Bat Houses from Re-purposed Pallets

September 18, 2017

Jacob Johnston

I was begrudgingly tasked with repurposing a pile of pallets into bat houses for conservation. I say *begrudgingly* because of my personal distaste for fad pallet furniture; and, also, as a conservationist, I recognize the importance of meeting certain requirements when providing habitat features for wildlife, and I wasn’t convinced that junky old wood was necessarily a good start. I remained open to the possibilities, though, and approached the project with positivity (as much as I could muster up, anyway) and I am glad I did.

I started by starting at this dilapidated pile for a while--sighed, sorted, rearranged, and sighed some more. Then, I smashed one to pieces. I was simply attempting to disassemble it into enough, of what I thought would be, solid pieces to work with. There is a reason these pallets were no longer in use and salvaging good parts like this was not going to work. There had to be a better way.
Much of the appeal of re-using pallets is the ease in constructing something new, but it did not seem, to me, that breaking apart a pallet into raw materials was easier than purchasing them at a hardware store, nor worth the savings. I felt challenged to come up with a design that required less work and made the reuse of old materials worthwhile.

I took out my measuring tape and, after double-checking the recommended bat house dimensions from the article online, I started looking at the pallets from a different point of view. Then, bam! Like a sculptor sees his art within the stone, I saw a bat house, mostly assembled, hidden within the planks, behind the splinters, and rusty nails.

To get the most out of one pallet, this template may help guide your cuts. The bat house section will remain intact. Cut the rest of the pallet off, following the given dicing order. Different sized pieces from the cut-off side will be used to fill in the frame of the bat house so cut them accordingly.
I selected another pallet from the best of the lot, one which had at least one strong, fairly solid side. I cut off the other half with a skillsaw and set it aside. Both sides will be used to complete the bat house. You could also use a smaller hand saw for this as the old wood is easy to cut. I marked a line right along the outside of the center support beam.

The strong side I cut in half with a 45° angled cut. This gives me a bat house frame with a slanted top for the roof. Try leaving as many boards on the back as you can. These will support the boards that need to be add next.

I filled in the back vertically with the longer pieces from the cut-off side. Keep these as long as possible by prying them from the pallet frame and removing the nails. Use small screws or finishing nails to attach these inside the bat house. If you are concerned about splitting the wood, you can pre-drill tiny holes (smaller than the screw) to help prevent splitting.
I filled in the front horizontally with the shorter pieces from the cut-off side. These I measured and cut to length, then nailed in from the sides, pre-drilling the holes to prevent splitting. Fill in the gaps in the front up to the bottom of the angled cut. This picture is still missing the top horizontal piece.

To be sure the inside was safe for bats and resembled something they are more likely to inhabit, I lined the inside with thin sheets of 1/8 in underlayment. I also divided the space in half with a third piece of underlayment to give the house two chambers. The back liner is eight inches longer to hang out of the bottom of the bat house. This will act as the landing pad bats need.

To allow bats to travel between the chambers, seeking comfortable temperatures, I used a 1-1/2 inch hole-saw to make a passage in the top third of the middle divider. I also set my skill saw depth to about 1/16 of an inch and scored the surface of both sides to provide a textured grip. Do this on the in-facing sides of the front and back layers as well.
I used 3/4 inch square dowels to separate the three pieces of underlayment and assembled them together using small screws and a staple gun. Depending on the depth of your bat house you may want to adjust this spacing. It may fit better in the pallet frame to use 1-inch dowels or to use a combination of both, with one section separated by 1 inch dowels and the other with 3/4-inch dowels.

Step down the tops of layers to reflect the slope of the roof--higher in the back, lower in the front, with the middle layer in between. The bottoms of the front two pieces should be even at the bottom and inside the frame, with the back layer extending six to eight inches lower for the landing pad. Slide this assembly into the frame and secure with pre-drilled screws or nails.

For the roof, I used the longest, widest piece available and secured it by pre-drilling and using long screws into the frame. Temperature is important to bats and can be controlled with the color you paint the house. In the Northeast, I painted mine black, because keeping them warm enough is a bigger concern than overheating; but, this varies by location, so here is a paint guide for colors for the rest of the country.

This is a heavy bat house and will need to be well secured. Mount it high, about 15 feet or higher, on a pole or on the side of a building, facing the sun. It is recommended to have several bat houses around the property and this is a fun, fairly simple, and inexpensive way to provide sturdy, safe bat habitat with materials you may not have realized had such value.