

# Water Drops at Rogaines

## Introduction

Water is an essential need for all teams during a rogaïne. In the absence of natural sources of sufficient quantity and quality, water drops must be provided by the organizers at points around the course that will enable teams to incorporate them into a reasonable route plan. This document is intended to guide event organizers on provisioning water drops.

The water drops provided must have sufficient capacity that they will always have water available during the event. This can be achieved by either a sufficient initial supply, or a combination of initial supply and resupplying during the course of an event. The longer the duration of event or larger the course, the more water drops will be required.

It is far better to be pouring excess water out at the end of an event, than to have even a single water drop run out for any time at all.

## Issues to Consider

The total amount of water that will be required depends on the conditions during the event (heat, humidity, etc) and the number of competitors. As well as potentially being hazardous to competitor health, the consequences of water drops running out creates a major issue of fairness, and in a championship event such an incident should be considered a major failure of event planning by the event organizer.

A rogaïning team that is not able to obtain the water they need at a water drop is significantly disadvantaged over a team that has obtained water because they are likely to need to alter their planned route to another source of water and do so in a water-stressed state. In addition there can be major health and safety issues caused by dehydration and heat exhaustion.

Each person visiting a water drop can be expected to take 2-5 litres from the supply, depending on conditions and the time it will take them to reach their next planned water drop. The number of people that will visit each water drop should be estimated conservatively, that is assuming a greater proportion of teams will visit. In a championship rogaïne, for water drops neighbouring the HH, more than 50% of teams are likely to visit during the course of an event. For an "All-Night Café" or a water drop in the middle of the course, assume at least 75% of teams will visit. That can add up to a lot of water

Make a table of the minimum amount of water that is likely to be consumed at each water drop. For example:

Event: ARC Competitors: 400 Expected conditions: Dry, warm to hot.

<b>Water drop</b>	<b>Location</b>	<b>Approx. number people visiting</b>	<b>Water needed (4l pp)</b>
A	4 km N HH	200 (50%)	800l
B	5 km SE HH	200 (50%)	800l
C	ANC, south-middle	320 (80%)	1280l
D	15 km NW	80 (20%)	320l
E	10 km SW	120 (30%)	480l

### **Water Supply for Event**

A primary consideration is identifying a source of potable water that will be used for both initial provisioning and resupply during the event, as well as possible other event needs such as HH catering. This should be considered as key part of HH site selection. In the absence of an on site supply, options should be considered such as a reliable supply at a convenient location nearby, or installing temporary storage such as a portable tank(s) or IBCs filled by a water carrier. In rural areas water carriers often have tanker trucks with capacity of 10kl or more, but ensure that the tank is clean and the water will be suitable for human consumption!

Take care to consider the flow rate of the supply – it can take considerable time to fill large capacities if the flow rate is low. Also ensure that the land manager is agreeable to using the water supply if local supplies are limited.

### **Initial supply of Water Drops**

The practical limits of initial supply are the capacity to store water on the course, and the time it takes to install the water drops. Capacity will come down to decisions on options to purchase, hire or borrow containers. This is not a budget item to skimp on! Most state associations will have a supply of containers that may range from 1000l “IBC” water cubes to 20 litre plastic containers, often enough for local events with smaller fields and shorter duration, but not sufficient volume for larger events such as the Australian Rogaining Championships.

During event planning make a table of how many containers are available and allocate to water drops with an additional allowance for containers for resupply during the course of the event, if this option is to be used. Remember it could be very inefficient during a re-supply operation to initially have to retrieve empty containers, drive to a supply point, then return them full at a later time. It may be that this would take too long to even be a practical option.

You should now have an estimate of how much water is required at each water drop, and how much you can supply initially. The difference between the two figures is the minimum amount of water you must be able to supply during the event. Note that the higher this figure, the greater the risk that it cannot be achieved.

For example:

Event: ARC Competitors: 400 Expected conditions: Dry, warm to hot.  
Containers: 40 x 25litre plastic containers – 30 on drops, 10 to re-supply.

<b>Water drop</b>	<b>Water needed (5l pp)</b>	<b>Total containers needed</b>	<b>Containers to initially supply**</b>
A	800l	32	5 (125 litres or 31 people)
B	800l	32	5 (125 litres or 31 people)
C	1280l	51	12 (300 litres or 75 people)
D	320l	13	4 (100 litres or 25 people)
E	480l	19	4 (100 litres or 25 people)

\*\*This example demonstrates a need to obtain many more containers. The water drops are likely to run dry after only a few hours into the event after about 10-15 teams have visited. Attempting to keep up with the consumption by resupplying during the event would fail.

### **Vehicle Delivery Capacity**

During course setting, records should be kept of the time required to drive to each water drop site (also noting that it will be dark for much of the resupply time in a 24 hour event) and consideration given to track conditions such as surface and steepness as to the kind of vehicle required to install each water drop. A vehicle such as a 4WD drive tray-top utility is possibly the most versatile, but also consider the types of containers and how they may need to be fastened to avoid shifting when full of water and being delivered onto the course.

During event planning, make an estimate of the amount of water that can be carried by each vehicle at any one time. Using the table of capacity of each water drop, work out how much time will be required to get all the drops in place, then ensure you allow sufficient volunteers and vehicles to achieve that. If using a water carrier, they may be able to rapidly fill some water drops on the course directly from a tanker, assuming access was not a problem.

Plan volunteers and vehicle resources for resupplying at the same time.

### **Risk Factors around Resupply**

Do not assume that water delivery operations will be 100% effective. There are many risk factors that can disrupt the time-critical function of resupply during the period of a rogaine event. Vehicles can be damaged, break down or get bogged; or resupply service may be disrupted by other contingencies during an event such as evacuating injured or distressed teams if there are no other vehicles available for that purpose.

You need sufficient volunteers to drive the resupply vehicles, and those volunteers need to be able to either lift full containers or operate pumps. Depending on the distances travelled, it may be necessary to refuel the vehicle, which will take additional time, especially if a trip off the course needs to be

taken for that purpose. Ensure all vehicles are refueled before the start of the event.

### **Resupply of Water Drops**

In planning how long it will take to re-supply a water drop, assume each vehicle will spend at most 80% of its time delivering water because you also need to allow for handling time of loading and unloading water containers or refilling in situ.

Remember when planning how much time to check and re-supply water drops that consumption by competitors in the first and last 2 hours of the event will be very little because they will be carrying their own supplies at the start, and will generally do their last refill with at least 2 hours to go.

Once you know how long it will take to resupply each water drop you can plan the amount of water you can possibly deliver onto the course during the event. For example:

- if the event has 1 vehicle only and it can carry a maximum of 200 litres, and
- it takes an estimated 6 hours to drive a round trip of the water drops,

then no more than 600 litres best case can be re-supplied with that one vehicle in total.

If your initial supply and resupply capacity still fall short of the estimated needs, you will need to dedicate more resources to water drops, in the form of more containers to put out initially or more vehicles, containers and volunteers to help with re-supply. The earlier this planning can be done, the easier it will be to accommodate both the financial costs and the vehicles and volunteers required.