



# New Forest Aquaponics CIC

Promoting social change and  
helping communities to live in a  
regenerative manner

## Working Ethos

A regenerative plan for community

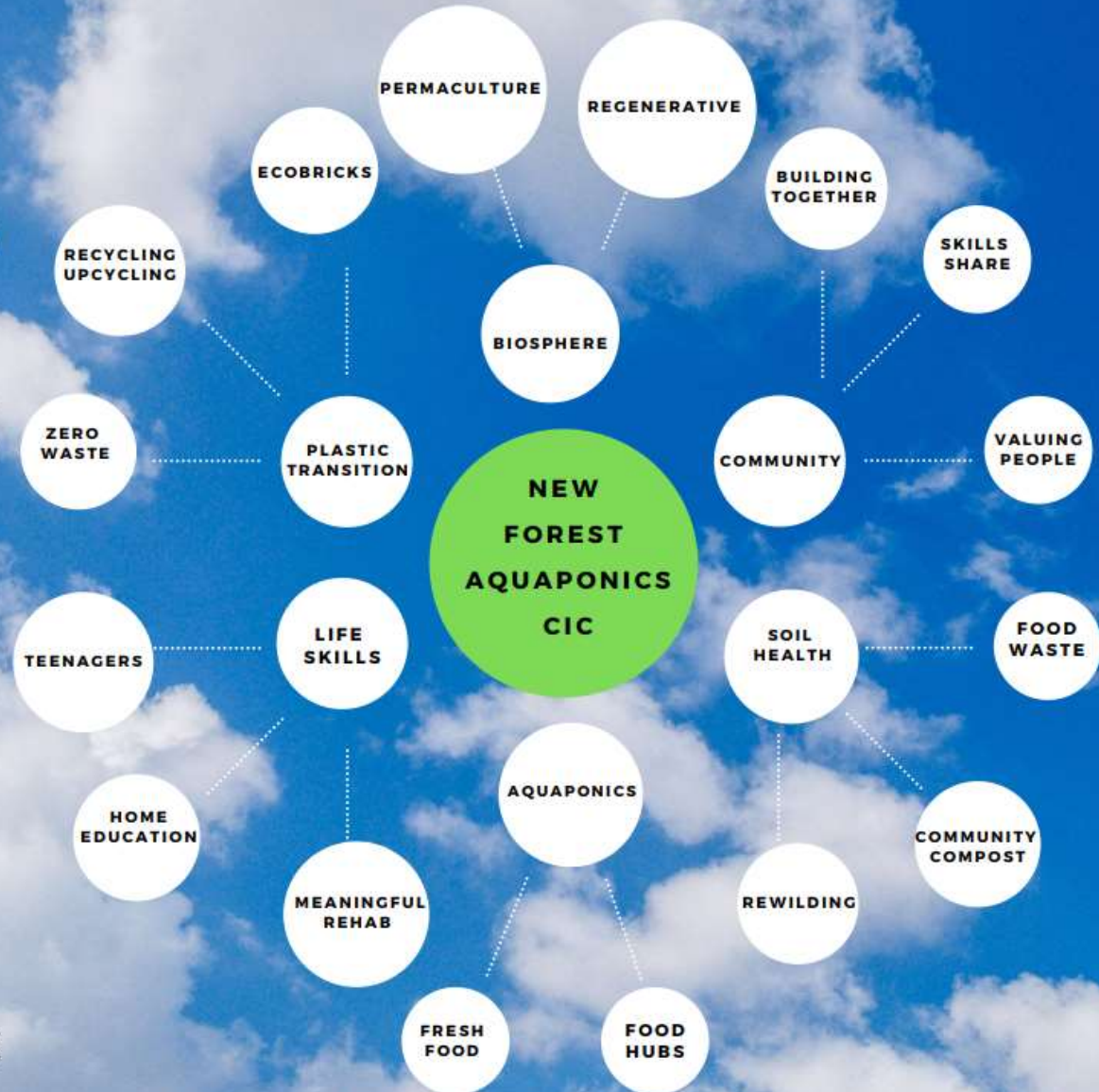


The bottom of the slide features a stylized green landscape with rolling hills. On the left, there is a single tree with a brown trunk and a green canopy. On the right, there are two trees of similar style. Small pink flowers are scattered across the green grass.

# Mandalic collaboration

## New Forest Aquaponics CIC Working Ethos

Our ethos puts the biosphere at the heart of every decision we make. Our aim is to be a working demonstration of regenerative working and living practices.



Every circle connects to every other circle

# Why do we want to do this?

We are living in a time where deep changes in how we live are needed; climate change is here and happening. By raising ecological consciousness within people and communities, it empowers everyone.

Community spirit has been disappearing slowly and without us noticing - it is one of those things that slips by without notice until we need it, and then it can be too late.

Our aim is to help create a place in the Waterside area of the New Forest, if possible, that will be somewhere for people and groups to connect. A place where people can come and feel as though they belong, find friendships and community. A place they can bring their skills. Sharing with others' experiences will enrich the local community and our biosphere.

The biosphere - the thing that keeps us all alive will be at the heart of everything we do. It will be thought of first in all actions, to ensure that not only do we not do any harm, but that we actively work in a regenerative way, adding to the biosphere through our work.

Regenerative does not just mean our environment, but people as well. If we can create better mental health through regenerative principles, we can help build communities that benefit both the environment and ourselves, connecting us with the biosphere in its true meaning.



# Aquaponics

*Give a community a fish and you feed them for a day.*

*Teach a community how to grow fish and you feed the community so it can flourish forever.*

Aquaponics is a nutrient-rich, chemical-free way of 'companion farming' in a system of interconnected tanks where fish and plants grow and nurture each other, providing healthy food to our plates in a regenerative and waste-free way. This method directly addresses many of the issues with our current food systems. It is a climate-friendly farming method that can sequester more carbon than it uses when done correctly, as well as being an amazing way to connect those who want to eat with locally-produced, healthy food.

In times where climate change poses a threat to global food supplies, aquaponics will provide a viable source of fish protein and vegetables for communities using a fraction of the resources used in traditional farming methods. When we put the biosphere at the heart of the way aquaponics is done, it can have a carbon and resource-positive impact on our biosphere, which then benefits us all.

New Forest Aquaponics CIC (NFA) are working to prove that very low-tech, aquaponic systems are the way the sector will have the greatest benefit in the long-term change needed in community farming.

What does low-tech aquaponics look like?

- Bringing life to disused commercial greenhouses, old farm buildings, shipping containers, disused inner-city buildings or outside spaces. The only limit to the type of space used is imagination.
- Upcycling, recycling, refurbishing, reusing equipment: when we look at the things that others no longer need or want with fresh eyes, they can be given a new life, saving our biosphere's resources.
- 'Low-tech' aquaponics doesn't mean 'no tech'; we use renewable energy sources for pumps to circulate the water, and lighting when aquaponics is indoors. Making best use of the tech that is used ensures maximum benefit from the least resources.





# Aquaponics (continued)

NFA hopes to have working, profitable examples of different settings that can be used, aiming to not only be teaching how to set up low-tech, low-cost aquaponics, but how it can provide benefit to communities in the form of food, income, connections, and social inclusion.

Water is at the core of aquaponics; it is a very precious resource that all life needs access to. Aquaponics uses 1/10<sup>th</sup> of the water compared to other farming methods. NFA methods waste no water: every drop is utilised to maximum benefit. The water for the fish must be the best it can be for them to thrive and grow. Plants have the water flow past their roots in soil-less conditions, making the nutrients easily utilised for healthy, abundant growth. To complete the circle, the water is returned to the fish in a condition which provides optimum living conditions.

Filters are used to remove solids from the water and to keep the natural chemicals balanced, and regular 5% water changes serve to flush the solids from the filters. This water is saved and used to water and feed the plants and trees that don't suit living in the soil-less system, thus expanding the range of food grown.

Even though it is a water-based system, aquaponics creates valuable compost to feed soil-based plants, and improve soil health. The solids can either be added directly to soil, or, even better, it can be mixed with other compostable materials to create a valuable resource, to use with soil-based plants, or within community composting programs providing additional revenue.

Aquaponics and CO<sub>2</sub>: this is an area of study, and NFA would look forward to inviting students to take on research on the benefits of low-tech aquaponics and CO<sub>2</sub> sequestration. What we do know is that plants grow approximately 2 - 4 times faster and produce bigger and stronger roots in aquaponics, when compared to conventional growing methods. This in itself sequesters CO<sub>2</sub>. Other areas of CO<sub>2</sub> sequestration and aquaponics involve the algae that grow naturally in water. Again, more studies are needed.



# Fish

NFA put fish at the core of their work: they are the starting point and end point; without them we do not have an aquaponic system. Their health and wellbeing are a reflection of the health and wellbeing of our community. Fish have an impact on every person who interacts with them, and being guardians of the fish's environment teaches us to be more careful and respectful of the whole biosphere and all its elements.

NFA will be working with many types of fish as well as some non-fish species of aquatic life. Some of these will be traditionally known to the aquaponic community, some will be new. All of them will be chosen for their suitability to provide the best outcomes for aquaponic farming. As not all species will be suited for all sized farms, we aim to be able to give detailed guidance on best practice for each species and each size of farm and community it serves.

This list is the main species of fish we will farm for food:

- Trout *oncorhynchus mykiss*
- Carp *cyprinus carpio carpio*
- Sturgeon *acipenser huso species*
- Eels *anguilla anguilla*
- Zander *sander luciperca*
- Perch *perca fluviatilis fluviatilis*
- Wells catfish *silurus glanis*
- Hybrid striped bass *morone saxatilis x morone chrysops*
- Barramundi *lates calcarifer*

Freshwater shellfish can also be very profitable and grown in aquaponic systems, especially where space is at a premium.

- Prawns *macrobracium rosenburgi macrobrachium rosenbergii*



# Fish (continued)

One of the great things about aquaponics is that if you do not wish to eat the fish, you don't have to. The fish can be kept as companions and fertilizers of the system.

Non Food Fish:

- Koi *cyprinus carpio*
- Gold minnows *pimephales promelas*
- Goldfish *carassius auratus*
- Shubunkins *carassius auratus*
- Grass carp *ctenopharyngodon idella*
- Medaka *oryzias latipes*

plus many others

We also work with axolotls *ambystoma mexicanum*. These are bred as companion animals. They are the perfect regenerative example, as they have the ability to regrow limbs, and they seem to have a very beneficial effect on mental health and people with different learning abilities. This makes them an important part of our work.

NFA has its roots in the ornamental aquatic industry, and has contacts awaiting to support our work by purchasing the non-food fish we breed.



# Compost

*Give a community a bag of soil and that community can grow a few plants.*

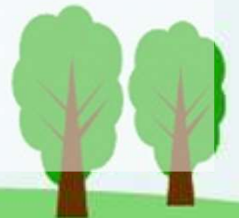
*Teach that community to make compost, and they can feed the community whilst adding benefit to the biosphere.*

Compost is the key to regenerative living. We hear a lot about how poor our soil health is, and how we only have 40 harvests left. Well that is if you are an industrial farmer with soil full of chemical fertilizers, compacted by heavy machinery, ploughing and digging the soil till the microbiome has died.

Composting can reverse the downward spiral of poor soil and the subsequent connection to poor human health. The microbiome and all of its beneficial life is good for our health, and the health of the biosphere. Making compost creates an immediate connection to the earth, helping mental and physical health; the process is one of creativity and renewal. Although aquaponics is a soil-less growing system, it produces solid waste in the form of fish poo and algae. Composting makes sure that this is used as a resource.

- Traditional composting of green and brown material will be used as the basis to provide all of the compost needs to NFA. Through running composting courses and volunteer programs, we will pass on the skills to enable everyone to compost and contribute.
- Worm-composting is a fast method of composting, producing a rich worm tea. It gives a fine compost that enriches soils. Using wormeries to tackle food waste within communities provides a fast route to compost that enriches the soil, and improves crops in both large and small areas. It is a quick and visual composting method that is especially good at engaging children.
- Hot composting: this creates compost very quickly. Hot composting is often done in insulated bins, using expensive new oil-based materials. We believe we can develop methods to empower people to build their own hot composters using upcycled materials, making it more widely available. Hot composting can also be used in a slower form to provide heating for water and greenhouses.
- Bokoshi composting: another great food waste solution, perfect for cooked foods including meat. This is a type of fermentation composting which makes sure all types of food waste can be composted without attracting rats, etc.
- Black Soldier Fly (BSF) production: a way of using food waste to provide more food! BSF eat our food waste, cooked and uncooked, including meat and small bones. The pupae become food for the fish, and the fish become food for us.

Bokoshi and black soldier flies go together and we are looking at how these two systems for tackling food waste can be used together to stop food waste from going to landfill or incineration.





# Plastic Transition

*Plastic is the issue of our time, it touches every part of our lives and those with whom we share our space in the biosphere - yes: the turtle, the albatross and the fish in the sea, everyone.*

Ecobricks are a tool to engage people in the plastic problem, to see the issues we are facing, and to show them a different way of thinking about our biosphere.

Ecobricking is guided by principles that lead us to transition away from plastic and move towards a position of ever-increasing harmony and appreciation of the natural cycles of life.

Working as part of the core team of the Global Ecobrick Alliance (GEA), New Forest Aquaponics (NFA) is helping to raise the ecological consciousness of communities worldwide. We now need to demonstrate at a local level that we are doing the same for our communities here in the UK.

NFA is the hub of Ecobricks UK, and as well as teaching the principles of both plastic transition and plastic sequestration, our aim is to inspire creativity within communities to use ecobricks wisely, demonstrate building with earth (cob) and ecobricks to bring benefit to all. We need space to mobilise communities in mandalic collaboration to keep plastic out of the biosphere, whilst helping people to learn from the earth. This then leads to all the other regenerative actions NFA lives and works by.



# Life Skills

*Give a human a coat and they are warm for a while.*

*Teach a human to make the coat and they can make a living whilst keeping themselves and others warm.*

As society moves towards a more regenerative way of living in harmony with our biosphere, we need to learn the skills that will allow us to do that.

Cooking - to be able to cook the food you have grown to feed yourself and the wider community is a key factor in regenerating society. It helps prevent food waste, improves nutrition, reduces dependence on supermarkets, and creates freedom of food choice. Cooking skills can lead to job opportunities, and skills to travel with.

Sewing - working with reclaimed unwanted textiles, teaching how to upcycle, repair, and refashion the clothes we have gives freedom from High Street shops and gets us out of the corporate consumer-cycle. Being able to make and repair our clothes and the things we need can lead to self-sufficiency, or employment, or ,even better, self-employment.

Working with wool - from spinning to crochet and all in between, wool is one of the most amazing substances, and thankfully sheep are willing to share! There are so many skills to learn and teach, as well as discovering new ones to make our lives a little bit greener.

Leather - we have all fallen into the trap that leather has to be produced in big factories using harsh chemicals. Let's rekindle the skills for making leather without harsh chemicals, and with kindness. Fish leather is incredibly strong and is easy to make, a skill you will be able to learn using the skin of a fish you catch and prepare, cook and eat yourself, and then make leather from completing the circle, making sure there is nothing not used to its full potential - 'ayyew' in action.

Weaving, basketry, paper making, mosaics, butchery, wood carving, electrical repair, foraging, power creation, natural dying, fermenting, preserving, rope making: the list is endless. We hope that as people connect with us they will bring skills to share with the New Forest Aquaponics community.



# Who will we serve?

*In the first place and before all others NFA serves all the biosphere, for if we have no home and no friends to share that home with there is nothing left.*

Following our principles of regenerative culture we wish to engage with those who may be needing a little bit of help. Of course from time to time that is all of us: some for a short time, some for much longer. No matter how long we hope to provide a safe place to come.

Covid has left its mark in so many ways; the mental health crisis in the UK is growing and touches all ages. When people feel valued our mental health improves. Being in touch with the earth's cycles improves our mental health. Eating food we have taken part in growing also improves our mental health.

Our modern way of living is hard on us and the earth, to be able to gently join with others in a way that helps us recognise the good bits of our modern life and combine them with the cycles of the earth in a way that regenerates and helps many different people.

Although all are welcome, we aim to start with areas we know and have affected us personally: stroke survivors, brain injury survivors, teenagers, and home-educated children, people of all ages affected by depression.

We are not limited to people, for as people do the work of healing, healing of our friends within the biosphere can also happen.

We have already started with eels, currently raising our first batch of elvers, some for food, but the majority will be released back to the wild. As time goes on there are other species that are in need of help that we will be able to work with.

Placing the biosphere at the heart of our work makes sure that we work towards healing as well as putting more back than we ask of all parts of our wonderful home, the earth.



# Where to build our community?

As our heart is very much in the New Forest, we would really love to be able to stay in the forest, to grow in the forest, and bring a deeper ecological consciousness to the growing population that surrounds the forest.

The area has a myriad of different pressures upon it. From the Waterside Area with industries (APB, Military base, Exxon Mobil refinery); the new town of Waterside Fawley being built; the large coastal stretch; historic forest culture; a National Park and visitor destination all mixed in with being a place for people to live. We believe that with the climate crisis it is time to rethink the impact all of this is having on the biosphere globally and locally.

New Forest Aquaponics CIC aims to address some of the issues of living in the area, especially for those on low incomes, and/or with problems arising from health issues and modern living. Space to feel part of a community is not available for many in the forest area.

At the moment we are using a vintage commercial greenhouse, bringing new life to an unloved, derelict glasshouse. There are many of these greenhouses across the UK that could be made into viable community farms. We would like the chance to demonstrate how this can be done and help save some of our horticultural and farming history.

Our long term aim is to be able to own the land we are working with, to put into Trust the ongoing work for the biosphere for future generations to benefit from. We only rent a small area of land. The more we have, the more we can achieve and share with others.

Our ideal site would have greenhouses or polytunnels, and as much land as possible, including areas of woodland and a stream. Of course places like this are expensive, especially in the forest.

If we could live on site we would be able to achieve more, otherwise being accessible from our home is essential. We would be prepared to relocate if the ideal site became available. We are open to all suggestions and areas.

We are also open to the use of other types of buildings - a closed garden centre, an industrial unit with outside space, or several sites close to each other. ***What could you offer us?***





***Thank you for engaging with our vision***

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