

### **Information for those interested in borrowing the County GPS units to go geocaching**

The County owns 4 hand-held GPS units (at present held by Jessica Davies), and the connector leads for downloading geocaches from the website. There is no charge for borrowing them to use with your Units, but a deposit is required - this is £10 per GPS unit as a Unit cheque. This will be held until the units are safely returned.

Each unit needs 2 AA batteries, you will need to provide these yourselves. Collection and return of the units is your responsibility.

You should talk to your DC about your plans, and the Walking Adviser or Outdoor Activities Adviser are also there to give advice.

The units will guide you in to the locality of the caches, but only 'as the crow flies', so you will also need to use a map. If you plan to take your Unit out on a walk to find geocaches, you will need to hold at least Level 1 of the Walking Scheme, or have equivalent skills and experience, particularly in map-reading, leadership and group management.

Level 1 trainings are on offer in various places in the County, come along and refresh your skills. If there isn't one in your area, contact the walking adviser, Corina Clements to set one up.

There are two ways of using the GPS units:

- Either you can download geocache information to them from the website ([geocaching.com](http://geocaching.com))

If you have never been Geocaching you will need to find out how the units work before borrowing them. Come along to one of the planned geocaching trails, as advertised in Kerensa to find out what it's all about. If you cannot manage to get to any of these, why not get a small group of interested Leaders together, and one of the experienced geocachers in the County will arrange to give you a practical training locally.

If you have been geocaching using a smartphone, you will still need to know how to download the cache information onto the units, and how to use the units themselves.

- Or you can set up a trail of 'waypoints' yourself, for instance around your campsite.

Setting up a trail of waypoints is another thing altogether, and slightly more complicated. If you have never done this, you will again need some practical help. The County holds nine suitable plastic 'click and lock' containers, with logbooks in them, which can also be borrowed.

**If you want to borrow the GPS units, please complete a booking form and return to Jessica Davies, [rangers@girlguidingcornwall.org.uk](mailto:rangers@girlguidingcornwall.org.uk).**

Make sure you book in good time, as there has been a lot of interest.

## Fun with GPS and Geocaching

What can a GPS do for me ?

**1. Tell you where you are**

A GPS will give you a grid reference for your location to within approx. 3 - 20 metres. Newer GPS receivers provide digital on-screen mapping so that you can see your position on an OS map on the screen.

**2. Tell you which way to go**

You can load your destination grid reference ('waypoint') into your GPS, and the GPS will tell you which way to go to get there. You can link a number of waypoints together to form a 'route'.

If you have access to digital mapping software (such as Memory Map or Anquet) to plan your route, you can connect your GPS to your PC and download the route into the GPS. You can then tell your GPS to navigate your route from waypoint to waypoint. Pre-planned routes can also be downloaded from walking websites.

**3. Tell you where you have been**

If your GPS is turned on as you are walking, it will record a 'Track' of where you go. This can be used to tell the GPS to 'trackback' - retracing your route to return to your start point. Tracks can also be downloaded back to digital mapping software on your PC as a record of your walk.

**4. Enable you to go Geocaching**

Geocaching is a navigation treasure hunt using a hand-held GPS device. 'Caches' are little weatherproof treasure boxes hidden in the landscape. You obtain or download the coordinates of the geocache from the web and use your GPS device to help you find the cache. Each geocache has its own rating, which takes into account the difficulty and the terrain - the easiest is 1/1 and the hardest is 5/5. The first figure is the difficulty and the second is the terrain. Inside the box you will find a logbook and perhaps some trinkets such as pins, pencils, small toys, etc. Sign the logbook and exchange a trinket if you wish. If you take something from the cache you should always leave something else in return.

Geocaching is a growing worldwide sport. Visit [www.geocaching.com](http://www.geocaching.com) and register. The service is free and when you've logged on you can find clues and coordinates for any geocache in the world !

**5. Tell you lots of other information**

Depending on the features of the GPS receiver, it can also tell you how fast you are walking, how far you have walked, the time of sunrise & sunset and your height above sea level to within approx. 20 metres.

## What is GPS and how does it work ?

The Global Positioning System (GPS) was developed by USA and uses 24 satellites orbiting 11,000 miles above the earth. Each satellite has a precise orbit and transmits data that indicates its location and the current time. By calculating how long the signal took to reach it, GPS receivers can determine the distance between the satellite and itself. When the GPS receiver locks onto at least 4 GPS satellites, it can calculate its position in 3 dimensions. Most hand-held GPS units have an accuracy of 10 - 20 metres. Newer GPS units with WAAS (Wide Area Augmentation System)/EGNOS (European Geostationary Navigation Overlay Service) capability can improve accuracy to 3 - 5 metres by accessing an additional system of satellites and ground stations.



## Basic GPS skills

- Obtain your current position - obtain a grid reference to relate to an OS map or see your location on digital on-screen mapping.
- Mark your current position as a waypoint
- Enter a waypoint for your chosen destination
- Navigate to a chosen waypoint
- Navigate a pre-loaded route (waypoint to waypoint)
- Backtrack to retrace your steps

## Things to be aware of

- Most GPS receivers eat batteries! A set of batteries lasts approx. 12 to 24 hours.
- GPS receivers can only navigate when you are moving.
- GPS receivers need a clear view of the sky to 'see' the satellites. They will not work indoors or in thick forests.
- You still need to pay attention to your surroundings when navigating with a GPS - it will take you in a straight line to your chosen destination...
- You still need a map and compass and the knowledge of how to use them! You should consider your GPS to be complementary to your map and compass, not a substitute.

## Links to further information

Geocaching <http://www.opencaching.com/en/>  
Geocaching Guide <http://www.geocaching.com/guide/default.aspx>  
Geocaching Guide [http://www.geocaching.com/articles/Brochures/EN/EN\\_Geocaching\\_BROCHURE\\_online\\_b&w\\_A4.pdf](http://www.geocaching.com/articles/Brochures/EN/EN_Geocaching_BROCHURE_online_b&w_A4.pdf)

Girlguiding Surrey West Geocaching Badge <http://www.girlguidingsurreywest.org.uk/resources/files/geocaching%20badge.pdf>

Garmin - What is GPS ? <http://www8.garmin.com/aboutGPS/index.html>  
The GPS Primer <http://www.gpsprimer.net/index.html>

**Booking form for the County GPS units**

Name .....

Address .....

..... Postcode .....

Phone number(s) .....

Email address (please write clearly) .....

Guide or Senior Section Unit you plan to use the GPS units with:

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How many units do you want to borrow ..... What date will you be using them .....

Do you want the plastic containers as well (to set up your own waypoint trail) Yes/No

Describe what geocaching experience you have:

Does this include experience using hand-held GPS units? Yes/No

If you have no experience, please state who will be running the activity, and describe their experience as above:

If going off-site, do you hold Level 1 of the Walking Scheme? Yes/No

If so, please give your latest renewal date:

If not, please describe what equivalent experience and skills you have, including mapreading, leadership and group management, or give the name of whoever will be leading the group, with their qualification/experience:

Have you informed/consulted your DC? Yes/No

*If in doubt about answering any of these questions, please phone Jessica Davies on 01326 565366 or email [jessie.m.davies@live.co.uk](mailto:jessie.m.davies@live.co.uk)*

How and when do you plan to obtain the units? (Normally held by Jessica Davies)

How and when do you plan to return the units?

I enclose a Unit cheque for the deposit of £10 per unit ordered. (This will be returned/destroyed on safe return of the units.)

Signed: ..... Date .....

*Please note that each unit requires 2 AA batteries, not supplied.*

**Completed a booking forms need to be emailed to Jessica Davies,**  
[rangers@girlguidingcornwall.org.uk](mailto:rangers@girlguidingcornwall.org.uk).