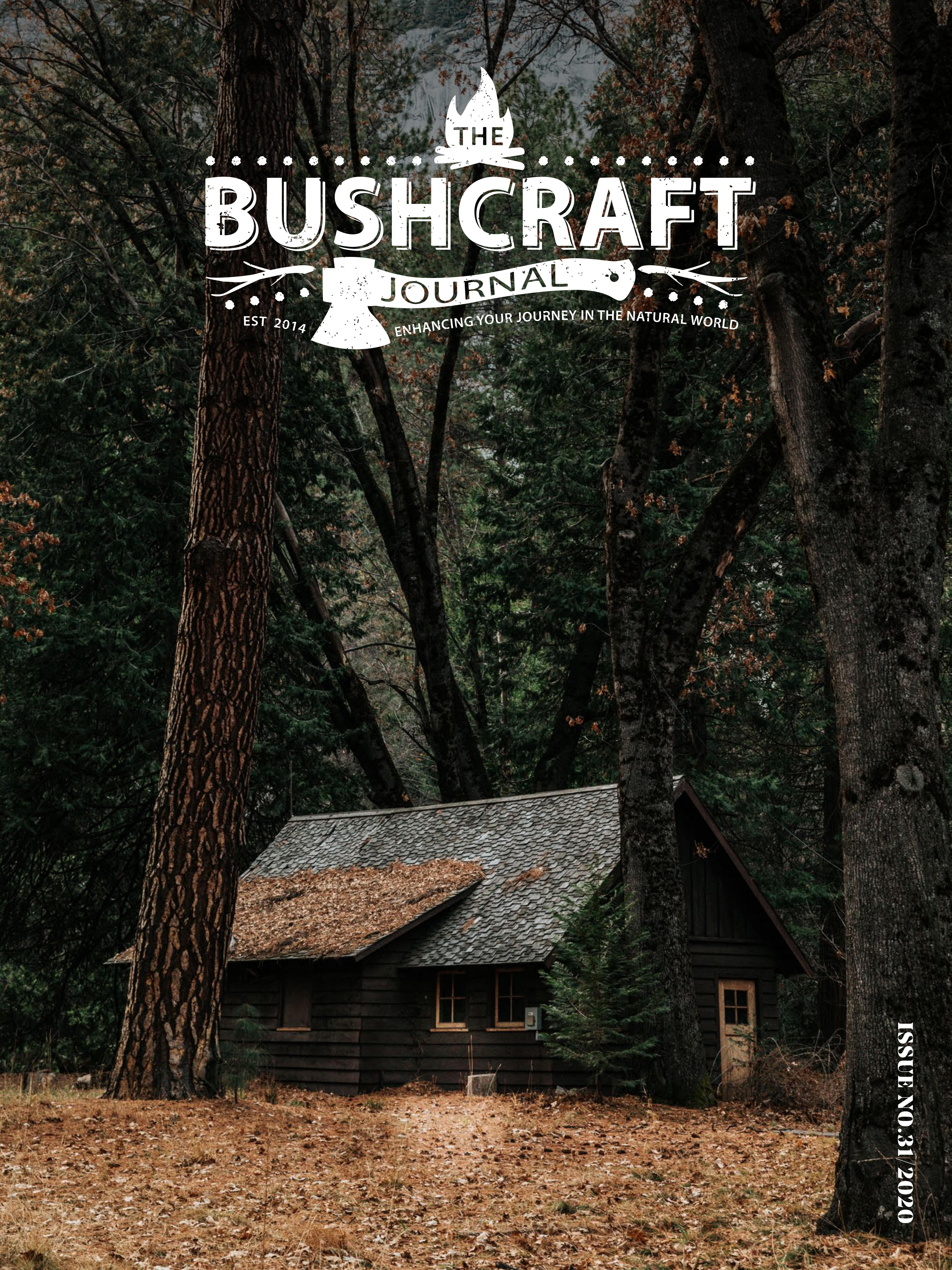
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In Search of the Perfect Pot

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Rabbitstick

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Part 2 - The Cooking and Ration Pot

Part 1 of this series addressed the long tradition of the "Billy Can." Part 2 will discuss the size of the pot and how it plays a roll in proper nutrition and psychological well-being for the wilderness traveler.

It takes a daily ration of about 16-20oz of food with a value of about 1500 calories to satisfy the human body. This concept is substantiated by current world cultural preferences. It has also been shown historically by the Roman Legion who provided their troops a 16oz ration per meal, and more recently by the U.S Army that discovered with a properly balanced menu, the body may operate at full efficiency for 10 days on 16oz/1500cal rations. But without that minimum intake of 16-20oz, psychological problems can occur. Today, most prepared backpacking meals are packaged in 16oz servings. It takes that balance of quantity and calorie intake for the body to be satisfied.

In the old days, we cooked and ate from a 4-cup peach can. Unknowingly we were meeting these basic requirements for food preparation and consumption. It takes 16oz of moisture to cook a meal that delivers that 16oz/1500cal minimum. We regularly cooked rice and lentils that required long boiling times. In the process, moisture was lost through steam and the food absorbed the rest. It was a balancing act to cook enough food in the space provided in such a small pot, but it worked. A peach can holds 4 cups when filled to the brim. So, a can was filled to its functional capacity with 3 ½ cups of water – about ¼ cup was lost through steam, 1 cup was absorbed in the food, and the remaining ¼ cup acted as the liquid needed to keep the food from sticking to the pot; leaving a full 16oz ration per meal. Our cooking and ration pot was the same utensil. We ate this along with baked goods like ashcakes or stick bread – 16-20oz total ration – along with a variety of easily gathered "teas."

Right: *A set of nesting pots with turned rims are made from #303 and #3 cans - 3 cup and 3 ½ cup capacities*

The Ration Pot

It's always nice to have quick access to that 2-cup/16oz ration pot. It might be on your belt, in a possibles bag, or hanging from your pack. Easy access makes it handy for a quick drink or always at the ready for group meals. But sometimes, 2 cups isn't quite enough.

Before starting, find a strong stick to use as a staff; stow away some luncheon in one of your pockets; see that your camera is in perfect order, ready to use at a moment's notice; that your water-proof match-box is in your pocket filled with safety matches, your pocket-knife safe with you, also watch and compass, and that the tin cup is on your belt.

Lina and Adelia Beard, On The Trail – An Outdoor Book For Girls, 1915

When cooking in a larger pot for a group, food is dished out to individual cups for serving. Those of us of the "camp dog" persuasion make sure to have a large enough cup that we get a full ration. Over the years, program changes have evolved this cup from a clay pot or gourd bowl to a tin can "billy" or even a wooden noggin (the American term for what bushcrafters call a kuksa). It's interesting that through time this connection to the noggin has been maintained and that this frontier connection even found its way into the 60s backpack culture in the form of the belt-carried "Sierra Cup," - although the noggin had about a 1 cup capacity and the Sierra cup had a 2 cup capacity – keeping up with what we now know about proper rationing.

Above: *Primitive and improvised versions we have used (and still use) – Clockwise from top left - #303 turned-rim tin billy, ceramic boiler, coal-burned bowl and gourd half.*

Tin Billy – 3 cups
Ceramic Pot – 2 cups
Coal-Burn Bowl – 1+ cups
Gourd – 2+ cups

Above: *The Sierra Cup has evolved from the traditional American Frontiersman's Noggin. Worn on the belt, it was always at the ready for a drink or a bite to eat. Wooden Noggin – 1 cup Sierra Cup – 2 cups*

Right: *When switching to a metal pot, very little changes. The butterfly handles allow for easy packing and the ridgid handle provides easy access to a cup on the fire. Both these cups will nest with a modern water bottle.*

Stansport Stainless – 2.5 cups
Ozark Trail – 3 cups

Below: *Modern 4½ cup pot used by some wilderness programs today. A camper who can be in the field continuously for well over 90 days needs this extra capacity for adequate food preparation. The brand doesn't matter at all compared to the principle behind the design.*

If you are cooking for yourself and eating from the same pot, shoot for a minimum size of 3 cups and optimally 4 cups (the peach can size). The U.S. military canteen cup has a 3-cup capacity and has cooked countless meals in the outdoors. Many programs cook and eat from a 2-cup Stansport-type stainless steel cup – it's rigid handle allows you to improvise pot lifters and cooks relatively well. But, with that size of a ration, campers must cook at least twice a day and bake as often as possible to get enough calories and bulk to be satisfied. A few wilderness programs still operate with a 2-cup ration/cooking cup while others have evolved to the 4-4½-cup cook pot (That is for summer rations. For winter a 64oz/8 cup pot should be considered).

For a real love letter to the 4-cup pot, read Craig Brown's excellent article "The Forgotten Lore of the Quart Pot and Pannikin" in Australian Bushcraft Magazine, Oct. 2015. History teaches us again – a 4-cup cooking pot and a 2-cup ration pot will keep a human alive when used to cook a well-balanced and satisfying ration.

The humble quart pot is just about due a revival I reckon....If you've never seen one, you may be asking "So what is a quart pot?" Well, the quart pot and its smaller cousin the pint pot are little more than a small billycan

LIQUID MEASUREMENTS
(see "Tincan/Bushpot " chart)

1 US Gallon	=	4 liters (3.8)
128oz – 16 cups		
4 quarts		
1/2 Gallon	=	2 liters
64oz - 8 cups		
2 quarts		
1 US Quart	=	1 Liter
32oz - 4 cups	=	1,000 ccs or ml
2 pints		
1 US Pint	=	½ liter
16oz – 2 cups	=	500 ccs or ml
A pint's a pound the world round.		
1 Cup	=	250 ccs or ml

Above: *Liquid Measures*

Left: *A contemporary stainless steel reproduction of the traditional one-quart pot and pannikin.*

Below: *Mors Kochanski discusses the best pots - not brands but design. https://www.youtube.com/watch?v=dlh6RNU-dSg Karamat Wilderness Ways photo*

with folding wire handles on the sides and a companion cup, called a pannikin, which fits into the pot as a lid. They come in a variety of configurations; oval, round, "D"- shaped and even roughly rectangular.

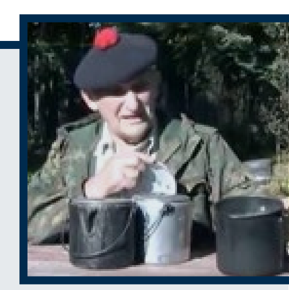
They come in various sizes - one Imperial Quart or one Imperial Pint, and to confuse the issue, sometimes the pot part is called the "quart" and the pannikin a "pint". To further muddy the waters, some folks out west call the quart pot a "Bush Pot". At the end of the day it doesn't really matter what you call it.

Traditionally the quart pot was made from tin-plated sheet iron or from copper...Stockmen carried them strapped to the side of the saddle in a leather cover, while swaggies and others used canvas covers or even calico bags to carry their quart pots. Like a billy can, the quart pot will leave soot all over the inside of a pack or your swag's nose bag if it's not covered.

Craig Brown, "The Forgotten Lore of the Quart Pot and Pannikin" ,

Australian Bushcraft Magazine, 2015

Kochanski On The Perfect Pot – Their Importance and Design



I came across some notes from about 30 years ago that included Mors' 12 Possessions or Concessions to Technology; a 6 cup pot was number 7 on the list. A more recent list entitled "Concessions to Gadgetry" includes his top 5 items everyone should carry with them - a good knife, a metal match or "Ferro Rod", a 64oz pot, shroud lines or "550 cord" and a mylar space blanket – the pot is now #3 and larger.

Mors points out that regardless of size, a good pot must be of sturdy construction, have a tight-fitting lid, a wide base, and a locking bail handle. It should be about 2/3 as wide as it is tall - a short-wide pot will not balance, and a tall-narrow pot is just as dangerous. If used on a biomass-burning stove (covered in Part 4 of this series) it should be slightly wider than the opening of the fire pot – this opening can be at least 1/3 to ½ half as wide as the pot and still allow the stove to draw well. When suspended over a fire, it is still important that the pot balance, but the main feature is a wide base for maximum exposure to the flames.

For quick boiling, a pot that is black will boil in about half the time as a shinny pot. A black pot also uses about half the fuel as a shinny pot. The outcome? You get twice the heat for half the fuel.

A pot with a rounded bottom or sides that radius into the bottom will increase the contact with the flame and boil faster. A metal pot with a round bottom is hard to find.

The evolution from clay pot to metal pot is not complete. Many skilled outdoorsmen are returning to or never left this age-old practice of making their tools from what the earth provides.

Photo (left) by Jake Hartner

The Cooking Pot – *Shape and Size*

How do you decide how big of a pot you need to pack for your group?

- ***Plan on a 2-2 ½ cup serving per person – (4 people would be 8-10 cups).***
- ***Add another 2 cups "for the pot" – that doesn't mean you need to add more liquid, but this allows space for stirring and expansion without overflowing the pot.***
- ***A group of 2 can get by with a 7 cup or 2 quart pot.***

Cliff Jacobson Camping's Top Secrets, 1987

The foremost error is selecting too small a pot. A good rule of thumb is to select a pot that is twice as big as you think you will need. There will be less food boiled over, you can cook for more people if required and you can carry larger quantities of water for putting out fires....a big pot can hold less, but a small pot cannot hold more.

Mors Kochanski, "Some Requirements For a Good Pot",

Alberta Wilderness Arts and Recreation, 1976

When using a pot on a biomass-burning stove, the pot should be about twice the diameter of the stove top - more contact time with flame to heat the bottom of the pot and wrap up the side. If the pot is too wide it chokes out the stove; too much of a damper effect creates a bad draw. For optimal speed and efficiency, use a secondary burn stove, and properly match the pot size to the size of the stove burner/fire pot and add a windscreen/heat exchanger. For optimal performance a windscreen will protect the flame source and increase contact time with the bottom of the pot.

A good pot has radiused rather than squared sides. If possible a round-bottom pot is best. The radius increases the contact time and the round bottom heats more evenly and eliminates places where food might stick and burn.

Along with everything listed above, when choosing a pot consider:

- Weight
- Packability
- Cost
- Stability
- Capacity
- Shape
- Material
- Pourability
- Exterior Finish

Now that you can identify how big of a pot you need, Part 3 of this series will be a throwback experience for many of you and something new to the rest - make your own kit with castoff materials. Part 4 will address how to maximize the efficiency of fuel use when using the pot you choose. With a growing concern for restrictions regarding the use of open fires, a knowledge of how heat is best transferred, and what options are created through the use of a biomass-burning stove with a secondary burner, we can look to the future with a positive approach to using traditional skills in a modern world.

My Personal Choice

Mors points out that the 64oz pot – that's a ½ gallon, 2 quarts, 8 cups – is the perfect personal size pot for the Boreal Forest. After making and using lots of tin billy pots, I have settled on a preference for shape, capacity and efficiency. It's my tin billy made from ½ of a #10 can with a turned rim and friction fit lid. It fits all of Mors' parameters, including a handle that stays put. It's my pot. I made it myself.... and it only cost me $3 for the knob. You can't say that about something you buy on-line.

Above: *For a master level presentation on the efficiency of fuels, pot and stove design and use, and much more, visit the Four Dog Stove Company YouTube channel. On the channel Don Kevilus hosts a 6-part Potology video series that lasts about 40 minutes, but you'll need to watch it 2 or 3 times to get it all. It is a masterwork. He is an old-school woodsman who knows the science behind his facts and is not afraid to share them.*

Right: *Front and center and ready for another class. The Urban Bushcraft Billy can hold it's own with anything else on the table.*