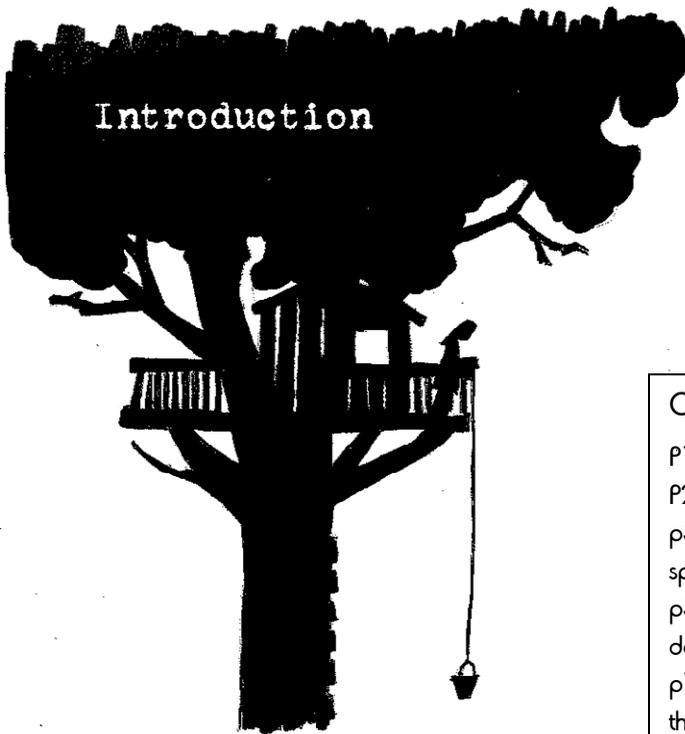


Part of the
secret
TREEHOUSE
project

A short
zine
showing
how easy
it is to
plan and
build a
treehouse



This zine is intended as a first port of call DIY treehouse building guide. It came out of discussions amongst the group Reclaim the Fields Scotland and initially manifested as a weekend treehouse skill-share where we taught, learned and put into practice how to build a treehouse.

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Building a treehouse is easy and something everyone can do. This zine will hopefully give you enough of an idea of what is involved to get building yourself, and point you in the direction of further information. Use it to get over the initial hurdles and investigate further yourself if you're inspired. Get together with some friends and have a go. If you're happy to share your creations, please let us know so we can build up a map of treehouses across the land.

Preamble

Lots of us will have had a go at building a treehouse when we were young – bashing some planks to a tree to create a crude, wobbly structure. This becomes a gang hut, a look out point, a place to escape to and hide from the world. Often that's where it ends and the rest of our time on this earth we spend in buildings securely on *terra firma*.

Treehouses provide the ultimate opportunity for living amongst nature. For eons humans existed absorbed in the interconnectedness of the natural world: another species in the great web. Only recently have we become so disconnected. Spending some time with living, breathing bark and swaying leafy branches as your four walls provides a mechanism for re-engaging primal, deep-routed impulses. It's good for the soul.

Treehouses also let us embrace our inner child, opening up the realms of possibility and imagination which become blighted by stoic reality. Playing with friends making a den – somewhere which can be anywhere and which is our own – achieves escapism but also opens the mind. Kids are driven to explore and interact with the environment, which often becomes restricted and forgotten amongst the pressures of adult life and 'growing up.' NO! Get out into the woods. Search for Peter Pan, he had the right idea.

There is a great tradition of using treehouses as a means of resistance, often in order to defend woodland against the resource hungry drive of never ending economic 'progress.' Treehouses formed the mainstay of the road protest movements. More recently Coal Action Scotland resisted open cast coal mining from treehouses in South Lanarkshire and folk in Bilston Glen near Roslin still sit in trees preventing road expansion.

We think that treehouses should be used to co-opt some of the land, which truly is everyone's earth - but few of us have use of. We invite you to join the Secret Treehouse Project.





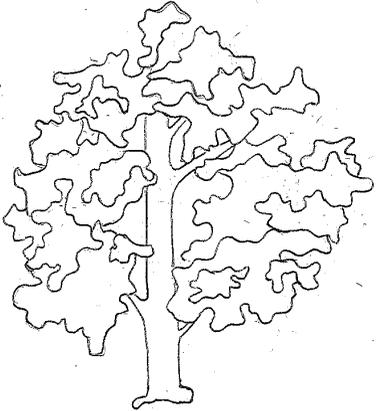
So you want to build a treehouse? This probably means that you have an idea of a place where you want to build – somewhere which inspires you, where you want to spend some time and most likely that you don't own. If you don't have anywhere in mind you can be really selective in choosing the right tree. Walk around your spot and check out the trees which are available. Here are some pointers of what to consider.

Species of tree

Conifers often have very straight trunks for building between several trees. A long-live hardwood could be the most stable thing to build on and they often have big horizontal branches.

Platform

The space between trees or branches needs to be able to support a platform of the right size for your desired use. Aim too big and you'll need lots of wood.



Height in the tree

Most of the time it's advisable to build in the first third of a tree but you can go higher with a more solid tree – although it will move in the wind!

Branches

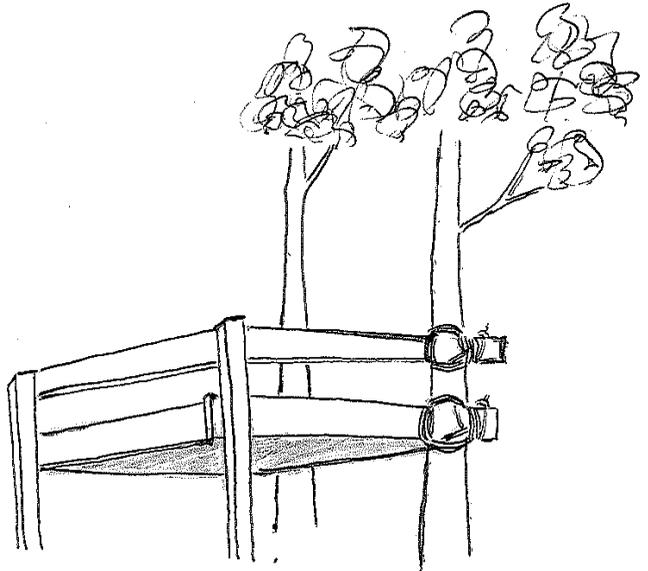
Horizontal load bearing branches should be at least 20cm in diameter. If you don't have suitable branches you may need supporting legs or to build between trees

Other trees

If trees are close together you can build using more than one or you can build a walkway between trees. Also look out for trees on site which could be used for construction materials. Be sensitive to the natural environment if you do this.

Access

A location near to access roads can be handy for getting materials there but you may have to lug things further to stay well hidden or to get to the best spot. Get some friends to help carry stuff!

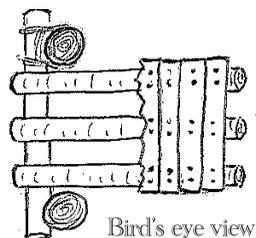
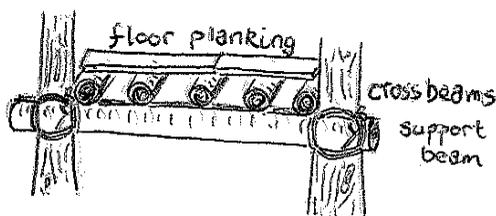


It is possible to build a treehouse in most decent size trees but bear in mind what is going to be best for construction and purpose. The biggest, grandest tree isn't necessarily the best one for a treehouse. Staying hidden may also be top of the agenda so think about where would be difficult for passers-by to see.

Treehouse design

It's worth spending some time on designing your treehouse to avoid messing up later on. Definitely sketch some ideas and if you have the time a model out of cardboard could really help. That said, if things are limited by resources, you'll just have to make do and design may be decided pretty much for you. Here is a walk-through of the basics.

1. Your **PLATFORM** is the foundations of your treehouse. The rest of your treehouse will rest upon the platform. This is where you need to pay most attention to make sure that the treehouse is solid. The platform should be built as close to the trunk as possible for stability, best not to build it way out on a limb.

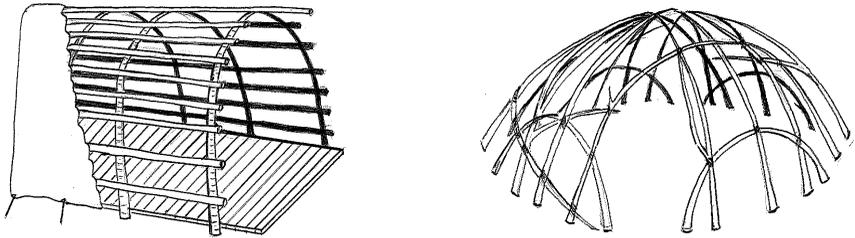


2. The **SUPPORTING BEAMS** provide the main structural support for the platform and so basically hold the whole thing up. These should be at least 15cm in diameter and of solid wood that's going to last. If you are cutting down and using a tree for this wood, make sure you strip all the bark off so that infection can't get in and rot the wood (this can be done easily with a spade). Horizontal branches can replace supporting beams.

3. **FASTENING** the beams to the tree needs to be solid and minimising damage to the tree. How you do this will also affect the rest of your design. More on this on page 7. Remember to replace fastenings as the tree grows and they wear, roughly every two years.

4. On the support beams lay your **CROSS BEAMS**. These don't need to be as thick but should still be of rot free wood. All the beams can be cut trunks, posts or sawn timber. If using rectangular timber, beams positioned on their side rather than flat edge are stronger.

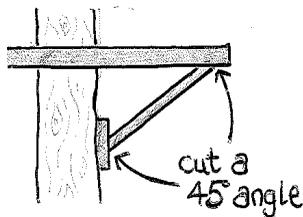
5. When laying the FLOOR you're probably going to need cut planks of wood. The thickness of these will dictate how far apart your cross beams can be. As a rough guide, for 2.5cm planks you will need perpendicular cross beams 45cm apart or less.



6. When thinking about the ROOF and WALLS bear in mind that your treehouse should be as light as possible. Many treehouses are no more than a bender (basic shelter made by bending and weaving poles and fastening material over this). It may be a good idea to have a roof made from a fabric. If you do this it can be fastened to branches or to a suspended beam above the platform. The latter especially will allow for movement during windy conditions.

The upper parts of the treehouse are usually build upon the platform. This means that when the tree(s) move in the wind the upper and lower parts will move in roughly together. If you plan to make solid walls then it may be a good idea to construct these on the ground and hoist them up using a pulley or chain hoist.

The number of trunks/branches that you use will decide whether or not you need to add any BRACING. This is diagonal supports that attach to the trunk lower down on the tree.



Fastening to the tree

We feel that when fastening supports to the tree,, damage to the tree should be minimised. It seems backwards to puncture holes in the living being which is going to be supporting your structure. Consequently we recommend using square lashing or ratchet straps but have provided all the options here for you to make up your mind.

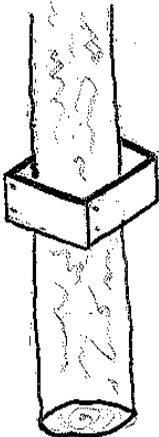
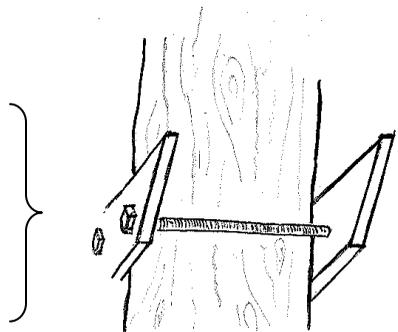


A LAG BOLT is basically a big self-tapping screw with a hex end

- ✓ Easy to use – just pre-drill and spanner
- ✓ Strong – holds tight to the tree
- ✓ Lots of information on the web
- ✗ Invasive – damages the tree
- ✗ No room for error

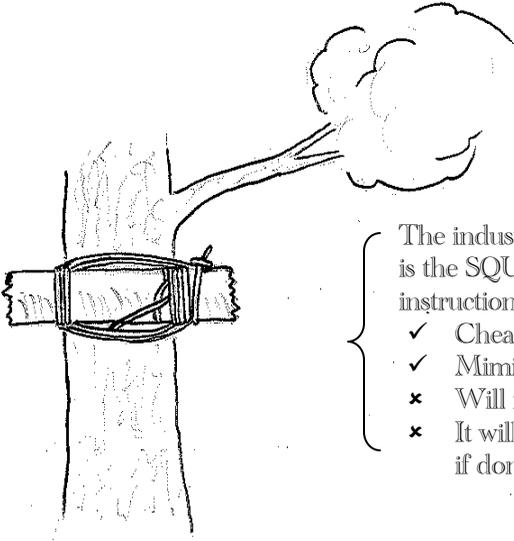
The THREADED BAR pulls tight two pieces of timber either side of the trunk

- ✓ Adjustable
- ✓ Strong – for extre strenght use more bars or repeat at 90° above
- ✓ Non-invasive
- ✗ Wobbly if done badly
- ✗ You will have to buy threaded bars



A WOODEN BOX can be built around the trunk and pushed down to make it tight

- ✓ Easy to do
- ✓ Light on materials
- ✗ Weak – not suitable for big loads
- ✗ You need strong wide timber for this

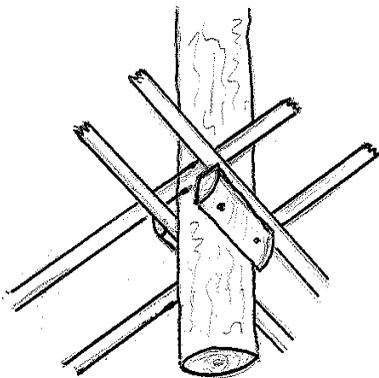
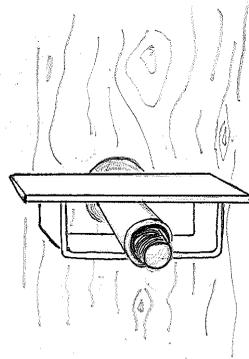


The industry standard and oldest trick in the book is the **SQUARE LASHING**. There is loads of instruction for this online.

- ✓ Cheap and easy to get materials (12mm poly)
- ✓ Minimal damage to the tree
- ✗ Will need replaced, UV degrades polyprop
- ✗ It will sink down a bit afterwards, particularly if done poorly.

The next step from a lag bolt is the **FLOATING BRACKET** which creates a flat metal ledge.

- ✓ Solid and permanent, moves as tree grows
- ✓ Nice flat surface for construction
- ✗ Invasive – damages the tree
- ✗ Expensive tech-kit and you'll need the right drill etc. to get it in



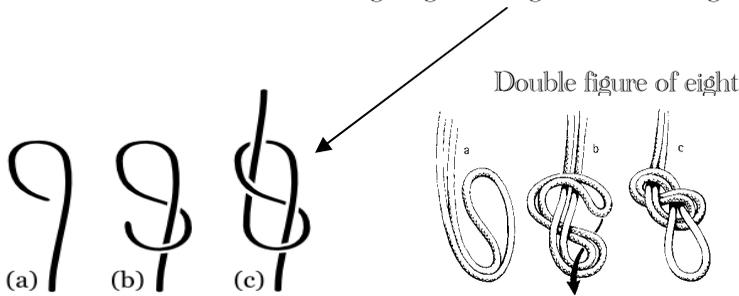
Rustic, rough and ready, **QUARTERED LOGS** are simply nailed to the tree.

- ✓ Good if out in the wilds for a quick fix
- ✓ Light on resources
- ✗ Damage to the tree
- ✗ Likely to be pretty unstable especially in the long term

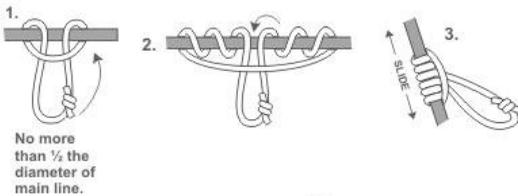
Climbing

This is a short instruction on how to set up and climb up a vertical rope to a branch in a tree. It is recommended that you seek additional guidance before doing anything major and best to find someone to show you how. Some resources are provided at the end.

1. Attach a weight to some string and this to your climbing rope. Launch the string over the branch above the one you want to climb up to and pull it round. Tie a double figure of eight to the end of the climbing rope and feed the other end through, pulling until tight. Alternatively, you can tie the end which you have thrown over round the trunk of the tree. Another option is to fasten this end to your harness using a figure of eight follow through.



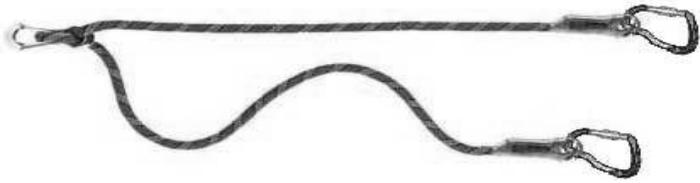
2. Tie your prusiks onto the climbing rope. A prusik is just a loop of rope which tightens under pressure but can be loosened and slid up the rope. Special rope is used which allows this. You should have a short prusik for your harness and a longer one for your leg.



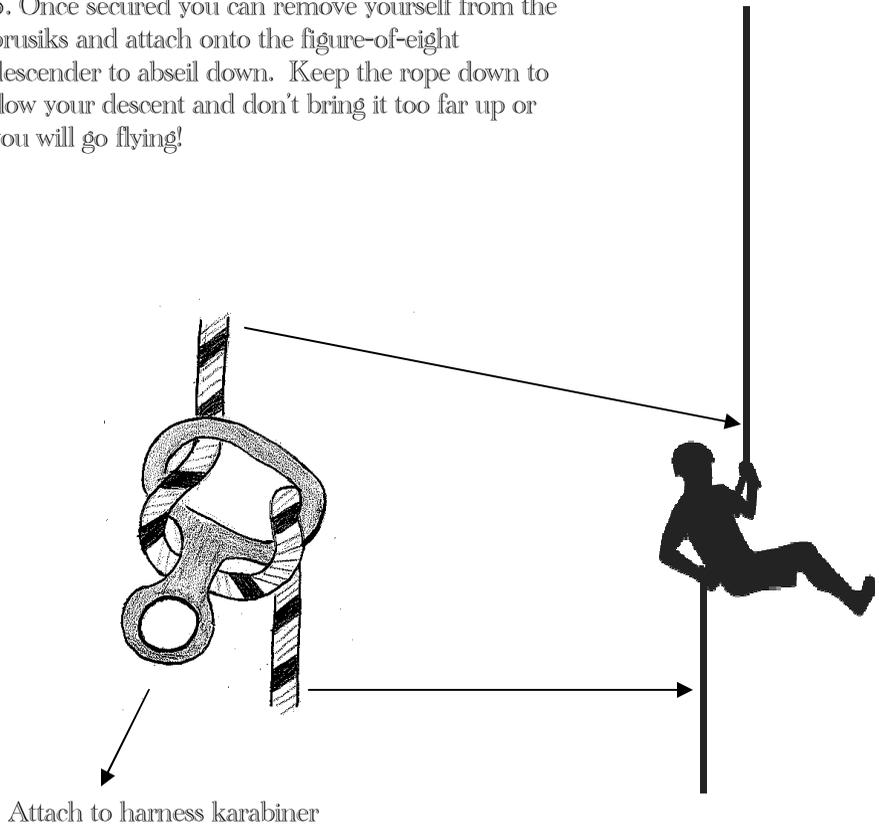
No more than $\frac{1}{4}$ the diameter of main line.

3. Pull the harness prusik up the rope whilst standing up then sit into your harness and pull up your foot prusik.

4. When you get to the branch, secure yourself to a branch or the trunk of the tree using a cow's tail. This is just a length of rope with a karabiner on it that you loop round and attach onto itself or your harness.



5. Once secured you can remove yourself from the prusiks and attach onto the figure-of-eight descender to abseil down. Keep the rope down to slow your descent and don't bring it too far up or you will go flying!



Attach to harness karabiner

Our treehouse

Here's an example of a pretty simple treehouse. We built it as part of a weekend skill-share aimed at teaching and learning what is required to make a secret treehouse. As will usually be the case the design was driven by the space and materials, but we are happy with the (semi)finished product.

We fastened to the trees using ratchet straps because it gets a much more solid hold. The problem with this is that they are expensive! Polyprop is also great if you don't have any.



Some old carpet was put between the straps and the tree to protect it.

We cut some lengths off a wind-blown tree to use as support beams. This was easy as the trees were nearby. It needed to be nearly 4 metres in order to go 18cm past each tree it was fastened to. We stripped the bark off with a spade to prevent rotting.



For cross beams we re-cycled old (but decent nick) fence posts, 10cm in diameter which we placed about 36cm apart. These we then nailed to the support beams. Second grade planks made the floor.



We cut and stripped trees of 8-10cm diameter and lashed them on as railings about 1.2m above the platform. To these we fastened old climbing rope to create a temporary side to the treehouse (and stop people falling off!)



Our long term plan was to make open sides to the treehouse using materials on site, but that wasn't all possible in one weekend! We created a bottom story weaving a wattled wall. This will look great for the top half too.



The widest gap between the trees was causing a cross-beam to flex so we added a supporting leg to make it stable.

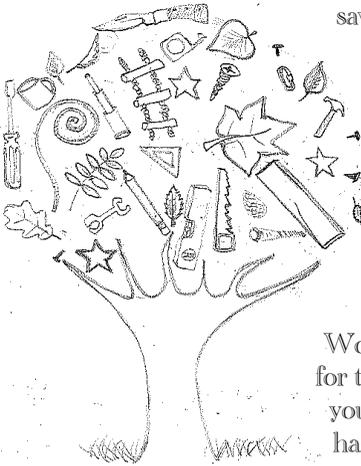


We left a hole for a trap door and built a permanent staircase up to the platform. For a treehouse higher off the ground a rope ladder would be more suitable.



Materials list

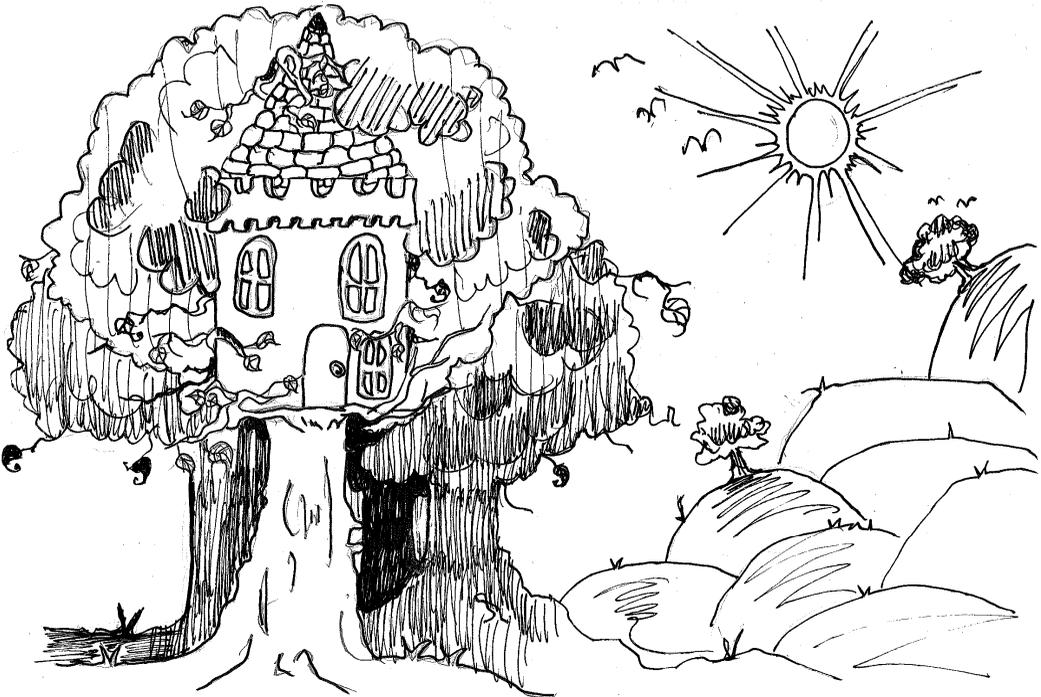
- ☑ Wood – flooring planks, cross-beams, support-beams, supporting legs, walling planks, wall structure, roof support, roof structure, bracing.
- ☑ Nails or alternatively screws if you are taking a drill into the woods. Using screws means that you can replace sections more easily.
- ☑ Fastening materials – rope for lashing (at least 12mm for support beams, less is ok for others) or ratchet straps, floating brackets, lag bolts.
- ☑ Climbing gear – climbing rope, figure-of-eight descender, karabiners, harness, prusiks, cow's tails, string.
- ☑ Tools – saws (for felling and sizing timber), hammers, drill (not usually needed), spade for bark stripping, friends, pulley or hoist and rope for lifting heavy beams



Wood is the main thing that you need to get your treehouse going. It is worth speaking to local saw mills (thanks Taymount sawmill!) to see if they have any low grade timber that you can have. Recycling wood is great but make sure that it is still in good nick especially if it is going to be structural. Felling wood means that you can select beams to your required length and that you won't need to transport wood as far. Just look after the forest. Wood cut in the vicinity can also be used for the walls and roof. If making a bender you'll need to select a flexible wood like hazel or willow.

Resources

- Shelters, shacks and shanties (2004) by D.C. Beard
- www.motherearthnews.com/diy/how-to-build-a-treehouse-plans.aspx#axzz2k5gZXfh0
- www.familyhandyman.com/garden-structures/tree-house-building-tips/view-all
- www.instructables.com/id/How-to-build-a-treehouse/
- www.popularmechanics.com/home/improvement/outdoor-projects/what-to-know-before-you-build-a-treehouse-16055867
- www.thetreehouseguide.com/building.htm
- www.animatedknots.com/indexclimbing.php
- www.abc-of-rockclimbing.com/info/rockclimbing-basics.asp
- www.instructables.com/id/A-Climbers-Guide-to-the-Figure-Eight-Follow-Thru/



Secret treehouse project

The secret treehouse project came about from discussions during a Reclaim the Fields Scotland gathering in early 2013. We were talking about the extreme concentration of land ownership in Scotland and difficulty in getting access to land. One of the group suggested building hidden treehouses around the country, so that there's somewhere to shelter when you're in a beautiful place. It seemed like a great idea to sneakily collectivise tiny parts of the stolen land. We would build them in places the landowner is unlikely to find them and let our friends and their friends know.

From this idea came a skill-share weekend in summer 2013 where we taught and learned all the things in this zine. We built the platform you see in these pages which has now been made into a two story shelter and used for forest school. The plan from here is to build some more treehouses, find out which are out there and make a map of where they are. See the email below if you know of one or are interested in getting involved.

Reclaim the Fields

Reclaim the Fields is a Europe-wide network of people interested in fighting for and getting back to the land. It is about growing food, re-skilling, re-connecting, land rights and other issues associated with the land. The network aims to create alternatives to capitalism through cooperative, collective, autonomous, real needs oriented small scale production and initiatives. It strives to put theory into practice and link local practical action with global political struggles.

In Scotland we have begun forming a RTF group to create a network of those interested in and taking action on issues around the land. Many land related issues are unique to Scotland, particularly the concentrated, feudalism-based land ownership system and large areas of the Highlands which were once cleared of people. It is important to consider these issues in context, whilst rejecting the concepts of borders and nationalism. We hope to become part of a Europe-wide network, whilst tackling issues which are relevant locally and supporting those getting back to the land.

We want to grow gardens and communities and to change a crooked system. Get in touch if these words speak to you.

Email: reclaimthefieldsscotland@gmail.com