

Summertime Chicken Enclosure

A Permaculture Design by Amy Stretch-Parker



The Brief - A Summertime Chicken Enclosure

REQUIREMENTS

- Provide the chickens with adequate space for comfortable living
- Cost nothing (in terms of money)
- Provide shade from the hot summer sun
- Repurpose things we already own
- Create more growing space
- Be temporary (we do not own the space)





The Problem #1
DESTRUCTION!!



The Solution #1

A CAGE!!



The Problem #2

A CAGE!!



The Solution #2

A HOME!!



The Problem #3

BLAZING HOT SUN!!*



*A new meaning to Southern Fried Chicken!



The Solution #3
Shade giving plants!



The Problem #4

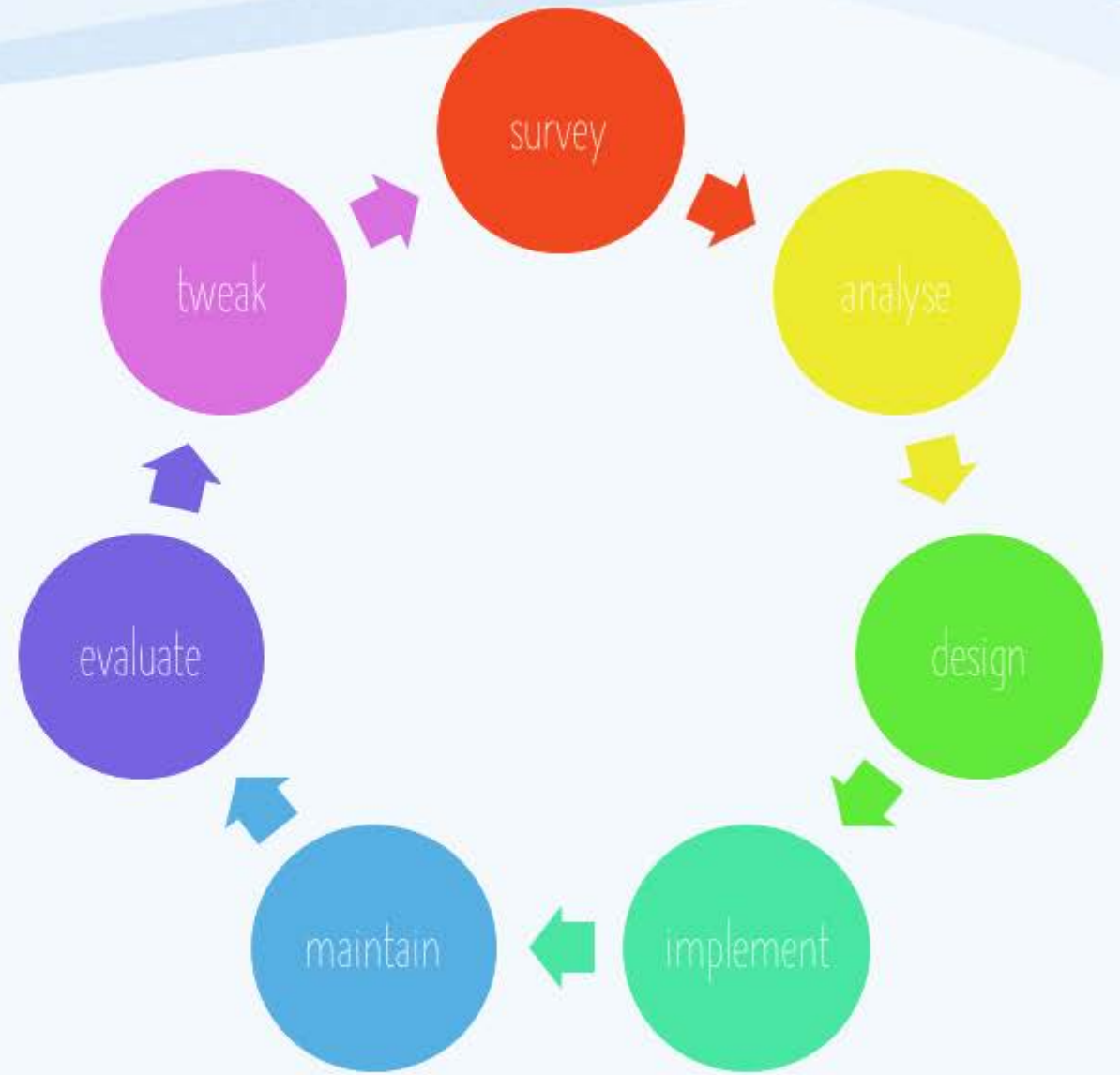
PLASTIC NETTING



The Solution #4

A CAGE!!

SADIMET



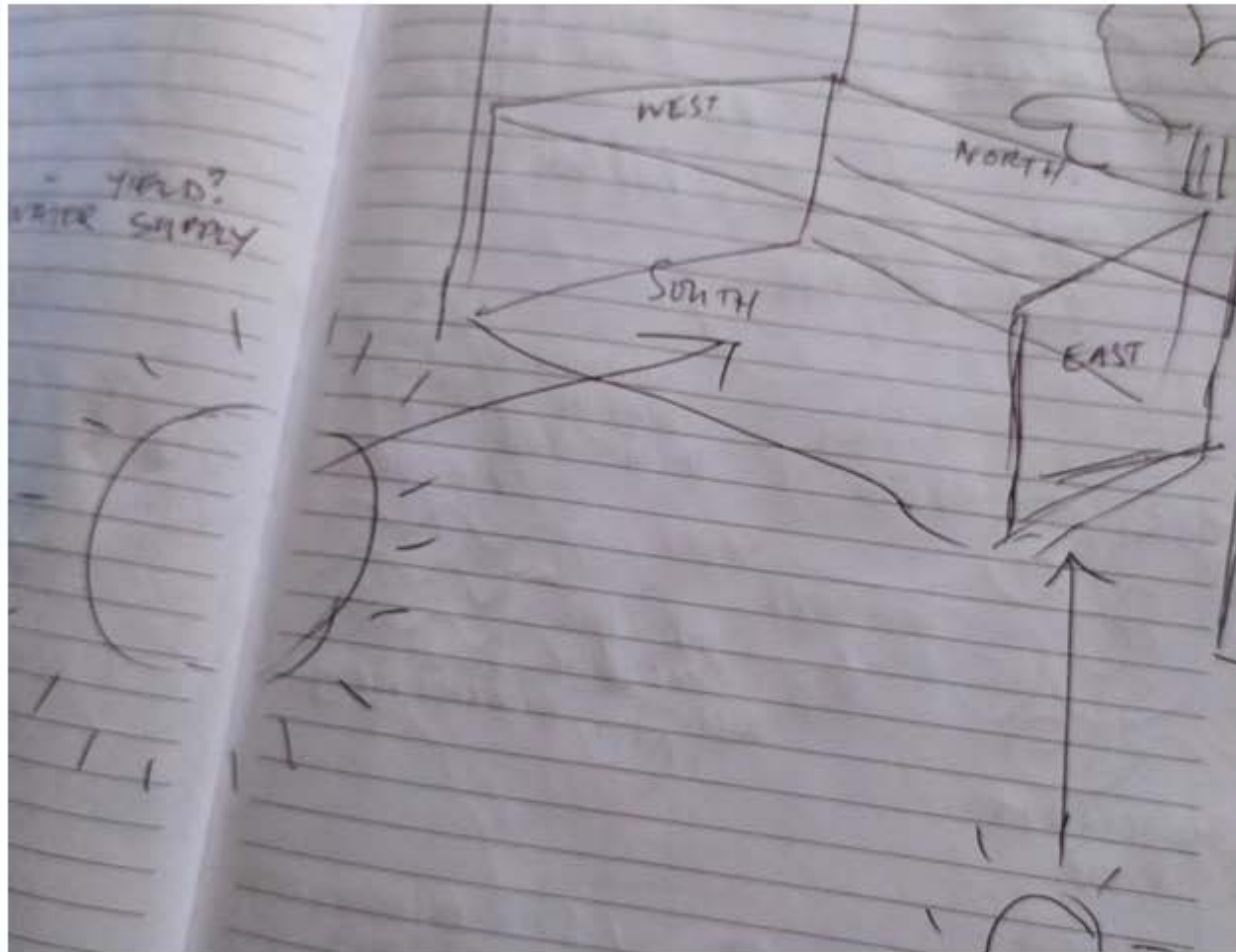
Survey

- An observations diary was kept for 6 months prior to implementing the design.
- I made records of
 - How many eggs were laid each day
 - What wildlife I saw
 - What plants were present
 - How many hours of sunlight the pen received
 - The general health of the chickens
 - The daily weather

Standing 12th December 2 eggs
The pair chickens look really dejected
They're wet and a bit grumpy. I
came to feed them yesterday when
on my course so they're really
that all five new chicks today! I
seems really vocal but I'm not sure. Robin
down I imagine. A pair looked down
and a blue tit. It's working! The feeder
was almost empty and I refilled it to
200g. Now must have got about!
A whole gathering now! Orange sparrows
that none have been brave enough to use
the feeder just yet.
Two ROBINS! They started a dry
it's drizzling today. I went for my boost
machine this morning and drank tea too
re last night. I'm rough, but the birds
feed better. Despite the drizzle it's still
very mild and the breeze is barely a
breeze.
us! A big one

Survey

- A simple site map was made which allowed me to plot the shadows and the wind direction.



LIMITING FACTORS

High wall west side

Corrugated steel north fence with 5ft high posts

Overhanging birch tree

Perennial, deep rooted weeds

Concrete hardstanding

Weight, dimensions and mobility of cage

Number of chickens

Time available for two people to implement design

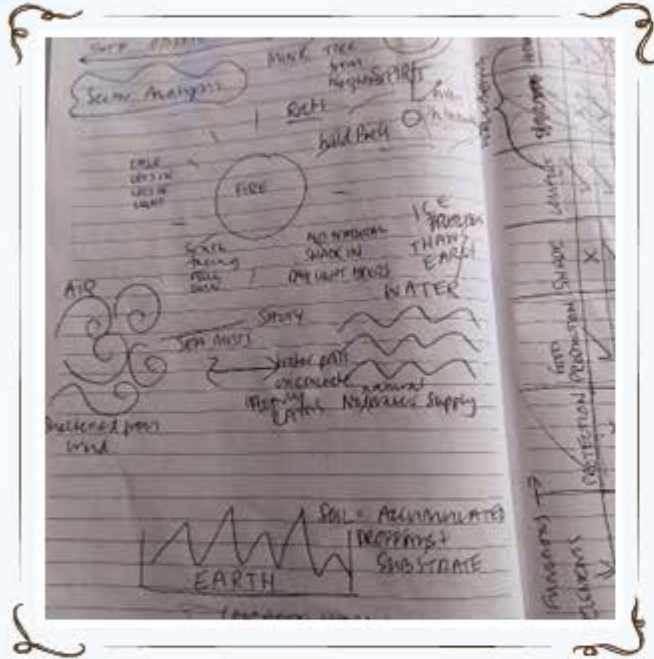
Size of current chicken housing and nesting boxes

Survey

- An observations diary
- A simple site map
- Limiting Factors



Analyse



SECTOR ANALYSIS

	PROTECTION	FIRST PRODUCTION	SHADE	COMPAR	STRUCTURE	FEED
NS	X	✓	X	✓	X	✓
S	✓	✓	✓	✓	✓	✓
S	✓	X	X	✓	✓	✓
BIN	X	✓	?	✓	✓	✓
BATT	✓	✓	✓	X	✓	✓
BS	✓	✓	✓	X	✓	✓
S	✓	✓	✓	X	X	✓
DATE	✓	✓	X	✓	✓	✓
P BIN	✓	✓	✓	X	✓	✓
BY TREE	✓	X	✓	✓	✓	X

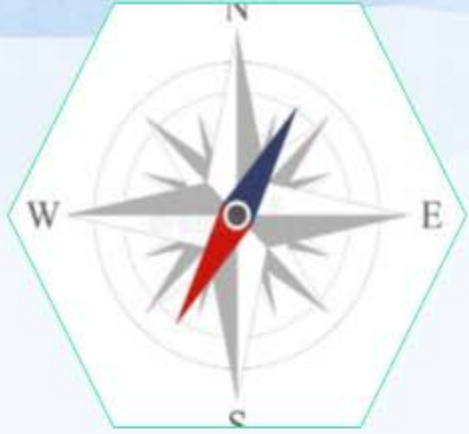
FUNCTIONS AND ELEMENTS

NEEDS	YIELDS
BEDDING	Eggs
WATER	LAMBDA
NEST/BOX	FEED
HEAT	JOY
DUST ISATAS	
FOOD	
ROOSTING	
PROPERLY	
PLANTED BIOD	
ENERGY	
TIME	

NEEDS AND YIELDS

Sector Analysis





The predominant wind direction in the space is a South-Westerly Maritime wind. We are right by the coast and although the pen is surrounded by 6ft high fences we are on top of the sand dunes of the Duddon Estuary. The wind is salty and this affects the planting. There is a gulf stream of warmer air running up the side of Cumbria and this means that many plants from milder climates can be planted such as New Zealand flax and Cordyline Palms. Occasionally we experience very stormy weather and high winds, especially around the time of the Equinox in Spring and Autumn. The salty air protects plants from severe frosts and snow rarely settles, but it brings other problems such as salt damage.



The area where the chicken enclosure is is South facing and is in full sunlight from dawn until late afternoon. The West side of the enclosure is against a 3m high neighbouring structure and the North side is sheltered by an old birch tree, a lilac and other large shrubs in our neighbour's pen.

The South and East aspects provide sufficient light to ensure the chickens carry on laying for the longest period of time during the winter, but in summer this direct light and heat is too much so the chickens need to be protected and given dappled shade for optimum conditions. Fortunately, being south facing means there are a variety of sun loving climbers we can use to give them that shade.



The previous custodians of the pen had used concrete extensively on the plot for structures which no longer exist. They had also used the area for dumping excess tarmac and concrete from their road repair work. This means the ground is considerably contaminated and difficult to work with. Instead of digging up and destroying these hard standings we decided to leave them in place and use them to create a sound footing for the enclosure.

The soil that had accumulated over the years on top of the concrete was very high in nitrogen from years of people keeping chickens. This high nitrogen environment is perfect for nettles, mugwort, brambles, and other perennial weeds.



The pen has no on site running water, so water needs to be harvested. The first part of our plan had to ensure that we were able to harvest enough water for the plants and animals so we installed two water butts and asked our neighbours if we could install guttering onto their structures and then direct the harvested rainwater to our containers. One neighbour agreed to angle his newly installed roof in our direction to optimise this process.

Eventually, we will install a mini water collection set up from the roof of the chicken's roosting box to harvest water directly to the chicken's water containers in their enclosure, but for now we top up their supply from the main water butt. We decided to use organic apple cider vinegar as an additive to keep the water in the best condition for the animals.



SPIRIT

The wild elements in this design were also high on the relative permanence scale. A mature birch tree overhangs into our pen from a neighbour's garden, as did a hedge that was mainly brambles. We decided to use these elements to our advantage and were given permission to cut the birch back slightly to install the cage. We made these cuts at the beginning of the growing season and were able to harvest the birch sap to make a drink.

The brambles, nettles and mugwort that were in the patch were either used or moved. The nettles were added to our compost tea bucket and the mugwort moved and is now used as a natural dewormer for the chickens and for making smudge sticks for the house.

Other wild elements include mink, rats, our neighbour's racing pigeons and wild birds. We decided to make nesting boxes for wild birds in the birch tree and hung a feeder too, we added rodent proofing to the bottom of the cage to stop rats and mink accessing the chickens and the eggs, and the cage protects the chicken's food from hungry pigeons.

Functions & Elements Analysis

FUNCTIONS

ELEMENTS	Food Production	Comfort	Recycle/Repurpose	Aesthetics	Protection
chickens	YES	YES	YES	YES	NO
cage	YES	YES	YES?	YES	YES
roosts	NO	YES	YES	YES	YES
nesting box	YES	YES	NO	YES	YES
chicken hut	NO	YES	YES	YES	YES
water dispenser	YES	YES	NO	NO	YES
food dispenser	YES	YES	YES	NO	YES
substrate	NO	YES	YES	YES	YES
soil	NO	YES	YES	NO	YES
toys	NO	YES	YES	YES	NO
planters	YES	YES	YES	YES	YES
rocking chair	NO	YES	YES	YES	YES
birch tree	YES	YES	YES	YES	YES

NEEDS

YIELDS

PLANTS & ANIMALS

STRUCTURES

COMPOST

PROTECTION

JOY

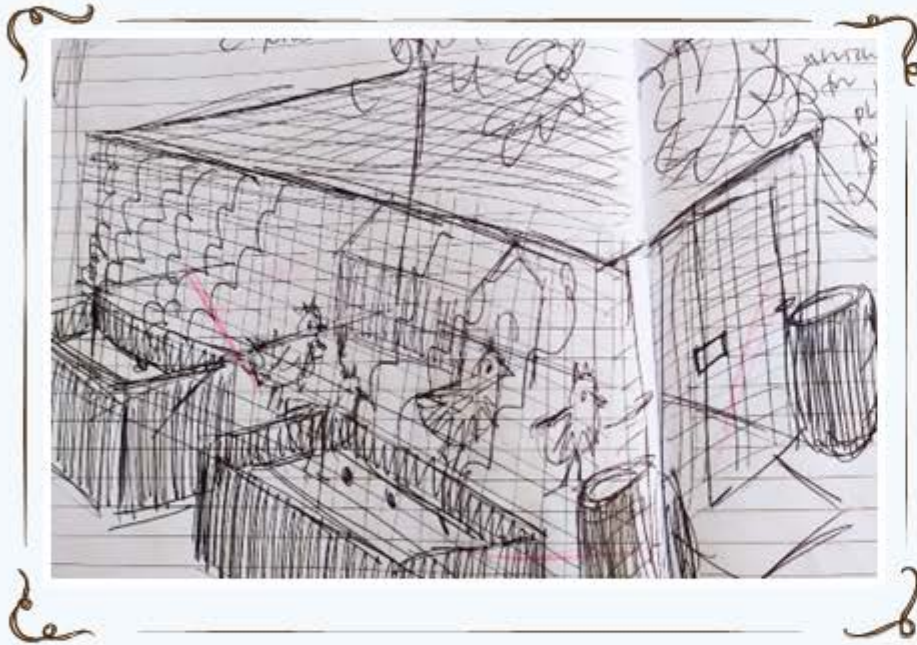
VEGETABLES

EGGS

YESSS!



DESIGN



The chicken enclosure will have space for two deep palettes along the south facing external edge. Inside there is room for their nesting box (raised up to protect from rats) and the repurposed dog kennel we use as their bed.



The planters will be planted with a mix of root crops, legumes, squash and complementary flowers to help pollination. The legume climbers (peas and beans) should grow up the walls of the cage and provide the dappled sunlight conditions preferred by chickens. In between the planters will be my rocking chair so I can get some Vitamin D from the south and relax by my hens.



IMPLEMENT

Putting it all together



MAINTAIN

The planters two months after planting.

They need to be weeded regularly as the soil and compost that was used must have been full of nettle seeds.

The peas and beans need to be encouraged towards the cage as they instinctively want to pull away from it and towards the southern sun.

EVALUATE & TWEAK



Since moving the chickens to their new enclosure we have had 4 eggs from our 4 hens every, single day!!! That's 120 eggs a month! And some are double yolkers!



The eggs from our hens are incredibly tasty. We have such an amazing supply that we are able to share our yield with friends and neighbours who agree on their quality. This has also opened up a sharing economy with locals.



The carrots and peas are doing well. The sweet peas, beans and squash, not so well. I've planted more green and runner beans which seem to be doing better from being planted directly.

Summertime Chicken Enclosure - An Evaluation

It is now three months since the implementation of the chicken enclosure. The chickens are doing well and all four are laying every day like clockwork, the rooster is less aggressive than he was when they were allowed access to the whole pen and the vegetables are growing well as we reach the longest days of the year. When I return to my initial brief I am reminded that we have fulfilled most of requirements of this design.

Provide the chickens with adequate space for comfortable living - The chickens seem really happy in their space. They have more than the recommended allowance of area per chicken, and the roosting poles allow the hens movement in three dimensions. They enjoy spreading their straw around and foraging under it for insects.

Cost nothing (in terms of money) - Other than replacing the straw every 6 weeks, the chicken's layer pellets, and the cost of seeds, the main structures, compost and other resources have cost us nothing. The total spend including those costs is approximately £75. Ideally, I will find a cheaper source of food and straw or begin to sell the surplus eggs to cover any expenses.

Provide shade from the hot summer sun - The peas are beginning to clamber up the cage framework but the failure of the beans (so far) has meant that my initial idea of there being a substantial amount of foliage to create dappled shade is far from developed. I have bought a Clematis (£1.50 from the reduced bin) which I can cut back hard each winter which I hope will provide the summer shade I was expecting from the beans. It will also attract more pollinators to the site.

Repurpose things we already own - We didn't buy anything new for this project. (other than consumable items)

Create more growing space - By planting roots, climbers, flowers and creepers in the containers we are massively increasing the number of crops we are growing.

Be temporary (we do not own the space) - In all honesty, I never want to have to move that cage again! It is such a heavy structure and was difficult to get into place. However, it is not concreted in and could, in theory, be removed if we were asked to leave the site. (I sincerely hope we're not!)