HOW TO BUILD AN ARK – INSTRUCTIONS FOR SCHOOLS

Why would you want to jump on-board the School Ark project?

Children are very disconnected from nature these days. How will we get them to care about the extinction and loss of wilderness in our world if they do not learn to love it?

Every generation has less and less awareness of what truly healthy living landscapes actually look like. Kids don't realise, for example, that the bare grassy hillsides are not supposed to be bare, that they are over grazed and support almost no life other than sheep. They don't know what a diverse native woodland looks like, or that a variety of life depends on them. They are accustomed to seeing stands of monoculture non-native, much poisoned, conifer plantations, which are dark and dead underneath for the most part.

They don't remember what it was like to have shoals of fish in the rivers, to have crystal clear seas cleaned by the massive beds of oysters, to have oodles of birds, insects, frogs, butterflies, hedgehogs, etc. sharing our land. It is so quiet now. Eerily quiet. When you're

driving a distance now, your windscreen is no longer covered in dead insects and moths like it used to be when you were a small child.

As a species, we immediately forget what is lost and only see what exists right here, right now as the new normal. Every generation is experiencing huge shifts in what passes for a natural system. These changes have become more extreme over the last few generations. What we see as dead landscapes, our kids will see as natural and normal. There is a phrase for this and most of us these days suffer from it. It's called ***'Shifting Baseline Syndrome'.***

> *"Generational amnesia is when knowledge is not passed down from generation to generation. For example, people may think of as 'pristine' wilderness, the wild places that they experienced during their childhood, but with every generation this baseline becomes more and more degraded"*
>
> Dr. E.J. Milner-Gulland

Schools are in a unique position to powerfully create a change in the consciousness of their communities, by teaching its young people through the Ark Project to become protectors and guardians of the small patches of this planet we are charged with caretaking.

By re-wilding an area of your school grounds, you are becoming part of the solution and set a very positive example for the kids in a tangible way, where they can actually experience the joy of providing homes for families of all shapes and sizes. Without our help right now, these smaller people will grow up to live in a world that is missing so much magic and life, not to mention the complications and overwhelming problems they will face from the breakdown of the climate and the loss of this biodiversity.

Its already disappearing before our eyes.

Let's build them an Ark!

STEPS TO BUILDING AN ARK.

Step 1. Put as much land as possible aside for your Ark.

Even a small patch or boundary will make a difference. Make it clear that this chosen piece of land has a purpose!

Download our community ark logo from our website. Print it out and put a waterproofed version onto a prominent signpost in your school ark with a flag or a wooden sign. Clearly write 'THIS IS AN ARK' on the sign beside the logo. If you only manage the words, that works fine too.

Every single tree is an Ark in itself. They take about 30 years to become full blown oxygen machines, so let's protect the trees we have and plant as many more as we can manage.

Add the Website address clearly for passers-by or for interested neighbours to help them understand that there is a good reason for what people often see as a 'messy garden'. **www.wearetheark.org**

Be creative with your sign! I am looking forward to seeing the more creative productions!

Spread the word and share your signs online if you would like to, using the **#thisisanark** and **#letsbuildanark** so we can find them. We will repost as many as we are able on our social media sites.

Now you can be proud and everyone who sees it can research The Ark project on the website. You and your school are connected under the umbrella of our caring community.

Step 2. Reboot!

If the patch of earth is not damaged land, then it is already primed with all the seeds the site needs to heal herself and reboot an ecosystem that will support all the creatures we share the land with.

If it is damaged land which needs help, it may not be obvious at first but you will see the clues for this after some time has passed. You might notice the lack of growth after a few seasons or even a year. In urban area's the earth might be poisoned from heavy metals or some other source of pollution. It may be badly compacted or mostly dead from multiple chemical applications.

After a year, if it's still looking pretty bare, then it may be time to make a call to reboot the ecosystem. Source local open-pollinated, organic, native seeds and sow a wildflower patch there or a wild herb and clover mix. This will begin the clean-up of the soil, spark new energy.

If the land needs help, then you could gradually import native plants and trees but remember, natures intelligence is far and way beyond our understanding, so don't try too hard. Trust in nature. She already has everything she needs and has this self-healing process perfected, but there is always a massive welcome for native trees and hedges, if they are seed sown and locally sourced (preferably within a 10 mile radius for maximum benefit to the local ecosystem).

If it is a thick monoculture sward of lawn, you many need to remove the grass and re-seed it with a meadow as stated above. Plants can find it hard to establish themselves in competition with lawns. However, if it is an old lawn, it may already be full of diversity and you may only need to let it grow long without disturbing it. You will see lots of wild leafy plants in the

lawn which will tell you if it is diverse. There will be almost none in a thick monoculture of grass and this may need support as detailed previously, to encourage diversity.

You could experiment if you are not sure, and leave the lawn alone to see if it creates a community of wild plants. If after a year, there is only grass then there are various ways to help it along.

DO NOT spray the grass to remove it. There is NO place for chemicals in an Ark! If it is a small area, cover it with cardboard and soak it. Add a 3" layer of peat free compost or topsoil and sow a meadow directly into that. Keep an eye out for hungry birds!

If it is large area of lawn, there are a few things you can do to kill off the grass and then re-seed it with a native wildflower meadow or clover and wild herb mix to reboot it.

• You can sheet mulch it for a season to kill off the grass. Old wool carpets, large sheets of black plastic are some possibilities, preferably second hand and recyclable. We don't need to add to the plastic problem.

• You could still cover it with flattened cardboard, stripped of all tape. Soak it and add a thin layer of peat free compost or topsoil before seeding it. The kids could all bring in a cardboard box each and you would quickly have all you need to cover a large area. You would need a scarecrow or two to stop the hungry birds eating all the seed. Have a scarecrow building competition between the classes! A good project to get them involved in the process. Pin the card down if it is in peril of being blown away by the wind.

• If you were able, you could lightly scratch up the surface of the lawn area and expose the soil beneath, this would allow the seed bank in the soil have a chance to germinate. Once the seeds are exposed to light for even the smallest moment, it is enough to spark the seed into action to grow up and become a plant.

Step 3. Break down those barriers!

Wildlife cannot move easily through fences or walled in gardens. Often it stops them being able to access many sources of food and sanctuary. If you have neighbouring boundary walls or fences, perhaps you could discuss this with your neighbours and if they agree, then get a contractor to drill a hole or two in the base of each boundary, (checking that you don't de-stabilise them structurally) to allow the free movement of creatures between gardens.
If your neighbours are on-board, gradually replace solid boundaries with wildlife corridors of native hedgerows which will also provide a strong nesting habitat.

Step 4. Embrace the 'messiness'.

We are losing the magic in the world, in ourselves. We are trained to see wildness in our gardens as 'messy and lazy', to see neatness as 'care'. Neatness in nature means death. There is very little life in a neat garden. There is no magic in a tidy, wall to wall carpet of lawn. There is no hope in those spaces, no sanctuary. Re-wilding land allows life to thrive once more.

Death is an important part of life.

Standing deadwood supports a huge amount of life. A living mature oak, for example, supports over 500 species of life, but a dead or dying tree supports thousands! Leave the dead leaves, branches and old growth. There is a huge range of support for the living, from the dead and dying elements in nature. At least 40% of woodland creatures depend on dead wood at some point in their lives. Intricate relationships exist between many native plants, fungi, insects and other creatures.

Step 5. Embrace the Wild native plants formerly known as 'weeds'!

Nature scabs over any cuts in her skin with her first aid plaster which is known as the 'weed seed bank'. Leave them do their important work as they emerge. They provide vital food for insects and pollinators, they shove their feet deep into the soil and draw up minerals from deep down up into their leaves. Once they die back then they re-mineralise the soil as they rot into the earth. Such an important job they have! They are healing the soil. We should encourage and admire them.

Embrace these native plants. They are the front line of nature's army. Instead we have been trained to nuke them at any sign of emergence, see them as messy, unwanted and useless. We need to rebrand these important plants as the native wild plant seed bank. The term 'Weeds" is far to derogatory and negative, especially considering the vital part these plants play in rebooting an ecosystem. They are Natures foundation stones.

For example, many of our native butterflies depend on nettles as a food source for their larvae. The red admiral, the small tortoiseshell, the peacock and the comma. If you have a patch of nettles behind the shed or in a tucked away spot – try to just leave them. You will be doing so much to support these – and many other – insects.

> ***STOP & THINK! Ask yourself why are you spraying and trying to kill all the early flowers that are a vital source of food for pollinators? Are they really so bad or disruptive to your life that they have to be nuked at first sign? Could you change your thought processes and let them do their job before you mow them down and never use counterintuitive chemicals?***

Step 6. Let the scrubby messy thorny thickets be!

Leave those brambles and other thorny natives emerge and thrive. They protect young trees and create wonderful sanctuary for many wild mammals. They are vital for the re-establishment of a native ecosystem. They provide shelter from the wind, protection from grazers such as deer to allow saplings to establish, they are powerful deep rooters that re-mineralise and restructure the soil and they are also great habitats and food sources for wildlife. The signage will be the key to educating people how beneficial these spaces are to families of all shapes and sizes.

Step 7. Ditch the chemicals.

Stop spraying, leave the land breathe and recover. The bacteria in the soil are killed off by landscaping chemicals and those bacteria are a vital part of the restoration of health to the land. They are the basis of health in the soils ecosystem. These commonly used poisons also leach into the waterways and cause havoc and death in our water ecosystems***. Chemicals have no place in an Ark.***

Slug pellets may kill slugs and snails, but they also kill other creatures that unwittingly feed on their dead bodies such as hedgehogs and birds. Rat and mice poison is causing the decimation of our owl populations with only 400 breeding pairs of Barn owls now left in Ireland alone. We need to join the dots. Trying to solve problems with a chemical solution, always leads to other unseen problems.

Everything is connected.

While this might be a challenge, try not to ever buy plants from sources that cannot prove they are not treated with chemicals. These chemicals (fungicides, pesticides and herbicides)

are undoing all the good work you are hoping to do, and the pollinators are getting ill collecting pollen from the systemic, persistent chemicals in the life cycle of the plants. Organic, locally sourced and native is best, or plant cuttings from your friends which are easy and free to do. Sourcing cuttings from local old growth hedgerows is a very positive move for local wildlife.

EXTRA SCHOOL BASED ACTIVITIES

• Spotlight on life.

Make a list. Begin to list what creatures have made their homes here. Who have you noticed, what insects, lichens, plants, mushrooms, birds and mammals have claimed sanctuary here? All of this will raise the awareness of passers-by and educate the kids and you can share this list on your social media platforms to raise awareness of what you are doing and why it is important. Most often these creatures go un-noticed and un-cared for. Create a noticeboard with animal and plant drawings and descriptions for parents and their children to pause and learn from as they pass by? Let's put a spotlight on the hidden life we share this world with.

• Bug hotel.

A Great way to encourage a range of insects and an easy and fun project to make. Ensure the twig and stem holes are a range between 2 and 10 mm in diameter and that the box is placed in a sunny spot at about 4 ft above ground. This link is a really good resource for easy and helpful bug hotels and how to maintain and manage them.

• **A sand bank** is an important habitat for solitary bees. A bare sunny bank of soft sand that they can burrow into is another great project.

• **A small pond**, even a sunken bowl filled with rainwater will create a watering hole for the small creatures and before you know it, newts, water beetles and tadpoles and dragonflies might find your Ark. (Just make sure it has rocks placed in it, above the waterline to allow creatures to escape if they are struggling with steep sides). Water is life and it is a vital component of any ecosystem support network. There are numerous websites dedicated to helping you position and build your own natural pond.

It would be best to fill the pond with harvested rainwater or spring water if possible. The chemicals in modern tap water kill bacteria and this is not a good thing for nature (or our own gut ecosystem). Bacteria rule the world and the 'good guys' are vital for health in all ecological systems. Harvest the rainwater from the school roof if allowed in your area of the world.

• **Create a notice board** listing all the creatures who have made their homes in your Ark, adding to it over time. Get the kids studying and painting each of these creatures, naming them and explaining their connections in the web of life.

• **Tree nursery.** Get the kids collecting local tree seeds and start a small tree nursery in the school for the kids to bring home and start their own arks. The Irish based initiative, Forest in a box Scheme, is a brilliant example which could be replicated with native trees anywhere in the world.

• **Log, twig and leaf pile.**

Throw a pile of logs somewhere quiet and create a log, twig and leaf pile if you can get hold

of them. Lots of creatures will make homes here. Rotting wood and leaves create warmth for the families that take sanctuary here. They need safe places like this where they feel they are safe from predators and humans alike. Let the leaves in your garden fall where they want, as it feeds the plants that produced them and so many creatures need them for winter warmth. They are the earth's winter blanket, vital for the under-earth ecosystem.

• **Get a look at who's come to stay!**

Set up a night vision, motion sensitive camera to catch sight of the families that take shelter in your school Ark.

• **Educate** the kids about the local native creatures who have become extinct in their lifetimes and the ones who are currently endangered. (see the red lists in the database). Bring the kids out to the edge of the Ark and carefully lift a rock to see if any creatures have come to stay. Explain to them the importance of every creature in the web, some of them might be less obvious than others. Example would be **wood lice**.

Note. Be aware of possible re-wilding concerns.

• **Keep an eye out for 'invasive' species.** We are not at war with these plants. If they are not integrating and not allowing the emergence of a native ecosystem, then work gently to restrict or remove them to allow a healthy community to develop. You can research in your part of the world, what those invasive species are. They are different all over the planet now. This is a controversial and difficult problem. Different organisations have different ways of dealing with it. Please research this yourself and make your own call. Chemical controls are not an option for me, especially in school grounds! I feel that the effect of their use far outweighs the benefits of removing invasive plants.

• **Wildfires.** In hotter parts of the world you may need to consider fire breaks in the emerging plant system in-case of wildfires breaking out. In some parts of the world this is already an issue and may well become a problem in more temperate areas all too soon.

Finally…Sit back and enjoy!

Let the land explode into life under your guidance and care. Watch in awe as it fills up with butterflies, insects, hedgehogs, wildflowers and magic.

Be patient. Every year will see more and more life restored to the land. Nature heals so quickly and word gets around so fast that there is a sanctuary available. Be ready… so many creatures and their families will turn up almost overnight!

You have made an Ark.

You are contributing to the solutions in a real and positive way.

Hope is the harvest.