

Making the Most of

The South Downs

Chris Harrison & Martin Roberts



Agenda

- Introductions
- Objectives
 - Introduce ridge soaring to any pilot of any level, including pre-solo
 - Rationale for the presentation – show what is possible because we are 'Making the Most of the South Downs' !
- Ridge Basics
- Getting Started at Parham
- Weather
- The South Down Ridge
- The Home Ridge
- Going XC – starting off
- XC – further afield To Butser and Eastbourne
- Going faster.
- Using the ridge for Diamonds
- Wave from the Southdowns



Chris Harrison

- First solo 1989 with ATC
- Short break of 20-odd years
- Re-soloed May 2011 @ LAS
- Silver C Completed Aug 2012
- First ridge flight Dec 2012
- First ridge xc Feb 2012

Martin Roberts

- First solo 1987
- First ridge flight for 2nd bronze leg 1988
- 900hrs
- 3 Diamonds
- Ex-Parham/Lasham instructor
- A lot of time on the ridge!



Ridge basics

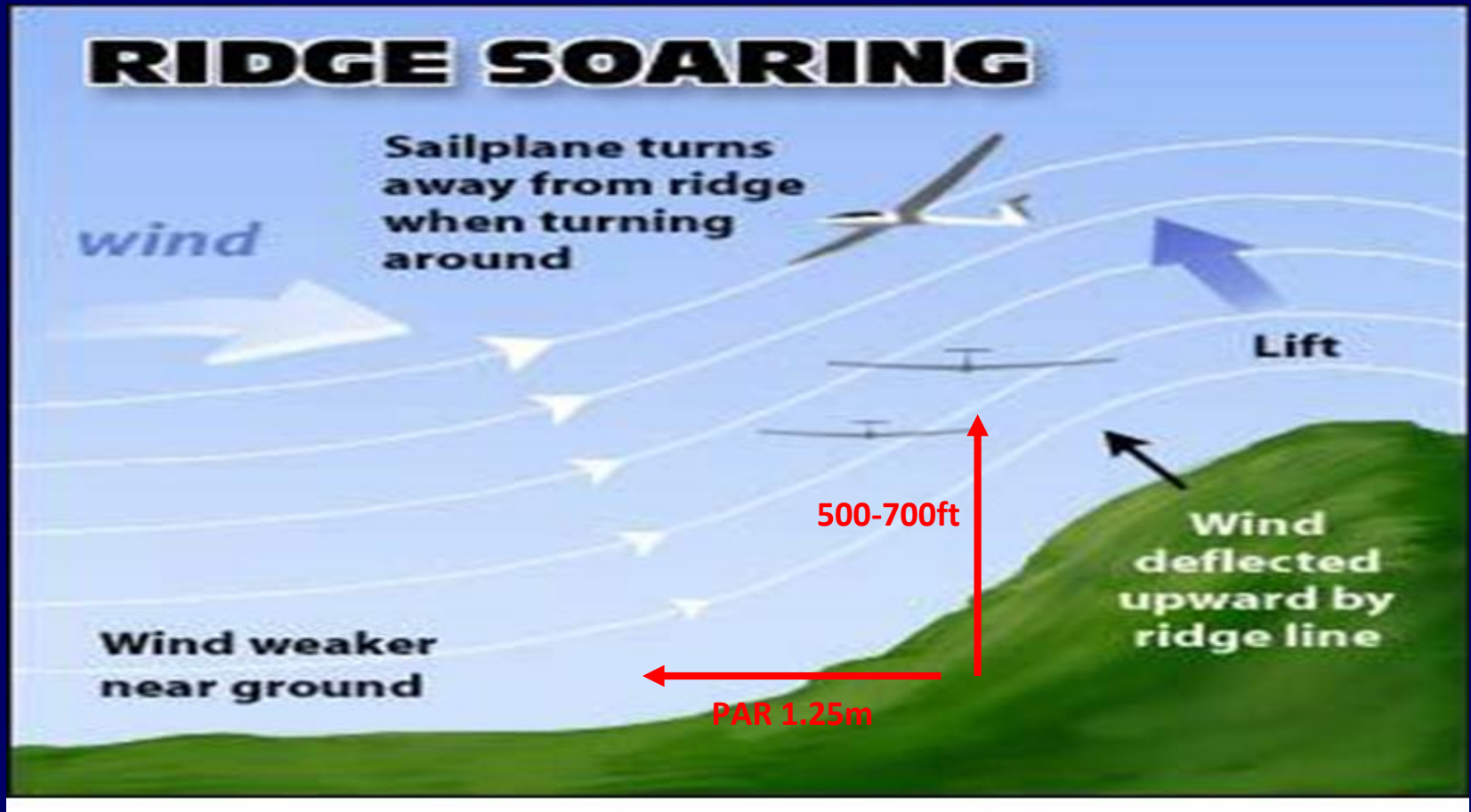
Wind hits slope so has to rise

Aim is to fly in the rising air

Depending on wind strength and direction, lift extends to 1800ft QFE Parham



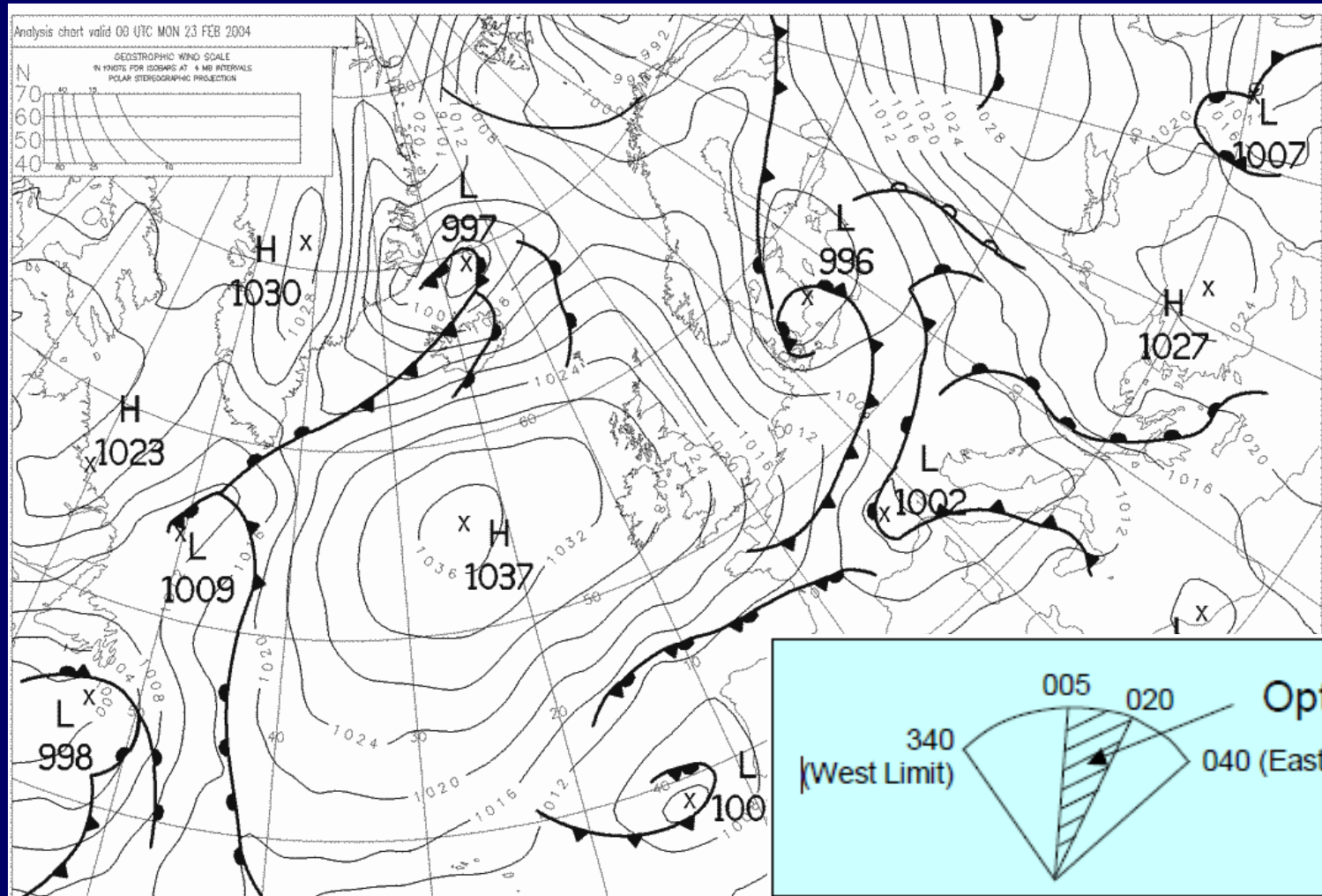
Ridge basics



Getting started at Parham

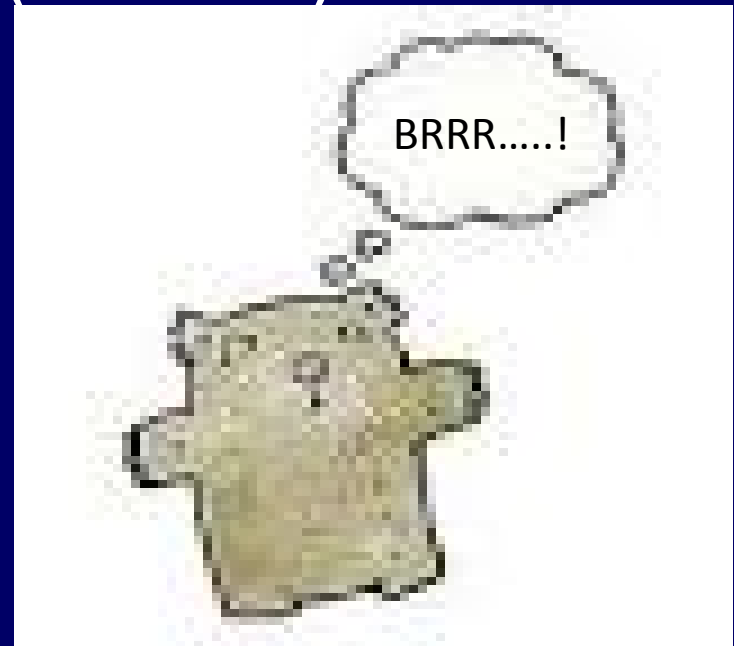
- 110ft ASL (500ft lower than LAS)
- Aerotow only (Pawnee/Super Cub) – ridge days only 1000ft
- Visiting pilots need check flight, including ridge briefing
- Visiting pilots very welcome
- LAS pilots get free reciprocal membership
- Warm clubhouse! Dress warm!!
- Room for trailed gliders
- Flying list operated – first come first served
- Club fleet DG505, ASK21, LS4, Astir
- Aerotow retrieves usually available
- Possible to fly from Lasham to the ridge/Parham with high aerotow

Typical ridge chart



Ridge Weather for the Home Ridge

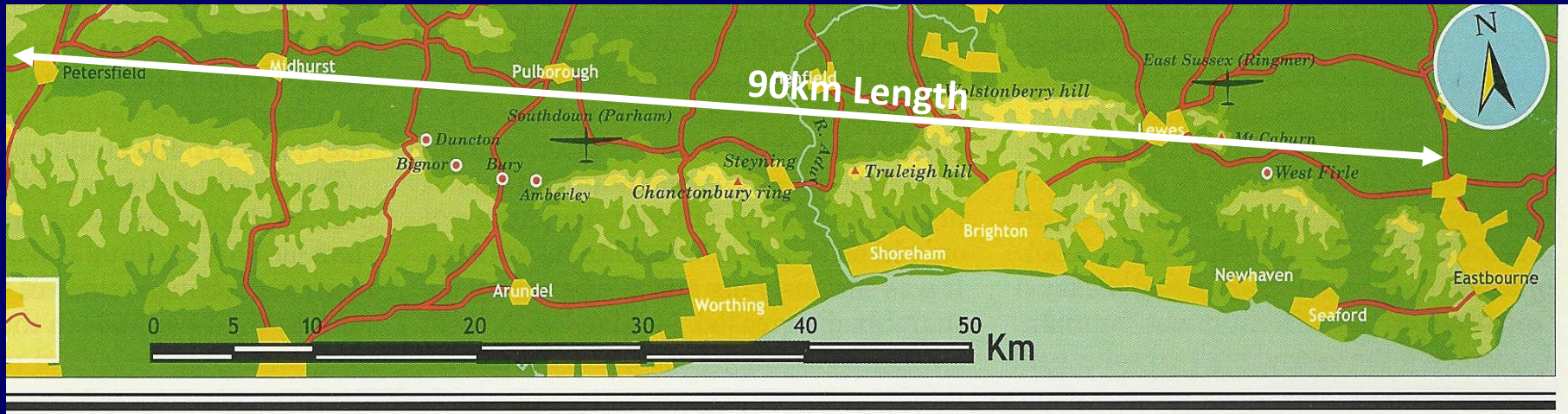
- Northerly 10kts+
- North-west/easterly 15kts+
- 5hrs is possible (but cold)
- Bloody cold!



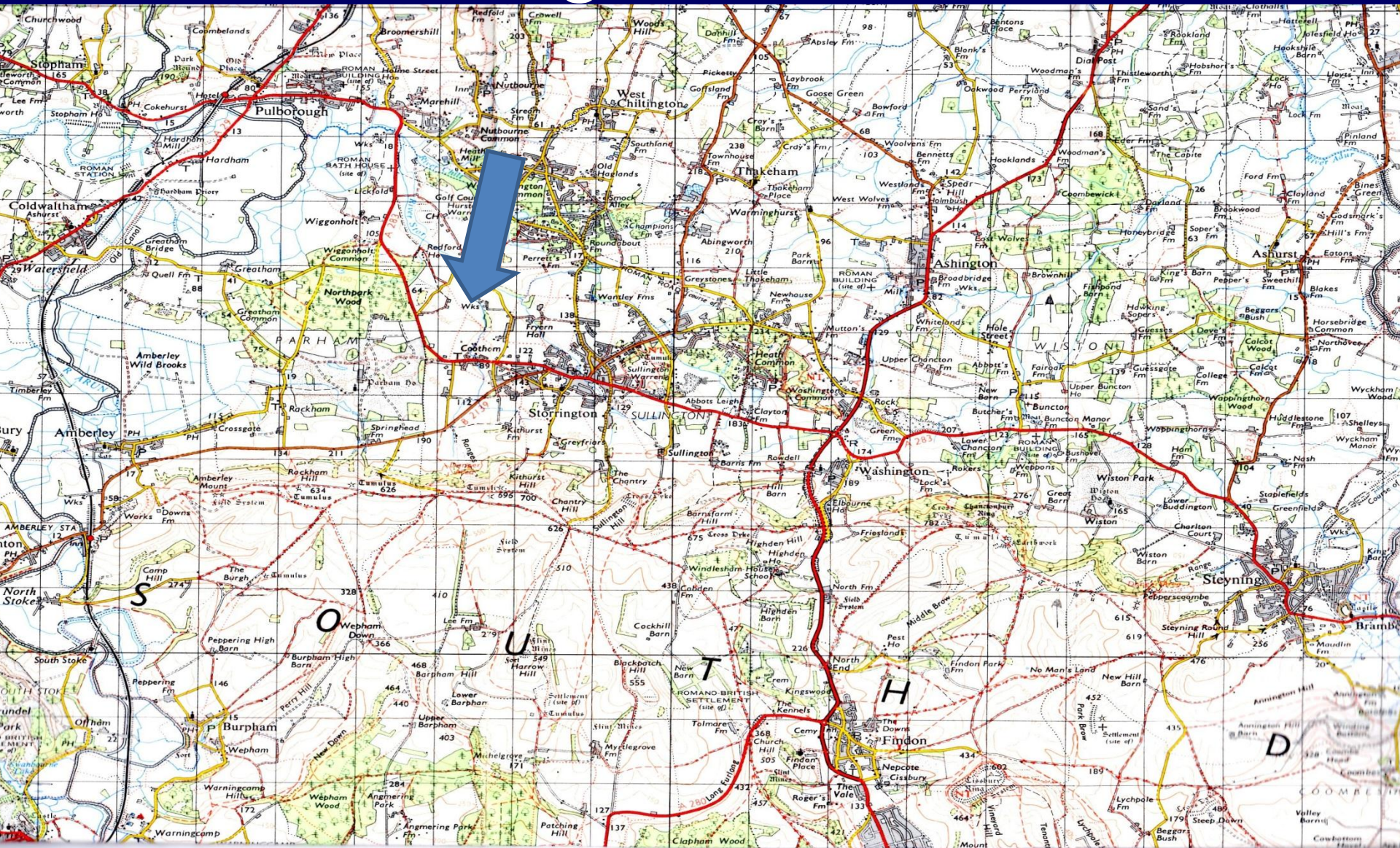
Ridge Rules

- If you have the ridge on your right you have right of way
- Overtake between the ridge and the slower glider
- Always turn away from the ridge

The South Down Ridge



The Home Ridge



The home ridge



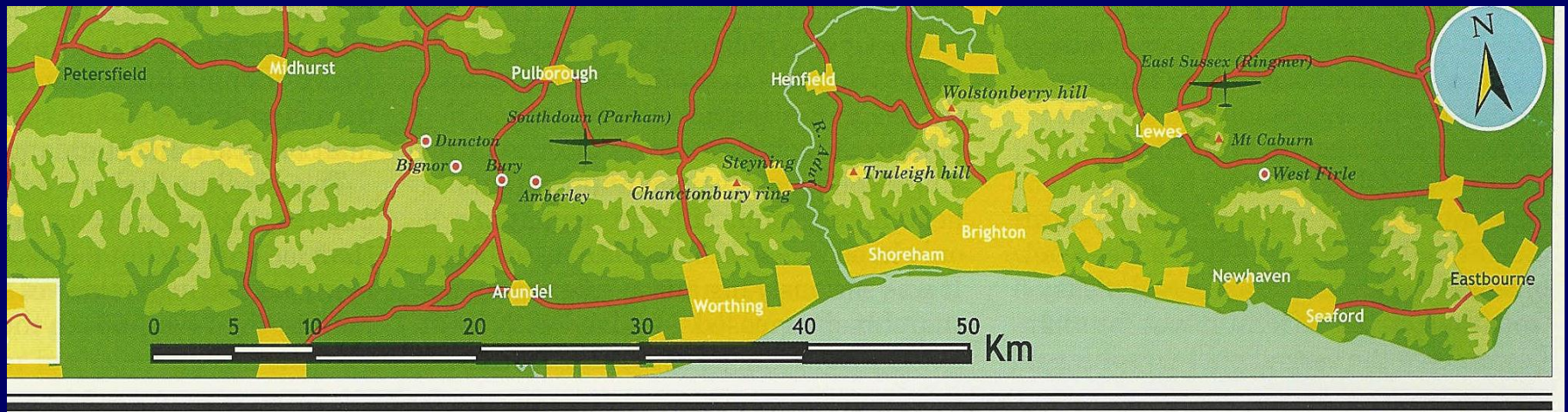
Initial ridge soaring

- Aerotow to 1000ft, release.
- Good look-out, fly straight to ridge.
- Once established, fly along, just in front.
- Work the lift, gain height (10kt N height 800-1000 QFE)
- Keep an eye on the wind strength and direction – be ready to land
- Do not fly too slowly – especially low down
- Keep a good look-out – gliders will be occupying the same air
- MUST obey the ridge rules!!!
- Work beats of the ridge, Amberley to Chantonbury
- Explore, enjoy, breathe...

Starting ridge XCs

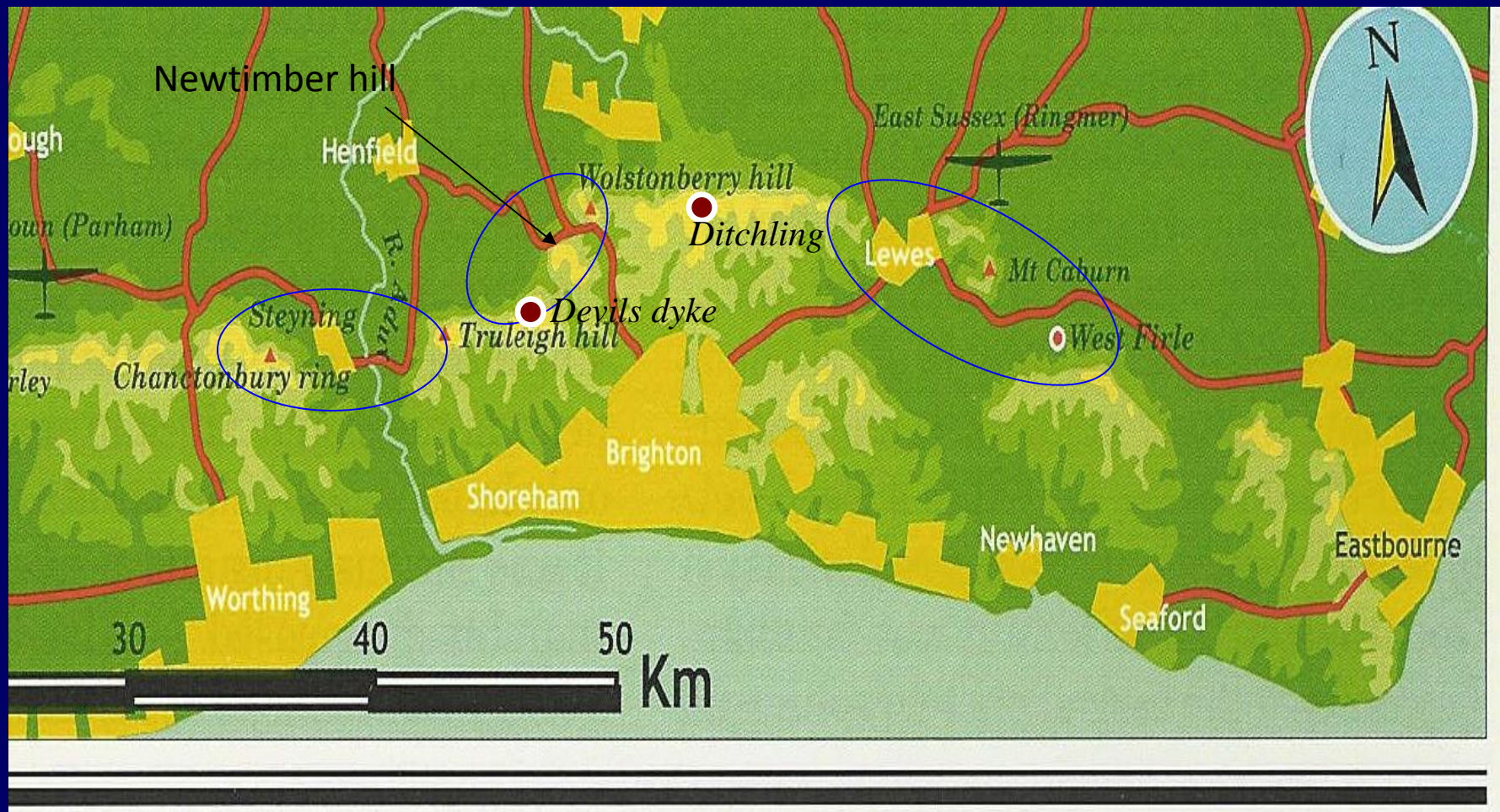
- If the home ridge is working to 1200ft.....
-then more is possible
- The ridge is not continuous – there are gaps
- Height is needed to cross the gaps
- Crossing the gaps is the challenge
- Depending on the wind, some gaps are harder than others

The Gaps...



Lasham - Adventures in the Skies!
GLIDING

The Gaps Going East





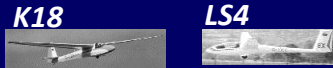
Wind: 020/15kts (ideal)

- Going east first

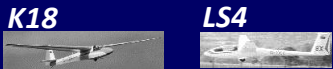
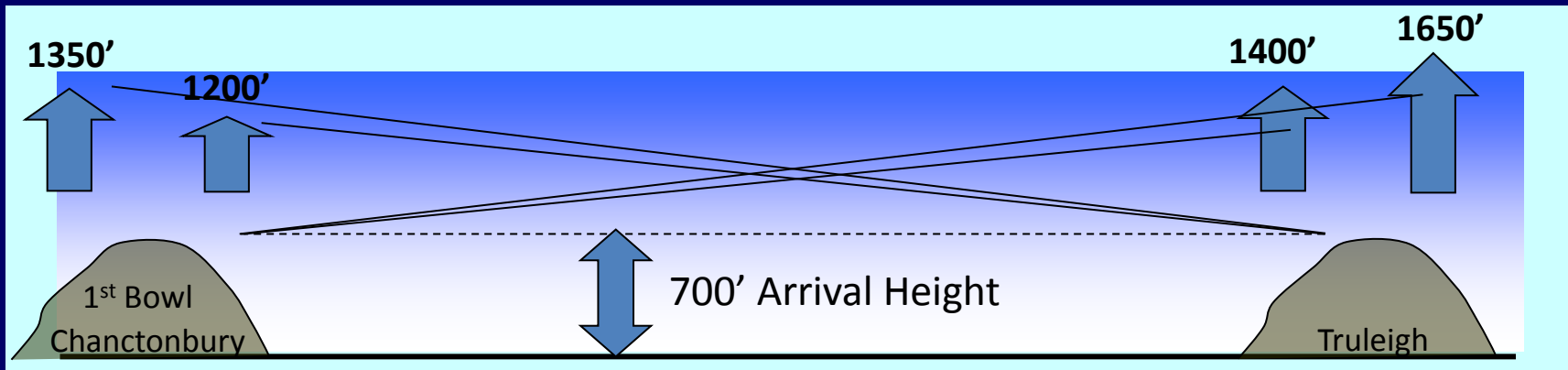




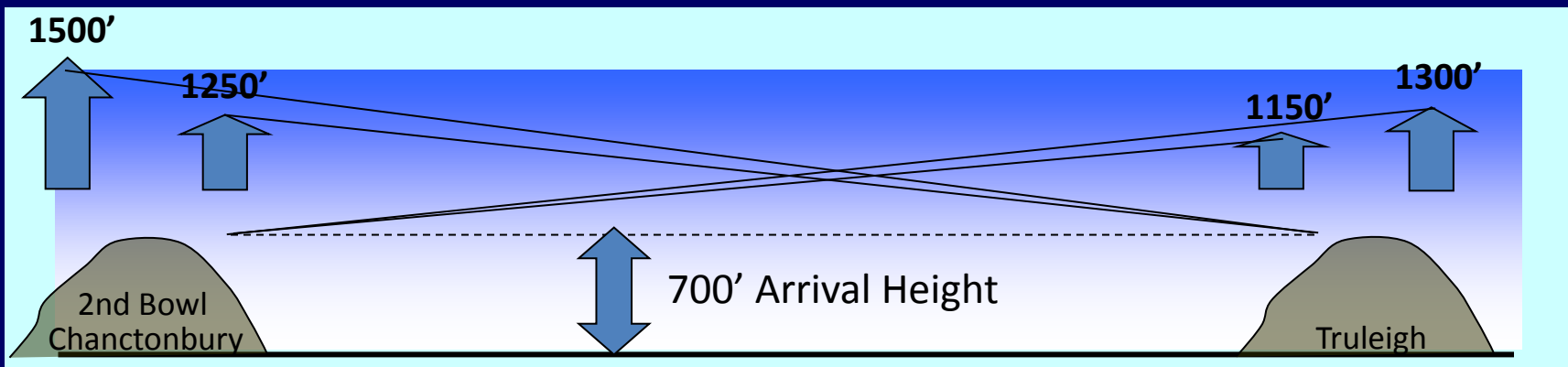
Crossing heights (QFE PAR)



North West Wind



North East Wind



Keep an eye on the fields

- Ridge flying is done below normal thermal days 800-1100ft
- It will look wrong initially
- Learn to love zero
- Need to be assessing conditions constantly
- Ridge flying is an exercise in field selection
- As you leave to cross a gap, check the fields – they will be there on the way back

This is a detailed topographical map of the Albourne area in Sussex, showing the Roman road network. The map includes numerous place names, contour lines, and a grid system. Three blue arrows point to specific locations: the first points to the Roman road between Albourne and Hurstpierpoint; the second points to the Roman road between Albourne and Poynings; and the third points to the Roman road between Poynings and Fulking. The map also shows the River Arun and various other geographical features.

Devils Dyke to Wolstonbury



Trouser filling episodes....



Wolstonbury Saddle

- Get through the saddle – you may be low – low enough to fill your trousers.....
- Press on towards Jack and Jill
- Little rule: don't linger in a poor area – press on



Jack and Jill windmills



Ditchling

- Is always booming
- Press on to Lewes North (LWN)
- Turn and head back
- More Ditchling – beware kites
- Back to Wolstonbury, Devils Dyke – downwind, easy
- Back to Chanctonbury and the home ridge

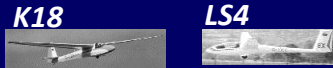
Trouser filling episodes....



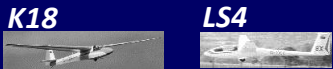
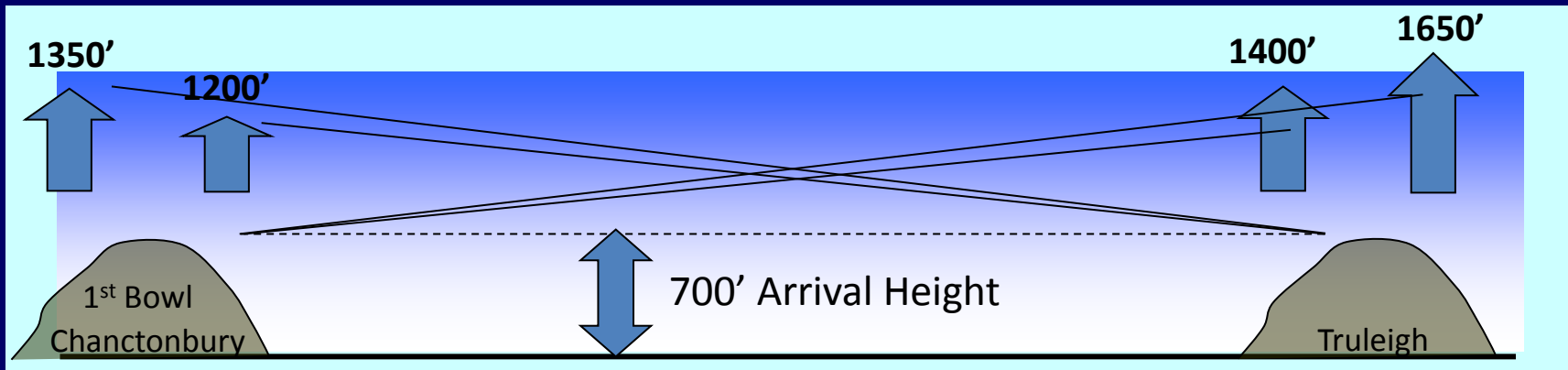
Truleigh to Chanctonbury



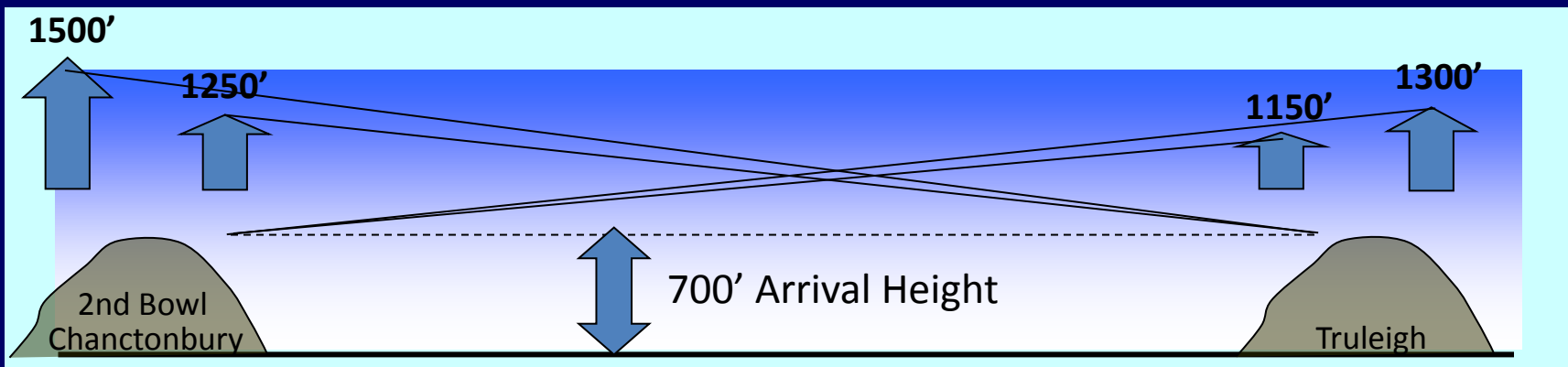
Crossing heights (QFE PAR)



North West Wind



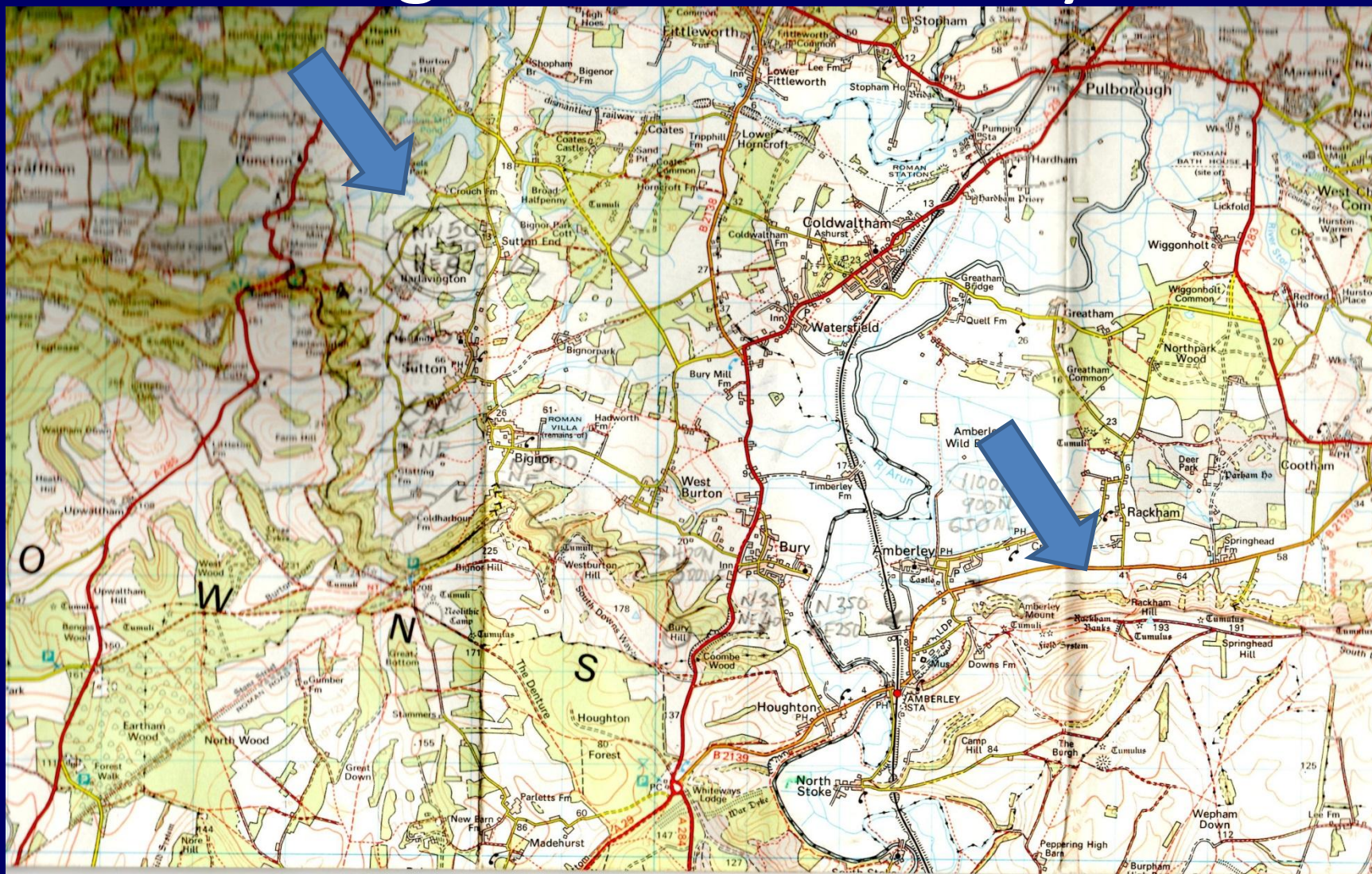
North East Wind



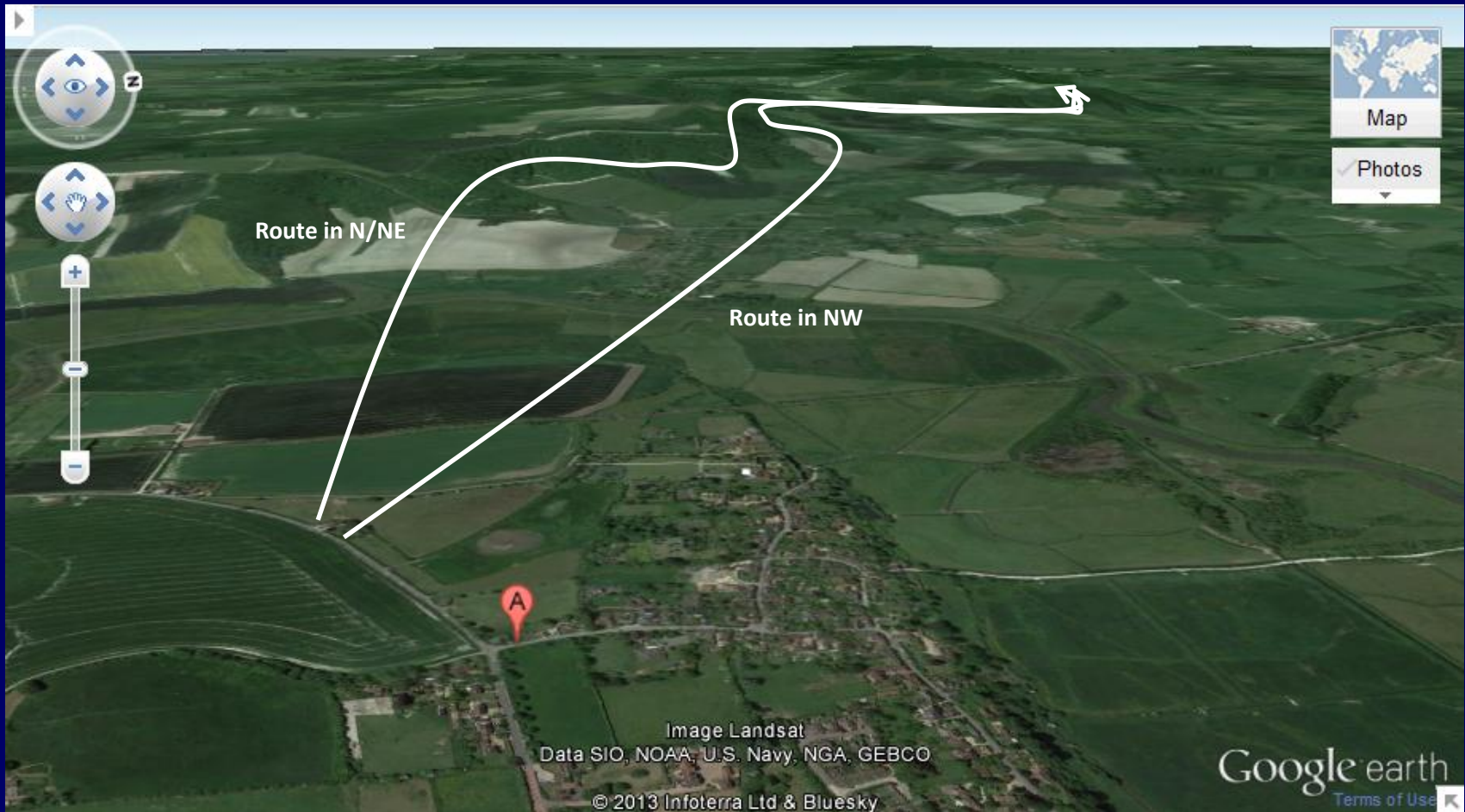
Going west – Amberley



Going west – Amberley



Going West – Amberley Gap



Amberley to Harting

- 1200 ft should be enough in 020/15kts
- Cocking gap – very minor
- Onto Harting – green spired church
- Turn and headback



More advanced – for Intermediates

- Western extension – at Harting just keep going west to Butser Mast (BUT).
- The ridge is lower and more broken but works ok in 15kt+.
- Mind the power cables.
- You get to BUT quite low but the section of ridge at the mast works well enough.

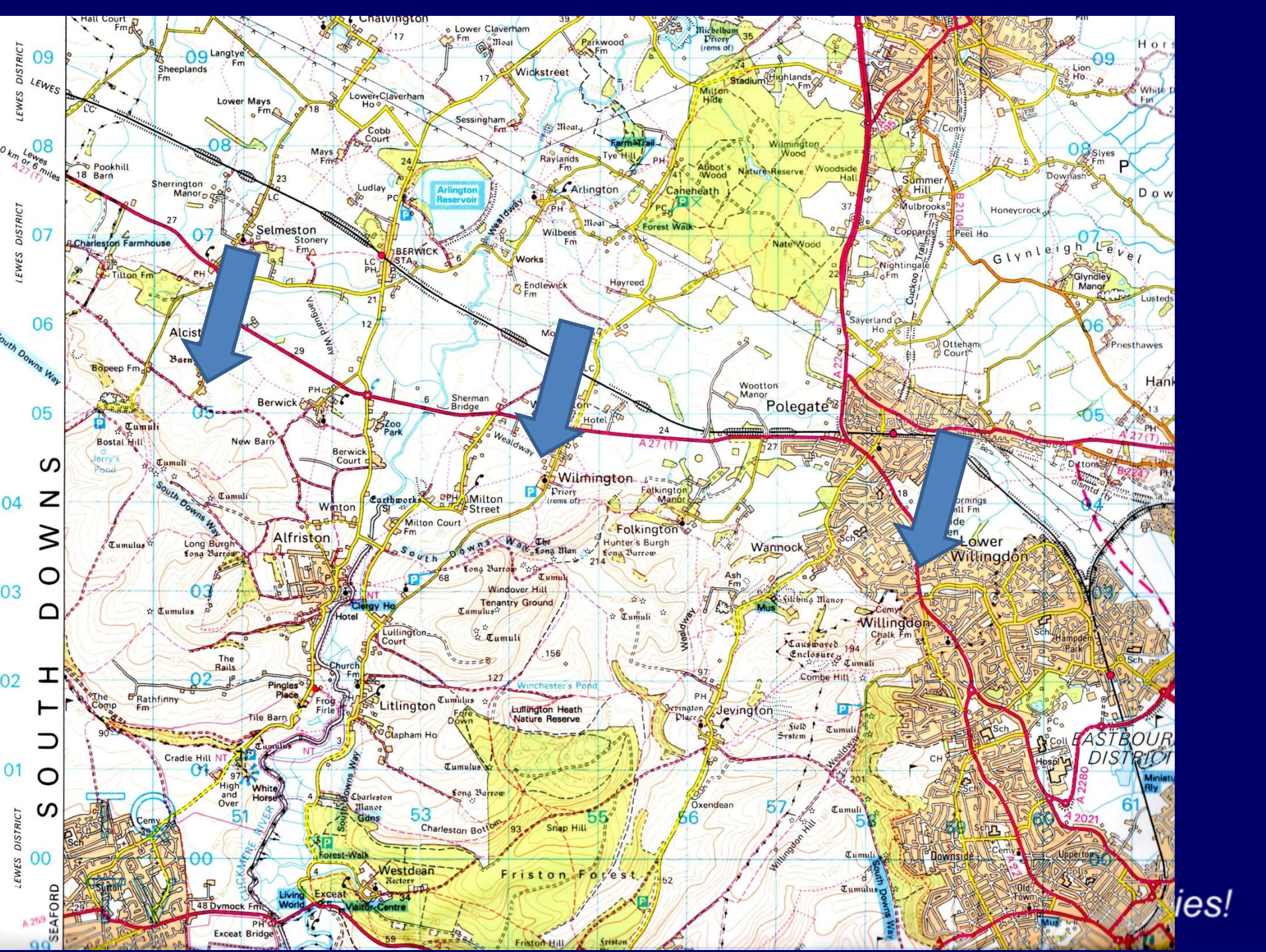


Eastern extension to Eastbourne

- Needs to be East of North, 15kts+
- It's good to have just a smidgeon of thermals to help with gap crossing – in pure ridge lift it's Pundits only.....
- It's brilliant fun!!!

Eastern extension to Eastbourne





Eastern extension to Eastbourne



Techniques for going faster

- Use speed to fly theory and try to find a “balance” point for the flight, eg, 800’ on the altimeter might be achieved at 90kts and zero on the vario.
- Approaching a gap pull the speed into height and if you’ve got the height – set off.
- If there are streets – and you are approaching a gap – work the street into wind even if it’s only Zero. This way you gain ground into wind and lose nothing, you may even gain height.
- Don’t turn!
- Watch others in front of you. Watch where they pull – you can pull in advance and gain more than them.

Going even faster!

- With care, practice and experience, speeds of 135-145 kph can be achieved using the Southdown ridge over 100-300km tasks
- Maximum speeds can be achieved by;
 - Utilising *optimum conditions* (000-020 at 15-20 kts)
 - Running the ridge crest at *maximum* possible speed
 - Managing energy and altitude to *avoid the need to turn*
 - *Crossing gaps at maximum speed* consistent with acceptable arrival height
 - Taking the most *direct route* possible especially around forward or backward jumps (ie Duncton / Dyke / Firle)
 - *Optimising glider* for high speed (ie 15m + Water)
- Typical maximum Speeds;

– PAR-HAR-LNW-PAR	123km	52mins	143 kph
– PAR-BUT-POL-PAR	175km	78mins	134 kph

Ridge lobs

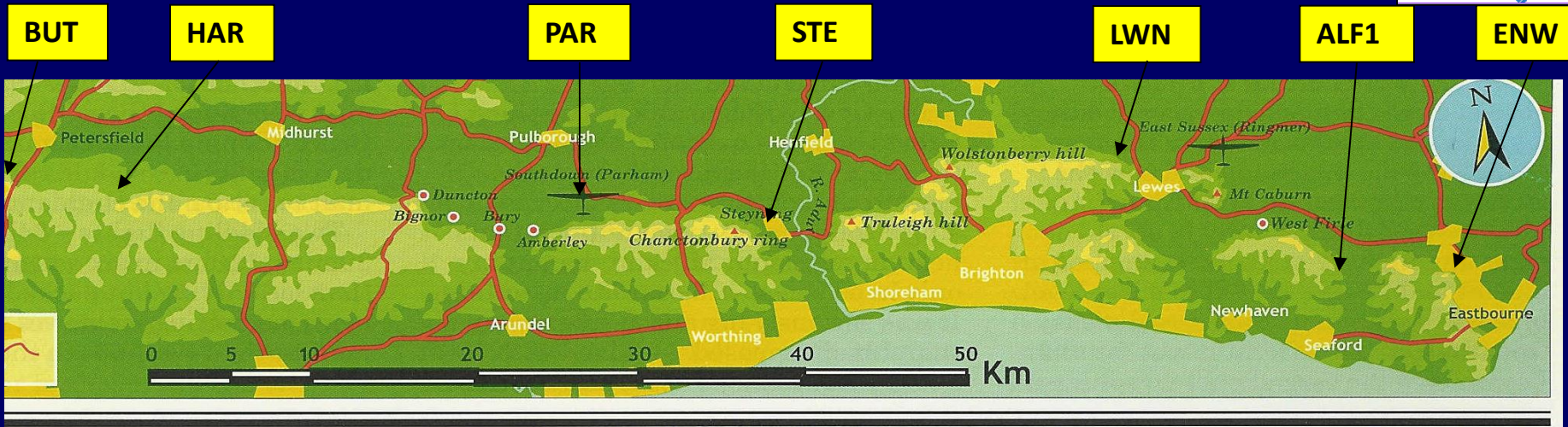
My John Willy calculator says that my old Pegasus will go 15nm and lose 2000' doing it if it has a 10kt tailwind.

That means if you take a 3000' tow overhead LAS to 3000 QFE and fly to Harting which is 15nm away your arrive at HAR with 1000' QFE which is 1500' QFE Parham – No problem!

Hazards;

- Other air users.
- Bad viz, rain, snow.
- Wind dropping or moving off limits.
- Hang gliders, parascenders, kite and model aircraft fliers, especially at Harting, Devils Dyke, Ditchling.
- Wires and cables @ Truleigh/Devils Dyke AND Harting/Butser

Turning Points & Task Options



What's on?

1 = easy

1* = really easy!

3 = intermediate

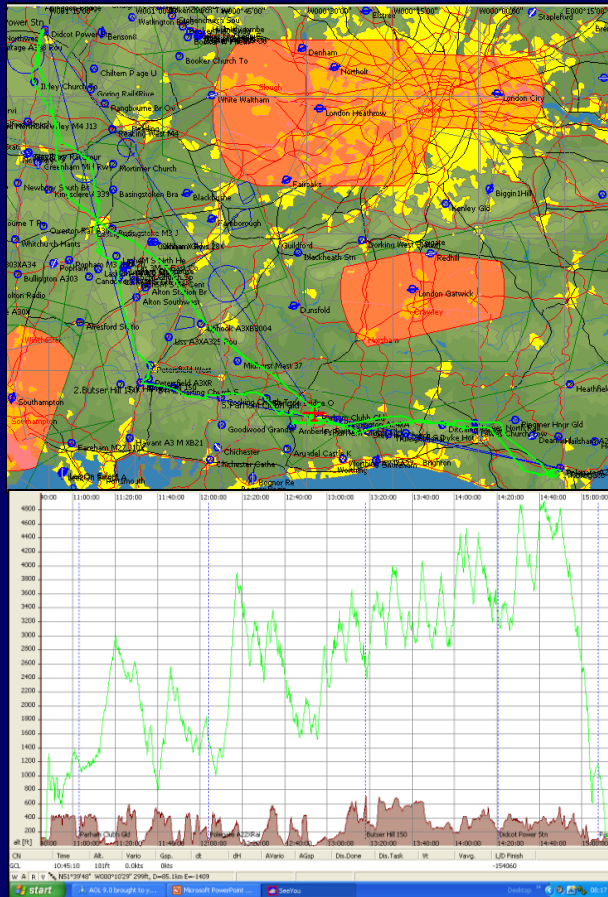
5 = Pundit!

	320'	340'	0'	020'	040'	050'
What's on @?						
10kts	Home	Home	H-H=4	H-H=3	Home H-H=4	Home
15kts	Home H-H=5 BUT-LWN=5	Home H-H=3 BUT-LWN=4	H-H=2 BUT-LWN=3	H-H=1 BUT-LWN=3 BUT-ENW=3	H-H=2 BUT-LWN=3 BUT-ENW=3	Home H-H=5 HAR-ENW=5
20kts	H-H=3 BUT-LWN=3	H-H=2 BUT-LWN=3	H-H=1*	H-H=1* BUT-ENW=2	H-H=1* BUT-ENW=3	H-H=3 HAR-ENW=3
25kts	H-H=2 BUT-LWN=2	H-H=1 BUT-LWN=1	H-H=1*	H-H=1* BUT-ENW=1	H-H=1* BUT-ENW=1	H-H=2 HAR-ENW=3
30kts	Hard	H-H=1*	Superb	Superb	Superb	Hard

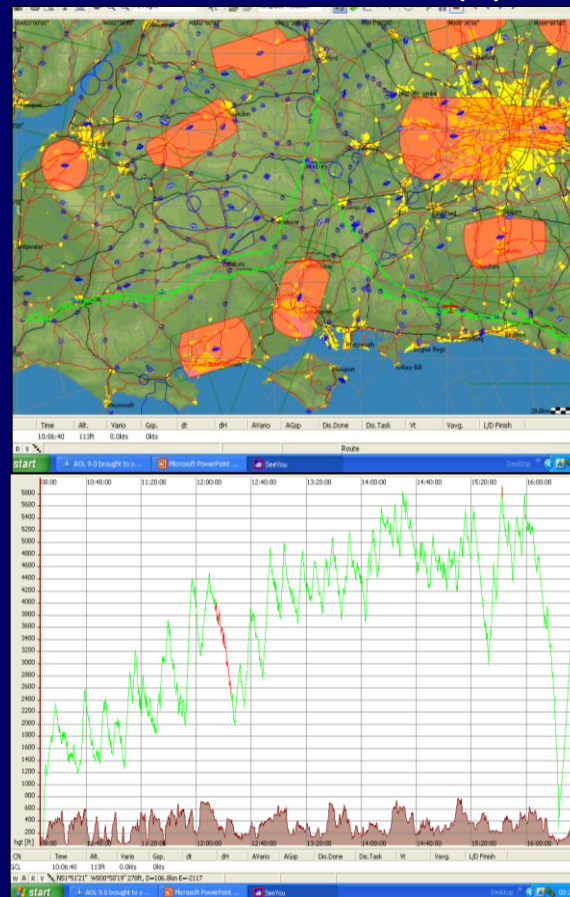
Using The Ridge to Extend the day...

Three Predeclared Tasks from 2005/2006

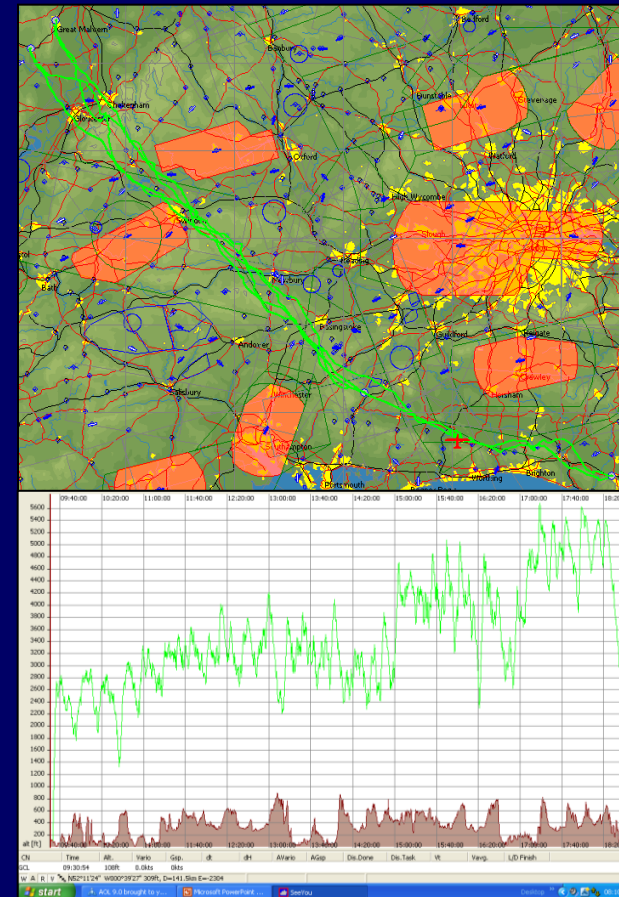
307km POL-BUT-DID



505km POL-CHA-DID (*)



765km POL-GRM-LSS-LED




Start Earlier / Minimise Early Landouts / Increase speed / Fly Further

* Clearance obtained for Southampton ZoneTransit !

Wave in the Southdowns

- Wave conditions: warm front nearby, wind over the ridge.
- In Southerly or South-westerly winds 15kts+ wave can set up to the north of the Downs.
- Wave in these conditions is quite common in the Amberley valley and in the Truleigh area.
- Quite possible to do the “ridge runs” but in wave!!!

Southdown Ridge Running

- The Southdown hills offer access to a *unique* soaring capability which enables cross-country flying to extend all year-round
- With care, long flights can be achieved even in modest performance gliders 
- Flying conditions, especially wind strength and direction can significantly effect task selection and must be considered before and during flights
- Significant knowledge and experience exists and is available to allow you all to enjoy this fascinating aspect of cross-country flight

THANK YOU!

Chris Harrison & Martin Roberts

