

COURSE SETTING AND VETTING WORKSHOP



Goal

To devise a course that is safe, challenging and enjoyable for the type of event, in consultation with the event coordinator and map maker.

Principles

- Fairness
- Set for all levels of experience and appropriate to the event (3 hr to 24 hr)
- Safety
- Enjoyable, fun, sense of achievement, challenging.

What is not included but linked:

- Map making
- How to set up and hang the navlights, flag and numbers. See website documents at: <https://act.rogaine.asn.au/about-us/documents/69-actra-reference-documents.html>.

Choosing an area

The ACTRA Committee or the event coordinator may suggest an area, but always welcomes ideas especially if you know a land owner that backs onto a national park or state forest. The factors that make a good area include:

- close to Canberra for short events but can be further for longer events eg the coast or Kosciuszko National Park;
- mix of terrain such as forest (mainly) and open/farmland and a mix of hills and flat;
- limited unpleasant vegetation and no significant hazards such as cliffs;
- has good access to the HH, water drops and safety patrols; and
- has limited number of landowners for permission to hold the event.

If possible, visit the area before starting to set a course or talk to a rogaier who has been off track in the area recently. It is generally up to the coordinator to put in the application for using the area (public lands) and write to private landowners.

Planning the layout

Who is this event primarily for? The bulk of teams entered will only visit half of a course! However, it is best to have the course large enough so that the fastest teams have to visit almost all of the checkpoints.

To estimate the size that the course needs to be, check previous events in similar areas for size and whether they were cleared. Depending on ease of terrain:

- 24 hour events need 100-130 sq kms (A2 size map);
- 12 hour events need about 70-80 sq kms (A3 size map);

- 6 hour events need about 30-40 sq kms (A4+ size map);
- 6 hour metrogaine needs approximately an A3 size map – easier terrain;
- 4 hour winter event would be an A4 size in an easy area; and
- 3 hour twilight event would be an A4 size in an easy area.

Number of checkpoints is approximately:

- 24 hour event: 60-80 checkpoints with 80 to 100 kms of travel directly between all checkpoints;
- 12 hour event: 45-55 checkpoints with about 50 kms of travel;
- 6 hour event: 30-40 checkpoints with about 35 kms of travel; and
- 4 hour event: 25-30 checkpoints.

Distance between checkpoints:

- Easy: 600-700 m apart, on very defined features with good attack points, near tracks; or
- Difficult: 1-2 kms apart depending on type of terrain, with challenging route choice.

Hash House (HH) site:

It is best to plan the course around the HH site with easier checkpoints closer to the HH. Ideally this will be chosen by the coordinator and setters and have plenty of room for tents for admin and catering, parking, camping, toilets, campfires and space for the mass start.

It is wonderful to have the HH central to the course but this is often not possible. For 24 hour events consider having an All Night Cafe if the HH is at the edge of the map.

Set, vet and hang

The gold standard is to desk set the course, tape it, vet the course, then hang the flags. However, this is generally only necessary for championship events. For most events, vetting is done at the hanging stage providing there has been GPS verification of the checkpoint locations.

It is important to leave enough time at the vetting stage in case there needs to be changes, e.g. 2 weeks before the event. As a rough guide, you will need 10-12 weeks to finalise the course and the map and usually longer for 24 hour events.

STEP 1 - PLANNING – DESK SETTING

The map maker will supply you with a hard copy of the map or an electronic version you can print. This is the map that will form the basis of the competition map – generally 1:25,000 scale, 10m contour interval and oriented to magnetic north. It should cover the area you require plus a bit more in case you need to move the course. Avoid using any other maps as this can create mistakes and confusion – only use the map that would be available to the rogaine participants.

In the ideal world, it is useful to have visited the area so you have a feel for terrain, ease of travel, vegetation, road access, HH site and water availability. Alternatively, contact people who have used the area in past events.

Process to build up the course

There are many methods for setting a course. The outline here covers the basics, keeping in mind the principles. Planning is best done on a paper copy of the competition map so you get a good overview and accurately identify mapped features for checkpoints.

Start by marking the HH on the map (triangle), noting that the event coordinator may have already decided where this is. Mark interesting and definable features with circles. Space checkpoints 500 m-1 km apart, depending on the event type, and create multiple route choices (if possible). In rogaines, we always use features that can be defined on the map. If using water drops, mark these on the map too, preferably near a checkpoint or on an obvious route between 2 checkpoints where there is road access.

For a 24 hour event, ensure that there are 4 logical routes from the HH if possible. This will allow teams to come back to sleep, eat at the HH or restock equipment. It also provides additional route choice.

The following are tips:

Fairness:

- If the area is steep, set checkpoints so contouring is a route option.
- Link the checkpoints to use landform routes like spurs.
- Avoid really scrubby thick bush – no one likes it! (Although you may not know where these areas are yet).
- Areas with lots of fallen timber, such as that which occurs a few years after a fire, should also be avoided.
- Avoid extensive areas of scree or pebbles and boulders. These are slow to walk through, particularly if covered in grass or at night, and are good ankle breaking material.

Set for all levels:

- Have checkpoints closer to the HH easier. There are many more slow / beginner teams than elite ones! Consider loops for families that kids would enjoy. Views, old buildings, and interesting landforms are good options.
- For checkpoints further out, make them challenging navigation, e.g. less defined features, no obvious route choice, avoid having tracks as the obvious route choice, avoid out and back checkpoints.
- Flatter areas are less physically demanding but can be difficult navigation especially at night.
- Easier checkpoints could be an obvious knoll; a large creek junction; a spur or gully where there is only one; a checkpoint with a very obvious attack point such as a road junction; or a good catching feature near the checkpoint such as a track or watercourse.
- Harder checkpoints could be a small feature (spur, gully) branching off a larger one; the second of 3 parallel gullies; spurs that are not obvious at the top; gullies or watercourses that are not obvious at the bottom e.g. in flat terrain; or longer distances (1.5 – 2 kms) between checkpoints with a route across complex terrain.

Safety:

- Checkpoints should be located no closer than 1 km from the edge of the map unless there is a good catching feature such as a road. It helps avoid teams walking off the map.
- Identify any out of bound (OOB) areas if known. The course will need to be set so competitors are discouraged from crossing the OOB areas.
- Consider where you might have water drops (i.e. good road access) and on a route between checkpoints. Water drops can be given a point value to encourage use.
- Avoid any areas with cliffs or mine shafts and place checkpoints so teams will not be tempted to cross dangerous areas.
- Avoid any environmentally sensitive areas for either checkpoint locations or route choices.
- Consider safety patrol routes.

Enjoyable, fun, sense of achievement:

- Use interesting looking features for checkpoints.
- Encourage routes via handrails such as spurs and gullies.
- Develop loops of checkpoints.
- Include some difficult and challenging routes for faster teams. For example, setting clusters of checkpoints where slower teams can take a couple of checkpoints in a line, while faster teams will have to zig zag to collect them all.

It is useful to set up a document with a temporary checkpoint number and description (see Attachment 1). As the course is developed the document is updated.

It can be useful to have another person (not doing the event) look over the map and provide comments at this stage. This could be the event coordinator, the map maker or a vetter, or someone else who isn't competing.

Give your map maker a hard copy of the desk desk-set map or a gpx/Avenza file so the checkpoints can be added to the map. A hard copy of the map can then be used on the first site visit to tape the course.

STEP 2 - SITE VISIT #1 - TAPING

This always takes longer than you think! But it is fun exploring a new area and is great navigation practice. Make sure you have landowner permissions to visit the area (especially if you are crossing private property.)

Undertake taping as if you are a rognainer. Dress like one, go on foot and take the usual safety gear. Go in pairs or separately. If separate, make a time to meet or call and know what route the other person was planning on taking in case you need to go searching. Meeting up at lunchtime or for a snack can be useful as you can discuss challenges. In areas with poor reception take the ACTRA satellite phones and PLBs.

Also take:

- the draft map, compass, watch and draft checkpoint descriptions;
- GPS or phone with Avenza – to take waypoints of each checkpoint taped. You will need to pre-load Avenza or the GPS with the draft checkpoints before you go. Also use Avenza or the GPS for tracking roads and trails to ensure their accuracy.
- the tape – take plenty. Use the pink flagging tape provided by ACTRA. It is very visible in the bush unless you have a particular type of colour blindness (check that with your vetter - you may need to take blue and pink).
- camera – take photos for advertising the event and remembering the checkpoints;
- notebook and pencil – to record descriptions, any changes to checkpoints, interesting features and other things to add to the course setter notes. Notes can also be added to the Avenza or just written on your map. (Note: pencil does not work well on Teslin if your map is printed on this instead of paper).

Navigate to the draft checkpoint location with the map and compass. If you can't do this, then competitors won't be able to either! Here's what you need to do:

- Ensure that the map is an accurate representation of the terrain in the vicinity of the checkpoint. For example, there may be more obvious gullies than are shown on the map or lots of knolls that aren't quite high enough to appear on the map, but are reasonably prominent. If the map is not a good representation, it will be necessary to move the checkpoint and provide a new location and description, preferably not too far from the designated location.
- Ensure that the checkpoint is a clearly defined feature and can be easily described. If you are at all uncertain, treat the location as no good.
- Walk away from the checkpoint and check what it might look like in approaching from a couple of angles. It might be an obvious feature from one direction and be very unclear from the other.
- Consider the checkpoint location for teams arriving at night. Is it fair?
- Take a waypoint of the location. If you have pre-loaded a GPS or Avenza map, check the location is within about 10 metres. Allow sufficient time for the GPS reading to settle. For a more accurate reading, particularly if sky visibility is not ideal, there is an averaging function on some GPS devices that can be used. If using this, start the averaging function when you decide on the final location of the checkpoint and by the time you finish taping or setting up the flag, the average will generally be completed.
- Tape a suitable tree, that the checkpoint can be wrapped around, at the precise location where the checkpoint should be hung according to the description, e.g. at the highest point of the knoll; at the centre on the spur; on the watercourse junction etc. A suitable tree would be one about the diameter of your lower leg so the flag can be wrapped around the tree for stability. This could be 20 m from the checkpoint location on the map, so make sure to take a waypoint at the tree's location.
- Make sure that if a checkpoint is hung on the taped tree, it will be visible from most directions and not obscured by scrub, trees etc.
- Hang the checkpoint flag about chest height. If you are anticipating children on the course, hang the flag so they can reach the navlight.

- If the feature is unsuitable, e.g. no suitable tree, you discover a track etc, relocate the checkpoint and/or change the description to indicate its precise location, such as 20 m west of watercourse junction.
- Try to depart from the checkpoint in a different direction to check route options.

If you are satisfied with the location, record the number, make a note of the checkpoint description and GPS the location. Also make notes on approaches or particular hazards that competitors may encounter on the way to the checkpoint, and information about water in creeks, gates, fences, new tracks, and interesting natural features that should be included in the course setters notes. After doing a few checkpoints you won't remember the details so write it down in whatever form you prefer (e.g. in a notebook, in Avenza or on the map). Also take photos. (No wonder this takes time!)

Changing the location of draft checkpoints in the field

Almost inevitable!

If the area around the checkpoint is confusing (e.g. lots of unmarked creeks), the feature is not obvious on the ground, inaccurate on the map, or in hazardous or thick bush, don't use it. Find another location nearby if possible – write down the new description, GPS it and tape.

Only use a feature that is on the map – never use a “nice spot” that is not on a mapped feature.

You can describe a checkpoint site in relation to a nearby feature e.g. 30 m west of the (scrubby) creek junction.

If you have ANY DOUBTS, relocate the checkpoint and/or get the location checked by the other setter.

Note: Do not “find” a new checkpoint location using a GPS or Avenza. Always use the landform mapped feature.

And please remove any tape that is not to be used to avoid any confusion for those who are hanging the flags.

HH site

Have a good look at the planned HH site and make sure there is enough space for the admin tent, marquee, toilets, parking, camping and fireplace (if permitted). Is the road access OK for 2WD cars? Talk to the coordinator about the HH site and any concerns.

Consider if any of the checkpoints near the HH need to be double, that is, have 2 flags and navlights. If the checkpoints are close to the HH, more than 80 teams entered and/or the obvious first checkpoint, then hang double flags and navlights at the checkpoints.

Water drops

Check and GPS the proposed water drop sites. They need easy road access, preferably slightly out of sight from passing traffic so the water bottles don't get pinched. Look for a position where the water bottles could be chained, such as a flat spot near a solid tree.

Tracks

It is highly likely that you will encounter unmarked roads or tracks. If you think that the track will advantage a team if they find it, then it should be “tracked” using a GPS or Avenza and added to the map. PS – this takes extra time! Always mention any unmarked tracks in the course setters notes.

STEP 3 - REVISING THE MAP

Back at the desk/computer or on your comfy chair with a hot coffee, relishing the delightful walk in the bush you have just had and the course setting is well underway. Using all the intelligence gathered on the course, the mapper now has to:

- revise all the checkpoint locations as per the GPS waypoints and descriptions;
- amend roads or trails as required;
- mark on the HH site; and
- mark on water drops, gates, out of bound areas and other features relevant to making the course fair and enjoyable.

The setters will need to work closely with the mapper. The mapper will need a gpx file from Avenza or a GPS with the controls, tacks, water drops etc; OR the GPS unit and your field notes. You will need to review all the edits.

Now is a good time to have an overview review of the course. Are there too many controls? Need more around the HH? Need a sucker control out the back? Is the distance between some controls too large or small? Significant changes may require another site visit.

The checkpoint descriptions should be revised with any amendments. If the feature is on the map, it is described as “**The**” knoll, saddle etc. If the feature is on the ground but implied by the contours on the map then it is described as “**A**” knoll, saddle etc. All checkpoint descriptions must be described in terms of features on the map.

Allocating checkpoint values

Once the course is set, final checkpoint values can be allocated. It is your choice!! Best to devise a method to avoid duplicating numbers.

Try to balance the course so that there is a fairly even distribution of points (assuming a fairly even terrain). For example, divide the course into loops or say quarters and balance the total value of checkpoints in each loop / quarter. This also makes route planning a little more difficult, e.g. a team needs to decide which area to leave out if they are not intending to clear the course (most teams).

Higher values can be given to interesting features, good views, difficult navigation, slower travel or to attract teams (e.g. to a nice area, to use gates or avoid dangerous cliffs). Try to avoid the

“onion ring” effect where all the high points are on the outside of the course which disadvantages (and annoys) slower teams.

Using the bulk of the values between 50 and 80 is fairer than using values from 20 to 110. Especially if the higher values are all far away from the HH.

Think about having some “sucker” checkpoints with lower value to make the fast teams work hard for little return, or to make the course planning a little harder.

Water drops

Larger events over 4 hours will need to have water drops especially if it is hot weather. These need to be identified on the map and included in the checkpoint descriptions. Be specific with the description so people looking for it at night can find it easily. Giving water drops a low point value can encourage use (necessary if it is hot). For longer events, adding some fruit and snacks increases its attraction and interest on the course.

Course setters notes

By now you will have a good feel for the course area and can draft up some course setters notes. An example is attached (see Attachment 2). It is important to mention any hazards, out of bound areas, scrub, water in creeks, unmarked tracks, safety patrols and highlights.

Map revisions

The map maker will need to prepare an updated map for the vetting process with all the revised checkpoints, final numbers, HH site, waterdrops and revised tracks.

STEP 4 - VETTING

The vetter’s role is quality checkpoint of all the checkpoints for accuracy, fairness, safety and enjoyment. Like the setter, it is best to go on foot with the draft map, checkpoint description and course setters notes and, like a rogainer, navigate with the map and compass. Don’t give the vetter any hints!! However, the vetter should travel to checkpoints in a different direction and order than the setter to assess route options.

Vetters can be the same people who taped the course so long as they vet checkpoints they did not tape.

At each checkpoint the vetter checks the location, description and the map features (and in most cases also hangs the checkpoint). For each checkpoint the vetter needs to ask:

- Is the taped checkpoint and surrounding area accurate on the map?
- Is it within 10 m of the (preloaded) GPS location? If not, GPS the location (we recommend taking a GPS of the location regardless).
- Is the tape on the described and identifiable mapped feature? If not, hang it on the mapped feature.
- Is the checkpoint description accurate? (Suggest changes if necessary)

- Are there any hazards en route or at the checkpoint? (Does the checkpoint need moving? Or should it be mentioned in the course setters notes?)
- Once the checkpoint is hung, can it be seen from most directions? Is it hidden say from rogainers at night?

If it is necessary (e.g. answers are “no” to the questions above) move the checkpoint to a suitable location hopefully nearby and hang the checkpoint. Take a GPS waypoint and note the revised description. (It may need subsequent checking).

For most events, the vetting process also includes hanging of the flags. Ideally this is done a couple of weeks before the event to allow time to finalise the map. When hanging the flag, remove all the tape.

Make notes of any changes. If a checkpoint location is significantly relocated, it should be GPSed and may need to be vetted by another person.

The vetter should also provide comments on the course setters notes, safety routes and water drop locations.

All the changes to the checkpoints need to be given again to the map maker. It is helpful for you and the mapper to have a list of all the edits required.

Very last minute changes

On rare occasions, last minute “map corrections” may be required on the day of the event; eg flooded river, extension to out of bounds area, water drop location change etc. Ensure that teams are aware of any changes by:

- marking up 2 copies of the map with the amendments and placing them on a table near registration tent;
- as they register, teams are told about the map corrections; and
- at the briefing, all map corrections are explained.

Finally you will be able to admire your amazing course and lots of people will be out at the event enjoying it!

Attachment 1

Taping checkpoint numbers and descriptions

Temp #	Final #	Checkpoint description	Who taped	Who vetted	Notes / comments
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					

Hanging checkpoints? Here's a list of things you need.

Attachment 2

Hanging checkpoints often (but not always) involves vetting the checkpoint location. This list assumes you will be vetting and hanging at the same time.

Item	Comment
Corflute checkpoint flags	Always take out more than needed in case of damage. 10 of the regular flags fit nicely into a cloth shopping bag. There are also large bags that hold 20-25 flags.
Checkpoint numbers	There are 2 sets of lightweight numbers (laminated with loop cord attached). Take a whole set.
Navlights	Before hanging, the navlights need to be: – charged up (5 days preferably) – set up for the event
Cow protectors	If in an area where domestic or feral animals have been seen (or their poo)
Compass and watch	Navigate like you are in the rogaine (it's great practice!)
The map	Hanging checkpoints/vetting is usually split between a number of people so make sure you are clear which ones you are hanging.
Checkpoint descriptions	The setter will have put these together, but your job is to check they are correct.
Notebook + pen	Handy addition for making notes of checkpoint changes, descriptions and/or interesting things on the course.
GPS	With pre-loaded waypoints of each checkpoint. Note: Do not use the GPS for navigation. It is to verify that the checkpoint location is correct. ACTRA has 2.
Phone	If you are in an area where mobile reception is poor, take the ACTRA satellite phone especially if you are going alone. ACTRA has two.
PLB	Definitely take one of these if you are going alone. ACTRA has two.
First aid gear	Snake bandages and space blanket.
Food and water	Check with the setter if there is any water on the course and where.
Spare clothing	Depending on the weather conditions
Camera	Always good to have photos of the course area and some of the checkpoints hanging in the bush for pre-event publicity. Take one of yourself too!
Big pack	The flags are bulky so start with a good sized pack eg 50 litre
Dress like a rogainer	Don't forget the gaiters!

LOCKING CHECKPOINTS

Metal checkpoint flag	These have the length of chain already attached
Padlocks and keys	They are all the same key
Metal casing with navlight enclosed	The navlights will need to be charged up and set up for the event, then inserted into the metal casing. Do this at home as it is a fiddly process.
Checkpoint numbers	It is not possible to read the number once the navlight is inserted into the casing. Looping the checkpoint number through the locking hole is a good method to ensure you know the navlights number and hang the correct one!!
Business card	These are laminated cards to attach to the flag – for information to curious public and to ask the casual thief not to pinch the gear.
Cloth flag	Add a cloth flag to help with the visibility of the checkpoint.

And all the other things mentioned above.

EXAMPLE

Course Setters' Notes

Tango in Tarlo - 12 hour and 6 hour Rogaine

20 November 2021

Welcome to the ACTRA's post-lockdown event where you can tango with Tarlo. The following information will help you plan a great route for your team. Any questions? Come and ask us at the admin tent.

Timetable:

09.00	Maps available for all teams
10.50	Briefing for 12 hour teams
11.00	Mass START for the 12 hour teams
11.50	Briefing for 6 hour teams
Midday	Mass START for the 6 hour teams
17.30	Hash House open till Midnight
18.00	Finish of 6 hour event
23.00	Finish of 12 hour event

Sun and Moon: Sunset (Sat): 19.49 Sunrise (Sun): 05.44 Twilight is an extra 30 minutes.
Moonrise (Sat): 20.40 Moonset (Sun): 06.41

Restrictions:

- GPS capable devices, altimeters and pedometers are not permitted.
- Maps other than those provided are not allowed.

The map: The map scale is 1:25,000 with 10m contours intervals. The north lines are magnetic north. There may be some unmarked indistinct tracks. The vegetation boundaries are not precise but generally ok. The white areas on the map are open, grassy farmland, but there are other open areas not shown as white. The checkpoint descriptions follow the rules:

- If the feature is shown on the map, then it is described as "**The** ... (knoll, saddle, etc)";
- If a feature is not shown on the map, but is obvious on the ground, then it is described as "**A** (knoll, saddle)";

Vegetation and Terrain: The course area is hilly with some **cliffs** mostly overlooking the Tarlo River. There are also cliff sections in the eastern section of the map NNW of 64 – conglomerate outcrops. **AVOID.** If the contours are very close together or joined – don't go there. Gaiters are very strongly recommended for the occasional scratchy bushes as well as snake protection. The area is mostly very open going and delightful walking, especially along the ridges and spurs. However fallen sticks and rocky areas will slow you down. The northern ridges around 90 and 70 have some looser rocky tops.

We hope you enjoy the flowers as much as we have when setting. Orchids, paper daisies, hibberta, Daviesia and other pea flowers. A large area was checkpoint-burnt earlier this year east of W21.

There are spectacular conglomerate outcrops along the fire trail between 66 and 93, shown as white on the map. As there are some rare plants in this area (*Acacia subtilinervis*), the Park Service has asked that you stay on the fire trail.

Out of bounds: These areas are marked with pink shading on the map. **Do not enter.** In particular, west of 69 and south of 57 – bulls and/or donkeys will deal with you! Other areas marked are around dwellings.

Tarlo river

With the recent rain, the Tarlo River is deep, muddy and slippery. **Do not cross the river.** In particular, do not go directly between checkpoints 82 and 51. It's wet, slippery, too steep and slower. There are no checkpoints on the western side of the river. There are good views of the river from 100, near 86, the spur south from 90 and checkpoint 92.

Water drops and intention boards: There are **2 water drops** on the course (at checkpoints W21 and W22). As the Park Service did not allow us vehicle access, we have placed the water drops at the Park boundary. Please take care in your course planning (esp the 12 hour teams) that you factor in your need for water.

There maybe water flowing in the large creeks and definitely in the Tarlo River. Only drink this water if you sterilise it first.

Each waterdrop has an **intention board** where you are to indicate your team number, the time and the next checkpoint you intend to visit. It helps if we need to look for you.

Fences: There are many **old fallen fences** which are not marked, especially along the ridge tops. In particular, along the ridges wiggling north from 61 to 70 and going west-ish 70 to 90. There are also fallen fences around the Park boundary (green line on the map) and some are barbed wire. Take care! They can trip you quickly and are hard to see even in the daylight.

Gates: Leave all gates as you find them. Only some are marked on the map. The HH is only possible due to the generosity of the McWhirters. Theirs', and the neighbouring property, are working farm. Please respect this. Cross fences at the corner post or hinge side of gates that don't open. Some gates have reminder signs to shut them after you go through!

Roads and tracks: The course has numerous firetrails – some very noticeable like the one running north-to W21 and Potter's Trail past W22. If it is on the map, it is obvious on the ground but could be a bit overgrown. We came across a number of trail bike tracks in the south east around 63 and 95. Beware, they don't always follow your route!

Safety patrol: There will be no safety patrols into the National Park as the Area Manager has not permitted vehicles into the Park. However, if you cannot proceed, we will call emergency services and arrange evacuation. If you are on the higher sections of the course, you may have Telstra reception to call us at the HH. The emergency number at the HH is **0147 148 006** (satellite phone, number on the map). However, in many areas phone reception will not exist. In this case, use your whistle to attract attention and assistance from another team or use your PLB if you have one. Do not leave an injured team mate alone. We will visit the water drops between 4.30pm and 5.00pm to ensure supply which may help if you can get there.

Wildlife: you may be lucky enough to spot a powerful owl, a koala, a yellowbellied glider, or a squirrel glider. Along the river you might see platypus, turtles, kingfishers and ducks, grebes or herons.

Snakes and Treatment for snake-bite: *Wear gaiters!!*. The days are warm and snakes are out and about. If you are bitten, lie down, DO NOT MOVE ! The more you move, the faster the poison travels around the body. Let your partner do the following:

- wrap the whole limb firmly with your broad crepe/elastic bandage(s) starting from the bite area.
- Make a splint if you can.
- Do not let the bitten person move or try to walk out.
- Attract attention from other teams (3 blasts on your whistle).
- Call 000 then call the HH number or let off your PLB.
- Keep the bitten team mate warm, still and calm. DO NOT try to catch the snake.

Stuck for ideas? How about these loops (about 11 kms each):

Permian conglomerate: 69, 77, 66, 93, 40, 54, 101, 67, 76, HH (some fire trails)

Tango to Tarlo: 57, 65, 56, 74, 92, 53, 85, 101, 67, 76, HH (not so many trails)