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AN APPLE A DAY

I looked on as I saw my young four year old son collect an apple from the wooden fruit bowl on the side in the kitchen, 'fruit without asking is the rule in our house'. He ran off to eat it and en-route noticed that there was a leaf attached, he was so excited that he ran to his older brother showing him the apple complete with leaf attached, conveying his excitement that it still had a leaf on it. The boys have been used to picking apples from our orchard so it is not that this was completely new to them, but generally on apples that we buy, I guess it is an exception.

His enthusiasm for a leaf on an apple caused me reflect on foraging and how largely foods are prepared and processed, presented to 'us' as we would expect, be that wax polishing an apple to give it shine or chopping the tops off carrots. Supermarket shelves are filled with foam trays with meat sitting on an absorbing pad and local butchers shops are closing. I pondered on how nice it is to see our trug with carrots with their tops on and parsnips with a bit of soil on them, broad beans in their pods and how our ancestors would have harvested and stored their produce – in its most natural form. I pictured game hanging in a larder and wondered how 'we' ever managed without a fridge-freezer, cellophane wrapping, foil bags and foam trays.

Anyway, speaking of fresh vegetables take a look at p54 to see what great activities, workshops and talks you will see at The Bushcraft Show 2013 and, oh yes, vegetables, our local farm shop will be there again with a range of produce for visitors staying for the weekend and those who just fancy something nice to take home. On the game front you can learn how to prepare rabbits, pheasants, pigeons or even skin and butcher a deer.

Once again in this issue we have a host of informative articles. For a truly inspiring read take a look at p68 and drift away with Tim Gent, now where's that paddle? Take a trip to a meadow with Pablo and see the wild goings on during May and June p22. While you're there, if you enjoyed reading the photography article in the last issue by Andy Childs, he is back again, with more top tips on getting that 'perfect picture' in the wild p38.

Save some pennies with Ian Nairn's Bushcraft on a Budget Windshield on p74 and if you are feeling 'crafty' take a look at p52 where, with Jon's template you can make a Birch bark tray, or flick to p42, get your knife sharp and make yourself a Kuska with Jason Ingamells. Lofty shares some thoughts on Army Issue clothing back in the day on p18 and on p12 Ben and Lois Orford help you choose the right axe for the job. Find out more about Mykel Hawke, star of Discovery Channel's Man, Woman, Wild p30 and don't forget he is coming to The Bushcraft Show 2013 with Ruth his wife and co-star. And as always, there is so much more...

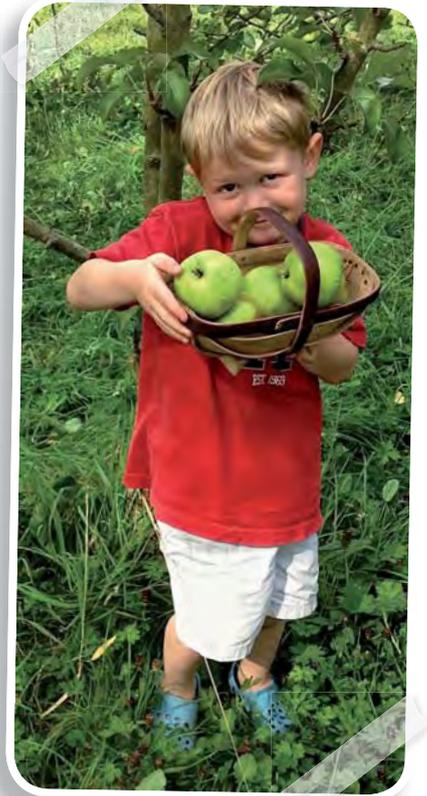
Happy Bushcrafting!

Simon

Simon Ellar
Editor



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Winners will be notified by email, should you wish; please send an e-mail to info@bushcraftmagazine.com detailing the Competition for the names of the winner/s or send an S.A.E. to the address above, again detailing the competition.

The closing date for the competitions in this issue is the 12th June 2013 unless otherwise stated. Only one entry per person per competition is permitted.

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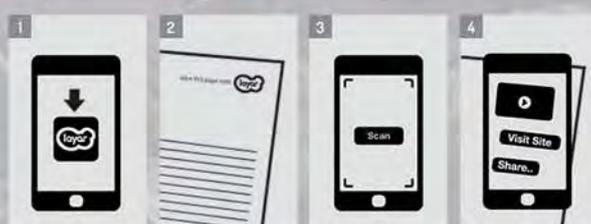
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'BUSHCRAFT IS NOT THE DESTINATION IT IS THE PATHWAY'



The art of bushcraft is about living outdoors and relying upon our understanding and our knowledge of the natural world that surrounds us.

One of the best ways to observe and understand our beautiful country is to get out into the countryside amongst the trees and wildlife and set up camp.

Into The Wild Bushcraft School provides a unique environment to teach you the outdoor enthusiast the art of bushcraft and the skills that our Hunter Gatherer ancestors used on a daily basis.



You will start by mastering the art of Fire by Friction. This is the key to the door, now you can cook your food, purify your water and stay warm. Following this we will embark on an in-depth structured programme concentrating on ancient techniques in bushcraft and the primitive skills our ancestors employed.



During your initial course you will receive a Student Folder that you can insert all the lesson information that you will receive as hand-outs. Should you follow the complete training programme with us you will have a complete Bushcraft Bible for future reference.



Furthermore if you complete the course cycle from beginner to advanced and can prove you are capable of living in the wild over a sustained period applying the skills and crafts to improve your living standards in the wild. We will present you with your Assistant Instructor Badge and Certificate. This will allow you to assist at Into The Wild Bushcraft School whenever you are free to do so and we have courses running.

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Please see our website for the full list of courses and dates or contact us for more information on:

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LETTERS TO THE EDITOR!



THANK YOU AUSTIN

Hi all,

Don't think this info is available anywhere, useless letter if it is!

I'm sure any reader with a large, or even complete, collection of Bushcraft & Survival Skills magazines may be interested to know that I started a magazine article reference thread on a couple of well-known bushcraft forums. It is a really handy resource to have and I've also printed myself a hard copy and whilst its page count is into double figures, I wonder how I ever did without because it not only means I can find articles quickly, it also therefore means that the magazine's usefulness increases.

Simply type this address in your browser naturalbushcraft.co.uk/forum and then type Bushcraft and Survival skills magazine in the search box and you should find it, it's been made a 'sticky' which means it comes up as the first thread in the search.

KR, Austin Lill

Dear Austin,

Thank you for compiling this resource for all readers of Bushcraft & Survival Skills magazine. I recall you painstakingly trying to get issues 2 and 3 to complete your collection... I am glad that you found them and that you find your collection such a valuable resource. It is good to reminisce looking through your list, we really have worked with some great people with a wealth of knowledge. Our initial aim some 8 years ago was to raise awareness of bushcraft and make information on these skills more easily accessible and we will continue to do so. It has also been great to see all the books, blogs and other resources that have come along in the last 8 years too!

Happy Bushcrafting!

Simon

HANDMADE - HERE I COME

Dear Bushcraft & Survival Skills Magazine,

I am an arborist and new to bushcraft. I subscribed to your magazine and I have seen photos of items which people have handmade. Here is a photo of my Paracord Pruning Saw Lanyard, which I have made. I thought I would start with something simple. It did not take long to make or learn how to tie the knots. The paracord cost around £2 from an online auction site. I then popped a small black karabiner on the end to finish it off.

I'm really pleased with it, as it looks so much better than my old lanyard - something a bit different for a change.

I'm looking into different styles and ideas now. Maybe a paracord belt...

Thank you for reading,

Lee Oulton



Dear Lee,

Thank you for your letter and image, super job. The creations I have seen with paracord are amazing; with time and dedication the possibilities are endless. I look forward to seeing your belt!

Happy Bushcrafting!

Simon

I LOVE YEW!

Hi Simon & the team,

I got the inspiration to make my wife a love spoon from issue 39 where Jason Ingamells gave us an excellent guide. I used Yew, which I thought would make a great love spoon with the tight and contrasting grain. However, there is a story of how the wood came to be chosen for this project.

My wife, four year old daughter and I were out walking through the woods. I regularly walk these woods and knew that a Yew had uprooted in the recent winds. I took my Laplander along to take a small piece, I cut off a section as long as my arm and about 4 inches thick, it weighed a lot more than I expected. With a good two miles left of our walk, I knew it was going to be a mission to get the Yew home. Still after about 5 minutes shifting the branch from one shoulder to another, my daughter started complaining about her tired legs. My wife couldn't carry my daughter, so guess what? She got the Yew branch. She dragged, pulled and cursed all the way back, while me and Olivia laughed.

It took about 60 hours to make the love spoon, which I made over four months, from sitting round the fire camping in the New Forest to sitting in my hammock on the North Downs, using only a bushcraft knife and sand paper. It made a great gift to my wife.

Thank you,

Craig



Dear Craig,

What a lovely gift, I hope she loves the spoon! You have done a superb job, Yew truly is beautiful wood and with its tight grain it is lovely to work with, albeit needing a bit more elbow grease.

Happy Bushcrafting!

Simon



To win great bushcraft prizes, send in your 'Letter to the editor' to letters@bushcraftmagazine.com

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Write Today!

INSTANT BOTANY PART 1

Hear the word 'botany' and most people immediately switch off. They think of a complex and difficult subject, something that is beyond their grasp and would be too time-consuming. I am, however, going to show you how basic botany can be learned almost instantly. The secret lies in pattern recognition and committing a few key phrases into your mind, instead of reams of data.

There are many families of plants and each family contains even more species and sub species. The secret is to learn how to recognise a family. Once achieved, you can then make a reasonable deduction as to the characteristics of the species at which you are looking. Is the species edible or poisonous? For example, the seeds of the soft rush are edible. As I am familiar with the rush family and its characteristics, I can reasonably deduce that the seed of flowering rush is also edible (which it is). Of course, there are always exceptions to the rule. There is no substitute for in-depth knowledge that is gained over a longer period of time and given first hand in the field by an expert. The instant system, however, will give you a good grounding in the subject of botany. Hopefully you will gain a deeper insight into the environment in which you live, improving your own knowledge of Bushcraft.

The plant kingdom is split in to many sub divisions, running in a hierarchy. If we run from top to bottom it goes:

- **Division (phyta)**
- **Class (eae, opsida)**
- **Subclass (ae)**
- **Order (ales)**
- **Family (aceae)**
- **Sub family (ae)**
- **Tribe (eae)**
- **Genus**
- **Species**



Parallel veins



Tulip, lilly family, note stamens and pistle



Lilly



Garlic and onion, both lilly family



AUTHOR PROFILE:

Richard Lees

Richard Lees MSc, NCFE Ethnobotanist and government accredited Bushcraft and Survival Instructor has a passion for wild living. He has uncovered secrets of our ancestors' survival and discovering what helped them to thrive. As part of his research thesis, he solved a three-hundred-year-old Ethnobotanical problem proving that Bracken rhizomes were a winter starch staple. Richard has extensive knowledge of the symbiotic relationship between plants and people. His desire is to reconnect us with nature once more.



The aim of instant botany is to enable you to identify a plant that you have never seen before to at least family (aceae) level. Once you can identify a family, you can identify the characteristics of a species in most cases. Just bear in mind, a little knowledge can be a dangerous thing. Do not eat a plant or use it for medicine if you are not one hundred per cent certain of the exact species.

There are numerous groups of plants. The vast majority are flowering plants or 'angiosperms', as opposed to the 'gymnosperms' or naked seed. Conifers and firs etc. are gymnosperms and much more ancient in their evolution, yet far less numerous. Therefore, we will be examining the common and abundant angiosperms. Angiosperms are divided into two groups: monocotyledons and dicotyledons. A monocotyledon has one leaf, and a dicotyledon has two. They are the very first leaves to emerge from the shoot when a seed germinates. This is easy to remember as mono means one and di means two.

A monocotyledon species will almost always have parallel-veined leaves with elaborate flowers. A dicotyledon will normally have net-veined leaves and floral parts in fours and fives. (This will be explained further in part two).

We will be looking at Monocotyledons in this first instalment, as they are fewer in number and easier to learn. I will show you the eleven most commonly encountered species. Remember: there are many other divisions and sub-divisions such as the ferns, lichens, algae mosses, liverworts, and gymnosperms. If I were to include all plant families, it would be more of a botany degree than instant botany!

If you don't have a basic knowledge of plant morphology, i.e. what a petal, sepal, anther and stamen are, you can learn these very quickly online. Let us assume that you have found a plant, but you don't know what the plant is and wish to learn its family. As most people have seen a pond, we begin with Pondweed.



POTAMOGETONACEAE- PONDWEED FAMILY

Identifying features: These are monocot plants with plain, non-showy flowers, and parts in fours. For example, they have four petals, four sepals, and four stamens etc. Pondweed is usually a perennial aquatic plant, more commonly found in fresh water.

LILIACEAE- LILY FAMILY

Identifying features: Monocot flowers with parts in threes, the sepals and petals are usually identical. If you find a plant with parallel-veined leaves and regular flowers which have parts in multiples of three, it is very likely that you are looking at a member of the Lily family.

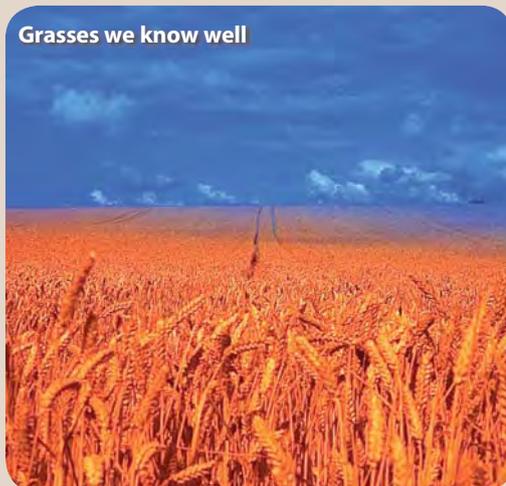
Lily subclass. The Liliaceae is a large family and encompasses some common plants that you would never suspect were lilies. Some of these include: onions and garlics, leeks and chives, and tulips and asparagus. Outside of the British Isles, there is the Agave plant. Agave makes an excellent hand drill with which to make fire by friction. However, it is probably best known for making tequila! Finally, Aloe is a member of the Liliaceae. Like Agave, Aloe is a very important economic and medicinal species.

JUNCACEAE- RUSH FAMILY

Identifying features: The flowers are like those of the lilies but more of a grass. They have three stamens; three petals; and either three or six stamens surrounding a pistil, with a three celled or 'chambered' ovary. Rushes can be found throughout almost every eco system, from the delicate flowering rush to the robust bull rush. Juncaceae almost always produce edible seed. So if you learn to recognise this family, you will always have food as the seed can be eaten raw or ground into flour.

CYPERACEAE- SEDGE FAMILY

Identifying features: Sedges often feature sharp edges. Grasses, however, have nodules running along their length and tend to be more cylindrical. The familiar rhyme is 'sedges have edges, grasses have knees'.



Sedges don't have sepals and petals: instead they feature hairs and scales. Most of the time, - with just a couple of exceptions - sedges have three stamens. The pistil has a two-or-three-chambered ovary, each forming one seed. The common pendulous sedge (*Carex pendula*) is a great source of wild food. Large numbers of the edible seeds can be gathered and then winnowed to separate the seed from the chaff.

POACEAE- GRASS FAMILY

Identifying features: The grass family is so vast and varied that there are no hard and fast rules in identifying them. The best-identifying features are the 'knee' like nodes on the stems. The flowers are often very small, likely featuring three stamens, with a single celled or chambered pistil and two stigmas. Each cell of the pistil will produce one seed.

The Poaceae is one of the most important plant species to humankind. All of our cereal crops, from rice to corn, wheat to barley and rye to millet, are grasses. As a general rule, the seeds of nearly all grasses are edible. However, a purple fungus called Ergot commonly infects rye grass. Ergot poisoning presents itself in a similar way to LSD intoxication. Indeed, it was Ergot from which Professor Albert Hofmann first derived LSD in 1938.

It is argued that human civilisation owes itself to the Poaceae. As far as we know, civilisation first arose in an area known as the Fertile Crescent. This corresponds to Southern Turkey, Iran and Iraq, and some also include Egypt.

The climate of the region just so happened to be particularly conducive to the evolution and growth of the Poaceae. Through selective breeding, we were able to increase the yield to a level greater than our calorific requirements. For the first time, we were able to leave behind our hunter-gatherer origins and take the unprecedented step in our cultural evolution towards arable farming.

Arable farming spread throughout Europe, into Asia, and then throughout the world. Our newly found 'spare time' was thus filled with stories, art, culture, and more. So next time you are walking across a park or through a field, ponder the place the humble plant beneath your feet has played in our cultural evolution.

ALISMATACEAE- WATER PLANTAIN OR ARROWHEAD FAMILY

Identifying features. Arrowhead plants are monocots and produce flowers featuring parts in threes with numerous simple pistils. They are aquatic plants with three green sepals and three white petals. The stamens are also in multiples of three. Many of the individuals in this family produce starchy edible roots and rhizomes. The deadly Hemlock Water-Dropwort often grows alongside the Alismataceae, with very similar roots. So, be cautious when you are collecting plants from the arrowhead family.

JUNCAGINACEAE- ARROW GRASS FAMILY

Identifying features: These plants resemble grasses but with drab flowers. Each flower features three to six pistils. The arrow grasses are perennial herbs of fresh and salt water, but they can also be found on damp meadows.



The arrowhead family often have edible rhizomes

TYPHAECEAE- CATTAIL FAMILY

Identifying features: Plants from the cattail family are hard to misidentify as they grow in and around marshy areas. They are usually very tall and have what I can only describe as a brown hotdog on a stick (the seed head). The seed head will buff up to spread its seed in autumn, making for excellent tinder and insulation. They are often mistakenly called bull rushes; however, the bull rush is from an entirely separate family. The roots/rhizomes produce thick mucilage, which exudes large quantities of edible starch when gathered and separated from the leaf stalks. If you have a deeper interest, you can find out how to produce flour from Typha online. As with the Alismataceae, be aware of other poisonous species as they can grow alongside one another.



Typha



ARACEAE- ARUM FAMILY

Identifying features: The flower stalk is long with very small flowers and is called a spadix. The spathe is a fairly large curled leaf-like bract when mature which encompasses the spadix. The spadix is an inflorescence of flowers eventually maturing into poisonous berry-like fruit.

The common name in Britain is usually 'Lords and Ladies', and Arum maculatum is a common springtime sight in woodlands. The folk name 'Lords and Ladies' originates from its starchy tuberous root, which was used to starch ornate Elizabethan ruff collars. Arum maculatum contains poisonous calcium oxalate crystals. However, if you refer back to the 'Forgotten Food' series in issue 42, you will learn how to make the tuberous roots edible.



Mature arum maculatum spadix



iris seed

IRIDACEAE- IRIS FAMILY

Identifying features: Irises look superficially like Lilies, but their

leaves are orientated onto a flat plane. The key to Iris family recognition is the number three: they have three sepals, three petals, three stamens, and a three-chambered ovary. The three-chambered ovary matures into a distinctive seedpod. The seedpod often contains large, brightly coloured seeds such as 'stinking iris' (Iris foetidissima). Unlike lilies, the leaves of irises congregate at the base of the plant in a flat plane.



ORCHIDACEAE- ORCHID FAMILY

Identifying features: irregular monocot flowers



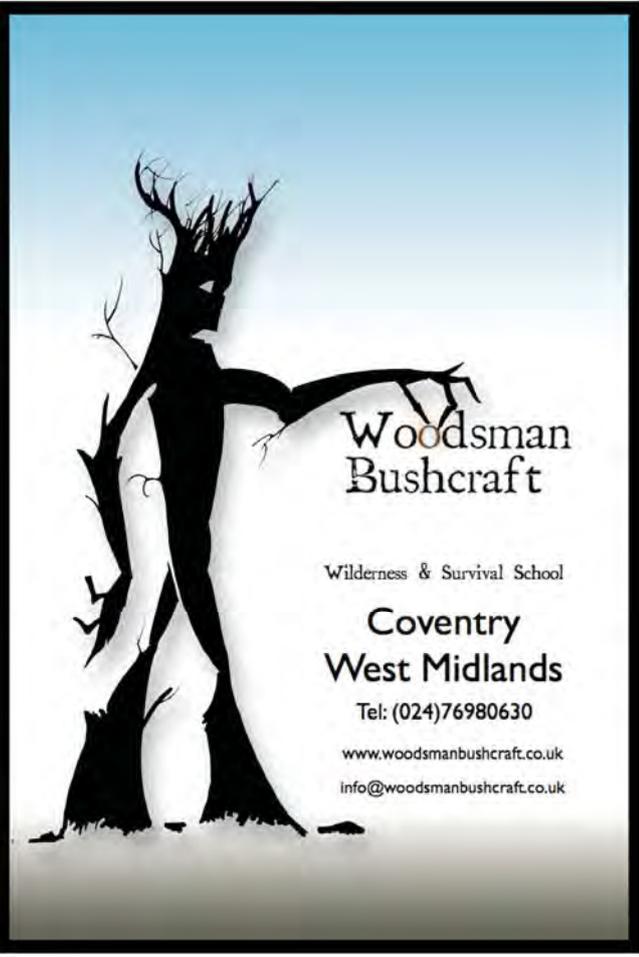
Member of the orchidaceae family

The orchid family often displays beautiful irregular blossoms, unique among the monocots. They have three petals and three sepals. There can be one or two pistils present, along with one or two stamens. The pistils and the stamens will combine into a column. The pistils have three-chambered ovaries. The leaves are usually alternate, creating a sheath around the plant. Although thought of as rare and valuable (as indeed some are), the orchid family is the largest family of flowering plants. It represents approximately twenty thousand species, the majority of which are in the tropics. Vanilla is the best known and the most commercially lucrative member of the Orchidaceae and comes from the un-ripened pods of Vanilla plantifolia.

Now you have been introduced to the eleven most commonly encountered monocots, in the next issue we will be looking at the prolific, varied and useful Dicots.

Due respect must be paid to the author Thomas J. Elpel and my former tutors at Kew Gardens, without whom the creation of this article would have been almost impossible. When I was an intern at Kew Gardens, great swathes of plant samples would be sent in daily. The dedicated staff at the herbarium (and us poor unfortunate Masters students) had the herculean task of identifying and classifying the specimens, down to the microscopic level. This would also include describing new species unknown to science.





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AXE APPS

AUTHOR PROFILE:

Ben & Lois Orford

Ben and Lois Orford live and work from their home in Herefordshire. With their backgrounds in green woodwork and traditional woodland crafts they make a range of handmade woodcraft tools, bushcraft knives and leatherwork for the discerning outdoors enthusiast. Their combined experience and passion for their craft makes them keen to pass on their knowledge and skills.



There are a great deal of axes these days for the bushcrafter to choose from, which is great, but it can make it very difficult to decide which axe is the right one for you. So we thought we would talk you through the different designs and uses of axes to make your choice that much easier. You may find you can't decide on an axe that will be the perfect tool for all the uses you want to put it to, but hopefully with a few tips about the pros and cons of particular styles, you will be able to spend your money as wisely as possible.

Traditional tool making companies in the UK such as Brades, Elwell and Gilpin are no longer in operation, but you can pick up their tools secondhand, either from old tool specialist stores or car boot sales. They are quality makes, well worth looking out for if you want a good axe without having to spend a large amount of money. A lot of these older tools will often be rusty and blunt, have no handles and be in need of quite a lot of work to restore them to their former glory but it will be worth it and it makes a good project.

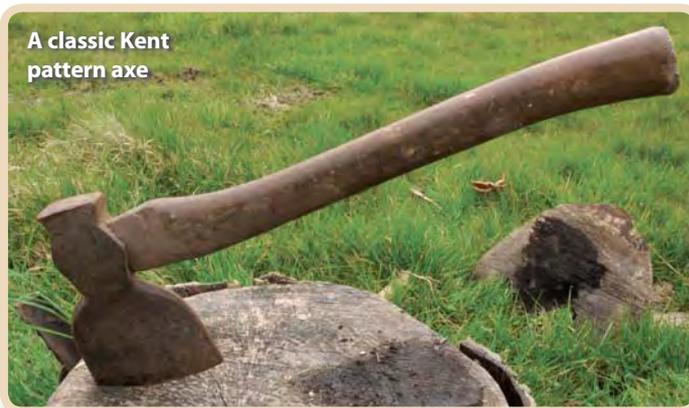
One great style of axe head to look out for is the classic Kent pattern. It has a great shape for general work and is perfect for both craft work and splitting. The slight ears to the head shape

allow for a good fitting handle, and they seem to be available in small light versions of about 1lb right through to about 7lbs for heavy work.

We have used these for years in the workshop and they can be modified to your needs by regrinding them and fitting different styles of handle, so it is well worth keeping an eye out for them. There are some fantastic makes of axes on the market that may be a little more expensive than some styles available from your local garden centre, but you will find that the overall quality and the guarantee that comes with them will make them better value in the long run. Some of the leading makes such as

Gransfors Bruks, Wetterlings and Bahco have been making axes from a strong tradition of Scandinavian design for many years and these work really well. They come with a good quality heat treated head made from quality steel and are ground and honed to a fantastic edge. They come fitted with a premium hickory handle and have a leather cover to protect you and the tool. They also come with a good guarantee against faults. We have had a Gransfors Small forest Axe for over 12 years and it has worked hard in the woods for many winters and earned its keep ten times over, so spending money on a quality tool is the best way to go, as they say 'buy cheap, buy twice'.

A classic Kent pattern axe



There are also now a few tool makers here in the UK making handmade axes who are paving the way in bringing the old tradition back to life and these are worth checking out.

The first thing to ask yourself when thinking of which axe to go for is; what is my primary need? What are the main tasks I want to achieve with my axe? List them in order of importance - felling, carving or splitting etc. and then go from there as this will help pinpoint the shape, size and style of axe you need.



So that we all understand the general parts of an axe, have a look at the picture displayed to learn its anatomy.

Let's start with typical axe design for purely felling trees and limbing. These should have a conventional symmetrically shaped head with a reasonably fine angle. The head itself does not want to have a thick wedge shape to the blade and does not want to have a cutting edge that is too curved. It should have a symmetrical bevel on both sides of the axe head, ideally with a fine convex grind. They normally range in weight from about 2 lbs to around 7 lbs and the handles range from about 25" to 35". The cutting edges are normally longer to maximize the contact with the surface of the wood and therefore removal of wood is greater (anything from a 4" face up to about 8").

The classic American felling axe design is great for felling (as the name suggests) because the head is short in the overall length but has a lot of mass behind the cutting edge to give a lot of power and punch to each chop.

The double bitted felling axe has a long history and holds a lot of nostalgia for some, but it is a lot more dangerous to use and personally we would suggest avoiding such an axe for work in the woods. The main reason for the double bitted axe is that you can

have the grind different on each edge, a steeper angle for knots and rough wood and a finer edge for clean knot free timber. The other use was for cutting the mouth when felling trees as they would have a sided grind to allow one face to cut the top section of the cut, throwing the waste to one side, while the other face was ground the opposite way for the bottom part of the cut. This was to maximise

efficiency of the removal of the waste and constantly cleared the mouth of debris. It would have taken a great deal of skill to achieve

this as when the axe was lifted for the next cut the handle would be allowed to swivel in the grasp in order to engage the correct bevel for each particular cut.

If you want a more practical axe for felling and need lots of fire wood then a



An American felling axe



A large English pattern felling axe (left) shown next to a typical American style felling axe

traditional style Scandinavian designed felling axe will be a better choice for you to carry on a camping trip. They are specifically designed for maximum cutting performance with less weight than an American felling axe and will make a much better long term camp axe. They have a slightly shorter handle of about 25" and a slightly lighter head of around 2 lbs - 2 1/2 lbs and will cut aggressively. They can also be used for craft work, at a push, as

For ease of use try to avoid the older pattern of axe heads like the typical English pattern which has a very long length to the bit, as they have a tendency to want to turn in your hand when using them to fell and will fatigue your wrist and forearms quickly.

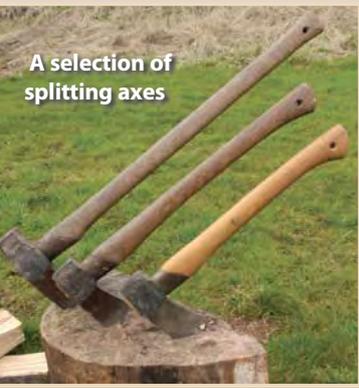


A double bitted felling axe



Three Scandinavian style felling axes

A selection of splitting axes



they are light enough to be used one handed so long as care is taken that the handle doesn't get hooked on any loose clothing.

SPLITTING AXES

These are normally much heavier with a very pronounced steep wedge shape to the blade and are purely designed for splitting timber for firewood. The weight range can vary from about 2 lbs up to 6 lbs and there are a wide range of handle lengths, going down as short as 14" for splitting kindling.

The cutting edge is around 2 1/2" to 4". The larger splitting axes tend to be called Mauls and often have a shaped poll like a sledge hammer and are tempered more to give a softer back edge so that it can be used to strike steel wedges for splitting logs apart. There are a lot of options on the market now for splitting axes with

special edge shapes and profiles and also a lot of difference in prices. Some people swear by their cheap and cheerful splitting axes which are not much more than a wedge on a stick. These do work to a certain extent but if you use a properly designed splitting axe with a concave blade profile that widens to a steep wedge shape you will find this far superior, as it doesn't tend to bounce off the log but bites and then splits the fibres in one blow. They don't have to be sharp but certainly still want a fine edge profile so they can penetrate the fibres of the wood before applying the splitting force.

Splitting axes with protective steel collars on the handle, just behind the head, protect the shaft from inevitable knocks and work really well.

If you have large amounts of wood to process by hand, then buying one of these well designed splitting axes will allow you to split lots of wood with less effort and with less problem of getting the axe stuck in the log or it bouncing off the top.

GENERAL PURPOSE AXES

These are axes that have a very simply shaped head with a standard convex grind without a very steep wedge shape to them. The best shape to look for when finding a good all round axe is a head that

The splitting axe head, showing the long concave grind and steel collar



Above: Two classic splitting mauls – one with a very obtuse edge profile (left) and the other with a far more effective concave grind for maximum penetration.

Top view showing the concave profile of the face of the axe, which is key for efficient splitting



A group of general purpose axes

has a relatively thin section to the bit for 2/3 of the face then a nice slope into the cheeks and around the eye of the axe. This will give you a good fine edge with lots of bite that will work well for both splitting timber, rapid wood removal for chopping and also for fine work when using it for craft.

The advantage of these fine shaped axe heads is that the thinner cutting edge can penetrate into the timber much more but with less force. This is very noticeable when splitting timber for firewood or with controlled force when splitting wood or cleaving wood for projects. You will find that due to the thin section biting well into the fibres before coming up against the nice slope to the cheeks that this prevents the axe being 'spat' out of the timber. The thin section also allows for fine craft work to be performed well, as the axe will have a lot of what we call 'bite' (when the axe

sticks well into the timber removing wood without bouncing or glancing off the face of the timber). A good general purpose axe wants to weigh around 1 1/2 lbs to about 2 1/2 lbs and have a cutting edge of around 3" to 4".

The handle length is again of importance as if it is too short it will not be very good for heavy splitting or felling, but if it is too long it will inhibit the use of the axe for craft work and building things around camp. The length needs to be somewhere between 18" to about 25" before it becomes too long and too uncomfortable (or too dangerous) to use for close work. Another useful asset is the poll of the axe. A lot of people don't think too much about it but having a poll that is parallel to the cutting edge is very important as it allows the poll to be struck with a wooden mallet to split wood, it also allows the axe to be used as a hammer for knocking in pegs and stakes.

CARVING AND WOODCRAFT AXES

These can be the most complex shapes in the axe form, having very curved edges and very different grind patterns and also very curved handles. The main thing with these axes is that they will have much shorter handles of around 14" (there are some that are as short as the length of your grasp for very close quarter work) and are only designed for using with one hand.

Some of the more universal craft axes will still have a standard convex grind and will have a cutting edge of about 3" long. These are great all rounders as they can still be used for controlled splitting due to the symmetrical grind and also allow you to cut curves into your craft piece, so are great for spoon



Side profile of a great general purpose axe head



carving and other camp craft where following a curved shape or the existing shape in the grain is required.

If you want a more aggressive craft axe for making heavy cuts or to cut straight lines on a work piece then rather than the symmetrical grind you will require a sided grind or 'asymmetrical' grind. This means that the cutting edge on the inside of the axe face or the edge touching the workpiece are ground either completely flat or are longer and flatter than the other side of the bevel. This allows the axe to cut much straighter and have more contact with the workpiece so therefore you get a lot more response from the tool as you work with it. Often these are made handed so they can only be used either by a right or left handed person depending on the side that is ground.

The best axes for carving or for greenwood projects have a head of around 2lb and a cutting face of around 4" to 6" and have a very pronounced curved cutting edge and curved handle. This allows the tool to get a very acute angle to the fibres of the wood and this increases the slicing effect, which prevents the grain from tearing and produces a much better finish. If these are also ground with a sided grind then they make a very aggressive slicing tool. Some of the designs have a cut away section between the handle and the top of the head itself, allowing you to strangle the axe up close and get your hand within the centre point of the cutting edge, giving you a great deal of control for the finer cuts.

Some of these have been re-made from original Viking designs and have a very pronounced sweeping edge shape and look and perform really well when fitted with a very curved handle.

SPECIALIST AXES

You will find that there will be a lot of variation of axe styles and shapes from different regions or different parts of the world as they have evolved over time to perform particular jobs in that particular region. Some, you will find, may be very suited to your bushcraft or woodcraft needs. The classic Tomahawk is one such axe and does have it uses in bushcraft as the means of being able to remove the handle with ease allows the option of changing the handle and its length. It also allows the blade to be removed to be stowed in your rucksack easily and to be used without the handle as a versatile blade in itself. This makes a lot of sense when taking this kind of axe on a long trip and it also allows you to be able to repair it very easily when you are out in the field with limited tools and equipment. Some of the various trade axes are now available and have some great designs.



A selection of small hand axes suitable for wood craft



Above; two fantastic carving axes with asymmetric grinds, on the left a replica Viking axe made by Stefan Ronnqvist and on the right the Gransfors Carving Axe

At the end of the day the choice of what axe you go for is personal and no-one can tell you you have made the wrong choice, but all we would say is that trying some axes out first before you buy is a really good idea. Some good bushcraft shops will have them on display where you can hold and feel the weight or maybe you have some very good friends who wouldn't mind letting you have a try.

Remember, if you are going on a trip and can only carry one axe, there will always have to be some compromise. A good choice is an axe that falls in the middle spec of the axes we have looked at that has a head that is around 1.5 lbs to 2 lbs, that has a standard symmetrical convex grind and that has a handle that is not too long so that it can still be used for fine craft work as well as splitting and felling. The Gransfors Small Forest Axe or the Wetterlings Bushcraft Axe may be a good choice in this category. Do try to avoid axes that have multi-tool functions, either with a knife stored in the handle or extra gadgets added to them for effect



A modern take on a hand axe with a composite hollow handle

rather than function. Also, be careful with axes that have modern composite handles that are actually wrapped around a steel head as they have a tendency to come apart if the poll is used for hammering or is struck when splitting.

At the end of the day the simple wooden handle has been tried and tested for a long time now and seems to work well for grip and shock absorbing qualities so why make it any more complicated than needed.

One good piece of advice - if you are not used to using an axe then make sure that you avoid using one that is too heavy to start with, as you will damage the tendons in your wrists. As soon as your hands and wrists get tired, stop and take a break. This is the point where you can make mistakes and could even get hurt, far better to have a cup of tea and look at the work you have already achieved.

We hope this demystifies your choice of axe and if you need any more help then please check out our Youtube channel where you will find some good advice on axes and safe techniques.

http://youtu.be/uJ_nWy6zd-I



Gransfors Wildlife Hatchet - our favourite workshop axe



Classic Tomahawk patterns

IN THE NEWS



NEWS JUST IN... On the 8th May survival company BCB open a new green outdoor cooking fuel manufacturing facility in Llanelli, Carmarthenshire. Fire Dragon, the new fuel is set to revolutionise camp cooking.

THE START OF THE PRO-TRACKER SERIES

It would seem that every leading bushcraft and survival expert comes to the point where they design their own knife, with the likes of the Lofty Wiseman Survival Tool, Ray Mears Woodlore Knife, Gerber Bear Grylls Ultimate Knife, Les Stroud's Temagami Helle Knife, Mykel Hawke with the Tops Hellion Survivor and then the introduction of his own range. Now Perry McGee, son of the late Eddie McGee author of No Need to Die has designed and had manufactured his own knife, or should we say tracking tool. If you have had the opportunity to meet Perry McGee, you will be know that he is not your average guy and you can bet that his knife is not going to be an average kind of knife!

The knife is a first and one-of-a-kind knife / pro-tracker tool in one. Designed with the expertise and experience of Perry McGee and manufactured by Samuel Staniforth Ltd based in Sheffield, UK. The knife has multiple uses ranging from heliography to measuring tracks and sign.

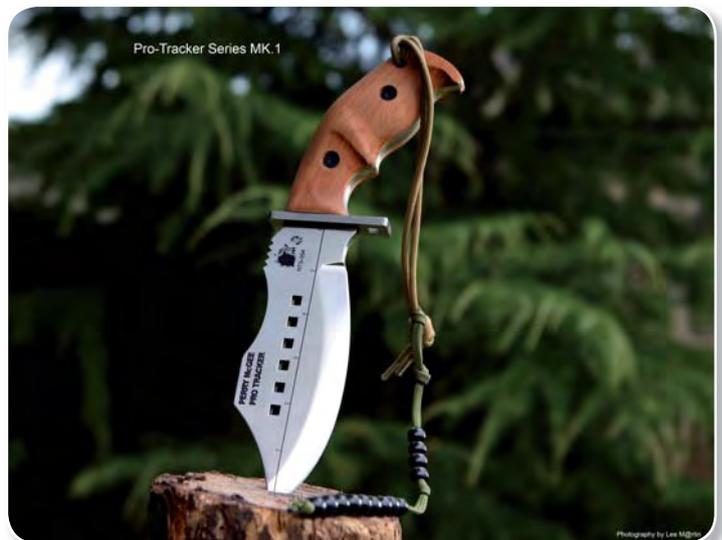
Designed for multiple use and practicality, the MK1 & MK2 Pro-tracker can be used as a cutting implement. The tool has been specifically hardened, sharpened (54 Rockwell) and hand polished, creating a highly visible blade for use as ground to air signaling (heliograph). The steel blade allows the user a balanced, sharpened chopping and cutting edge. The blade also has an impressive set of tearing teeth and a sharpened centre tip. The MK1 & MK2 tool, if used in conjunction with carabiners and rope, can provide secure anchorage. The "safety first" handle, made from handcrafted beech, allows the user easy grip to cut and shave substances in detail, as well as becoming a focal point for a sign (footwear) measuring depth tool. The MK1 & MK2 pro-tracker tool also has essential (no nonsense) emergency and survival tools including a fire striker, pace beads and a 3m length nylon paracord.

The sheath is designed to fit on the downward strap of a rucksack for quick access. Each Pro-tracker tool bears an individual and specific NTS number embossed onto the blade. This distinct number is allocated to the user and allows the user immediate recognition as well as identifying the age of the tool.

With an RRP of £99 excl. VAT, which includes an instruction document, certificate of authenticity, tracking cord, pace counter, Parkerised Cordura protective sheath, fire striker and two measurement probes, this knife is affordably placed, with multiple functions, specially designed with practicality, for the avid tracker.

Perry McGee will be displaying and demonstrating the MK1 and MK2 knife at The Bushcraft Show 2013.

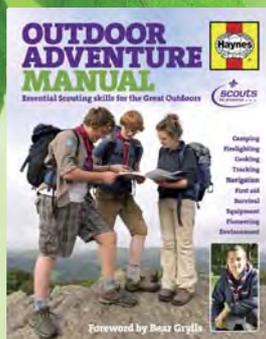
For more information or to pre-order a Pro-tracker knife please email info@s-staniforth.co.uk



COMPETITION WINNERS...

Our 7th Birthday – Woolpower Item – Austin Lill, John Francis, Justine Knowles, Wayne Barrett, Rich Cooke, Tony Fulton, David Phillips
What happened here? – Silk Worms – Sky Diving Display! – no correct answer sorry :)
Win a Tipi – Martin Edwards, Norfolk
Win Primitive Technology II – Celia Dens, Southport
Win The Long Walk – James McRobb, Perthshire

SCOUTS FIRE UP HUGE VOLUNTEER DRIVE WITH SURVIVAL SKILLS BOOK



Just out is The Outdoor Adventure Manual, published by Haynes Publishing, which shares the best Scouting knowledge about outdoor skills from the last 100 years, which until now, has largely been passed on from leader to leader and Scout to Scout.

The Scout Association was keen to publish the book with Haynes Publishing, world-renowned for its manuals which use clear step-by-step instructions and thoroughly tested guides. With contributions from some of the biggest names in the bushcraft industry and writers for Bushcraft & Survival Skills magazine, including Tristan Gooley (The Natural Navigator), Jason Ingamells, Paul Kirtley, Kevan Palmer, Fraser Christian, Dale Collett, Joe O'Leary and Pablo, the manual goes further than any previous Scouting skills book with sections on survival, wild camping, knots and lashings and first aid advice approved by the British Red Cross.

Featuring more than 30 outdoor projects, including how to build a tepee and A-Frame shelter, plus step-by-step guides to a range of key bushcraft skills such as navigating, camping, fire lighting and cooking, the manual is illustrated with hundreds of colour photographs.

Writing in the manual, Bear Grylls said: 'We've tracked down our best outdoors people and managed to get them to stand still long enough to scribble down their secrets – from how to rig a hammock and tarpaulin, to making rope from nettle stalks.'

'Despite the brilliant ideas you'll find in this book, there's still no substitute for learning from a real person. So if you enjoy what you read, and are enthusiastic about all things outdoors, why not seek out your local Scout Group and let one of our volunteers (or brilliant young people) show you the ropes? We need people like you.'

There are currently 36,000 young people in the UK on waiting lists to become Scouts, due to a lack of adult volunteers and a surge in applications to the movement.

The manual forms part of a volunteer drive by the Scout Association with the help of Chief Scout Bear Grylls, which aims to attract more adults to volunteer to help provide activities to Scouts, which includes 200 different activities to 400,000 girls and boys across the UK. From abseiling and archery, to drama, street sports and water zorbing, Scouting helps 6 to 25 year olds grow in confidence, achieve their full potential and become active members of their local communities.

For more information visit <http://scouts.org.uk>

The Outdoor Adventure Manual (Haynes Publishing) is available from www.haynes.co.uk RRP £21.99

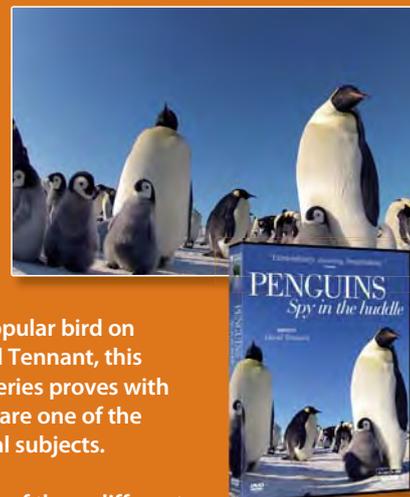
THE BUSHCRAFT SHOW 2013 FOR SHOW NEWS SEE P54

EXTREME SURVIVORS

Genius, astonishing and enchanting are just some of the adjectives used to describe the film *Penguins: Spy In The Huddle*, which is shot from a totally new perspective and this breathtaking series reveals what extreme survivors these engaging birds really are.

From the makers of the brilliant *Earthflight* and *Polar Bear – Spy on the Ice*, the spycameras are back and they're revamped, updated and with even more gizmos on board for this brand new BBC series which has recently been released on DVD and high definition Blu-ray courtesy of Acorn Media.

This extraordinary series is shot in Antarctica and the southern oceans, where the spycameras cleverly disguised as life size penguins infiltrate the colonies to capture the emotional and often comical lives of the most charismatic and popular bird on Earth. Narrated by David Tennant, this exceptional three-part series proves with no doubt that penguins are one of the most entertaining animal subjects.



The film follows the lives of three different types of penguins the Emperor, the Humboldt and the Rockhopper. The Emperor penguin has the most incredible life story of any bird and the spycameras give this penguin's amazing story a fresh perspective. The Humboldt penguin lives in the hot desert regions of South America and its problems have more to do with heat than cold. Finally, the Rockhopper is one of the more entertaining penguins, nesting on cliffs in the Falklands islands they brave incredibly rough oceans to reach the shore.

Pioneering producer and director John Downer told *Bushcraft & Survival Skills* magazine about the filming crew's own extreme survival experiences, "the penguins were not the only extreme survivors to bring this film to the general public, Frederique Oliver and Martin Passingham worked in temperatures of -40 °C for eight months, in the same conditions as the penguins but without the blubber and feathers, which is a testament to our modern outdoors clothing. They filmed more than 1,000 hours of behaviour, uncovering new penguin behavior, all with the knowledge that once they were there, there would be no possible rescue if things went wrong. Now that's extreme survival."

Penguins - Spy in the Huddle is available on DVD Visit www.acornmediauk.com

FROM ONE EXTREME TO THE OTHER

Life in the Far East was great and we really felt at home in a tropical rain forest. Food was scarce at times, but we were never cold. There was never a shortage of water; we always had plenty to drink. An occasional swim in the many rivers helped cool an over-heated body, and nothing was more refreshing than a quick sluice taken during the rain showers that occurred daily. Imagine the shock when we left Malaya and two weeks later found ourselves in Norway, 400 miles inside the Arctic Circle, in mid Winter.

AUTHOR PROFILE:

John 'LOFTY' Wiseman

Lofty Wiseman served with 22 SAS for over 26 years, rising to the rank of Sergeant-Major and ran the SAS selection course and the Survival School, ensuring that the standards for the SAS remained high. After he retired, he wrote *The SAS Survival Handbook*, first published in 1986, selling over 2 million copies, it has been translated into 18 different languages and adapted for the Collins Pocket Guide and iPhone App selling hundreds of thousands each year.



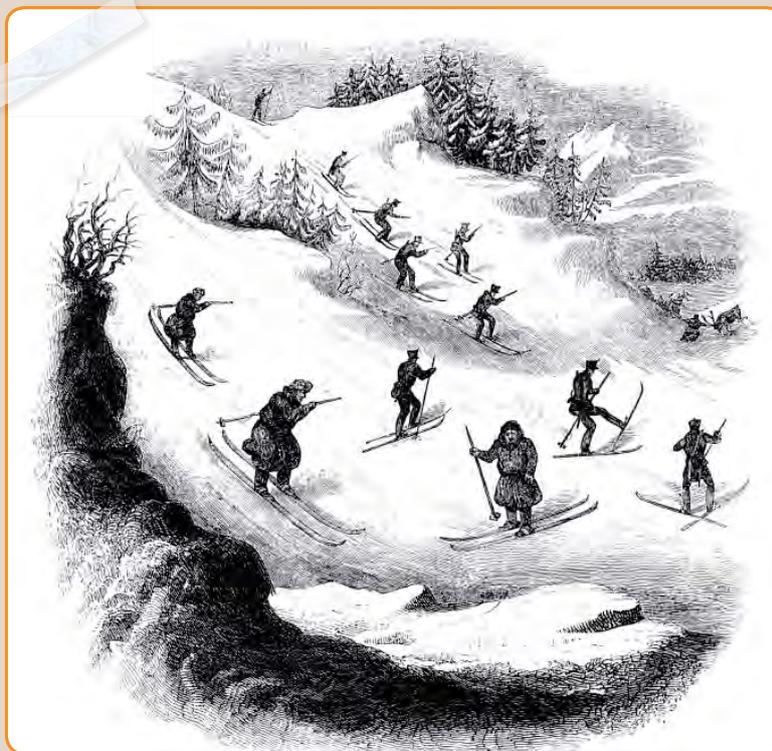
Strangely enough, apart from long johns, string vest and welders' goggles, we were dressed the same in both climates. We always begged borrowed or stole our kit, even resorting to making or modifying it. Hours were spent with needle and thread, using a sail-makers palm to stitch canvas and leather. At this time there was no such thing as Lycra or Gore-Tex, we were lucky to have wool and canvas. The Regiment might have the most sophisticated kit now, complete with the latest that technology has to offer, but in the early days things were quite primitive. The same leather boots we used in the jungle now had three wood screws screwed into the heel to take a ski binding. The first time we donned skis and took to the slopes, all you could hear was these screws popping out, allowing the skis to reach the bottom of the slope before the skier.

The army boot issued at the time resembled pressed cardboard rather than leather. They did make an excellent jungle boot but were useless even in a temperate climate. Our laces were made from metre lengths of Paracord; this was very strong and could be used in an emergency. Paracord is made up of many strands of nylon which can be separated and used to make fish nets, or repair clothing. Being a metre long, one can be cut in half to lace up the boots, and the rest used for lashings etc. This should be part of your survival kit. The welders' goggles were intended to prevent snow blindness by cutting down the intensity of the glare from the snow. Wearing these we all looked like Japanese fighter pilots which certainly frightened the locals.

A parka was issued with a fur lined hood that was a good bit of kit, but the woollen gloves, and cap comforter left a lot to be desired. The Norwegians couldn't stop laughing at us, expecting us to die on the ice cap. Most of the Norwegian soldiers were conscripts and recruited from the local area. They were born on skis and used to the severe conditions. We had so much to learn from them. It's bad enough when you make a mistake or have an accident in the

jungle, which results in a cut or sunburn. But in the Arctic a mistake has serious consequences resulting in the loss of a limb or death.

Over thirty percent of heat is lost through the head so a warm head covering is essential. We would have been better wearing tea cosies on our heads rather than the cap comforters that we were issued with. The Norwegians took pity on us and issued us with their kit. Nothing could stop us now.



Typical Regiment policy required us to master the idiot planks in as short as time as possible. After just one week, which we spent mostly picking ourselves up, we were towing pulks. These were little sledges which four men pulled along behind them. They were loaded with ammunition, fuel, and food. Going up hill was straight forward but going down any incline the pulk tried to overtake the skiers, which it usually did. This resulted in the two guys who were attached between fixed shafts, finishing up buried head down in the snow, while the front two guys got entangled in the tow lines. A sight I will never forget was an American, who was on an exchange tour

with us. He fell and got trapped between the shafts with his rifle, which was carried across the front of the body on a sling, trapping his arms. The weight of the pulk pressed his head deep into the snow, forcing him to breathe like a cross channel swimmer. He still would have been there if we hadn't released him, which we did eventually. By the time we untangled ourselves from the lead traces and took the obligatory photos, it was a toss-up whether

he was closest to death from asphyxiation or hypothermia. We had to film this saga and ignored the obscenities that he shouted between gasps for air.



The food in camp was very basic, lots of fish often raw, boiled spuds complete with skin, whale meat, and bottles of cod liver oil which adorned every table. At first we turned our noses up at this strange diet, but after a few days couldn't get enough and scoffed everything in sight. The body is a

marvellous thing and knows when it needs extra calories. Skiing is very energetic and in cold climates the body burns up a lot of energy just to keep warm. This must be replaced, and it didn't take long for our bodies to acclimatise to this new experience.

Our blood was thin from long tours in the jungle, and our bodies were very efficient at sweating to help keep cool. Suddenly everything was reversed, requiring the body to conserve heat. I believe that the British soldier is the most adaptable person on earth. He endures all hardships and quickly adapts to new surroundings. Humour is always present even in the most difficult of circumstances, and the bigger the problem the greater the laugh.

To see a man speeding down a slope with a fence on one side, bobbing and weaving one minute and then coming to an abrupt halt the next, still brings tears to my eyes. He got too close to the fence and one ski got caught under a wire brace that supported a post. This leg stopped instantly while the rest of the body and the other leg continued for a yard or more before stopping. I was that soldier and it was very painful. I thought the only job I could get when I left the army was as a lighthouse keeper. The Norwegians had never seen men take so much punishment and come back for more. We couldn't stop laughing at other peoples' misfortunes, knowing that our turn would come. The medical block was steadily filled up with fractures, sprains, and ruptures, with the odd case of frostbite.

The final exercise was a week out on the icecap, living in snow holes. Although the temperature was well below zero, we were quite comfortable. Because everything is frozen, nothing gets wet. The only moisture is generated from carelessness like not brushing off the snow before entering the shelter, or not ventilating clothing while doing something arduous. It's harder to survive in cold wet than cold dry conditions, where the temperature is just above zero. Later we were to endure worse conditions in the Cairngorms

than we did in Norway. When everything is frozen, it is easy to make a shelter just by digging in the snow. But on a bleak mountainside lashed by rain, with a strong wind blowing, survival is a constant battle. We never had tents and the only shelter was a poncho-made basha. The poncho was designed to be worn and had a hole in the centre for the head. The last thing you needed for a shelter sheet was one with a large hole in the middle.

It was soon apparent that army-issued clothing and equipment was not adequate to the conditions that we sometimes faced, so the Regiment invested heavily in good kit. Down filled clothing and sleeping bags are the warmest, smallest, and lightest, but if they get wet they lose all their insulating properties. Man-made fibre is less efficient but still does the job when wet. Whether it's because of global warming, some years in Norway were wet, so a balance between man-made and down had to be found. The olive drab jungle shirts and trousers we wore initially were made of cotton. This was great for the jungle, drying quickly, but absolutely useless in the Arctic, not even being windproof. I still shiver to this day thinking about the risks we took. To summarise I would like to emphasise the resilience of the human body and how it adapts to different conditions.

Also I would like to stress the importance of wearing and carrying the correct clothing and equipment. You don't have to venture to the extremes of the world to face danger, any high ground in winter in this country can be lethal if not enough care and attention is paid. Keep warm, spring is on its way.



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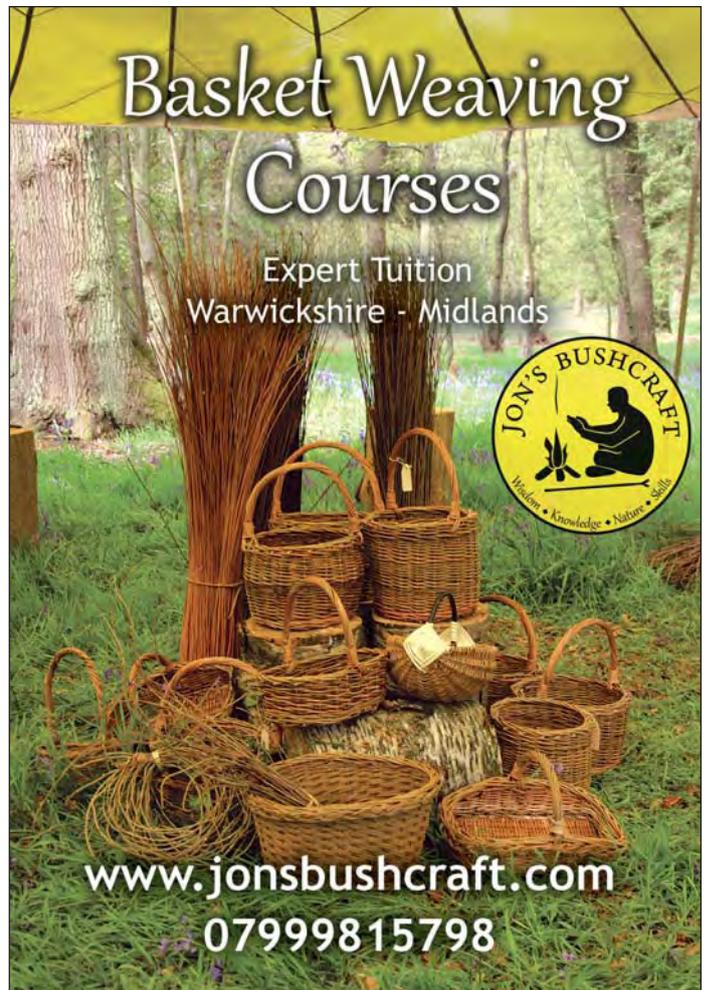


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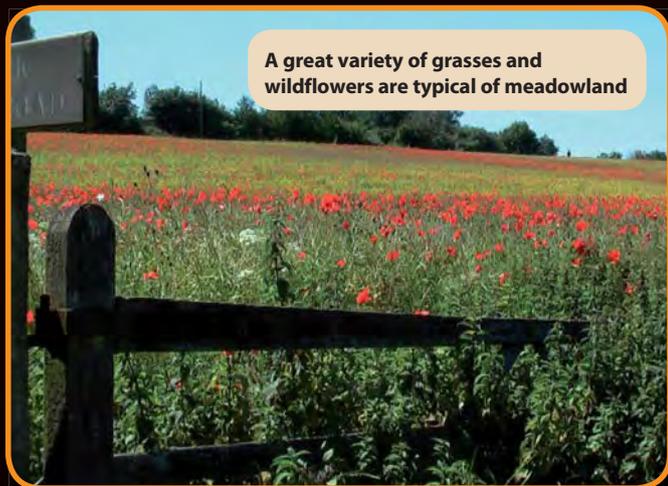
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A VISIT TO MEADOWLAND

If there is one environment in the whole of the UK that you might describe as being 'typical English Countryside' it may well be that of Meadowland. It might be the lush green background or the tall, straight, gently moving grasses swaying in the breeze; or it may even be the hum of a myriad of insects and the continuous fluttering of butterflies and moths going from one brightly coloured flower to another.



A great variety of grasses and wildflowers are typical of meadowland

Meadowland has its links directly with grassland. Both are man-made habitats, but one has been caused by the other. Grasslands were originally created as a result of grazing domesticated animals. It is estimated that a thousand years ago up to eight million sheep were grazing away on our relatively small and fair island for the benefit of its two million inhabitants (Grasslands and Scrub by Chris Packham). The Medieval appetite for all things wool appeared insatiable. Woodland slowly disappeared and what wasn't turned over for agriculture was replaced by pasture, until by the end of the 19th century over half the total area of England and Wales was grassland.

Of course, things changed and the upsurge of mechanical farming and pesticides systematically destroyed the grassland, turning it into more arable farmland or, if we are very lucky, meadowland.

AUTHOR PROFILE:

Pablo

Pablo is a life-long wildlife enthusiast. He has a military and law-enforcement background and has a wide range of teaching and training qualifications. He uses a combination of bushcraft, tracking and field craft skills to get close to wildlife. He has tracked wildlife in various locations around the world including Southern Africa. Pablo runs Woodlife Trails; a Bushcraft and Tracking school and Woodlife Social Network, a site dedicated to wildlife, tracking and bushcraft.



You might think that meadowland is rough ground that has not been kept or maintained. But try not to think of it just as wasteland. It is true that meadowland technically should not have been ploughed for at least seven years, if ever, and will have benefitted from the minimum of human interference, but it still has its links with grazing and pasture.

The term 'meadow' is strictly speaking used to describe grass fields which are grown for hay and, of course, hay provides food for animals. It is also true to say that meadows will be grazed at some point by the animals themselves. But the low intensity of this grazing will only take away some of the meadow species, leaving a high density of diverse and possibly rare wild flowers. With the flowers come the insects, and hence we start a valuable ecosystem.

Study of wildflowers with a loupe can be rewarding



Of course, the grasses and flowers will also benefit from the natural fertiliser of the grazing animals. Cutting for hay will remove the hard shrubby roots and stems of brambles so the land does not get overtaken by hardier, woodier species. The less intensive the management for haymaking, the better the environment for wildlife and we will soon realise what a spectacular habitat this is. So, what can we find there?

The first thing you should notice, especially this time of year, is the huge variety of grasses, sedges and wildflowers. I'm not sure about you, but I struggle with identifying grasses; so I've relied on others' research to tell me what grasses you can find. Cocksfoot, Common Bent, Sweet Vernal-grass and Crested Dog's-tail should all be present. Apparently, if you wait until the heads flower, you will be able to identify the grass more easily. Well, I can identify Timothy grass; but that's about it!

Much more interesting in my mind are the wildflowers. The sheer diversity takes your breath away and they are too numerous to mention. Just a quick snapshot from my wildlife diary one year in June records Cowslips, Tall melilot, Calamint, Mugwort, Water dropwort, Restharrow, Tufted vetch, Bird's-foot trefoil, Pennywort, St John's wort, Lesser cat's-tail, Mayweed, Forget-me-not, Red dead-nettle, Devil's-bit scabious... the list goes on and on. You might know that anything ending in 'wort' has medicinal qualities, so for Bushcrafters it is worth putting a name to a 'face'. Don't confuse these plants with the medick species. These aren't medicinal as the name implies, it actually means "from the people of Medes."

Meadowland is also associated with the more exotic of our native plants...orchids. In early spring you will most probably find the early-purple orchid with its spotted leaves. These are quite common, but you may have to look harder as the summer goes on to identify the less common species. A bee orchid will be sporadically seen from year to year, and perhaps a pyramidal orchid – but look harder and you may well see military, monkey, burnt-tip or lizard orchid! Some orchids only grow in specific locations, depending on the substrate of the soil, the chalk soils of the South Downs, for example.

Meadowland harbours some of our rarest orchids. This is the more common bee orchid



With this great diversity of wildflowers, you will also see a great number of butterflies, although they often prefer different types of meadows. For example the Adonis blue and Silver-spotted Skipper are quite specialised and will mostly favour warm, south facing sites where the grass is quite low; while Coppers, Chalkhill blues and most other grassland butterflies prefer grass a little longer. Satyrinae (the Browns) and Hesperidae (grass skippers) butterflies require even longer grass, over 15 cms in length.

Quite overlooked until you get your close-focussing binoculars out, are the moths. You will see a large collection of day and night flying moths. Day flying moths will include the spotted Burnet moths and the similarly coloured Cinnabar moth. The latter's yellow and black striped caterpillar can be found feeding on Ragwort. The old trick of putting up a white sheet with a strong light behind it at night really does work; and you will attract huge numbers of night flying moths. Perhaps even the Elephant Hawk-moth - one of our largest moths. You don't need meadowland for this, just set it up in your garden.

Certain birds will be fond of meadowland but it depends on the time of year as to what exactly is seen. In spring, the unmistakable sound of the Cuckoo will be heard. Cuckoos are well known for their behaviour of allowing other birds to bring up their young, notably the Reed Warbler and Meadow Pipit.

Day flying Burnet moths of field scabious



Both these birds are also found in wet and dry meadowland. Yellowhammer, Cirl Buntings, and Bullfinches all like grassland and meadowland for its abundance of insects. Look out for Blackcaps, Linnets, Lesser Whitethroat, Willow and Grasshopper Warblers and the Corn Bunting in the summer months or even the ground roosting Short-eared Owl which likes to hunt in open fields and meadows.



Short-eared owls roost on the ground and hunt meadows

At dusk, you may see the magnificent Barn owl quartering the meadowland and neighbouring fields looking for its favourite food; voles. You may well be lucky enough to hear, if not see, the beautiful liquid song of the Nightingale. You may have to look in bushes or thicket on the outskirts of the meadow to see them though.



Rabbit kill – typical of stoat or weasel

Mammals will include rabbits and the rabbit's main predator in meadowland, the weasel. Foxes will also hunt on the edges of meadowland hoping to catch a rabbit unaware, but they aren't too successful in this environment. The rabbit will perch itself on a slight mound and its fantastic all-round vision will detect the slightest movement. Only the speed and agility of the weasel will run down a rabbit and a swift bite to the back of the neck will confirm the attacker. Stoats are also fond of meadowland. Again, they like to hunt for small mammals like the field vole, shrew and rabbit. Stoats are twice the size of a weasel and usually darker. The black tip to its tail will give you confirmation of a stoat sighting although it will most likely be by good luck that you will see one. Smaller mammals are numerous in meadowland and with a practiced eye you should be able to identify runs and homes.

You will have to get down to ground level and look for signs of tunnelling on the bottom of the grass stems. Field voles will eat the base of the stems which fall to create these over-ground tunnels. They aren't burrowing tunnels, so you will be able to carefully peel back the grass to see the run, which will probably lead to the vole's home. Look out for feeding signs as well. Voles, like mice, are partial to any seeds like Hawthorn, which generally grow on the outskirts of meadows. You can tell these two mammals' signs apart by the teeth marks on the open end of the seed or nut. A vole will have marks on top and inside, while a mouse will have teeth marks only on the outside.

Use all your senses if you can. You might not be able to see every insect because they are designed to blend into the grassland, but you will definitely hear them. For every five acres of meadowland there are an estimated one ton of insects (<http://countrysideinfo.co.uk/habitats>) and a single acre will contain 2.5 million spiders! Amongst the noisiest are the Bush Crickets and Meadow Grasshoppers. The noise is made by rubbing their hind legs and fore wings together as a form of communication. Other bugs include the Frog hopper. What we describe as cuckoo-spit is the foam surrounding the nymphs of these bugs, designed to stop them drying out.

There's no great secret to identifying meadowland species, especially plants. A good guide book will help and with a reasonable camera, you can bring back your sightings without picking the flowers (which may be illegal depending on the species). Some enthusiasts use a butterfly net and sweep the tops of the grass to see what insects are in the meadow. A pooter (no, not a com-pooter) is a handy device that entomologists use for sucking up insects for later study without getting a mouth full of bugs! You might want to bring some close-focussing binoculars and a magnifying glass. You can buy a high-powered magnifying lens called a loupe. These aren't as expensive as you think and at about £20 for a good quality piece it will last you a lifetime. It is invaluable for studying the fine details of wildflowers and insects.

With the huge amount of species in our meadows, it's so easy to get carried away and I could sit here and describe them all day. But guess what! I've motivated myself enough to get out there and sit amongst the swaying grasses and listen to the chirring of our wonderful meadowland species. Can I suggest you do the same?

WHAT'S GOING ON DURING MAY & JUNE

Plantlife – Bluebells, Wild garlic, Pignut, Ox-eye daisy, Yellow rattle, Cowslips, Lady's Smock. Hedgerow plants and many orchids in full flower in June.

Birds – Listen out for Nightingales and Nightjars especially at dusk. Dawn chorus at its peak. Adult birds are frantically feeding young. Activity slows as summer progresses.

Insects – Lots of insect activity to and from nectar plants. Dragonfly and Damselfly activity increases during warm June days.

Butterflies – Warmer May days will see Peacock, Comma and Brimstone butterflies in flight. Most other butterflies will emerge later.

Moths – Moths start to appear (look out for paper-like cocoons on plants)

Aquatic – Young Frogs and Toads developing quickly. In June they will leave the water. Look out for dragonfly larvae emerging from ponds

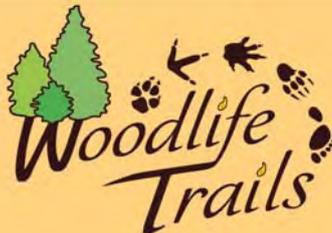
Mammals – Mammals busy raising this year's young. Hedgehogs mate.

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EMERGENCY AND RESCUE TRACKING TIPS

AUTHOR PROFILE:

Perry McGee

Son of the late Eddie McGee, Perry is no stranger to the wilds. With over 40 years experience in survival training and leadership, he has endured survival training and situations in all types of terrain and climates, gaining knowledge of survival scenarios all over the world. Perry loves helping others learn these skills and willingly assists others where possible. Perry is founder of the National Tracking School and author of a number of books including *The Tracking Handbook*.



Being the son of the late survival and tracking guru Eddie McGee and having spent thirty years as a detective in various specialist units up and down the country, communicating how important it is for all of the emergency and rescue services to learn the art of tracking has become my mission.

It was during my career in the emergency services that I combined my father's unique survival and tracking skills with modern applications into a useful investigative tool. In this issue, I will hopefully reinforce some of the reasons why bushcraft, tracking and survival skills should become a necessity for everyone, and more importantly how they can be used by the emergency rescue services.

You might think that such an important subject as emergency rescue tracking would be specialised and restricted to a few but it is not, it applies to everyone, wherever you are from, whatever your background. Each of us can practice and learn rescue tracking skills. It is easy and more importantly, it may save your own life, or the lives of others.

Perhaps the best way to illustrate the relevance of emergency tracking is using the following example, based on a real life situation that occurred here in the UK.

It was 11am on a summer's day when a Police call centre received a frantic call from an elderly male stating that he and a group of friends had set out on a walk across the countryside and into a large woodland and became disorientated. He had stumbled and fell to the ground and was unable to continue further. Without food or water the group left the injured party behind, with a box of matches to



act as a signal if needed and then made their way to report the incident, finally telephoning at 8pm that evening. Setting aside all the group's obvious failings in preparation, just imagine all the emergency services involved in the incident.

The Police, Air Support, Lowland Search and Rescue, the

Ambulance and the Fire services, in many cases volunteers and all coordinated with the aim of locating the injured party and extracting them to safety. A subsequent search of the area identified by the caller revealed that the elderly subject had stumbled off and away from the location, in an unknown direction. The terrain is difficult to see through and the weather had taken a turn for the worse. An aerial search proved unsuccessful and difficult, while the dog units were unable to find a scent. Who do you think could help the situation? The answer is simple – everyone at the scene, because they should have all been trained to track in emergency settings.

This is just a simplistic way of highlighting the importance of rescue and emergency tracking training, and a way of emphasising one of its many implications. In reality, in the above situation, a rescue-tracking trained emergency responder found recent ground signs that indicated a key and prominent general direction, and assessments were made based on the subject's ability to cover distance. He was found by an intercepting search team, and extracted to safety in the early hours of the morning. This, along with virtually every rescue incident I have ever been asked to assist in, illustrates the necessity for emergency rescue tracking

training. Some may be sceptical about the need to use tracking at emergencies but I can testify that using tracking skills can indeed save lives.

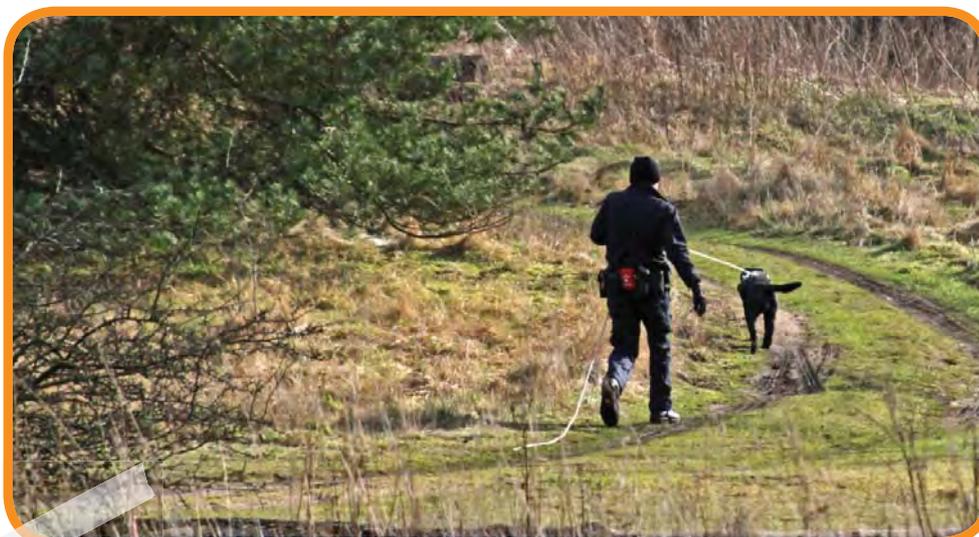
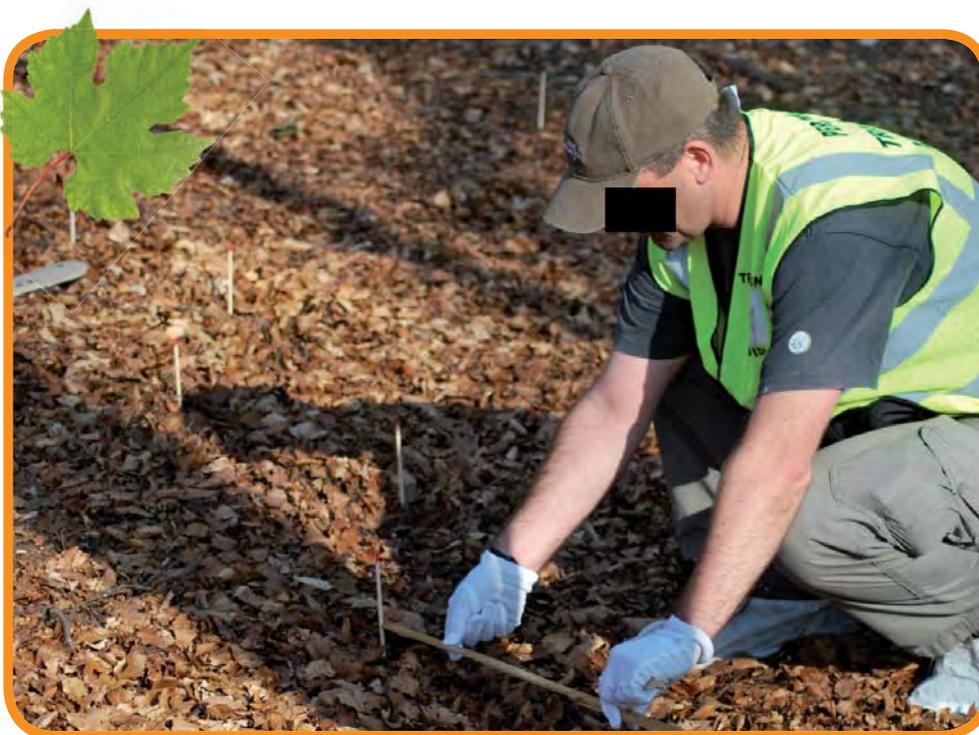
Over the years if you name it, we've probably done it; anything from murder scenes to missing persons, emergency and rescue tracking has been a great part of my life. Amazingly, helping the less fortunate has a rewarding way of giving something back and I am always humbled here in the UK by emergency rescue services, especially the ever supportive volunteers, who give their time, duty and effort to benefit others, often without praise.

Rescue situations, by their very nature are stressful for all concerned, and any useful contribution, such as finding sign can increase morale, hope and reduce pressure and tension. It also obviously assists in figuring out what has happened and closing the gap. It may seem obvious but often the obvious is overlooked and vital signs are missed, or not visualised by the emergency services. A trained tracking emergency or rescue unit can make a significant difference at any enquiry or incident. It's about using your senses and most importantly acclimatising to the environment. As I often repeat to our scene investigators, "It's out there, you just need to find it and use it". You need to go back to the basics, learn your drills (routines), start from the beginning and read the signs.

HERE ARE A FEW USEFUL TIPS:

VISUALISE - Try and visualise how the subject reacted to the situation and imagine what you would do in the same circumstances. Use the natural surroundings to your advantage and concentrate on areas to begin searching. Look for restricted access routes or soft terrain and foliage, and use the light and weather to your advantage. A simple thing like lowering a torch beam or using ultra violet lights over a foot ground impression can highlight direction. Use vehicle headlights, detachable search beams and torches and lower your position to prone, wearing headlamps. Examine the difference between contact contaminants (soil, snow etc. dispersed by footwear) against surrounding terrain that may indicate direction and speed of travel.

UNDERSTAND - Remember that rescue and emergency tracking is not only just following sign, it is accepting and understanding the situation as well as developing that sixth sense for interpretation.



It has always amazed me how the emergency rescue services in the UK have been slow to follow the rest of the world in the development and use of emergency tracking skills. Other countries have massive tracking implications, and specialist rescue tracking units exist that regularly train and deploy, virtually every day. Some of our neighbours have fixed wing, helicopters, vessels, equipment,

are observing. Always consider all the options, or as we say, close the gap. Have all the necessary equipment and supplies you need with you and in working order, not just for you, but for the subject or potential casualty. It is no good having tracked a casualty down only to realise you're your communications systems don't work or that vital first aid tools are useless. Practice, preparation and experience will always prevail in emergency rescue tracking.



NATURE'S HELP - Use the natural surroundings and environment to your advantage and remember that the key to life is water and sunlight. Realise that the subject needs it to survive but can also be affected by it. Use and adapt the classic "No need to die" survival phraseology, inspection, protection, location, water and food and imagine the circumstances if one aspect is removed.

L.E.A.P.- Every time a subject connects with a surface, it leaves a contaminant. Knowing where and how to (L.E.A.P.) Locate and Identify, Evaluate and Communicate, Advise and Hypothesise, Prepare and Extract any subject or sign should be paramount. As with all emergency and rescue skills, dirt time (time spent actually tracking) increases your confidence, skills and usefulness.

canine and horse units deployed alongside specialist rescue tracking units, creating an all encompassing tracking paramedic and search team. Things do however appear to be improving, and thankfully development and training on a national level are slowly increasing. Indeed some bushcraft and tracking schools here in the UK now promote a small amount of search and rescue tracking training, although nowhere near enough, and what exists is generally aimed at volunteers.

THINK OUTSIDE THE BOX

- I was always taught that on arrival at any scene to think outside the box, and it has been proven time and time again. Even at potential crime scenes, or with my speciality, urban tracking, you should adapt the exact same strict drills as you would in the rural environment. Take your time to absorb the environment, if it helps stand or sit motionless, close your eyes and uses all your senses, listen for a while and feel where the wind is coming from and smell the atmosphere, surroundings, terrain and climate around you. Absorb yourself into the situation and start thinking hard about the subject.



Emergency rescue tracking should be kept simple and effective. It is fairly straightforward to identify simple tracking traits from sign such as the subject's sex, height, weight, fitness, equipment, whether they are carrying weights to the front and rear, etc. With repeated

exercises the effective emergency tracking team should be able to recognise indicator signs of distress, illness or dehydration created by a subject, which may be used to raise or lower the intensity of the search. Plausible hypothesis is the essence of tracking and the ability to enhance and determine key indicator markers into useable scenarios for the emergency services, is the ideal.

So the next time you have to respond to an incident or emergency, consider using the ancient science of tracking and be aware of the useful signs around you. For anyone in the bushcraft world who is interested in helping out, why not contact your local search and rescue team or emergency volunteer group to offer your services, if not hands on you could even help by fundraising...and good luck!





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MEET THE WILD COUPLE



Mysel Hawke and Ruth England are a beautiful couple that get located in some of the world's ugliest environments as co-stars of Discovery Channel's *Man, Woman, Wild* series.

You can meet Mykel and Ruth at The Bushcraft Show 2013 on Sunday 26th May where they will share their personal experiences of being in remote and untamed environments when it all goes wrong! You will also have the rare opportunity to put your questions to both Ruth and Mykel. We managed to catch this busy couple in between filming and here's what they had to say....

Mykel and Ruth in Peru



Courtesy of Discovery Channel



Are you both excited to come over to England for The Bushcraft Show 2013?

Mykel: Heck yeah! You have gathered some great names there and we are honoured to get to attend with them. As well, you have some super survival enthusiasts there and it is always good to chat with like-minded folks!

Ruth: I'm very excited! Our good friend Dave Connell (SAS Medic and Survival Expert) has been to The Bushcraft Show before and has told us great things! Plus, for me, England is home, it's always good to be back.

Out of all the places you have both visited, which is your favourite?

Mykel: I liked Aitutaki (one of the Cook Islands) for its beauty and Montserrat for the most realistic scenario of urban survival.

Ruth: I get asked this question a lot and I never know what to say! I'm lucky enough to have filmed in over 100 different locations around the world so it's tough to choose. The Colombian Amazon takes some beating for excitement and wonder but then there's the magic of India and Nepal. I'll probably just settle for a margarita on the beach in Aitutaki because it's just stunning!

Mykel, how did your adventure begin to become who and where you are today?

Mykel: It is all in my book *Hawke's Green Beret Survival Manual*, but I had a poor childhood and had to survive on

the streets for a winter as a 14 year old. Ever since then, I knew I had to learn how to survive off the land and not rely on anyone but my own senses and skills. The rest, honestly, is a fluke. I started teaching survival as my passion 20 years ago, long before it was popular in American TV culture. They found me after 9/11 as a Special Forces guy (like your SAS) with a business, best-selling book and top rated survival knife and the rest is history.

What is the most challenging experience, both physically or psychologically you have faced?

Mykel: For me, in the desert when Ruth nearly died because the producers made us work in the midday sun against my warnings - that crushed me! And, in the arctic when we had to tap out to the cold and exhaustion, I hate to quit, but the reality was, we would have died because the "thaw" had come and it was just bad timing...

Ruth: Getting heat stroke in Mexico was tough for me. I had a temperature of 41°C and to this day I still can't cope with extreme temperatures. Psychologically it's difficult to be stuck in the wilderness with someone that you love. I constantly worry about Myke. It doesn't matter that he's a retired Special Forces captain with decades of survival experience, he's still my husband.

Mykel, what is the one piece of equipment would you take with you in all environments?

Mykel: For sure, a knife and fire lighter. If I had to choose, I would always take a fire lighter. Fire is so important for life, and can be very hard to get, whereas you can almost always fashion a knife type tool from your environment. Some would say a knife, as they can almost always make a fire, but I suggest they have not been in swamps and rainforests. Bottom line, the fire we use all day every day and every night, all night, but the knife, only sometimes throughout the day, and rarely at night. However, I would like to give some love to two things that are super important and most overlooked, the value of a canteen, or device to hold water and a pot or device to boil water, these are truly under-appreciated heroes of survivalists.

How did you both meet and what attracted you to each other?

Mykel: Have you seen Ruth?

Ruth: We met in Jamaica. I was hosting a show for Fox and Myke was the medic and head of security. We had a surprising amount in common even though our backgrounds couldn't be more different. And, he looked pretty lovely in a pair of trunks! We fell in love straight away!

Ruth, how do you feel that your skills and experience as a reporter and presenter have helped you work alongside Mykel?

Ruth: In many ways making a TV show about survival is more difficult than the surviving itself. There is a huge amount of stuff that you have to do that you wouldn't normally do in a survival situation. If things don't happen on camera, to the viewer, they don't happen at all. So knowing the mechanics of TV making has really helped. Plus, having travelled a lot beforehand meant I wasn't as fazed by the wilderness as I might have been, despite how the show is edited!

What is your best and worst experience on Discovery Channel's Man, Woman, Wild series?

Mykel: Desert and Arctic, in that order.

Ruth: Heatstroke is up there! And, all the stomach bugs that aren't really featured in the show. You're physically battered when you come out of the field, you can spend weeks treating tropical skin infections, poison wood blisters and various other ailments. Having to take de-worming tablets and all that delightful stuff. These are the worst things for me and also being away from our little boy. I don't think that I have a single best experience, it's more of a culmination of little glorious moments - seeing the sunrise over the glaciers in Alaska, learning how to eat the eggs straight out of a sea slug in the south pacific, getting through a night in the bush in Africa and not getting eaten! And, sharing all these moments with my husband.



Courtesy of Discovery Channel

When away from home in the wilds, what three luxury items would you take with you?

Mykel: Everything! But a sleeping bag, tent, stove, flashlight and good food are high on the list, next to some nice Scotch!

Ruth: Normal is luxury in the wilds! Simple things like a bowl to boil water, a lighter to start fires and mosquito spray are luxury. I must say I'm a big fan of log cabins in the wilderness, ones that have running water and electricity!

Mykel, what plan do you have for more shows and books that we can look forward to?

Mykel: I have a show out now, like 'One Man Army', called 'Elite Tactical Unit' on the Outdoor Channel and Ruth and I are working on a new project together now with a focus on navigation, but we can't share that publicly just yet.

AND NOW FOR SOME QUESTIONS OUR READERS WANTED TO ASK...

Ruth, how did you become interested in bushcraft and survival skills?

Ruth: I was in the Guides as a child so I always had a basic interest, but my real desire to learn came when I started travelling to remote places. We'd often be filming miles away from 'civilisation' with a very small crew. I was very aware that if something went wrong we'd be alone in a very vulnerable situation so it made sense to get schooled up on the things that could keep you alive. I was actually looking for a survival teacher when I met Myke. That's not why I married him but it didn't hurt!

Mykel, what led you to develop your own range of knives?

Mykel: Trial and error, dirt time, imagination and creative problem solving. I always thought what if I could do this or that and when I got the chance to make it - that is what I did. I applied everything I could fit on one blade.



Mykel, Sierra Nevada

Courtesy of Discovery Channel

Is there any particular bushcraft and survival skill you would like to develop?

Mykel: I stink at braiding, it is a really good skill to make rope and cordage as it is crucial for survival.

Ruth: My stick rubbing skills still need honing! Myke does most of the fire starting because he's a master and it's a very physical task so I need a bit more practice!

Mykel, if you could teach one survival skill or give one piece of advice, what would it be?

Mykel: Learn to make a fire, period.

Mykel, out of all of your achievements what are you most proud of?

Ruth and my sons.



Ruth, could you eat your husband if you were starving to death?

Ruth: Yes. Have you seen his bottom? Lots of delicious meat there! He'd have to be dead first of course...

Mykel, do you have a role model who has inspired you?

Pete - A Green Beret from Vietnam and a pilot from way back

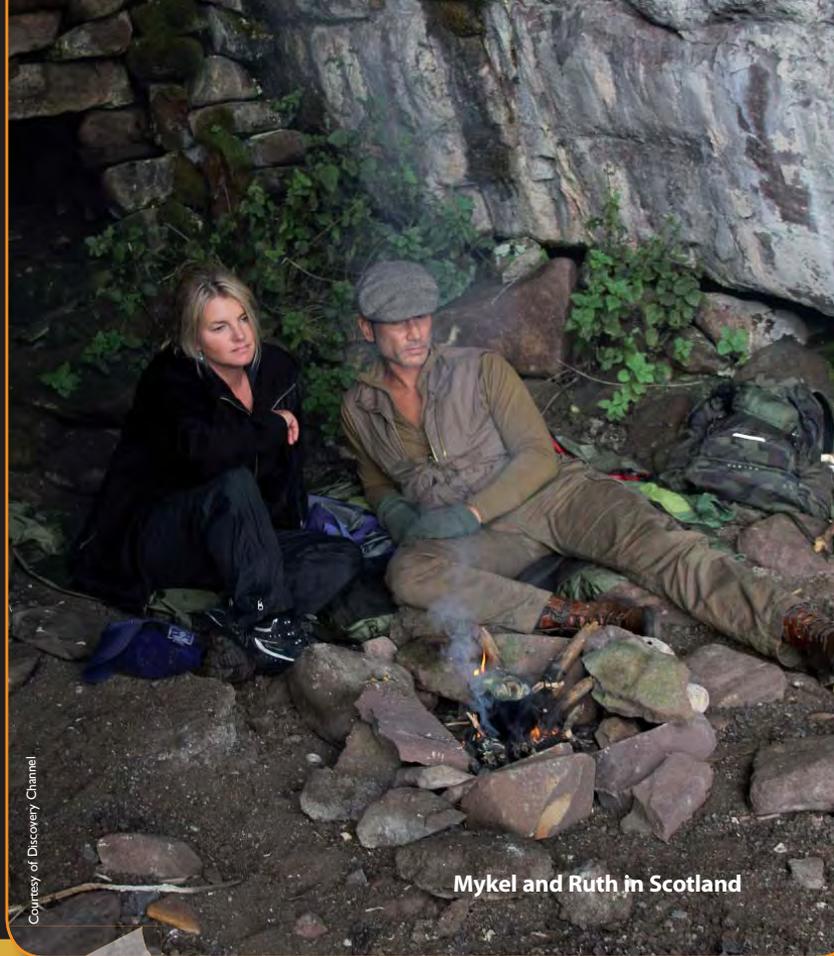
Earl - A Marine in Korean War, cop and fireman from way back

Ed - A Paratrooper from WWII and family man from way back

Yedidia - A language professor and holocaust survivor

How do you push through the hunger, dehydration and fatigue on your adventures?

Ruth: Peer pressure! I have a camera crew standing by to make a TV show! Fatigue and hunger you can cope with, dehydration is difficult and dangerous to push through. Finding water is always a priority and it's always what we focus on, though not every show makes a feature of it.



Courtesy of Discovery Channel

Mykel and Ruth in Scotland

MYKEL HAWKE FUN FACTS

Birthday: 29th November 1965

Height: Was 6'1"but parachuting made him 5'10" :-)

Eye Colour: Brown

First TV Appearance:
1998, MTV's Road Rules, Costa Rica, season final, played good guy and bad guy

Worst things eaten:
Road kill raccoon - puss filled and covered in maggots

Scariest moment:
Ruth getting heat stroke

Most feared animal:
I fear no animal, but a shark when I am in the sea, a croc when I am in the river, and a big cat or bear when I am in open fields, are always to be respected.

Favourite bit of survival kit:
Knife, fire lighter, canteen, cup, spoon, boots and jacket. With these you can survive anywhere!



Courtesy of Discovery Channel

Mykel, Colombia



Courtesy of Discovery Channel

Mykel and Ruth in Andros

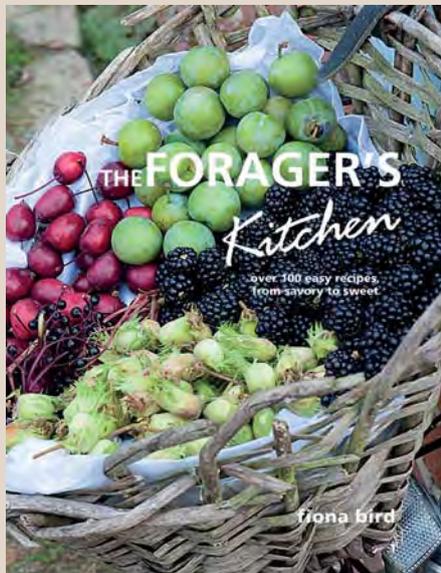
AUTHOR PROFILE:

Fi Bird

Fi Bird is a graduate of St Andrew's University, mother of six and a past Masterchef finalist who is self-taught, with a passion for cooking. Her local food supplies vary from hedgerow, moors and woodland and with help from her family, supper is 'off the land'. She is a member of the Guild of Food Writers and in her spare time she campaigns for healthy diets and cookery teaching for primary school children.



Fi Bird is no stranger to **Bushcraft & Survival Skills Magazine** with her delicious wild food recipes. Her passion for food and foraging is evident in her new book **The Foragers Kitchen**, with over 100 wild food recipes. The book is also filled with tips on where, and how to forage your wild ingredients, whether you are out in the country, or an urban forager! In this issue we share a little of what you can expect to find throughout the pages of this great book!



Price £16.99
ISBN 978-1-908862-61-7



Where to find:

Both red and white clovers grow in grassy places, and as is the case with other meadow flowers, attract insects. Clover flowers throughout the summer.

How to forage and gather:

Pick only young flowers in which the segments are upturned, not down, and pick before the flowers go brown. Use scissors to cut the flowers, and segment the flowers before cooking with them, thereby avoiding any green bits.

How to use:

Clover can be pickled with spiced vinegar and honey, and used in game dishes, in syrup, crystallized, or in Carrot and Clover Cake!

CARROT AND CLOVER CAKE

Serves 8

What to forage and find:

- 2/3 cup (150ml) canola (rapeseed) oil
- 2/3 cup (125g) superfine (caster) sugar
- 6 clover flowers, washed and segmented
- 2 large eggs
- Scant 2 cups (250g) self-rising flour
- 1 heaped teaspoon baking powder
- 1 1/2 cups (200g) finely grated carrots

For the frosting (icing):

- 1 1/2 cups (150g) sifted confectioners' (icing) sugar
- 1/2 stick (50g) soft unsalted butter
- 3 clover flowers, washed and segmented

What to do:

1. Preheat the oven to 350°F (180°C/gas mark 4).
2. Line an 8-inch (20cm) round cake pan (tin) with parchment paper.
3. Measure the oil and sugar into a bowl, add the segmented clover flowers, and beat in the eggs.
4. Sift the flour and baking powder into the bowl and add the grated carrot. Fold the flour and carrot mixture into the oil, sugar, clover, and eggs.
5. Turn the mixture into the prepared pan and bake for 40–45 minutes until the cake is firm and well risen (it will shrink away from the sides of the pan). Cool for 5 minutes, then invert the cake onto a wire rack.
6. To make the frosting, sift the confectioners' sugar into a bowl and beat in the softened butter. Add most of the segmented clover flowers, reserving a few to decorate the carrot and clover cake.
7. Spread the clover frosting on top of the cold cake, and sprinkle the reserved flower segments over the top.

PERENNIAL STINGING NETTLE

Urtica dioica



Colloquial names:

Devil's Plaything, Devil's Leaf, Hokey-Pokey, Seven Minute Itch, Jenny-Nettle, Common Nettle

Where to find:

The leaves, which are rich in vitamins A and C, can be found almost everywhere: on roadsides, wastelands, woods, and meadows, by streams, grassy places, and in gardens.

How to forage and gather:

Nettles for consumption should be picked in early spring while young. The green leaves, which are oval with a pointy, heart-shaped base, are covered in tiny hairs. In late spring, use only the tips and young leaves, and don't pick beyond late spring, or after flowering. Wear rubber gloves when collecting nettle leaves for obvious reasons; "stingability" decreases as the nettle is cooked or dried. I'm told that if you harvest nettles after rain, the sting factor is zero. Richard Mabey describes how to eat nettles in their raw state: it involves quickly grasping the nettle by the stem, thereby crushing the hairs before they pierce the skin. It sounds like a schoolboy dare, and I have no desire to test this theory. Nettles do, however, have their uses: the Germans, plagued by textile shortages in the First World War, used them instead of cotton to make uniforms, and folklore suggests that, when carried, they ward off evil spirits.



HOW TO USE:

Historically, nettles have been used in soups; there is a recipe for St Columba's broth, a 6th-century Irish recipe, and there are soup recipes by the ancient herbalists Culpepper and Gerard. A simple potato-based nettle soup is easy to cook. They were also used cooked and puréed in desserts (even syllabubs), beers, and wine, and there is a current revival of nettle cordials and syrups. Renewal of nettle interest is associated with times of economic hardship, an example being recipes in Ambrose Heath's *Kitchen Front Recipes and Hints* (1941), and there appears to be a current trend to eat them again. This could, however, be due to an increased popularity in foraging.

I use wilted nettles in place of spinach in egg-based dishes—quiches and frittatas. The leaves lend themselves to pesto. They are equally delicious either puréed or wilted, and mixed with root vegetables. The leaves can be steeped in cider vinegar to make nettle vinegar. Alternatively, they can be dried in a food dehydrator, and used for tea infusions, or, sprinkled into savory crumble toppings. The young leaves can be juiced and the juice frozen in ice cubes or other small containers, for adding to stews and soups.

POACHED EGGS AND NETTLE PURÉE

Serve this simple breakfast or supper dish with smoked salmon on special occasions.

Serves 4

WHAT TO FORAGE AND FIND:

- 1 recipe quantity Nettle Purée, see below
- 4 large eggs
- Finely grated sea lettuce (optional)
- 2 English muffins, cut in half and lightly toasted
- Butter for the muffins
- Finely ground sea lettuce or freshly ground black pepper

WHAT TO DO:

1. Make the nettle purée (see above).
2. Fill a skillet (frying pan) three-quarters full with water and bring to a boil.
3. Break an egg into a small bowl and turn the heat up so that the water in the pan boils vigorously. Drop the egg into the center of the pan, reduce the temperature, and simmer for 2–3 minutes, until the egg white and yolk are just set. Remove the poached egg with a slotted spoon, and repeat to cook all of the eggs. (I am happy to poach two eggs at a time, but no more.)
4. Lightly butter the muffins and put them onto four plates. Divide the nettle purée between the muffins, and put a poached egg on top of the nettle purée. Sprinkle a little finely ground sea lettuce (or ground pepper) on the egg yolk and serve immediately.

NETTLE PURÉE

Some recipes add milk to nettles to make the purée, but I find milk and nettles separate on reheating. Mixing blanched nettles with a thick white sauce gives the best results. I like adding the thick, vibrant green nettle purée to mashed potato or to quiches.

Serves 4

WHAT TO FORAGE AND FIND:

- 3 good handfuls (75g) nettle tips
- ¼ stick (25g) butter
- 3 tablespoons (25g) all-purpose (plain) flour
- 1¼ cups (300ml) milk
- Sea salt and freshly ground black pepper
- Freshly grated nutmeg

WHAT TO DO:

1. Blanch the nettles in salted water for 2 minutes, drain, then refresh in ice water. This will ensure the purée remains green.
2. Wring the water from the nettles with your hands (cooking takes away the sting) to remove as much water as you can. It is very important to get the nettles as dry as possible. You could spin them in a salad spinner.
3. Make a simple white sauce: melt the butter in a saucepan over low heat, and beat in the flour to make a roux. Slowly add the cold milk, whisking continuously until the sauce has thickened.
4. Season with salt and pepper, and add a large pinch of freshly grated nutmeg. Bring the sauce to a boil, and simmer for 5–6 minutes, stirring frequently.
5. Whiz the blanched nettles and sauce in a food processor until you have a thick, smooth purée. Return to the pan and heat through. Serve immediately.

For more information visit www.stirrinstuff.org

WILD NOTES

Add extra blanched nettles, milk, or cream to make a thinner nettle sauce (pouring consistency). Add hot nettle purée to 1¼ lb (600g) of warm, cooked, and well-drained potatoes for wild green mash.

PICTURE PERFECT

PART 2 - CAMERA CONTROL

In the last issue we looked at the main styles of camera available and the pros and cons to each of the categories. In this issue we are going to take a look at some camera controls and functions.

Many people are wary of the vast array of buttons and menu screens on modern cameras and tend to play it safe a lot of the time and hit the trusty auto button. It's true that there are a lot of buttons on modern cameras and like anything in life it will take time and practice to master all of them. It can be frustrating when the results do not match your expectations and whilst learning you can occasionally miss the perfect shot as you didn't have the camera set up properly. In the end with a little practice, it is very satisfying creating images exactly the way you envisaged, using the manual settings and some skill and knowledge to create your perfect picture.

I am going to focus on three types of camera, the DSLR, the compact camera and the mobile phone camera. The other two categories we also looked at in the last issue fall in-between these three categories, and if you own either a mirrorless DSLR or a bridge camera the following pages will also make sense as they have much of the same functionality.



by *Andy Childs*,
Photographer -
ClockworkCloud MEDIA

This topic is certainly an in depth area and it will be impossible to cover everything within this space, so I will focus on the basics. Not all cameras are the same, so follow your camera's user guide for exact settings and use this feature as an overall guide to help you.

DSLR & LENSES

MANUAL FOCUS & ZOOM

Some lenses offer a manual focus ring that is turned to obtain manual focus on your subject (usually this needs to be selected using a switch on the lens). If the lens is a zoom lens then spinning the zoom ring will zoom the subject in or out.

SHUTTER RELEASE

This is the main button for taking a picture. Using a gentle half push on the button will autofocus the lens (if autofocus is set) and a full depression of the button will take the picture.

WHITE BALANCE

White balance affects the colour cast of the overall image. The sensor is sensitive to different light sources and you will need to set the white balance to your current situation, for example, sun, shade, tungsten lighting etc. Auto can also be used but it is not always accurate.

TOP LCD

(Not on all DSLRs) gives essential information on settings.

SCROLL WHEEL(S)

Spinning the scroll wheel(s) will adjust your aperture/shutterspeed/ISO (+ other options) depending on what the mode dial is set to. This is sometimes a secondary button and another button also needs to be pressed and held whilst the dial is turned to make the selection changes.

VIEWFINDER

What you see is what you get in terms of what is viewable through the viewfinder. Zooming in or out and selecting what you want in the frame is simple and this is what will be viewable when you take the picture (some viewfinders only cover 95% of the end image, so you will gain a further 5% when the picture is taken).

MODE DIAL SETTINGS

The mode dial is one of the first things to consider. You will choose what you control and what the camera will control. The main options are aperture and shutter speed. To understand the importance of these please see the information at the top of page 39. Common options are as follows:

- **FULL MANUAL (M)** - You will take full control of both shutter speed and aperture priority, plus all other adjustable options.
- **APERTURE PRIORITY (AV)** - You will control the aperture and the camera will calculate the shutter speed. Also allows you to control the ISO.
- **SHUTTER PRIORITY (TV)** - You will control the shutter speed and the camera will calculate the aperture. Also allows you to control the ISO.
- **AUTO (GREEN SQUARE)** - The camera will calculate all settings.
- **BULB (B)** - This will force the shutter to stay open until you press the shutter again (usually needs a remote to achieve). Ideal for star trails that can require very long exposures.

LENS RELEASE

Pressed whilst twisting the lens to remove or change the lens. Be quick and efficient to prevent dust and dirt entering onto the exposed sensor!

PROGRAMME MODE (P)

This is similar to automatic as the camera will calculate both aperture and shutter speed but allows the flexibility to manually set the ISO (see ISO on p40).

THE MODE DIAL



(all cameras differ with button, menu layout and also mode names, so to achieve these actions specific to your camera, you will need to follow your camera's manual/guide)



Two main areas controlling the outcome of an image are aperture and shutter speed; these are important areas to decide on whilst setting up your controls.

APERTURE

Aperture controls the amount of light that enters through the lens and what light is available to the image sensor when the shutter is pressed. The aperture is selected either by spinning the control dial in aperture priority mode (or manual setting) or on some older lens the aperture is selected by spinning the aperture ring on the actual lens body (not a common option on modern lenses).

The important thing to understand about aperture is that it controls depth of field (the focal plane within an image that is sharp). The larger the aperture the smaller the number, for example, f2.8, f1.8, f1.4. A large/fast maximum aperture lens is very desirable and allows you to use your camera in lower light and the larger the aperture the more creamy and de-focused the background. Choosing a large aperture results in only a small plane of the image being in focus. This is perfect for taking portrait photographs or for shooting details within nature and this method will separate the background from the main subject, resulting in the focus of the shot being sharp and the background/foreground being blurred into de-focused areas. On the other hand choosing a small aperture (a large number, for example f18 or f22) will result in as much as possible within your image being sharp, this is perfect for landscape photography as you will require the whole image to be pin sharp. It is important to learn where to focus to maximise using a small aperture and to achieve the maximum depth of field, I would suggest searching online to get a basic understanding on this fairly complex area. You must remember that whatever aperture you decide to choose it will affect the shutter speed, sometimes making it slow (resulting in needing a tripod). This is a balancing act between the two and it will take time to judge the effects correctly.

SHUTTER SPEED

Shutter speed controls the length of time that the shutter curtain is left open and the duration that light is allowed to be exposed onto the sensor during each shot. Choosing a fast or slow shutter speed results in different effects and styles of an image and also plays an important part in an image being pin sharp or blurred.

Choosing a fast shutter speed will allow you to capture fast moving action and freeze the action as it happens, for example a bird of prey swooping for its catch. A slow shutter speed will result in a blurred image. Although this can destroy an image, if used correctly it can give an excellent effect. For example capturing flowing water with a slow shutter speed gives a sense of motion and capturing someone striking a flint at a slow shutter speed will result in a sense of movement to the image. Learning what effect a shutter speed has on an image is down to trial and error and can take a lot of practice. Once mastered, it can open a whole new style to your photography, although bear in mind using a slow shutter speed will require a tripod.

Shutter speeds will also have a major effect on aperture, choosing a large aperture will create a fast shutter speed and a small aperture will create a slow(er) shutter speed. If the shutter speed is too slow then the image will result in camera shake, this means the shutter speed is too slow for the person to hold the camera without the slight movement of the hand being transferred to the image. The longer the lens used, the faster minimum shutter speed required to eliminate camera shake.

A fast shutter speed will freeze water and make it sharp and a slower shutter speed will create a creamy look to water.

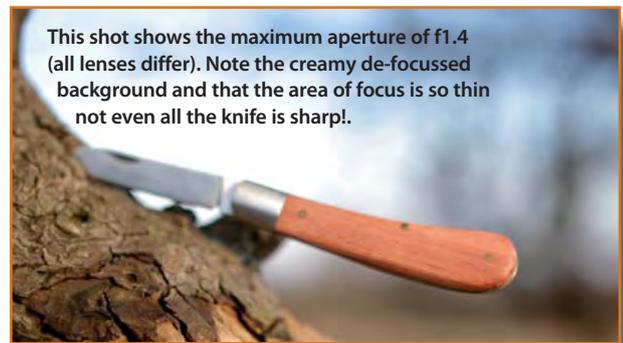


FAST shutter speed

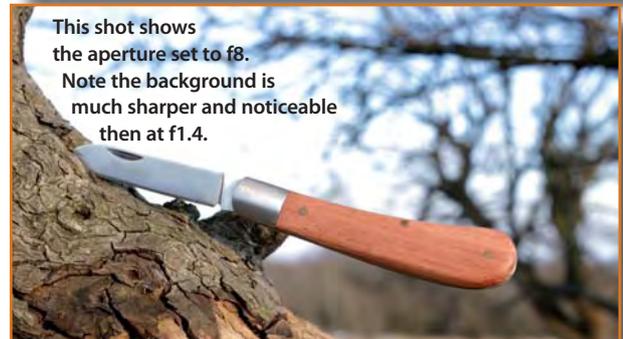


SLOW shutter speed

TOP TIP
Don't be afraid to experiment. In the day of digital, it costs nothing to experiment. So what do you have to lose!



This shot shows the maximum aperture of f1.4 (all lenses differ). Note the creamy de-focused background and that the area of focus is so thin not even all the knife is sharp!.



This shot shows the aperture set to f8. Note the background is much sharper and noticeable than at f1.4.



This shot shows the aperture set to f16. Note the background is starting to get much sharper.



This shot shows a fast shutter speed of 1/1600 sec. This will freeze fast movement, note even the striking hand and steel are sharp and frozen and the sparks are short and sharp.



This shot shows a slow shutter speed of 1/30 sec. This will result in movement in the picture, note the hand and steel are blurred and the sparks are captured more dramatically. Which looks best? You decide.

LIVE VIEW

On some occasions live view is a better option than composing the image through the viewfinder (shooting at an awkward angle for instance).

MENU BUTTON

used to open the menu screen within the camera so the user can make adjustments.

INFO

brings up detailed information on an existing saved image. For example shutter speed, aperture & ISO.

PLAY

This will take you to the playback menu and will display your previously captured images.

DELETE

This will allow you to delete any images that you decide that you do not want to keep (you must be in the playback menu for this to work).

REAR LCD SCREEN

Provides essential information on settings. Can be used as a live viewfinder and allows you to view existing images captured.

HOT SHOE MOUNT

Used to attach an external flash.

POP-UP FLASH

(Not on all DSLR's) A simple pop-up flash used to light low light situations.

AF SELECTION

Allows you to select different autofocus options and also a self timer.

ZOOM IN/OUT

This allows the option to zoom in and out on an existing image captured on the playback screen, allowing the user to check image sharpness and quality.

FOCUS POINT SELECTION

See toggle stick.

AUTOFOCUS

Activates the autofocus.

FOCUS LOCK

Locks the focus.

ISO

ISO controls the sensitivity of the sensor, the higher the ISO the more sensitive it is to light, this will offer a faster shutter speed in low light situations without adjusting the aperture. This is useful if you have a specific setting dialed in and require a faster shutter speed and do not want to change your aperture. Also if there is little light and you don't want to use a flash you can increase the ISO. There is a drawback, the higher you set the ISO the more digital noise that will occur (this is seen as grain and small dots within the picture and affects picture quality). Like many areas within photography it is a matter of balancing settings to achieve a good result.

TOGGLE STICK

Used to select your focus point. This is done by pressing the focus point selection button and then using the toggle stick to move around and select the desired focus point.

CONTROL DIAL

Used to make selections within the menu once the menu screen has been selected.

SET BUTTON

Once you have made a menu selection, pressing set will confirm your choice.

TRIPOD MOUNT

Used to add a tripod to the camera for support.

ON/OFF SWITCH

Switches the camera on and off.

BATTERY DOOR/HOUSING

The camera's battery is located behind this door.

PORTS

Located behind a rubber door(s), a variety of ports are available. The most important being a USB port allowing the connection of the cable to download images to a computer.

MEMORY CARD DOOR

The camera's memory card is located behind this door.

IN CAMERA MENUS

The in-camera menu system can be rather detailed. Let's look at some of the essentials for most digital cameras.

IMAGE QUALITY

This allows you to select different kinds of image quality and file formats. The better the quality selected then the fewer images can be stored on a card. With new memory cards being such high capacity and good value, I would recommend using the highest setting available to maximise image quality.

FILE FORMATS

JPG - (different levels of quality can be saved within this option alone - I suggest the highest) A great file format for general photography, the camera will compress the file for maximum space but keep very good image quality (if set to high).

TIFF - very high quality (no compression when saved) files can be very large for the non professional photographer to use.

RAW - Almost like a digital negative, you will gain maximum flexibility in adjusting the file on the computer whilst losing no quality. A great file format. It can require time and knowledge to produce a good end result.

PROTECT IMAGES

Lets you lock specific chosen images to protect them from accidental deletion. This does not always protect from the format option (see below).

FORMAT

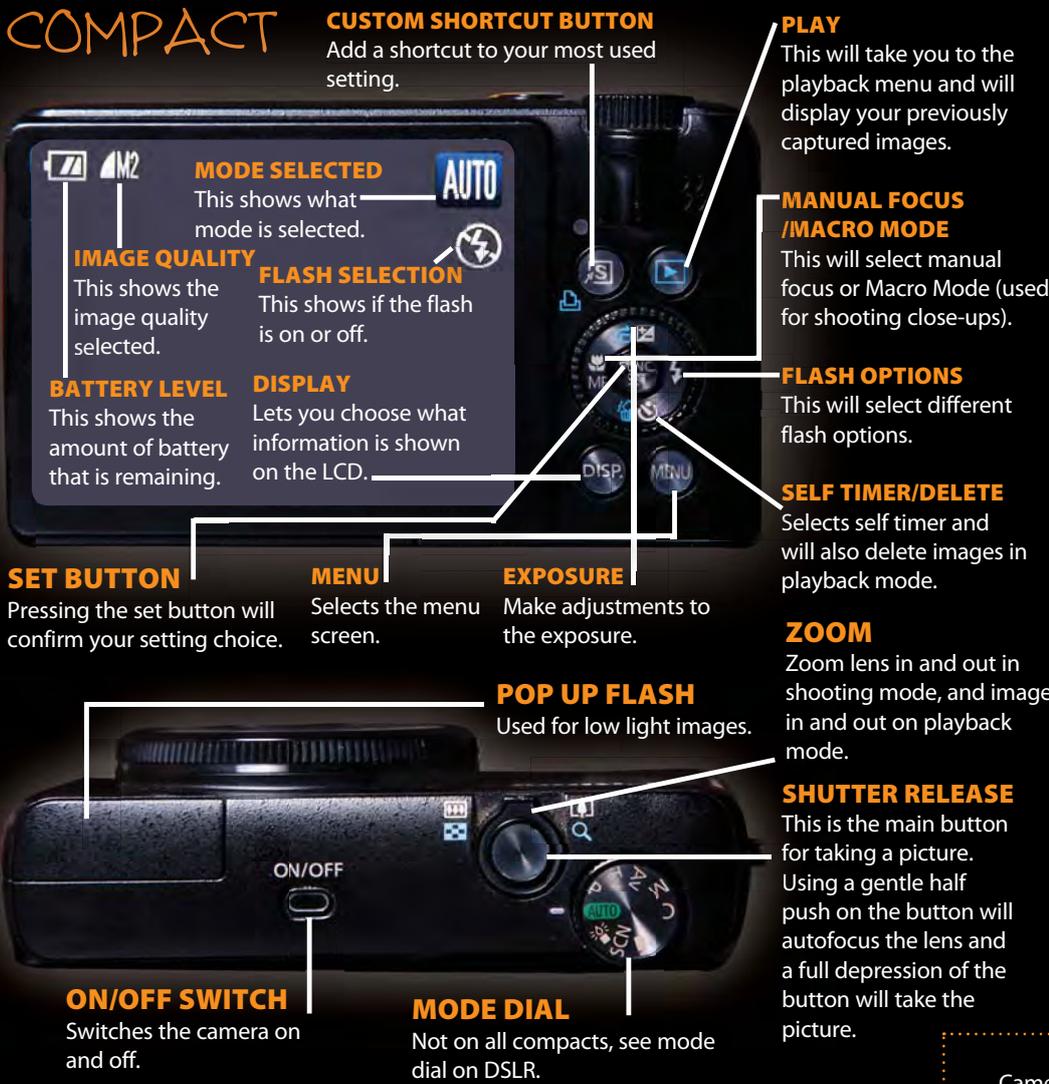
This is used to delete all files and information from your memory card. This is an essential option, but one that needs to be used with caution. Once you format a memory card it is very difficult and usually impossible to retrieve your files.

CUSTOM SETTINGS (usually DSLR only)

Once you have mastered the basics of camera control, you may find you have a favourite set of controls that are perfect for your particular style. In this case, you can save the settings to be a custom profile. Once set up, this is selected from the mode dial and your favourite settings will be automatically available.



COMPACT



CUSTOM SHORTCUT BUTTON
Add a shortcut to your most used setting.

MODE SELECTED
This shows what mode is selected.

IMAGE QUALITY
This shows the image quality selected.

BATTERY LEVEL
This shows the amount of battery that is remaining.

FLASH SELECTION
This shows if the flash is on or off.

DISPLAY
Lets you choose what information is shown on the LCD.

PLAY
This will take you to the playback menu and will display your previously captured images.

MANUAL FOCUS /MACRO MODE
This will select manual focus or Macro Mode (used for shooting close-ups).

FLASH OPTIONS
This will select different flash options.

SELF TIMER/DELETE
Selects self timer and will also delete images in playback mode.

SET BUTTON
Pressing the set button will confirm your setting choice.

MENU
Selects the menu screen.

EXPOSURE
Make adjustments to the exposure.

POP UP FLASH
Used for low light images.

ZOOM
Zoom lens in and out in shooting mode, and image in and out on playback mode.

SHUTTER RELEASE
This is the main button for taking a picture. Using a gentle half push on the button will autofocus the lens and a full depression of the button will take the picture.

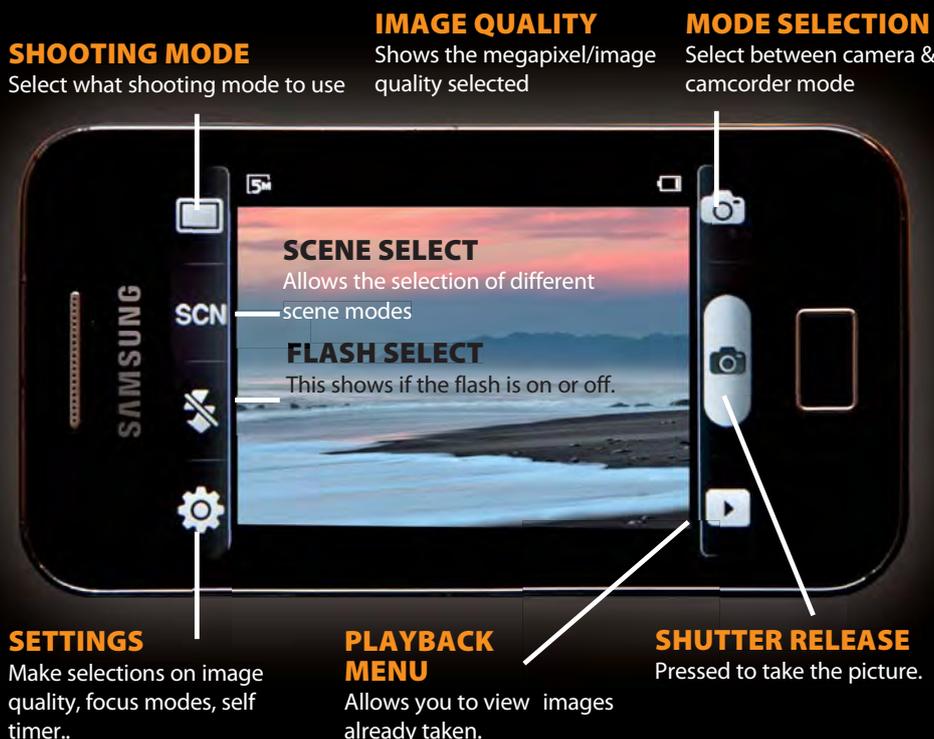
ON/OFF SWITCH
Switches the camera on and off.

MODE DIAL
Not on all compacts, see mode dial on DSLR.

Areas covered for the DSLR will also correlate with the modern compact. Favoured to be used in automatic mode (selected from the mode dial or in-camera menu) this is used as a simple point and shoot camera. Scene selection is also a great way to capture shots without having to learn the exact settings as you merely select them from the mode dial or in-camera menu, (this feature is also available as an option on some DSLRs). There are options preset for many photo scenarios such as landscape, portrait, night, snow, fireworks, mountains etc. and simply selecting the one closest to what you are shooting allows the camera to make the best adjustments for the perfect shot.

Some high-end (pictured left) compact cameras also offer a lot of user flexibility. This camera has a mode dial that allows you to select shutter priority, aperture priority, full manual priority and ISO (these will all work the same as described for the DSLR).

CAMERA PHONE



SHOOTING MODE
Select what shooting mode to use

IMAGE QUALITY
Shows the megapixel/image quality selected

MODE SELECTION
Select between camera & camcorder mode

SCN
Allows the selection of different scene modes

FLASH SELECT
This shows if the flash is on or off.

SETTINGS
Make selections on image quality, focus modes, self timer..

PLAYBACK MENU
Allows you to view images already taken.

SHUTTER RELEASE
Pressed to take the picture.

Camera phones are designed to be very easy to use. With minimal external buttons most of the controls (if not all) are controlled from the touch screen. The touch-screen is also a trend that is becoming popular on many compact cameras and also some DSLRs. Most will allow you to control the image quality. Also you will find a flash control button to allow you the option to turn the flash (sometimes a very bright white LED rather than an actual flash) on or off. Shooting mode will allow you to shoot a single shot, smile shot (will automatically fire when the person smiles), continuous (will shoot a series of consecutive shots to capture the action) and sometimes panorama (for shooting a long series of images combined into one image). Also as mentioned above in the compact section, you should have the option to choose a scene mode so the camera will adjust settings for the selected scene type. Some advanced camera phones may let you select manual settings but this will not be a common option. Easy and simple is the idea of these built in cameras.

You might find inspiration to further your personal photography skills by viewing some more of my work at www.clockworkcloud.com

MAKING YOUR OWN KUKSA CUP

In this issue's project we are going to remain with the same species that we used in the last issue, Silver Birch, *Betula pendula*, in order to make a traditional Kuksa drinking cup.

It has to be in the heart of every person interested in bushcraft to want to produce a Kuksa cup! It brings together history, tradition, a way of life; you have sustainability, the use of natural materials for something practical - a real connection to our environment. It also brings into play a large number of practical skills; including material selection, various edged tool use, and the application of some of the more advanced knife grips, which Ben Orford covered very nicely in issue 42. What a wonderful way to start Summer with your very own Birch Cup.



It is widely known that the Kuksa is a traditional wooden cup usually carved from a birch burl by the Sami people of Lapland. The language of the area is complex so the term Kuksa is the Finnish term used to refer to the vessel. In Southern Sweden it can be referred to as a Kasa, and in the Northern Sami language it is also referred to as a Guksi. In the environment in which the Sami live, traditionally all tools and equipment would have to come from natural resources such as reindeer skin, antler, bone, roots and birch.

To begin the project you will first need to select an appropriate piece of Birch. Trying to source a birch burl to carve can be challenging but it is possible to carve a cup out of just a section of the trunk of the tree and so we are going to approach it from this perspective.

AUTHOR PROFILE:

Jason Ingamells

Jason Ingamells needs little introduction, renowned as one of the UK's leading authorities on bushcraft skills and owner of Woodland Ways. He takes pride in teaching to the highest standards on courses at home, abroad and mentoring his staff. Jason writes on the subject in books and magazines and is a highly skilled woodsman and overseas adventurer. His skills have been gleaned through extensive personal applied experience, practicing and developing these skills in real circumstances.



I have selected this piece of birch as there is a slight curve off to the right hand side sloping down. It is also only freshly down as I prefer to work with green material. The grain in this bend lends itself to having a slightly raised and dropping handle to the cup. Looking end on you can see that the pith is off centre leaving more than enough material for me to work with (on the left side of the photo) on the correct side of the sloping grain. (Fig A,B,C)

I have drawn on the timber here to show you what I want to keep and what I want to remove, the shaded-in section is going to be removed first. Now through these articles, it's quite well known now that I much prefer a smaller knife as my all round bushcraft knife, as in my view I can do more with it. This does present drawbacks with splitting large material however. As my knife is small I need to pay close attention to splitting this so that my knife does not get stuck inside as I will have nothing left of the tip to baton with. I suppose I should also say to make sure your knife is suitable for batoning! Lining my knife along the dotted line, this split will go straight through the first year's growth, or the pith, the weakest point of the wood. Using my knife and a baton it is one small tap to seat the knife and then one heavy knock to split it through this first year's growth. You can



see here that the split has mirrored the curve in the grain that I was hoping to use to my advantage on the handle. So far so good! (Fig D)



As always I then draw on the initial idea of what it is that I want to produce. Usually I would do this with a piece of charcoal or a pencil. In order to highlight it more in the photos I have used a thick black felt pen. This gives me something to focus on for removing excess material. It is surprising how you often forget the shape of a cup if you remove material without these guidelines. The wood should direct you in the design of the cup, my plan for this Kuksa is to have a slight curve to the handle to make it more comfortable in a right handed grip. (Fig E)



THE SCIENCE BIT!

In the three photos here you can see that I am pointing to a dark line through the central section of the timber, this is the pith that I have referred to earlier. This is where the tree has put on a huge amount of initial growth in order to win the race to reach the light first. From a carver's perspective you want to ensure that you carve below this line as this is the weakest point of the timber, and is the place where there is the highest chance of splits occurring out from. This is because the wood rays (the thin walled cells that carry nutrients and water across rather than along the stem) break down quicker in the dead wood as they have less lignin than the xylem cells. Take a look at the photo here (Fig H of a different piece of wood). You can see here what is termed as radial splits. It is called this as the splits radiate out from the central point, along the rays. As a point of interest do you notice that at all times the splits cross over the growth rings at 90 degrees! However splits can occur both along the growth rings as well as across them so looking after your timber is important (more below). (Fig F,G,H)

Once again I have drawn on the shape of my intended cup to show me where to remove material from. You should always use the

timber efficiently and so if you get areas where side stems have been then avoid them if possible, although if worked well they can be incorporated to make nice features. It is then a case of starting to remove excess material. (Fig I, J)

The easiest, safest and quickest way to remove the bulk of the excess unwanted material is to utilise the saw and a knife by using stop cuts. So where the neck of the cup joins the handle I have sawn in at an angle and then with a baton tapped the knife into the wood to remove the block. Note it is always a good idea to position your knife just inside the stop cut rather than exactly in line with it in order to ensure your split meets up with the cut. There's nothing worse than batoning half of your cup away if the split bypasses the stop cut! Repeat this on both sides and the rear, ensuring your stop cut across the rear lines up level. (Fig K, L, M, N overleaf)

I now begin to rough out the shape with my knife, ensuring the top of the cup goes down below the pith as shown in the photo. I do not wish to go into knife grips here and repeat previous articles but you can see I am using what I call the gypsy knee (or gypsy grasp in Ben's article). With this grip I can remove



large amounts of material in a controlled and safe manner. I can also use the thumb grasp by reversing the blade towards myself and slicing up the bowl so that the knife does not dig into the grain of the wood. Note at all times I am cutting away from any danger areas, on the outside of my leg.

Fig K



Using a crooked knife I then begin to carve out the majority of the bowl. I always say to my clients that at all times the cutting edge should be in front of any parts of the body, that way you cannot cut yourself, and this is never more true than with a crook knife! Start your cut with a sweeping circular motion to begin with and then when your cut is established cut ACROSS the grain, not with it. This will present its own challenges but means you will not dig in or rip the material.



Fig L



As I am working with green wood I have left quite a thick wall around it to begin with, this is important! (Fig O) If I try and finish the cup too quickly there is an increased chance of it splitting, so once I have reached this stage I tend to finish work for a couple of weeks, and in a controlled way begin to dry the wood out. This is best done if you wrap a damp cloth around it and place it in a garage or shed, somewhere where there is no heating. Another method I have used in the past was recommended to me by an old friend and mentor who was really into his woodworking and that was to place it in an open paper bag to dry it slowly.



Fig M



After a couple of weeks, return to the project and it should have dried out nice and slowly and be ready for the finishing touches. Using a variety of grips, work your way around the material and not across it or into it with finer knife cuts. The reinforced thumb grip is used here a lot around the curves. Finish shaping with the crook knife before a final sanding. (Fig P, Q, R, S)

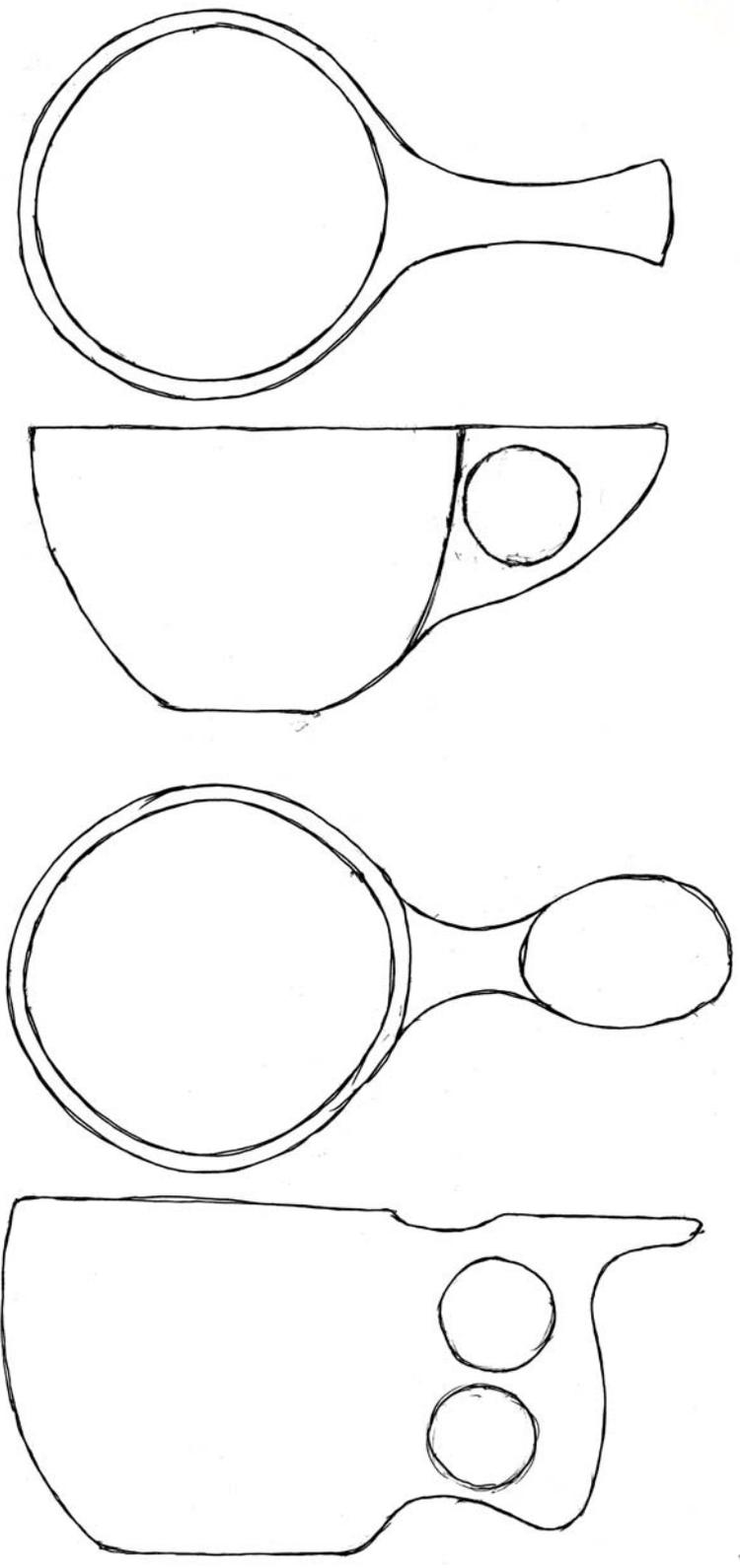


Fig N



a bit of leather, and once you had your cup that was it, it was a cup for life! What better conversation piece around the fire than to be drinking warming gorse tea out of a cup you have made yourself, or even better give it to someone you love, as there is no finer gift than one you have made. (Fig T)

For a downloadable template plus a range of other Kuksa designs visit www.bushcraftmagazine.com



SWAG BAGS



AUTHOR PROFILE:

Grant Neale

Rhodesian born and bred, Grant now lives and works in the UK, he has served as a British police officer with over eighteen years experience, twelve of which as a police firearms officer, included being a national rifle officer (sniper) and working at Buckingham Palace as Royalty close protection. A lifetime of outdoor living and survival experiences qualify his attention to detail when evaluating kit, helping you to make an informed decision.



My earliest recollection of swag as a word came from being taught the fabled Australian bush ballad, 'Waltzing Matilda'. The lyrics and tune are memorable in part, especially the part that goes: - 'Waltzing Matilda, waltzing Matilda. You'll come a-waltzing Matilda, with me'

To 'waltz Matilda', is defined as travelling with all one's belongings on one's back wrapped in a blanket or cloth as a bedroll, which is termed as a 'swag'.

Debate about why a swag is called 'Matilda' has many suggestions, the one I prefer is that as a swagman's only companion, the swag came to be personified as a woman. The swagman historically was a traveller going from place to place looking for work hence the 'waltz', derived from the German term 'auf der waltz', which means to travel while working.

The concept of the swag bedroll has evolved from simple personal belongings that were wrapped in an old coat, blanket or canvas sheet, to hardwearing canvas bivi-bags with or without inbuilt mattresses, insect nets and hoops. Canvas is the fabric of choice for most, if not all swag bags because by design it's made of tight woven cotton whose fibres swell with water, thus sealing them against any further penetration hence being waterproof. The canvas generally used is ripstop and another great quality is that sparks and embers don't destroy it unlike more traditional gore-tex or synthetic bivi-bags. The canvas used is also generally treated so being able to withstand rot and easily outlast synthetic products in longevity and effectiveness for the user. The Australian Swag is similar to the US Cavalry bags in their concept but designed with foot carriage in mind as the medium of travel. Charities in Australia kindly provide simple swags for homeless people (www.swags.org.au, www.streetswags.org)

Recently I have noticed here in the UK, an increased interest and advertising on bushcraft and touring bike forums, about the 'Aussie

swag bag' as an alternative to the more traditional tent camping. You-tube even has videos promoting swag bags and their ease of set up and convenience. So we thought that we would share with our readers some of the styles and designs.



OUTBACK SURVIVAL

XL Dome Canvas Aussie Swag Bag (Double)

Available from: www.militarymart.co.uk

Price: £189.99 (RRP - £229.99)



Weight	7.2kg
Dimensions	Rolled up: 125 cm x 40 cm Ø Set up: Length=210cm ,Width=125cm (4ft) Height = 80cm (hooped head), Foot end pole = 50cm high
Material	14oz rot-proofed RipStop cotton canvas. PVC waterproof base
Mattress	5cm super comfy foam mattress, removable / washable cover
Poles/hoops	4 fibre glass poles (2 fitted with metal collars for joining) stored in mesh sleeve at head end.
Pegs	4
Carry bag	Large/long synthetic duffle carry bag with drawstring fastening
Insect net	Mosquito net, fully zipped top opening and sealed head end mesh panel.
Ground fastening	Top and Bottom guy ropes with sliders, 2 nylon base loops at foot end for pegs
Additional Features	Quick release buckles on secured nylon straps for securing it when rolled up. Nylon carry handle. 3 internal mesh pockets.

The XL canvas dome Swag from Outback Survival features a hooped head, constructed using poles secured into pockets at each base corner, with a protective top flap under which, secured by velcro is the fold-over top sheet which is fully zipped on both sides. It has a triangular shaped base which eliminates sagging & also increases height at the base.

Review comments:

My first observation with this Swag was its large size, both when rolled up and set up. The mattress adds considerably to its bulk and as it's a 'double' it is also very wide. I will first deal with the 'double' claim, it is really just a wider single, I tried it with my wife and I but couldn't even get in properly. I then tried to test it with my two sons aged 14 & 11 and again there wasn't sufficient room with bedding to move or be comfortable. So it's really a luxury single!



Set up is simple where it's easy to just unroll, stick the poles together, push them through the tunnel and into the pouches, then secure with velcro tabs to make its dome shape. The head guy-rope is attached to a protective hood over a mesh screen. The foot guy isn't a great design feature where a pole fits precariously in a slit pouch in the base and under a nylon tab that is pulled taught by the guy rope/peg tension. It does have a triangular design to it so it works and the base has loops to peg down to give good foot clearance. The manufacturer boasts that it 'can be set up in under a minute', I found this to be an unrealistic claim, it took longer than that trying to shake it out of its plasticky carry/duffle bag. Overall it's about a five minute set up once it's out. The whole thing is made from RipStop canvas which is good quality, strong and well stitched and has well sewn seams. The top sheet is zipped on both sides allowing a large entry port for organising bedding and getting in/out. To secure the top flap there is an additional centre velcro fixing under a canvas strip that follows the hoop to ensure protection from the elements. Beneath this is another fully zipped mosquito net with 2 way zips. Once in the swag there is plenty of room and it's easy to secure from the inside. The

mattress is really comfy and wide enough to spread out on and as there is 80cm head clearance, feels roomy. The mesh panel at the head is semicircular 95cm diameter x 35 cm radius and apart from the protruding hood (thanks to the guy rope) that covers it there is no other way of blocking it from the elements. I found the wind seemed to blow through with an annoying cold draught. It does have a window through which to see and avoid feeling like you're in a coffin.

As I am 6'6" tall I did find my feet were right at the bottom touching canvas which even through a sleeping bag felt cold. I like the roominess of this swag but for its size, width and bulk even with the mattress taken into consideration, its just not practical as it will easily take up a car boot or back seat and although it's only 7.2 kg it is bulky to carry. Even with the mattress removed it compresses down to about half the diameter but is still cumbersome and a one man tent would be a better option. My other concern about its full canvas construction including the base is weight increase due to water/rain retention. The water retention is part of the features that makes canvas fibres swell and therefore waterproof but the added weight/bulk in this one isn't a good thing. A PVC base like the others would have been better.

As far as offering protection from the elements, this is adequate, however the top flap, although zipped up on each side is poorly fitted and persistent heavy rain may easily defeat this

feature and enter the chamber.

I really like the mesh pockets at the head end on the top panel as I could put my phone and torch plus snacks there and find them in the dark easily.

Overall, I was disappointed in this swag and although I loved the fact it has an all canvas construction, its bulkiness makes it both a nightmare to carry and stow.

Review Test Rating

Value 3/5

Quality 4/5

Ease of carriage/stowage 1/5

Ease of set up/take down 3/5

Weather protection 3/5

Insect protection 5/5

Comfort to sleep in 5/5

Overall 3/5

'A roomy all-canvas swag bag, more like a tent really'

COOLABAH SWAG

(XL,XL Single, 3 hoop model)

Available from: - www.theaussieshop.co.uk

Price: - Ranging from £329 - £394 + £15 P&P

Weight	9.12 kg
Dimensions	Rolled up: 90cm x 35cm Ø Set up: (X-long / X-large) Length = 245 cm, Height = 80 cm, Width = 110 cm (Dimensions for an ordinary single: 2150mm(L) X 800mm(H)860mm(W))
Material	15oz. ripstop canvas, waterproofed and rot-proofed. PVC waterproof base, heavy duty zips
Mattress	75mm convoluted high density mattress, fully removable cover
Poles/hoops	3 sets of poles with shock-cord that form the hoop
Pegs	6
Carry bag	None, Optional extra to buy @£40
Insect net	Sand fly mesh
Ground fastening	2 Guy ropes/pegs, 6 base pegs optional
Additional features	Colour:-The Coolabah single is available in either Forest Green or Red Rock. 3 Inside mesh pockets. Available in Canvas or PVC Base 4 eyelets on top flap to allow for any tie up Adjustable shoulder strap Side and Top floor PVC foot mats Peg bag



The interior has a removable 75mm convoluted high density mattress with fully removable cover. This is really comfortable and although it can be removed and replaced with a good thermarest to make the roll up more compact, I found that given enough weight and effort the supplied mattress can be compressed well enough to roll away, and is just as, if not more comfy. The cabin itself is really roomy and at the top is a small airflow mesh vent that unlike the 'Outback Survival' didn't feel like a gale was blowing in. I also liked the option of opening up the top panel

The Coolabah swag is a super deluxe dome swag with both a front and head/top entry. This is made from heavy duty canvas which is waterproof with additional insect protection features. The dome effect is achieved using three easy to assemble sturdy aluminium support poles, at the head, middle and foot. This swag is extremely versatile and great for camping/ touring. Also available in single & double versions.

Review comments:

I was fortunate to be given the extra long / extra large version of the Coolabah to review and will start off by saying I loved it and have awarded it 'best in test'. From the moment I read about it prior to receiving it, I was impressed with the design and additional considerate features such as feet mats, inside pockets and an adjustable shoulder strap.

When I got it I noticed that it was quite large (bearing in mind that it is the XL, XL model) but manageable to carry thanks to the shoulder strap. The swag unrolls by releasing the two quick release catches on the nylon attached straps. The poles are already in their respective tunnels at the head, middle and foot. They just slot together easily and have shock cords preventing loss of sections, slot them through the canvas tunnel and onto the pins on the sides, secure the clips on the sides and voilà. The guys at the head and feet have sliders and when taut and pegged you have a perfect little dome swag.

The Coolabah reviewed had a canvas upper and a really good strong yet flexible PVC base, but it is also available in an all canvas model. This swag has two entry/exit ports, one on the top/head panel and another on the front or upper panel. The front panel has heavy duty zips on both sides and like the Outback Survival, the top-panel slips under a canopy and is fastened in the centre with an ample velcro strip. The top/head panel is fastened with side velcro strips that hold in a foot mat, this panel can be rolled up and again fastened by velcro. Under the front or upper canvas sheet is a fly mesh panel that has two 2-way zips. There is also a zipped fly mesh panel at the top/head entry.

to likewise give a window but also enable it to be closed to keep out the elements. Inside this swag there is room to roll over and even put your knees up if desired. The pockets are on a vertical panel and are made of mesh with elasticated opening. I like the convenience of this and my iPhone glow from within the pockets provided sufficient light for the cabin.

Although it is possible to get in or out through the top/head end, I found this impractical given my size and the guy rope garroted me as I tried, but in a storm it'll be my best option to stop the cabin getting drenched. The front or upper panel can be opened on only one side and that in itself allowed me sufficient entry/exit and I love the foot mats, which are a great feature enabling me to stand on it to get my shoes out of my drybag without getting dirt etc stuck to my feet/socks.

Overall this swag was a real winner, the front panel secured under the hood better than it did in the Outback Survival and would provide better protection in persistent heavy rain. It is easy to assemble and put away and isn't claustrophobic in the cabin plus there was no condensation thanks to the airflow vent and character of canvas generally. It may be pricey but it is value for money for the serious user who will use it more than once a year and wants protection without compromising comfort.

Review Test Rating

Value 4/5

Quality 5/5

Ease of carriage/stowage 4/5

Ease of set up/take down 5/5

Weather protection 5/5

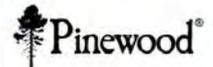
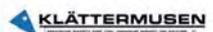
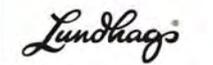
Insect protection 5/5

Comfort to sleep in 5/5

Overall 5/5

'The Coolabah doesn't compromise on comfort or protection'





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WYNNCHESTER SWAG BEDROLL

Available from: - www.wynnchester.co.uk

Price: - £230 + £14.99 P&P

Weight	5.1 kg
Dimensions	Rolled up: 60 cm x 25cm Ø Length = 220 cm (7ft) width= 90 cm (3 feet) Height with hood = 55 cm
Material	18oz. Waterproof, Rot-proof, 100% Cotton Canvas PVC waterproof base(300gsm green khaki)
Mattress	None supplied
Poles/hoops	None supplied but hoop tunnels sewn in. For an extra £32 one can purchase 2 x pre-curved lightweight aluminium, shock-corded poles with fittings to make the hoops
Pegs	None supplied
Carry bag	Leather Bedroll Straps are an extra £39 (english oak-tanned top-stitched leather with brass rivets and roller-buckles)
Mosquito net	None supplied
Ground fastening	None required
Additional features	Colours: Sand Khaki or Green Khaki Canvas Can be rolled up either canvas or PVC side-out



restricted movement in the bag and was tight on my shoulders because by using the hoops the base was also lifted up leaving just over 2' of floor space to fit in.

I cannot find any fault in its construction and it also has a nostalgic feel and look to it, especially when rolled up and secured with the two, almost designer top-stitched leather straps with brass rivets and roller-buckles with top stitched leather carry handle joining them. Even though it is the smallest pack and lightest swag reviewed, its weight/bulk would exclude it for lightweight backpackers use, but for the modern 'car camper' it would be ideal.

This swag bedroll is part of the "Wild Canvas" range, Its design is based on many years of tent-less camping experience in different types of bedrolls, bivi-bags and Australian swags. The simplicity of its design enables it to avoid unnecessary features such as velcro, guy ropes and complicated patterns. This bedroll packs extremely flat and it can be used either as a simple canvas bedroll in good weather, or simply by inserting two aluminium poles it is erected to form a full dome-shelter.

Review comments:

The 'Wynnchester' is what most people would imagine a traditional swag would resemble in appearance. Its simplicity does not detract from its effectiveness to protect the user from the elements. Also impressive is the fact that the canvas used in its construction is the same as that used by 'Land Rover' for its soft top models. I know from personal experience by owning a soft top lightweight air-portable Land Rover that this canvas is extremely hard wearing, rot-proof and waterproof.

The 7' length is adequate as is the 3' width for settling into with your sleeping bag but there is no top/head end closure for complete protection from either the elements or bugs. The base is made of tough PVC with a stitched on canvas slip at the top end which is again a considerate feature allowing insertion of a roll mat and creation of a pillow by stuffing it with clothes etc.

There are full length heavy duty zips (with inner and outer pulls) on each side of the swag joining the PVC base to the canvas. The foot end of the PVC is stitched on to the canvas. There are canvas flaps that protrude to give weather protection when zipped up. The stitching all over is very substantial and done to last. The fact that the roll-mat/mattress inserted in the slip can be prevented from what in my experience is 'nocturnal escape' pleases me. The simplicity of having no need for guy ropes and pegs is a good feature for ease of setting up camp in any location. The option of getting and using the aluminium hoops to create a dome at the top is a good idea and simple to set up, but in practice I found it

Overall I really liked this bedroll and having spoken to its maker and sensed the passion for his product and perceived the experience and thought that has gone into its design I would say the Wynnchester is extremely functional and practical and will probably outlast its owner. The downside is the lack of protection from insects and the elements at the head end!



Review Test Rating

- Value 3/5
- Quality 5/5
- Ease of carriage/stowage 5/5
- Ease of set up/take down 5/5
- Weather protection 3/5
- Insect protection 2/5
- Comfort to sleep in 3/5
- Overall 4/5

'A traditional swag design of great quality, that will easily last for years'



Win

**Outback Survival
XL, XL Dome Canvas
Swag Bag
Worth £189.99**

Send in your details
See T&C's P3



Conclusion

This review has enabled me to show to you the Aussie swag bag, which although it has been around for years and is well known by name, isn't spoken of a lot in the UK. It is now becoming established over here and I believe it is a serious rival to users of the traditional tent or bivi.

My thanks go out to the companies who kindly provided the swags to be reviewed. All three were obviously similar in concept but there were some interesting differences and designs. I like the fact canvas is being used as the chosen material for swags. I like the look, feel and characteristics of canvas that make it the ideal camp material.

My review comments reflect my opinions and experiences, but with each of the bags, I believe I have tried also to include the considerations of

bushcrafters generally in my appraisal and comments.

I am really impressed with the Coolabah and look forward to many happy and weather proofed camping experiences with this swag, after all it is my 'best in test' winner. Check out the other swags in the Aussie Shop range.

I liked the nostalgic design of the Wynnchester bed roll and know it will do its job really well and the user will look good whilst doing out and about.

The Outback Survival is well made and has a place in the camping market, I just didn't think its bulk or size would appeal to many bushcrafters or lighter weight campers.

I would encourage people to rediscover canvas as an option as opposed to all the fancy techno fabrics that easily melt near a camp-fire or get holes in from a random spark or sharp thorn. They do have their place though :)



A BIRCH BARK TRAY



A rectangle of bark folded in a few places and held in shape with a couple of pegs is all that's involved in making these handy little trays.

I always prefer to use bark stripped from fresh logs for these kinds of crafts; the bark is much more durable and flexible. I personally harvest my bark in the summer months from naturally fallen trees or timber left by forestry operations. You may need to inspect several logs before finding suitable bark as the quality does vary.



Collapsible Birch Bark Tray

AUTHOR PROFILE:

Jon Ridegon



Jon Ridegon is chief instructor and owner of Jon's Bushcraft. Jon feels that nature has taught him the skills and wisdom that is so precious to his heart and finds that learning bushcraft is surely one of the ultimate ways to learn about oneself and surroundings. With a BA in Fine Art, Jon takes woodland crafts into a new dimension from an exquisite birch bark container to building a Canadian canoe; every bit of detail is carefully crafted.

Just out of interest, it is a myth that stripping the outer bark from a living Birch tree will kill it. As long as the inner bark is not damaged the tree will continue to live. The Birch will actually re-grow its outer bark over the course of a few years. Although stripping bark in this way is possible and commonly practiced in more Northern countries; it would most certainly be viewed as vandalism here in the UK.



The template

1. Start by cleaning up the outside surface of the bark, removing any loose material. Pulling your thumb over the bark side-ways works well.



2. Now cut the bark into a neat rectangle.



3. Carefully score the folding lines onto the bark as represented by the diagram. I used a bradawl for this job.



4. Fold the corners up.



5. Make four small slotted holes ready to receive the pegs which will hold the folds securely in shape.



6. Cut two sticks to length and shave them down thin. If they are a bit flexible that will help with the fitting.



The finished result top left





THE BUSHCRAFT SHOW

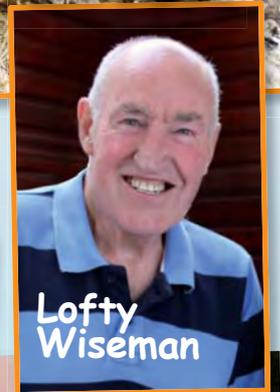
Here is just some of what's on...

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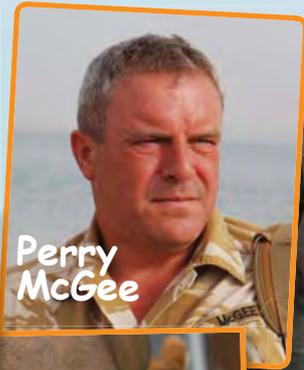
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- Legend of British canoeing RAY GOODWIN
- Rick Minter talks about Britains Big Cats



Mykel Hawke & Ruth England



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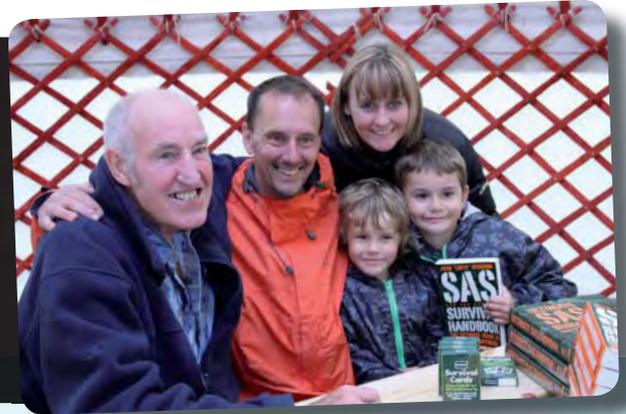


Ray Goodwin
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INTO THE WILD

(A True Story)

Price: £8.99

Author: Jon Krakauer

Publisher: Pan

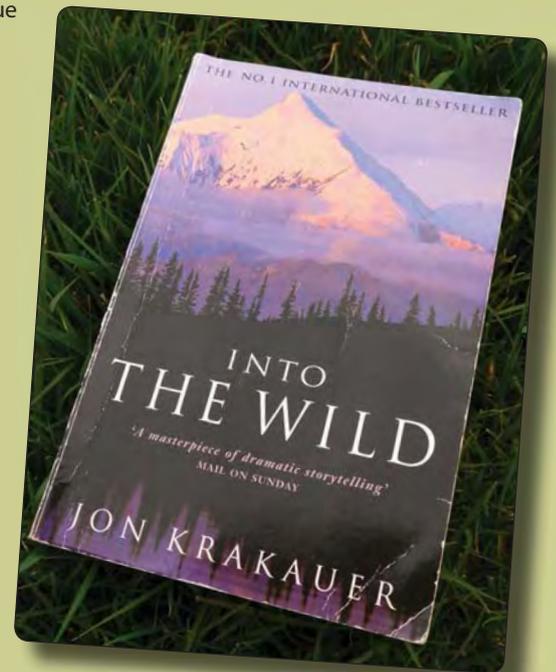
ISBN: 978-0330453677

As the book's synopsis reads; 'In April 1992 Chris McCandless, a young man from a well-to-do family, hitchhiked to Alaska and walked alone into the wilderness. He had given all his savings to charity, abandoned his car and possessions, burnt all the money in his wallet, and invented a new life for himself. Four months later, his decomposed body was found by a hunter...'

McCandless aimed to get away from all of what mainstream America stood for, living on the fringe of society, hitchhiking, sleeping out, and eventually disappearing into the wilderness. The ambiguity of his character is one of the most intriguing features of this book, and Krakauer does not neglect any sides to his personality or background life. In fact Jon Krakauer's dedication, verging on obsession, was the reason behind the story being so well researched, and he shone new light on events that had escaped those who investigated the case.

Krakauer cites quotes from some of the books McCandless was found with, as well as other fitting excerpts, at the beginning of each chapter, which does much to expand on the personal and moral viewpoints behind his decision. Among the literature were books by Jack London, Leo Tolstoy and Henry David Thoreau, and the quotes chosen provide an emotive introduction that relates to the content of each chapter.

Another unique feature of this book is the way in which it is told. Jon Krakauer re-organises the narrative so that it switches between the different stages of McCandless' journey, building up a clear picture of his character whilst retaining the suspense in the way you would expect a well-written novel to.



The conclusions that each person comes to after reading this book will differ depending on their view of the events. However those people who described McCandless as careless and stupid, after reading the short article Jon Krakauer first wrote about McCandless, published in Outside Magazine in 1993, have missed the point entirely. It seems that these people have neglected the whole essence of McCandless' journey; the innate draw of the wild.

THE WILD WEATHER BOOK

LOADS OF THINGS TO DO OUTDOORS IN RAIN, WIND AND SNOW

Price: £9.99

Authors: Fiona Danks and Jo Schofield

Publisher: Frances Lincoln Limited

ISBN: 978-0-7112-3255-6

This is a small, compact and portable book with around 70 activities for children to do when the weather is not so good. Complementing these are high quality and colourful pictures which will make it appealing to younger children.

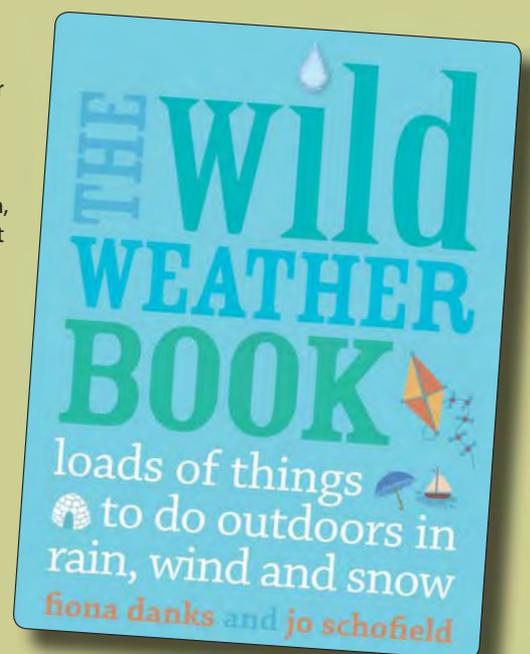
The book is split up into different weather conditions, with sections on rain, after the rain, wind, snow and ice, currently all very fitting.

The pictures help to instruct but also provide encouragement and incentive for completing the activities. The written instructions are clear and precise, and include a rating system so that young children know whether they will need parental help or not, while an emphasis on safety is always present.

Interspersed between the pictures and instructive writing additional importance is placed on looking after the habitats and environments that younger children may be playing in. This is definitely a positive and something many children's books can neglect. The tone

always remains positive however and will ignite the powerful imaginations of younger children, getting them out and into nature.

Overall, a high quality and well-written book that never loses focus on appealing to its young target audience.



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GETTING TO GRIPS WITH THE HAND DRILL

Hand drill is an elegantly simple technique of fire-lighting, yet it is commonly seen as a more advanced technique of friction fire-lighting than the bow-drill method. This is not necessarily the case, it is just a different technique.

Bow drill has become a central part of bushcraft teaching, certainly in the UK. There are several reasons for this, bow drill is the most widely-applicable technique of friction fire lighting. This is true in both terms of environmental conditions and available materials. From cold, wet conditions to warm and dry conditions, bow drill will work as long as you have suitably robust cordage material. You can also choose from a wide range of materials with which to construct your bow drill set.

Hand drill, on the other hand, is somewhat more fussy. It is most suited to warm and dry environments such as found in parts of Africa as well as Australia. It is most commonly associated with the indigenous peoples of these areas.

In a survival situation, bow drill has the advantage that you can go and make a set and create fire immediately. With hand drill, by contrast, you often need to seek out quite specific materials to make the set – particularly the drill – and it can take some time to prepare these materials so they are in the correct condition for use. This makes the technique less immediate and therefore potentially less useful in a general survival scenario.

Once you have a hand drill made, however, it is often quicker and easier to create an ember with this technique than it is to create an ember by making a bow drill set from scratch. Hence, indigenous peoples who use hand drill typically carry the drill with them as part of their equipment, often along with arrows. This is certainly true of the bushmen of the Kalahari and the Hadzabe people of Tanzania.

So, what about using hand drill in temperate conditions such as the UK?

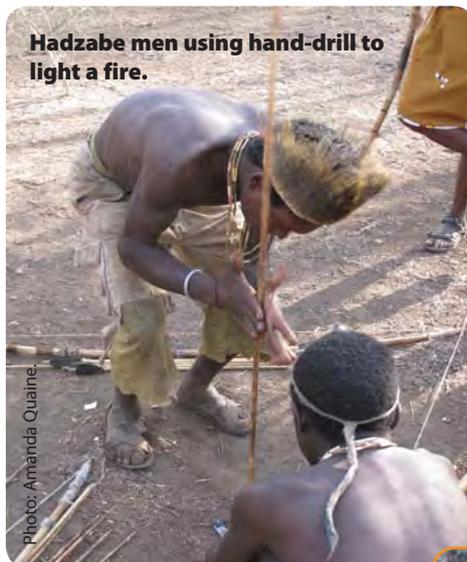


Elder shoot cross-section.

AUTHOR PROFILE:

Paul Kirtley, Frontier Bushcraft

Owner and Chief Instructor of Frontier Bushcraft Ltd. Paul, also a Mountain Leader was previously Course Director at Woodlore Ltd. He spent 10 years studying and training under the guidance of world-renowned bushcraft expert Ray Mears, first as a student on his courses, then as an employee. Paul is one of only a few people who have been recognised by Ray Mears as a bushcraft instructor, being awarded the celebrated antler-handled Woodlore instructor's knife.



Hadzabe men using hand-drill to light a fire.

Photo: Amanda Quaine

If you're a beginner with hand drill in the UK - or more widely the northern temperate environment found in Europe and parts of North America - then a good drill material to start with is a member of the *Sambucus* sp. commonly known as elder.

Elders put up straight shoots which can be used to make a very good hand drill. The best shoots are often secondary growths which are striving to head upwards out of the bush to reach the light. Even though they have a pith in the middle, they have quite thick sidewalls. You always should select



The ends of various elder hand-drills.

a live shoot. If the bark of the shoot is green it is too young. Wait until the bark is grey before harvesting

for a potential hand drill. The diameter of the harvested shoot should be about 15 mm at the base.

To prepare the drill, first the bark should be scraped off. This can be done with the back of your knife and is quite straightforward. Even the straightest looking shoots will have kinks and slight bends in them. These need to be straightened out. What you're aiming for is a drill that is dowel-straight.

The best way to achieve this is by the application of heat. Your campfire is ideal. You need a good base of embers to provide an even heat. By passing the drill over the heat, concentrating





Scraping off the bark from an elder shoot



Straightening out elder hand-drills.

on the area that needs to be straightened, the drill will be softened sufficiently so that it can be manipulated into a straighter configuration.

Keep working on the drill, straightening out the kinks until you are happy that it is as straight as you can possibly get it. The drill then needs to be allowed to dry before it can be used. During this drying period you should check regularly that the drill is drying straight and not reverting to its previous shape. As before, any kinks or bends should be removed by applying some heat and bending the relevant area.

For your hearth, one of the best materials to use in combination with elder is dead, dry clematis. This is not the most common of plants. It likes to grow on chalky soil such as found on the North Downs and close to the coast in Kent. Other materials that you might like to try for hearths include, willow, sycamore, Norway maple, field maple, cedar and aspen.

As with the bow drill, you should aim for a hearth of the same thickness as the diameter of the drill. A small depression is created, into which the drill is seated. You then cut a notch approximately one-eighth of the circle.

It is worth noting that the ember created with a hand drill is generally much smaller than that created with a bow drill. This means there is less heat in the ember, which in turn means it



Cutting a notch into a well-used hearth-board.

is critical that you properly prepare the tinder in which you will place the ember.

There are several good, easily-available sources of tinder in the UK. One of them is the outer bark of honeysuckle. Any tinder should be prepared as thoroughly as possible in order to make it finer and increase its surface area.

In terms of technique, you may have less mechanical advantage than with bow drill, but hand drill does require less physical coordination. From having taught both techniques, it seems that people naturally find the coordination required for the hand drill technique easier than the bow drill technique. The weak link in the chain is the condition of their hands.

Hand drill - and the clue is in the name - requires the use of your hands to propel the drill directly. This requires some grip between your hands and the drill which, in turn, causes some wear and tear on the palms of your hands. Over time, your hands - like your feet when walking barefoot - gain some conditioning. This makes progress with learning hand drill potentially painfully slow to begin with or, if you rush it, just painful.

A common difficulty is not applying sufficient pressure in order to generate the requisite friction. A sign that there is not enough friction is dust that is too light. Light dust shows you are removing material but it is not getting hot enough.



The outer bark of honeysuckle peeling off.



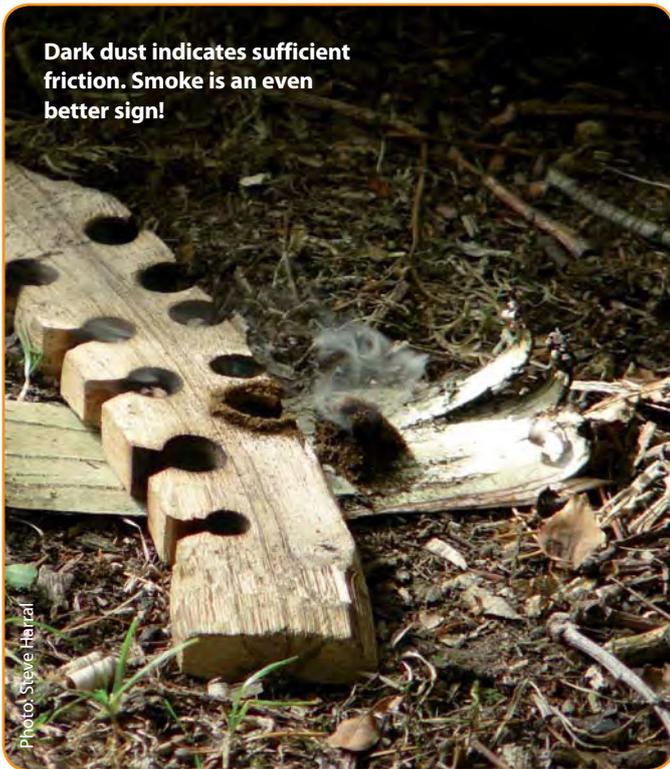
A bundle of honeysuckle bark.



Buffing honeysuckle bark to make it more fibrous.



Light dust indicates inadequate friction.



Dark dust indicates sufficient friction. Smoke is an even better sign!

Photo: Steve Harral

It is very easy for real beginners to do too much too soon with soft hands and either blister the hands or remove skin. This can also happen to people who are adept at the hand drill technique, but have not practiced it for some time. To be on top form with hand drill you need to maintain your hands in good condition. This means practicing hand drill regularly.



Raw hands. What can happen with too much enthusiasm.

What about floating hands? Frankly, I have nothing against the floating hands technique per se but I do think it muddies the waters. For beginners learning what they really need to know to create a fire by this technique, the concept of floating hands gets in the way. You don't need it. Furthermore, I have never seen a person who truly relies upon hand drill for day-to-day fire-lighting use floating hands. The most important part of hand drill technique is spinning the drill combined with downward pressure.

So, my advice is to keep it simple and practice. If I can give one tip with respect to this, it would be to spin fastest when your hands are close to the top while using light pressure; then, as your hands descend the drill, apply more pressure with a lower speed. This seems to be the best overall combination. You then need to return to the top of the drill as rapidly as possible and repeat.

If you feel that you are not rotating the drill for long enough or achieving a sufficiently long descent of the drill, then the easiest solution is to get a longer drill. Again the Hadza provide a great example of this with their very long drills.

With hand drill, practice certainly makes perfect but when learning you should know when to stop. My overall advice to hand drill novices would be to practice little and often, building up hand condition.

Also stick with the same materials until you achieve an ember. Once you have achieved an ember several times with elder on clematis, for example, then you can start to experiment with other drill materials and other hearth materials, varying one at a time.

Most of all don't be afraid of hand drill. Soon, you too will be able to harness this simple and elegant fire-lighting method.



Photo: Steve Harral



Success! Flaming tinder bundle...

Photo: Steve Harral



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CANOE CAMPING - WHAT TO TAKE

With all but the last fleeting moments of our development spent in small mobile groups, shifting to best advantage through a wild but still deeply familiar environment, camping is more than just fun. Camping is our inheritance, until so very recently our way of life. When you pitch a tent you don't just create a temporary dwelling, you re-enact the normality of our ancestors. As John Muir once put it "Going to the woods is going home."

For the people of the boreal forest this woodland home once covered not only northern America, but most of Europe and beyond. An almost unbroken expanse of trees encircled the globe, providing both sustenance and shelter. Mind you, filled with all that healthy sylvan growth, it can't have been that easy to move through.

Fortunately though, in a land fed by plenty of rain, there was also plenty of water. Lakes, rivers, and the sea into which they flowed, each lapped against the tree-pressed shore. If you wanted to move easily and efficiently through this wooded landscape, you could always do it by boat. And what a boat came out of these woods. Sustainability is a frequently bandied and increasingly meaningless term, but if a creation can be labelled sustainable with any real validity it's the birch-bark canoe. Save for the odd ash-wood thwart, this classic craft was usually constructed from only four constituents – white cedar for the frame, birch-bark for the outer hull, boiled and split spruce roots to bind it all together and spruce or pine resin (mixed with a little animal fat) to seal any seams. The result was incredibly light, surprisingly robust, and easy to repair with materials immediately to hand in the surrounding forest. Just as importantly, these little vessels suited their role perfectly.

AUTHOR PROFILE:

Tim Gent

Happiest living in a tent somewhere close to both sea and mountains, Tim paddles and clambers in search of our remaining wild and inspiring places, documenting these experiences so that others might be encouraged to follow. A very enjoyable role of course, but one also undertaken in the belief that a better understanding of these fragile landscapes might offer the best chance for their survival, and ours.



When the northern Americans first developed this canoe they needed a workhorse. They required a reliable and efficient vessel to carry firewood, building materials, baskets of berries or the results of a successful day's hunting. It had to be able transport them to the nearest fishing ground, and once there provide a reliable platform from which to set or haul nets. And when needs arose, the canoe was required to transport the family and all their belongings from one shore to another. I like to think that with time and experiment they produced something of almost unparalleled beauty and practicality.

Modern versions aren't that bad either, and we canoeists are blessed, not only with a boat that provides the chance to break free and wander, but a vessel that has been fine-tuned by need and circumstance over many generations. As a result, we own a simple,

Tim Gent on Loch Etive



Loch Etive in April



clean and silent craft that is still just as beautiful, yet importantly remains just as successful at carrying us and anything that might improve or enhance our outdoor experience, particularly if the experience we choose is to camp.

Few canoeists will pass up the opportunity to spend as much of the day as possible under an open sky, pushing their vessel on as far as tired arms will take it, out to somewhere special. But once there, why turn back? Why not pull ashore and create a home, a place where you can wake in the morning as the flash and shimmer of the sun reflecting off nearby waves calls you on to another day of exploration and fulfilment.

So what next? You canoe. You almost certainly camp. What do you take to best combine the two?

Before any consideration, I want to stress is that there is no single answer to this question. One of the joys of canoe camping after all is the chance to escape the great mass of humanity and their often rather suspect opinions. So much about canoe camping is, and should be, down to personal choice. The following then is just a discussion of the kit choices that, after quite a bit of trial and error,

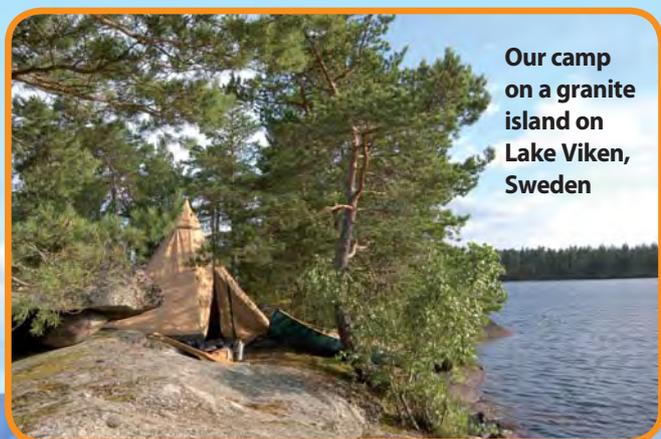
we've found suit us. Some of it might suit you too.

Of course much of that choice, and a good chunk of the reason canoe camping is so particularly enjoyable, is provided by your trusty craft, principally the prodigious carrying capacity built into it by its original designers. Put simply, if you want to take something, you just step up to the gunwale and drop it in. There are limits of course, but not many. When Susannah and I head off down a sea loch we carry hundreds of pounds of kit. Gone is that familiar backpacking dilemma – laying everything out before choosing between the vital and not quite so vital but still rather desirable items. Potential portage considerations aside, the canoe removes these problems at a stroke. If you want to take the kitchen sink, then do, or at least a large plastic bowl.

Much of this will be familiar territory of course. Along with a good working familiarity with your boat, I take it that as budding canoe campers you have no need for a comment on clothes or sleeping kit for example. All I'll say here then is that if you ever fancied taking a decent pillow into the wild to sit at the head of your sleeping bag, now's your chance.

It is almost inevitable then that first consideration should be given to your temporary shelter, and quite rightly so. Yet while you might expect me to now embark on a long and carefully argued case for one particular type of tent or another, I'm afraid I'm going to disappoint. Put simply, if you prefer a particular make or type, you should use that. This may sound a touch glib, and I know a lot of very useful and informative stuff has been written about tents and canoe camping before now, but in the end it really is that simple. I would though encourage all prospective canoe campers to think big, at least to some extent. Lugging camping gear is what your canoe was designed to do after all.

It was a sad moment when my old ridge-tent finally gave up the ghost. Mind you, as my grandfather started using it during WWII, it was expected. These tried and tested tents offer plenty of



Our camp on a granite island on Lake Viken, Sweden

Campsite overlooking Eigg and Rum



satisfying interaction with the landscape around you. Even in bad weather you can leave the downwind end exposed if you want to watch the meteorological fun. As with a traditional bell-tent, you can even lift the sides in good weather, leaving only a decent sun awning. Some quite modest and modern models can be purchased in these styles, but then you don't need to worry much about size.

With that old, once white, shelter gone, and after considerable deliberation, one tent stood out, for us at least, and we've been using a Tentipi Safir 7 very happily for a couple of years now. Not cheap it's true, and also not small for two, but no problem for our canoe, and I can put up this well-designed tipi on my own in a matter of minutes. Now Susannah and I enjoy more excellent tent space than we can ever really use.

One drawback to a tipi style tent is that it's hard to enjoy that view in bad weather. With angled sides, the doorway, if left open, is too exposed to the elements, and it's not particularly large anyway. An additional porch helps, but it's here that the 'Baker' tent, beloved of so many Canadian canoe camping families, probably wins hands down. I say probably, as I've not used one. The advantages are obvious though. If you want a camping room with a view, this style of tent clearly won't disappoint, and like the tipi, or the old ridge-tent, you can certainly stand up under cover. Not so important perhaps on good sunny days, evenings or nights, but the appeal grows quickly once the rain sets in for a while.

This is when it becomes really quite important to be able to cook inside your temporary home. Much as we might wish to enjoy every aspect of the outdoors, there's little fun in being forced outside a small tent in prolonged bad weather, trying to produce a meal over an exposed stove or fire. With care and common sense

you can use a stove in even quite a small tent, but this isn't much fun, and I'm afraid I've seen the results of getting it wrong. The bigger the tent the better, and safer, especially when it's purpose built to take a fire or stove beneath its welcome shelter.

For our wetter or cooler expeditions we ship an Eldfell Pro wood-burning stove. This good looking piece of kit heats our tipi, and as importantly dries all the damp clothing we keep bringing in – a very important consideration in north-west Europe. Other tent stoves are certainly cheaper, often much cheaper, but rarely so light, compact or canoe friendly when packed. We cook on ours when it's in action, or alternatively on an open fire outside. To support pots over the latter, we ship a discarded wire oven shelf. A pair of 3-foot angle-iron fire bars can also do a fine job here. To supply either fire or stove with fuel we carry both a bow saw and axe.

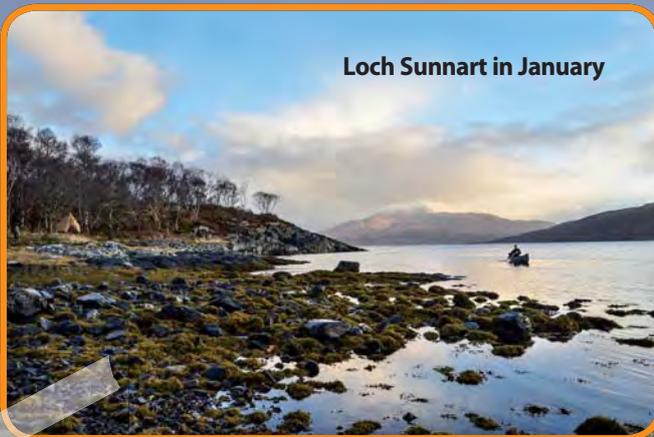
Now for me, who has been fiddling with fires since childhood, it's almost no effort, and I suspect many readers of this magazine will feel the same way. But if you're not yet familiar with selecting, cutting and splitting wood, or tending a fire, just take a gas stove. There is no requirement to fight the elements out there, and certainly no need to feel bad just because you can't start a blaze with an old Viking firesteel and the nearest pebble. This is supposed to be fun after all, and these satisfying skills can be learnt later. And once again, if a stove's the choice, there's no need to stick to tiny backpacking models (although I usually pack one as a spare – just in case). We've shipped a double-ring burner and large orange gas bottle before now when the environment was too sensitive for an open fire.

One important comment here though, and forgive me for seeming to state the obvious – but whether using a wood fire or cooking over gas, most people need matches. I do carry a fire-steel. I even

Cooking on the edeg of Lake Sädvajaure, Sweden



Loch Sunnart in January



Early summer campsite in Devon



use it sometimes, but I'm much more likely to reach for one of four, five or even six boxes of matches, each tucked into a different dry-bag and secreted at various easy to find (hopefully) points throughout our kit.

With the cargo space, cooking and eating kit can be as simple or as complicated as you like. We tend to carry a standard frying pan and a set of three nesting MSR stainless-steel saucepans. Plastic bags are interleaved between the pans – smothering the otherwise eternal rattle, and providing handy rubbish or mussel collecting bags. A wooden spatula is useful, and a knife a must (whether cooking or at any time while out canoe camping). Depending on what you take to eat, a can and bottle opener will be invaluable too. We also carry a thin plastic cutting board for food preparation. This slots conveniently, and by pure luck, into the recessed lid of our food box/cutting table/eating table. This box isn't waterproof or pretty, but fits the bill in so many other ways that we haven't felt able to replace it. Made of clear(ish) plastic, we can even see what's in it.

And while mentioning plastic, and although usually keen on traditional materials, I admit this doesn't stretch to eating utensils. Light, easy to pack, and difficult to break, plastic makes great gear to eat off and with – we take a couple of large bowls (less spillage than with a plate) and a few Sporks. When it comes to mugs, plastic is good too, although wood certainly gets a look in here. If you like a hot drink, and are partial to retaining the skin on your lips, steer well clear of metal.

Like the tent, when it comes to what to take to eat, it's up to you. With the room, my one suggestion is that it's far better to

take a little too much than a little too little. On our last trip I found a whole cake wrapped in a tea-towel that I hadn't realised we'd even taken. Along with that ever-useful towel we usually carry kitchen-roll. This helps start any washing up process (make sure you place any food scrapings in the rubbish bag and not in the wild around you). The process is completed with the assistance of a bottle of what the manufacturers claim will clean anything from your hair to your hat, including the plates, before breaking down into something inoffensive when released into the wild. Let's hope so. Final items in the kitchen box are a scrubbing brush and/or scourer and tinfoil. Useful stuff, tinfoil.

Other Gent campsite favourites include a big black plastic trug – the sort used to feed horses. We fished ours from the water of Loch Sunart one sunny morning, and have yet to spend a day in the wild without filling it with kindling, mushrooms or spare fishing tackle. We also always carry a large and battered stainless steel Kelly Kettle. A comprehensive repair kit (needle and thread, plastic pull ties, duct-tape, wire, araldite etc.) often comes in handy too.

Next, in what has almost inevitably turned into something of a list, is insect repellent. You will be by water all day and night after all. Whether dealing with Scottish midges or those ravenous northern Swedish mosquitoes, you'll be glad you took something effective. And last-ish, but certainly not least, I must mention that modern canoe-camping, or any other sort of camping, star – the wondrous head torch. If my Petzl isn't strapped in place and in use in the evening, it will be hung ready for action around my neck.

I've been known to sleep with it there, often forgetting to remove it in the morning. Other members of the family like to guess when I'll finally notice and remove it. For the tent we also carry a couple of candle-lanterns, and one of the wind-up sort as a back-up.

With space for more words fast running out, but with room still in the canoe, don't overlook the chance for your floating haulier to support other wilderness activities once out there. Alongside your camping essentials there will almost certainly be room for a fishing rod or two, a camera tripod or a pair of hill-walking boots, probably all three.

So, finally, imagine yourself by a west coast Scottish sea loch (always a good place to start). A large pile of assorted sleeping bags, paddles, boxes of food and folded canvas sheets lie scattered across the shore by your empty canoe. How do you pack it all in? I hope to offer some useful suggestions next month. Now where did I put that map of Loch Hourn?

Loading for a return from Loch Etive






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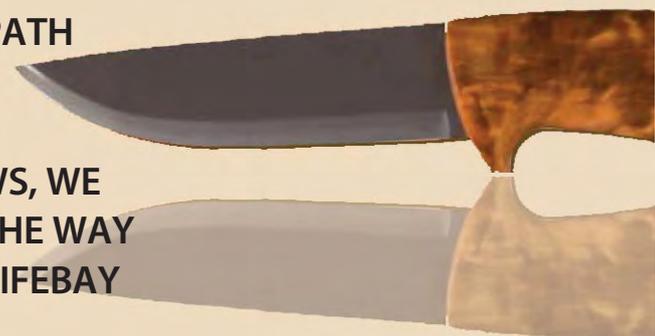
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BUDGET WIND SHIELD

Hello again and welcome to another Bushcraft On A Budget article. In this issue I would like to show you how to make a wind shield for a small camp stove.

I know there are stoves on the market that have built in wind shields and heat exchangers etc. but if you're like me and you don't have one of those, then I hope this article helps you to "accessorise" your stove for better performance.

I have a Primus Optimus cook set that consists of a 0.9Ltr pan, a small pan/dish and a small gas can and burner that all fit together to make a very compact set. I take this with me when I go camping light with my hammock and tarp. The best thing is just leaning out of your hammock and getting a brew on without having to get up first. On my last outing down in Oxford with Adam, Burt and a couple of Woodland Ways apprentices there was a cold wind blowing through the camp and I noticed it increased the boil and cooking times as the wind blew the burner flame around. Temporarily I shielded it with my pack and body, but as I normally say, this got me to thinking...

So when I got back home I went into my garage where I have lots of really useful stuff just waiting to be put to good use (Junk, my wife calls it). I had three large old vegetable oil cans the 25Ltr type. I got these from my local Tesco as they were unused display ones that were being thrown out. So you could try your local shop, or failing that go to your chippy or take away and ask if they have any old ones you can have. After a good wash out they will be fine.

Ok so safety first, we are going to be cutting thin metal that will result in some VERY sharp edges, so please take care, wear protective gloves if you like and if you are a youngster doing this please get an adult to supervise. Have some plasters handy just in case. You will need some strong scissors or tin snips, a marker pen or scribe, some duct tape or similar, a small hammer and a good strong flat surface to hammer against and some wet and dry emery paper (I used 600 grit).

First things first, get out your stove and assemble it. Look at how your windshield will best fit. You don't want it to interfere with the pan that will sit on the arms and you don't want it touching the flames. Also bear in mind you want to be able to adjust your flame whilst cooking so access to the gas control knob is essential. Also don't have the shield coming all the way down to a tight fit on the

AUTHOR PROFILE:

Ian Nairn

Make do and Mend' is Ian's Philosophy. He is a dab hand at all things creative, and would be a match for any skilled seamstress! His innovative ideas can save you pounds, showing you how to make kit from things that you might find lying around. He also has a long-standing interest in and extensive knowledge of woodcraft and green woodworking, which, combined with his other skills, makes for some great money-saving tips!

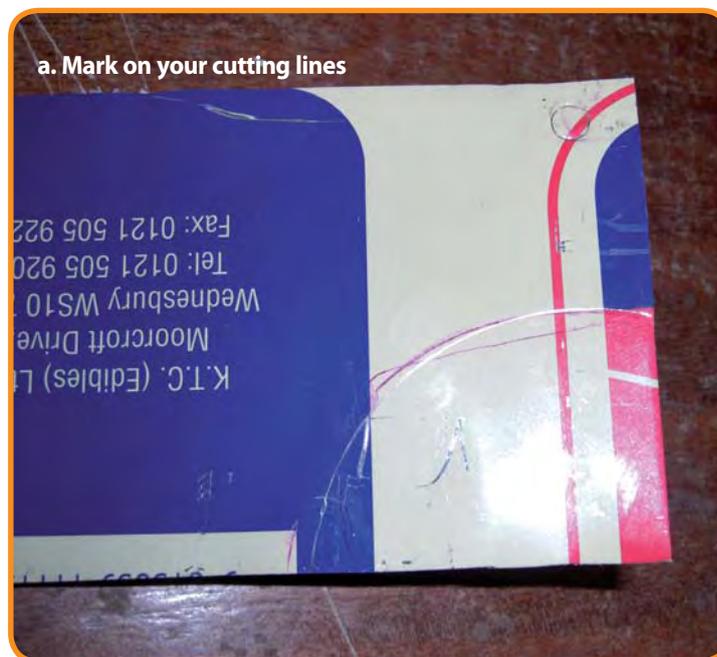


gas canister; you want to leave a good air gap to allow the flame to feed properly and to prevent the stove from overheating. Work these out, draw your design on card or paper and make sure it will fit. If you want your shield to fit inside a pot like mine when packed away, take this into consideration, you don't want the shield sticking up so the lid won't fit on. There is a lot to consider but you want it to be right. Also look at how you will attach the shield so it stays in place without having to be held, so a paper mock up is best

to play around with and alter first. Please do not mock up a paper or card shield and switch your stove on as it's pretty obvious what will happen!

Ok so once you are happy with your mock-up we need to transfer the design to the tin. Using tin snips or good strong scissors (please don't use your best kitchen scissors; I don't want to get in trouble with your parents or other half). Cut out your required size of tin and mark out your design onto it using either a marker pen or scribe. Once done you can cut out the pattern carefully not to cut too much off or cut yourself. Once you have cut it out you can bend it into shape to wrap around your stove.

As you should be able to see from my photos, I have made small tabs that pass through the pan stand arms and bend over to clip the shield in place. These had to be just the right size to fit through the gap in the arm and be able to come on and off without having to bend them every time, as this would lead to them breaking off. These tabs clip in place and hold the shield nicely in place just at the right height. I've left a good gap at the base so the flame can draw air up. Also at the flame control knob I have made a nice sized arch so I can get at the knob to adjust the flame without any issues.



b. Cut out the gas tap access



c. All cut out ready to fit



e. Close up of the tab



f. Fits Just Right



d. Clipped on the arms



g. Gas tap access with tape on





h. In operation

Once you are happy with your fit and you have done all the tinkering to get that perfect fit, go round the edges with your emery paper just to remove some of those sharp edges. You can put some duct tape over the bottom edge to help reduce the risk of cuts, but don't be tempted to put this on the top edge or higher up on the shield as it will most likely burn. The bottom edge should remain relatively cool as the heat will go up into your pan.

Give it a test run with your pan in place (put some water in the pan rather than running it dry, this could damage your pan). Hopefully all has worked out well and you should find your cooking times are reduced. If there are any issues, have another go, tinker and tweak until you get it right. I was pleasantly surprised at how easy it was and how well it worked. It all packs away neatly in the pan and it hasn't added much weight at all, only two grams when I weighed it on the kitchen scales and I can cope with that, especially with the bonus of reduced cooking times.



i. Shield fits nicely inside



j. All packed away

So I hope you've had fun and enjoyed making your budget wind shield, the best custom fit shield on the market for virtually no cost at all. You can't beat that, can you? So until next time, keep it on a budget and I hope to see you at The Bushcraft Show in May.

TOP TIP!

With the leftover tin from my wind shield I made a scoop that I will use for the chicken feed and a lid for my crusader metal mug too. These tins are great for making all kinds of stuff, so if you see one thrown out make sure you ask if you can have it and put it with the rest of your really useful stuff!





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MAKING YOUR OWN PAPER

MAKING YOUR OWN PAPER USING LEAVES AND NATURAL FIBRES

Before industrialisation most communities throughout the world were pretty much self sufficient, creating many of the practical and decorative things they needed from nature's resources, and passing traditional skills down through the generations. Nowadays if we want something we tend to want it right now, so we rush off to the shops and buy it. Yet working with natural materials to create useful and beautiful things can be a source of deep satisfaction and pleasure, as well as providing a valuable link with our past.

AUTHOR PROFILE:

Fiona Danks & Jo Schofield

Fiona and Jo are passionate about young people having the opportunity to explore and enjoy the natural world and each of their six books aims to entice children away from a screen-dominated world and into the outdoors for some fun and adventure. They both live on the edge of the Chiltern Hills in Oxfordshire where they create many of their ideas for their books, articles, and workshops.



Nettle paper shapes

Chestnut Paper



I remember being intrigued by the paper birch tree during a trip to Canada as a young teenager, and I even wrote a short letter to my grandparents on a piece of its peeled bark! But the most remarkable natural paper is that made by the oldest paper makers of all - wasps. They chew up weathered wood fibres with saliva to make a pulp, using their mouthparts and feet to spread it out into thin layers from which they build their spherical nest.

The basic paper making technique hasn't changed since the first true paper was made in China in about AD100. Much like the wasps' nest, it involves laying down a pulp of interlocking cellulose fibres, moulding them together with friction and pressure. The first stage of the process involves making the pulp of plant tissues in water. During the second stage a mold is submerged into the pulp mixture then lifted gently to the surface, trapping a thin layer of pulp in an even sheet as the water drains away.

Although the pulp is usually made of wood fibres, any fibrous vegetation is suitable, provided that the fibres are softened first. We had a wonderfully messy and rewarding session making paper from a variety of plant materials.

A mold is essential for creating a layer of pulp thin enough to become paper, and the deckle determines the shape of each sheet.

WHAT YOU NEED

Two old picture frames of the same size with the glass removed; we came across some frames in a charity shop.

Mesh – we found a fine plastic mesh (used for greenhouse shading) at a local garden centre. Other suitable meshes might include net curtains, mosquito netting, tapestry canvas– or even a pair of old nylon tights. Some tacks and a hammer or a staple gun and staples.

MAKING THE MOLD AND DECKLE

We stretched mesh tightly over one of the picture frames, fixing it in place with a staple gun. You could use drawing pins or tacks instead of a staple gun (Fig a).

The second picture frame (the deckle) should fit over the first – this helps to determine the paper's shape, size and thickness and stops pulp from spilling over the edge of the mold. If you prefer paper with irregular edges, don't use a deckle. (Fig b)

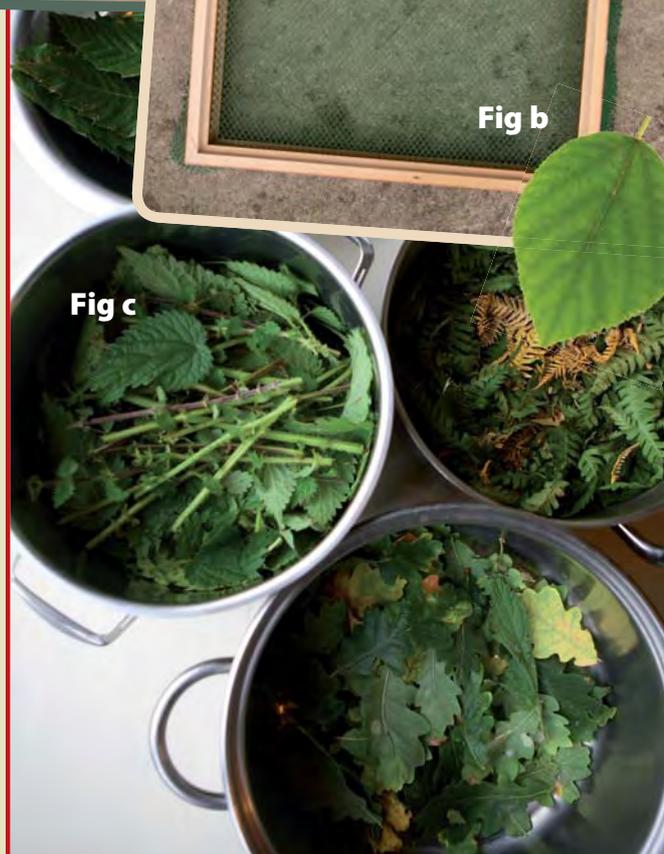
We experimented with different deckles and discovered that cookie and pastry cutters were ideal for making small papers shapes suitable for gift tags or coasters.

MAKING THE PAPER

Suitable paper making plants include - reeds, bulrushes, sedges, blackberry (stems and leaves), iris leaves, willow stems, nettles and ferns. Harvest towards the end of the growing season when the fibres are strongest. Fruit and vegetable waste can also be used – try banana and citrus peels, onion skins or melon rinds. Or, try using a combination of plant fibres with old paper, blended to a pulp with some water. (Fig c)

WHAT YOU NEED

- Plant materials, such as chopped up stems and leaves
- Washing soda – an alkali to dissolve non-cellulose materials
- Bleach (we suggest using the more environmentally friendly chlorine-free bleach)



- **Saucepans (not aluminium), metal spoons, metal sieve, scissors and secateurs**
- **Rubber gloves**
- **A large container of water – big enough to move the mold and deckle to and fro in the water**
- **Pre-pressed flowers, leaves or petals for extra decoration**
Some hardboard, cotton rags and a pile of newspapers.

MAKING PAPER

Roughly chop the plant materials so they are small enough to fit into a large saucepan

Spread a rag over a piece of hardboard ready to receive your first piece of paper

Fill the pan about 2/3 full of the prepared plant materials and add water to cover. This will make about one sheet of A4 paper.

Dissolve half a cup of washing soda in a cup of hot water and stir into the pan

Bring to the boil then simmer for 2 to 3 hours. Mix occasionally so the material doesn't stick together in lumps. Add more water if necessary.

Remove from the heat and leave to cool. (Fig d)

Pour into a sieve or colander and rinse gently in cold water until the water runs clear; this removes non-cellulose material. (Fig e)

Pour water into a two pint/one-litre bowl with about a quarter of a cup of bleach. Add the prepared plant materials and stir with a metal spoon. Leave to soak until the colour changes to yellow or cream; the longer you leave it the paler it will be. The bleach can be used for several successive batches. (Fig f,g,h)

Pour the pulp into a sieve or colander and rinse carefully to remove the bleach. (Fig i)

Place the mold and deckle in the large container of water; the side of the mold with the mesh flush over the picture frame must face upwards so it will be easy to remove the paper.

Place the pulp on the mold. (Fig j) The netting of the mold should be

submerged just below the water's surface so the pulp moves around easily, ensuring an even spread. Add a little more pulp if the paper looks too thin.

If you wish to add decoration, now is the moment to arrange some dried flowers, petals, or leaves on the pulp.

When you are happy with the thickness and distribution of the pulp, gently lift the mold and deckle out of the water, holding them level.

Remove the deckle and let the water drain off the mold. Rest one edge of the mold on the prepared cotton rag and hardboard (Fig k) and in one rapid movement, tip the mold right over and then lift it carefully away - the paper should be left behind flat on the rag. (Fig l)



Cover with another rag and then a wad of newspaper. Place a rag on top of the newspaper, all ready for your next sheet of paper. When you've made your last piece of paper, place more newspaper on top and then some heavy books.

Leave for a couple of days then carefully pick up your beautifully flat sheets of paper and hang them up to dry.





Fig m



Fig n

NETTLE PAPER

We found nettles made very good paper but before the bleaching stage you need to split the stems then scrape the inner threads away from the coarse outer layer using a fingernail. Discard the outer layer – it is the inner layers and the leaves that make the smooth pulp. By placing pastry/cookie cutters on the mold and filling these with our pulp, (fig m) we made a series of nettle paper shapes and then decorated them individually with other leaves (fig n). They looked wonderful and were relatively simple to make.

FERN LEAF PAPER

We spread boiled, bleached fern leaves out on the mold with our fingers, moving them around in the water. They made an ornate feathery paper; make sure you use at least two layers of leaves or the paper won't hold together. Let the beautiful but fragile paper dry completely before picking it up.

OAK AND CHESTNUT LEAVES

The prepared oak and chestnut leaves wouldn't blend together as a sheet but could be mixed with plant or paper pulp to make paper. The leaves became very supple with a beautiful translucent quality; we made this book cover with the dried oak leaves. First we used PVA (you can also use wallpaper paste) to stick down the leaves, then we painted thick PVA over the top to provide a glossier stronger finish.

We turned some of the chestnut leaves into a beautiful semi-translucent paper bowl.

Turn a bowl up-side down, cover with a layer of cling film. Layer dry paper leaves and PVA over the bowl. Cover with another sheet of cling film and sandwich a second bowl neatly on top. Remove when the glue has dried to reveal your bowl.

SAFETY TIPS

- Limit plant gathering to common species and don't disturb plant roots.
- Limit the use of bleach, dispose of it responsibly and wear gloves when handling.
- This activity requires adult supervision particularly when boiling plant materials and using bleach.

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Creating an oak leaves book cover



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