



JAN STEINMAN

OUR ZERO-WASTE

The chicken tractor at EcoReality in the "daytime" position. In the evening, after the chickens and rooster have huddled inside, ecovillagers simply raise the ramp to close the door and protect the poultry from predators.

How do you keep your chickens safe from predators, collect their eggs easily, and at the same time fertilize large areas? And how do you do this on a shoestring budget while conserving resources? To solve this problem, we turned to permaculture.

In permaculture, animals are valued for the many services they provide, instead of being used for a single purpose as they are in industrial farming. For example, in industrial farming, egg chickens are crowded into tiny cages, with a

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CHICKEN CAMPER

conveyer belt carrying feed past their heads, another belt under their egg-laying parts, and a third to carry off excrement. The excrement is viewed as "waste" by the industrial farmer, who often pays someone to take it away.

One of the goals of permaculture, on the other hand, is zero waste. We recognized that our chickens' excrement was valuable fertilizer that we wanted to keep on our land. So we decided to build a "chicken tractor." These contraptions are designed to make best use of all the chickens' goods and services—not only eggs, but also cultivation, fertilizer, and pest control. Chicken tractors are generally built like mobile chicken coops without floors, allowing the chickens to happily scratch and dig the earth and eat pests while their excrement increases soil fertility. When the earth underneath has had enough fertilizer, the chicken tractor is moved to another location.

But such chicken tractors usually hold only a small number of chickens and are often not completely predator-proof. Or if they are bigger and sturdier, they are unwieldy to move. So we decided that instead of building a chicken tractor that ploughs the earth, we'd interpret "tractor" differently: something that easily moves chickens from place to place.

We wanted to get enough chickens to bring in some egg money, and making many small chicken tractors seemed like a waste of resources, when compared to making one large one.

So we wanted to build a big, easily-moved chicken coop with a porous floor to make cleaning easier and to get that lovely fertilizer back into the earth.

We fretted for a while over how to build such a thing and where we'd get the parts. Wheels and axles and hitches and such are expensive. Keeping our "zero waste" principle in mind, we wanted to use reclaimed materials if possible. But how could we find so many valuable pieces?

Then one day we were at the recycling depot and saw an old camping tent trailer. The top was long gone, but the bottom looked serviceable. Unfortunately, they wouldn't let us have it. So we put out on the grapevine that we were looking for such a thing, and within a few days, had *five offers!* It seems *everyone* has one of these things that they want to get rid of.

So we pulled one home, got rid of the canvas, cut out the decaying floor, and built nesting boxes to go on either end. It had two sheet-metal internal dividers that we pulled out—and that we might have just scrapped, but Carol brilliantly noticed that they were just the right size for roofs for the nesting boxes. She hammered one edge flat (which also made a reinforced point for attaching hinges) and we painted them with aluminum Rust-Oleum so the nesting boxes wouldn't get too hot.

Our neighbors, Dave and Sasha, had cut down some cedars and milled them on site to make a barn. They were going to burn all the slash and other waste, but we volunteered to "clean it up" for them. The smallest bits went into berms and the medium-sized bits got run through the wood chipper, but the largest pieces—the mill slabs that remain when a round tree is cut into rectangular lumber—make great siding when lapped.

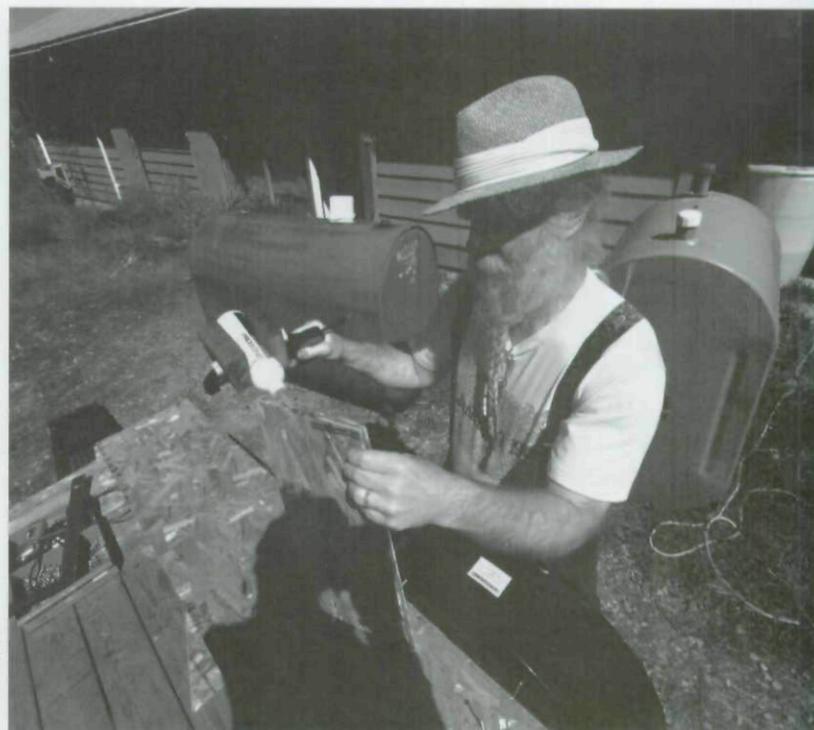
So Dave stripped the bark off and we screwed the mill slabs onto the chicken tractor as siding. The screws were

all driven from the inside, through drilled shank holes, so that they would draw the siding together and eliminate the worst gaps. (We call the remaining gaps ventilation.)

This results in a construction that is free, fairly weather-tight, ventilated, and not altogether displeasing to the eye—Abe Lincoln meets Bill Mollison. We mounted the slabs full-length, then used a demolition saber saw to sculpt the ends for some additional aesthetic appeal.

A couple of old cedar two-by-fours salvaged from a deck re-build made framing and bracing for the door, and we simply saber-sawed along the braces to cut a combination doorway-ramp into the side. We attached hinges to the metal frame and added some slats for a chicken ladder to complete the sides.

The floor was more of a challenge. The original floor had rotted out in places, but we only needed enough on the edge to attach furring strips to secure the mesh. To do so, however, we had to put some additional support in the floor because we could not find hardware cloth wide enough to cover the whole floor. So we added new supports run-



CAROL WAGNER

Jan applies polyurethane glue to a nesting box divider. The glue is uncooperative, so a squeeze clamp makes an impromptu glue gun.

ning down the center of the trailer. All it took was a few holes in the frame and some more screws supplemented with polyurethane glue.

We ripped parts of the original floor that were not rotten into twelve-centimeter (five-inch) strips and attached them to the edges of the frame. Then the hardware cloth was

brushed the trailer and coated it with Rust-Oleum primer—that ugly red/brown paint you often see peeking out from the fenders and wheel wells of older cars. Now we put two coats of white Rust-Oleum on top, to brighten it up a little. Both these paints had been purchased for a different pro-

The lacquer thinner let us “stack functions”—getting rid of the polystyrene without clogging a landfill and protecting our mill slabs at the same time.

attached to these edges via furring strips ripped from the same cedar decking we salvaged for other parts of the structure.

When you put a lot of effort into something, you don't really want it to rot away in the rain—at least not for a while. This means such a project isn't finished until it's finished. Before beginning construction, we had wire-

ject that had never happened, so they were essentially free since they were just sitting around unused.

Finishing the wood was a bit more contentious. We had some fine wood finishes sitting around, but we wanted to save those for things that we wanted to look really nice, like the unfinished cabinets and doors in the house.



Mill slabs that would normally have been burned hold everything together on top of the camping trailer.

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This particular trailer happened to come with a half-gallon of lacquer thinner in a can, which we were surprised to discover after we got it home. If we had found it earlier, we probably would have politely removed it before transport—but it turned out to be a good thing that we hadn't.

You see, one inexhaustible non-renewable resource that is clogging landfills is Styrofoam. Very few recycling places will

It took the Styrofoam packing from a couple desktop computers and a few other electronic items to make a half-gallon of polystyrene lacquer. It soaked nicely into the dry yellow cedar mill slabs and quickly dried to a tough, plastic finish.

(Be very careful when trying this! Lacquer thinner is toxic and extremely flammable. Do this in a well-ventilated area, and though it's fun and satisfying to watch the Styrofoam dis-

*A few of the hens helped Dave put the white topcoat on the metal parts.
(We still call one of them Whitey.)*

take the stuff, and most people either chuck it in the landfill or have a pile of it in their garage or basement—as we did. And it turns out that you can make a clear polystyrene wood finish simply by dissolving Styrofoam in lacquer thinner. The lacquer thinner let us “stack functions”—getting rid of the polystyrene without clogging a landfill and protecting our mill slabs at the same time.

solve, don't stand directly over your mixing container, or you'll breathe fumes and risk getting splashes on your skin and eyes. Avoid getting the preparation on skin, as it forms a tough, hard coating that is difficult to remove.)

We didn't quite have the whole thing finished when tragedy struck. The chickens had come suddenly via a free Craig's List offer, and we didn't have a proper coop to house them in



Carol retrieves an egg from a nesting box. “The girls” (and Reggie, their rooster) love their new home.

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Top: Jan applies polyurethane glue to a nesting box divider. Holes are pre-drilled in the oriented strand board, and screws hold everything together while the glue sets. Bottom: Carol flattens one edge of an internal divider from the camping trailer so hinges can be attached to make it the lid of a nesting box, one of which is on the right. A flatbed trailer makes a great outdoor work surface.

while we built the chicken tractor. Carol and Dave had cobbled up a temporary but functional structure made from bits of old fencing, tarps, pond-liner, and an old chain-link gate. But that was no match for a hungry raccoon one night. He only got one hen, but that was enough to make us change our plans.

We'd been making steady progress on the chicken tractor; at the time of the attack, all the construction work was complete, but nothing had been painted. We had planned to paint it over the next several days before putting in the chickens.

But instead we moved them in the day after the raccoon's feast, fearing he'd be back for more. A few of the hens helped Dave put the white topcoat on the metal parts. (We still call one of them Whitey.)

Put to the test, the new "chicken camper" seems to function well. Although it has a proper hitch for moving with a tractor, Carol, Dave, and I were able to push it over to the west orchard manually—with only a little bit of sweating and swearing.

Typically, the hens spend the night closed up inside, safe from predators. Then we go out in the morning, roll it to a new location, and quickly raise a ring of chicken wire around it, using bamboo poles stuck in the ground. This is a lot less work than moving a half-dozen traditional chicken tractors. And the chickens love to go under it for shelter when it snows.

The chickens' egg yield has gone up somewhat since they moved into their new "camper." But more importantly, the nesting boxes have reduced their egg-eating down to a bare minimum. Our chickens seem to like their new digs.✿

Jan Steinman is co-founder of EcoReality, a forming ecovillage in the Southern Gulf Islands of British Columbia, Canada (www.ecoreality.org).



CAROL WAGNER



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