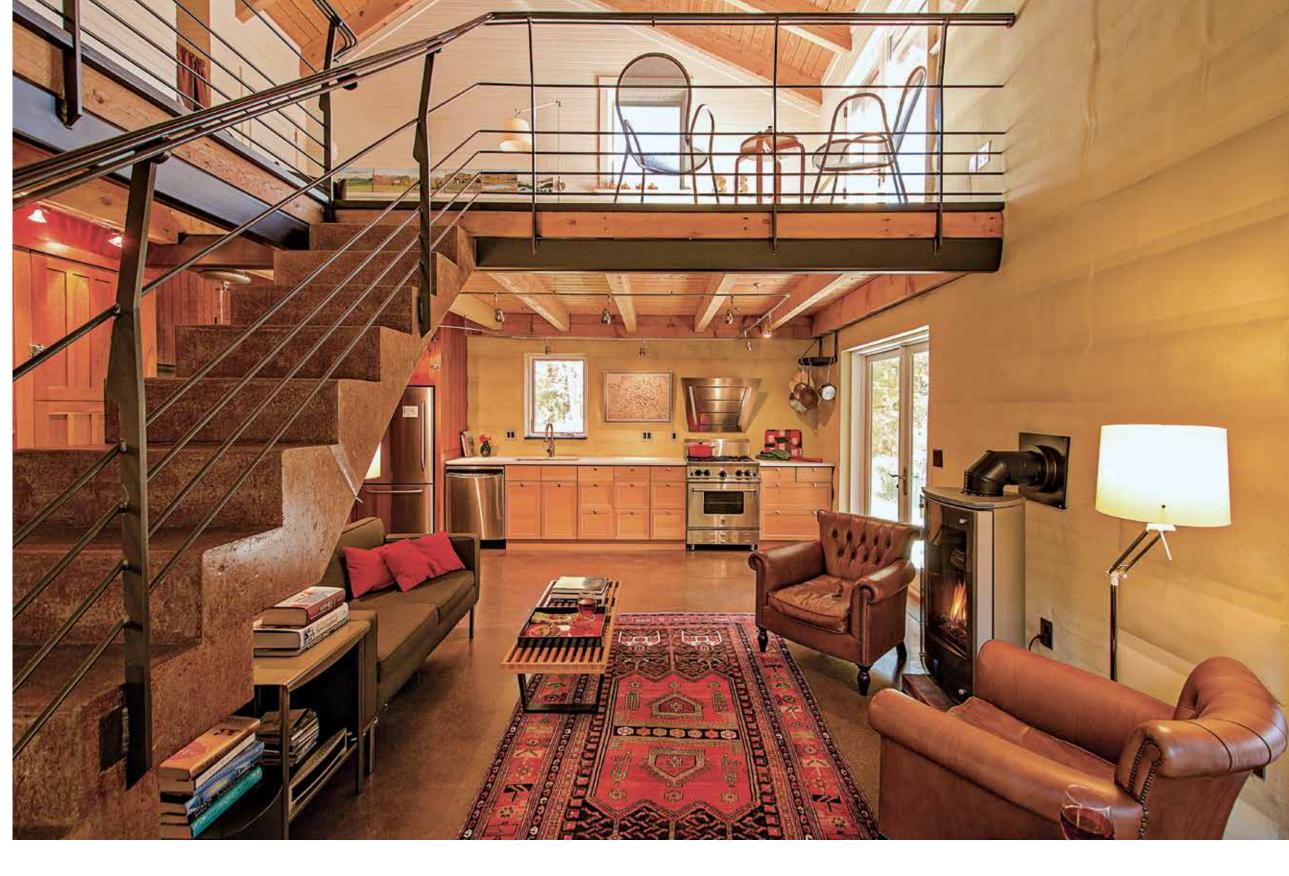
The rural property with steep driveway access was a charming site but not one that was ideal for large trucks carrying precast walls and formwork or for cranes to unload there. It was easier for a concrete-mixer truck to negotiate the slope, so cast-in-place, reinforced, fabric-formed walls became the construction method of choice. Formwork could be built on site, and the end result was interior and exterior walls with a uniquely evocative character.

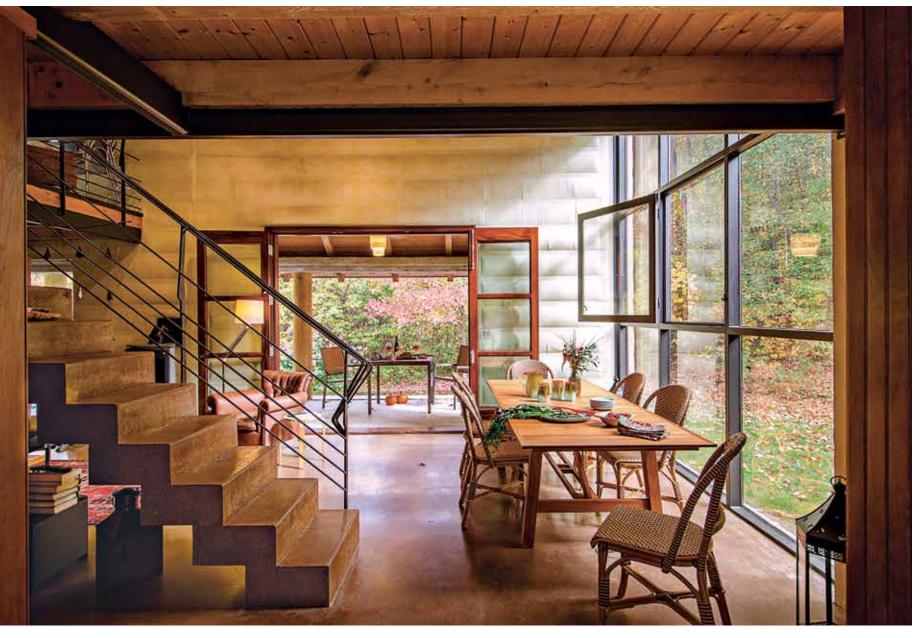
The cabin design that Eleanor and Sandy came up with is a simple gable vernacular form with a shed roof entryway. The main floor is a central great room with living, dining, and

> RIGHT In the open living space downstairs, the concrete walls and floor are complemented by steel structural elements and railings along with wooden beams and ceilings.

**BELOW** The bucolic Vermont setting for the cabin is at the edge of a wood adjacent to a westerly meadow. The cabin is a blend of traditional cedar shingles and modern concrete and industrial sash windows.







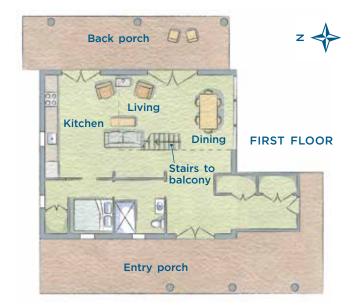
**ABOVE/RIGHT** The living/dining area opens to an outdoor covered porch on the forested east side, extending the social space of the cabin in fair weather.





kitchen functions and a bedroom and bath. The great room is a high space with a concrete stair leading to a balcony, two sleeping berths, and an additional bath. The room opens to a porch along the east side of the cabin and features a majestic nine-square window on the south side.

The walls of the main body of the cabin are constructed of fabric-formed concrete rising 14 ft. to the roof eaves. By contrast, the gable ends are of standard frame construction, sheathed on the outside in heavy textured shingles. It's a striking contrast in finishes. The one-story entry is sheathed in vertical board and battens.

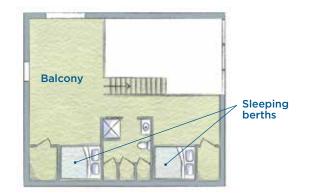




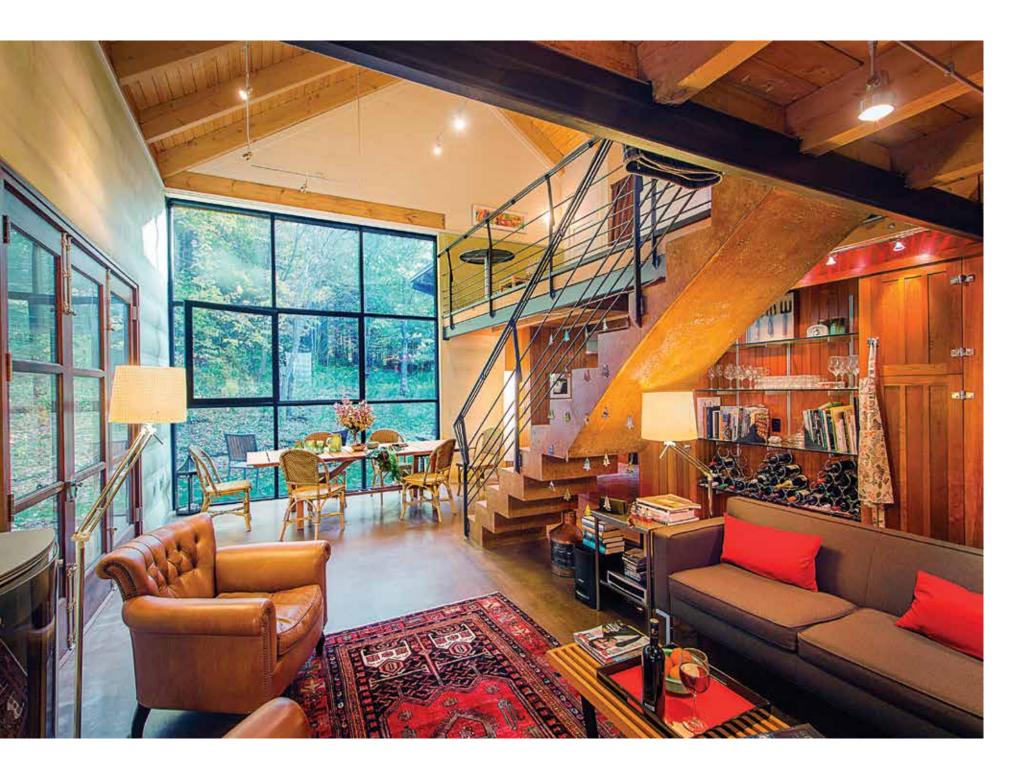
**ABOVE** The modest bedroom on the main floor has the feeling of a ship's cabin and is wrapped in cherry wood.

**TOP LEFT** Two open sleeping alcoves are built into the eaves on the second level.

#### SECOND FLOOR



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**ABOVE** A gas fireplace along with in-floor radiant heat warm the interior on cool fall days. The background "pillowed" wall provides a soft counterpoint.

**OPPOSITE** A poured concrete stair is a significant sculptural element in the living room. The nine-square industrial sash window faces south for passive solar gain.

Wood is used extensively on the interior, and steel also makes its presence known as girder beams, stair, and balcony railings and the large southern window frame. The palette of steel, wood, concrete, and glass fuses together in a contemporary interpretation of a vernacular barn interior.

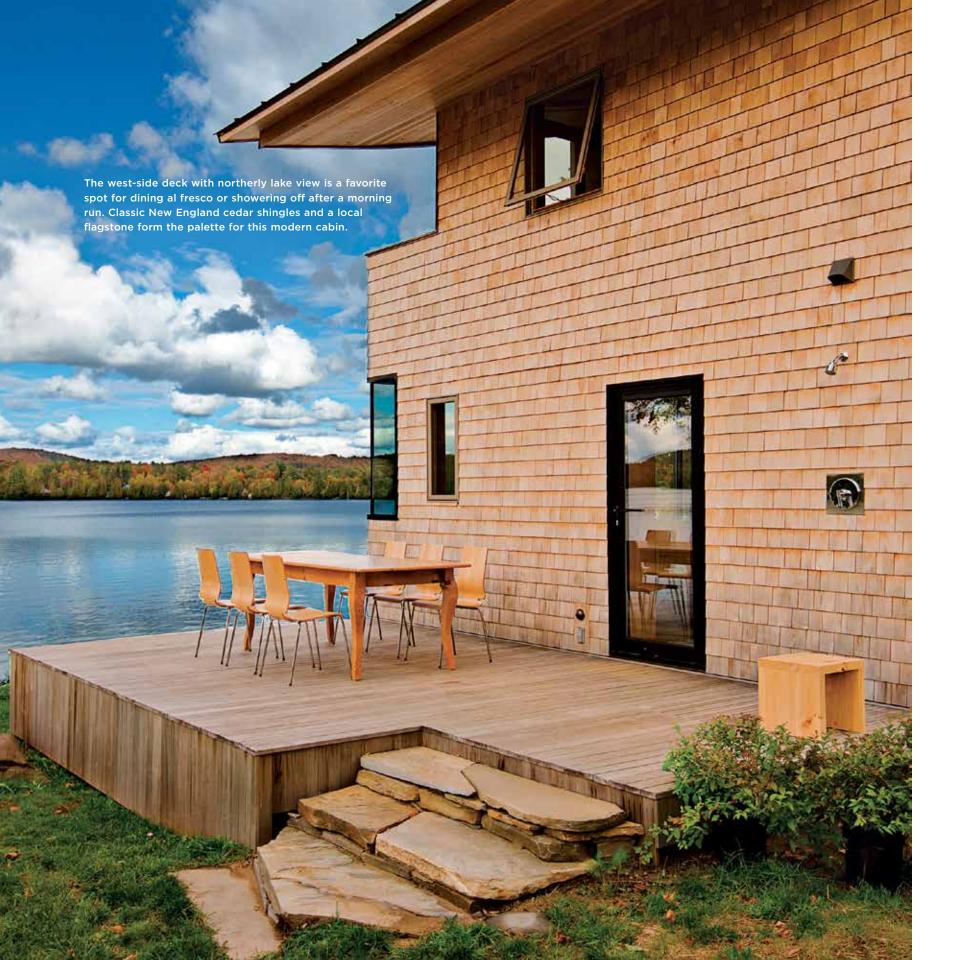
Sandy refers to the concrete cabin as a wonderful experiment. "It takes a long time to take something from the idea stage through its iterations and to refinement, but this is definitely a step in the right direction." People who have seen the cabin in person have compared the exterior character to a Vermont log cabin. Eleanor says, "We thought the design would be more akin to an agrarian villa. We always wanted something that looked like it could be part of the land. People ride bikes up to the cabin and touch it. We like that."

### Concrete Sandwich Wall

The concrete wall system used in the cabin is a sandwich composed of a 4-in. outer layer of concrete, a 3-in. middle panel of polyisocyanurate insulation, and a 5-in. inner layer of concrete. The insulation has fiberglass tie rods that position the insulation in the wall and tie the two outer layers of concrete together. The roof bearing sits on the thicker inner layer of concrete. Electrical outlets and conduit are placed in the inner layer before the concrete pour.

This concrete sandwich wall system is manufactured by Thermomass®. Walls built with this technology can have a variety of textures and shapes depending on the type of formwork used. The exterior concrete is low maintenance, and the interior concrete adds thermal mass to ballast internal temperature swings.





**MEMORIES AND IMPRESSIONS** we have as a child vacationing at the same lake summer after summer often inform our decisions later in life for the experiences we seek for own children. The automobile we arrive in and the radio station we listen to may change, but the dive into the water, the s'mores around the bonfire, and the ghost stories told in

## Modern Cabin

the dark of night all have a familiar ring to those of the previous generation.

The New York owner of this modern camp had grown up spending summers on the same lake and wanted to extend those experiences to her growing young family of five. When land with a ramshackle fishing shack near her family camp in Vermont became available, she convinced her husband to snap it up. They soon had the shack demolished but not before gaining agreement from the zoning authorities that a new structure could be built of a similar footprint the same close distance to the water.

They hired local Vermont architect Patrick Kane to create a seasonal retreat that would give them ample living space

within the limited footprint. The original footprint was a rectangle with the short dimension facing the water, but Patrick was able to get approval for a similar rectangle with the longer dimensions on the lakeside. He created a simple plan of main-floor living with three bedrooms and a bath above. Since extensions for entry and balconies were not allowed, he carved away space from the volume for each. The solid form is clad in the New England vernacular of weathered cedar shingles, yet inside the space and detail are surprisingly modern.

The entry side on the south is close to the road, with windows modest in size except for a high, large trapezoid window that lets light deep into the open stairwell and upper hall. All of the rooms upstairs and down front the water, with expansive north-facing windows that wrap around corners in the living room and kitchen. Guests who walk in for the first time have referred to the windows as a "widescreen lake TV." One



LEFT A covered southwest corner is sheltered from cool northwest breezes.

RIGHT Living/dining/ kitchen share the spectacular panoramic view of the lake through the strategically placed windows. Spruce walls and cabin-grade maple flooring were locally sourced.







**ABOVE** Entry from the road is to the broad side of the cabin. The large central window floods sunlight deep into the stairwell and living room.

**LEFT** What looks like a painting on the wall in the bathroom is actually a window, conveniently dropped to bathtub viewing height.

#### MAIN FLOOR





of the owners' delights is watching storms roll in with their children as the dark clouds form from the north and the wall of rain makes its way across the lake before pummeling against the glass. It's almost as if the camp has just entered a car wash.

While the wide-open main floor is super-conducive to family togetherness, the upstairs is a quiet repose of three private bedrooms. Each bedroom is wrapped in spruce, with ceilings that parallel the roof. The northwest corner bedroom has a small balcony overlooking the water and the westside terrace.

The owners have restructured their professional lives so they can work from the camp in July and August. Spending two months at the camp is just the family bonding experience the mother was hoping for as she extends lakeside pleasures and the memorable lifestyle to yet another generation.



## **Build Locally**

One of the advantages of building in the forested region of northern Vermont is the availability of abundant wood species for harvest and interior use. There are also stone quarries of granite, slate, and soapstone. Patrick Kane takes great pride in supporting the use of local products and in knowing the local craftsmen who are capable of installing them.

Patrick designed many space-saving built-ins for the camp from local pine, including bedsteads, bedside tables, an L-shaped couch, and a coffee table. An old pine tree that needed to come down to make way for the new construction was also milled for use as paneling and furnishings.

The walls and ceilings are sheathed in local spruce, creating the look of old camp rooms. Patrick had decided against using drywall due to the expansion and contraction problems in a building that's left to go cold in the winter. The floorboards are local maple—not the first-grade maple that's used in city homes but rather cabin-grade maple, which has more "character."

The centrally located woodstove sits on a hearth of local Woodbury granite, mined from a newly reopened local quarry. Even the PolyWhey<sup>®</sup> wood finish, a sustainable alternative to petroleum-based coatings, is from Vermont. (Whey is the residue from milk in the cheesemaking process.)

The northwest corner bedroom has a small balcony lakeside.

FUN AND FUNCTIONAL MODERN CABIN