

Exercise Forest Fire

NARRATIVE

1. You live up at Upper Lomar Farm, a small farm 21 miles from Garrity Bridge in the North Western Highlands of Scotland (a sketch map is attached). It has been a long, hot summer and you have had an excellent hay crop and your barley is safely gathered in. The water level in the loch has fallen and the forest and moors are dangerously dry. There is considerable concern in this heavily forested area and there is a forest fire alert in force.

2. This morning your wife took your daughter and a school friend to the railway station at Logan, a small town 40 miles by road from Garrity Bridge. The girls are due to catch the 9.45 a.m. train to Edinburgh. Your wife also plans to do some shopping for herself and a neighbour, Mrs Robertson, while she is in Logan. Mr Robertson is in Edinburgh in hospital as a result of a car accident. Mrs Robertson, whose leg was broken in the accident, is in plaster and is back in Clachaig Cottage with her 7 year old twins and an aged aunt who is helping out. Understandably she is at present without a car. The cottage is 12 miles from Garrity Bridge and is at the end of a 3 mile track off the Foy Road. Although it is only 3.5 miles from the cottage to the Glen Turrel track to the east, the ground down to the Loch side is rocky and almost impassable.

3. After shopping your wife aims to arrive at the Robertson's cottage by lunch time. You do not expect her home before 5 p.m.

4. Your son and a friend from university have gone in your Landrover to fish at Twin Lochs. To get there they have driven 2 miles up the Glen Roy track and then walked for 10 minutes up the foot path to the Lochs. They have taken a picnic lunch with them.

5. You and your sheep dog are just about to leave your farm on your tractor (the only vehicle left at the farm) to visit your 600 sheep. This entails travelling down the road for 2 miles and 1.5 miles up the hill track. Suddenly you are aware of the smell of wood smoke on the freshening north easterly wind. At the same time you could see a Forestry Commission Landrover approaching from Glen Turrel. The vehicle stops in a cloud of dust. The driver, whom you know, calls out that there is a forest fire raging to the north east at the head of Glen Turrel some 10 miles away. He and the two others working nearby were too late to contain the fire and two of them are now suffering from burns and smoke inhalation. He, the driver, has decided to take them via the short cut hill track to the cottage hospital in Logan. Just as he goes off he asks you to inform the Forestry Commission District Officer in Lorne that the fire is spreading fast and advancing, by his reckoning, at about 3mph. He adds that by now it will only be 1 mile from the Old Stone Bridge. He stresses that the fire must be checked and must not spread to the main forest areas. He tells you to get cracking and to get the vital warning to the authorities, but he departs before you think of telling him that you have no telephone.

6. Some of your immediate thoughts are:

a. It is now 9.30 a.m.

b. Your son and his friend are at the Twin Lochs

c. Mary Robertson, her children and aunt will be in danger.

d. Your wife has the Peugeot which averages 25mph on the roads and 15mph on tracks. She is likely to pass Lomar Bridge between noon and 12.30 p.m.

e. Your son has the Landrover which averages 20mph on the roads, 10mph on tracks. The only way out of Glen Roy by vehicle is by the road that passes your house. Your son can be relied upon to act sensibly in an emergency.

f. Yourself – you have the tractor which normally has a track and road speed of 10mph but at present, with the ancillary equipment attached, this speed must be halved. It will take 30 minutes to detach the equipment.

7. There is a farm track which leads from the farm for 3 miles down to the Loch where there is a boat in a boat house. It would take you 15 minutes to row across the Loch at this point. It would then take you 10 minutes to climb up the footpath to the cottage. The Robertsons have a telephone and there is a public callbox by the road side at Lomar Bridge 16 miles away.

8. The low ground around your house is open fields, beyond the forest area there is mainly open moor land with heather and bracken. If you could get your sheep down to the fields around your farm they would be saved. You and your son are pretty fit and can normally cover the ground on tracks at 3mph. At this time your random thoughts are interrupted by a boy and girl carrying rucksacks, who approach and ask the way to the Falls of Corrie which are about 4 miles up Glen Turrel. You tell them of the forest fire. They become agitated and tell you that they were due to meet 2 friends at the Falls on the previous day but they had become delayed. Their friends had said they would probably stay there for a few days. The boy and girl are worried that their friends would be at the Falls and be in danger from the fire. You are surprised to hear about their friends as you have not seen them. Most campers in the area stop at your farm to seek permission and to buy fresh milk. You wonder if they are at the Falls.

YOUR TASK

Consider the problem. What are you going to do?

Write down your thought process that leads you to a plan. Consider the following:

Aims

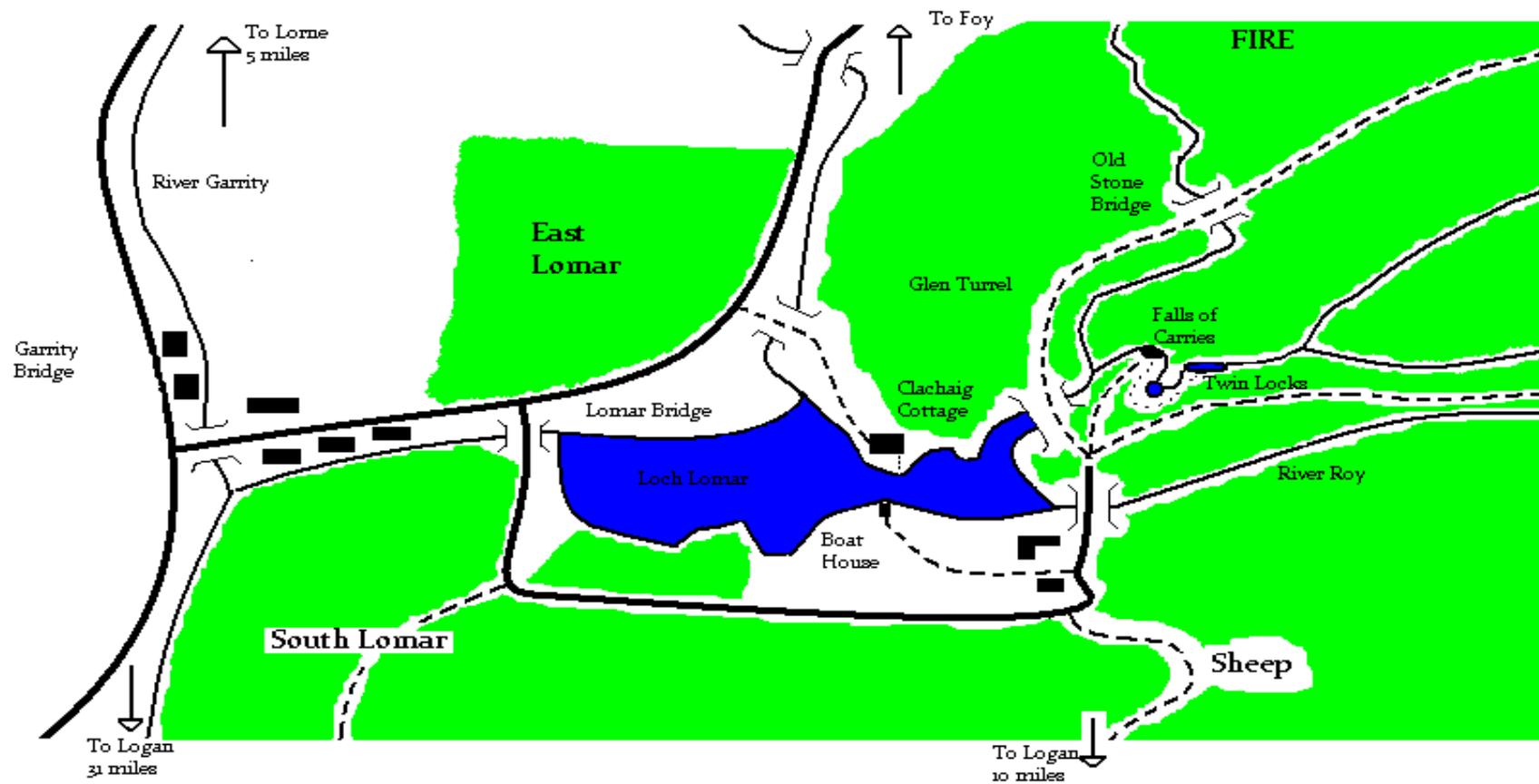
The options open to you – consider each possibility and draw conclusions.

Decide on the best option – give reasons

Outline your plan with timings.

Reasonable assumptions are acceptable provided you state them but in general only use the information provided.

Be prepared to present your plan verbally and to be able to justify it. You will be able to refer to the map and your notes.



Exercise Forest Fire

DS Notes

AIMS

1. Ensure safety of those whose lives are in danger from the fire.
2. Warn authorities.
3. Save sheep.

FACTORS

1. TIME: It is now 0930 hrs.
2. FIRE ADVANCES at 3mph (1 mile in 20 mins)

Therefore the fire will reach:

- a. Falls of Corrie and Twin Lochs (4 miles) in 1 hr 20 mins – 1050 hrs.
 - b. Glen Roy track and Twin Lochs footpath junction (5½ miles) in 1 hr 50 mins – 1120 hrs.
 - c. Clachaig Cottage and sheep (9 miles) in 3 hrs – 1230 hrs.
3. TRANSPORT

- | | | | |
|----|-----------|-------------------------------|----------------------------------|
| a. | Tractor | (1) With attachment | 5mph (1 mile in 12 mins) |
| | | (2) Without attachment | 10mph (1 mile in 6 mins) |
| | | | (½ hr to remove fitting) |
| b. | Landrover | (1) Road | 20mph (1 mile in 3 mins) |
| | | (2) Track | 10mph (1 mile in 6 mins) |
| c. | Boat | Can cross the Loch in 15 mins | |
| d. | By Foot | Footpath or Track | Average 3mph (1 mile in 20 mins) |

4. TELEPHONES

Clachaig Cottage, Lomar Bridge, Garrity Bridge and Logan.

5. PERSONS AT RISK

- a. Campers at the Falls of Corrie. Presence not confirmed. Should be able to escape from fire advancing at 3mph; however, fire could cut off their retreat down vehicle track.
- b. Son and Friend. Sensible and they have transport. Could be trusted to return to the farm and escape fire.

- c. Robertsons and Clachaig Cottage. 2 women (one aged and one in a plaster cast) and 2 small children. They have no transport.

Therefore: Robertsons are at a considerable risk from the fire.

- d. Your Wife. Could be approaching Clachaig Cottage at about the same time as the fire. She could be expected to try and rescue the Robertsons.

Therefore: If the Robertsons have been rescued before the fire reaches Clachaig Cottage your wife will be told of this, so she does not place her life in jeopardy.

POSSIBLE SOLUTION

- 1. There is clearly more than one solution. The choice will depend on the candidate's priorities and assessment of the need to "rescue" the campers at the Falls and your son and friend at Twin Lochs.

The best solution where life could be at risk is to go to the Lochs first, get your son to get to the campers and you take the Landrover to the boat house.

An alternative, leaving the campers and your son and friend to look after themselves, is to get the Robertsons to safety (first Priority), warn the authorities (second priority) by going to the boat house first. By this method you can be back at your home by 1234 hrs. The fire could be expected at the point on the track (9½ miles from the present position of the fire) by 1240 hrs.

- 2. There will naturally be an argument as to:
 - a. Priorities.
 - b. Moral Issues
 - (1) Campers at Falls
 - (2) Effects on the boy and girl hikers if campers are ignored
 - (3) Son and friend
 - c. That the Forest Commission driver and injured men will be in Logan before you get to a telephone!