



# Euclid's Challenge

DDSC New Cross Country Training  
Tool

# Background



- **Euclid** (300 BC), also known as **Euclid of Alexandria**, was a Greek mathematician, often referred to as the "Father of Geometry".

source <http://en.wikipedia.org/wiki/Euclid>

- The set TASK is modified using geometrical principles (more later)

# Objectives



- Encourage common tasking (recent focus lost)
- Coaching Tool (optional)
- Handicapped for Glider performance only (ie using Club Class handicap)
- Allows post flight analysis/benchmarking either individually or in a group environment
- 'The first glider home' is the Winner (ie simple)!!!

# Implementation



- To be trialled during spring/summer 2014
- 5 Tasks initially set
- Tasked areas are to the Southeast, West and Northwest
- 2 (triangle) or 3 (quadrilateral) Turnpoints (ie no conflicting traffic)
- 1 or 2 of these turnpoints have a variable sector - dependant on glider handicap
- Therefore gliders will typically Start and Finish together (like a comp)
- The glider with the quickest 'Task Time' is the winner
- Either a 'Start Window' or 'Start Time' (eg racehorse) can be used.

# Example - 119km Triangle to the South

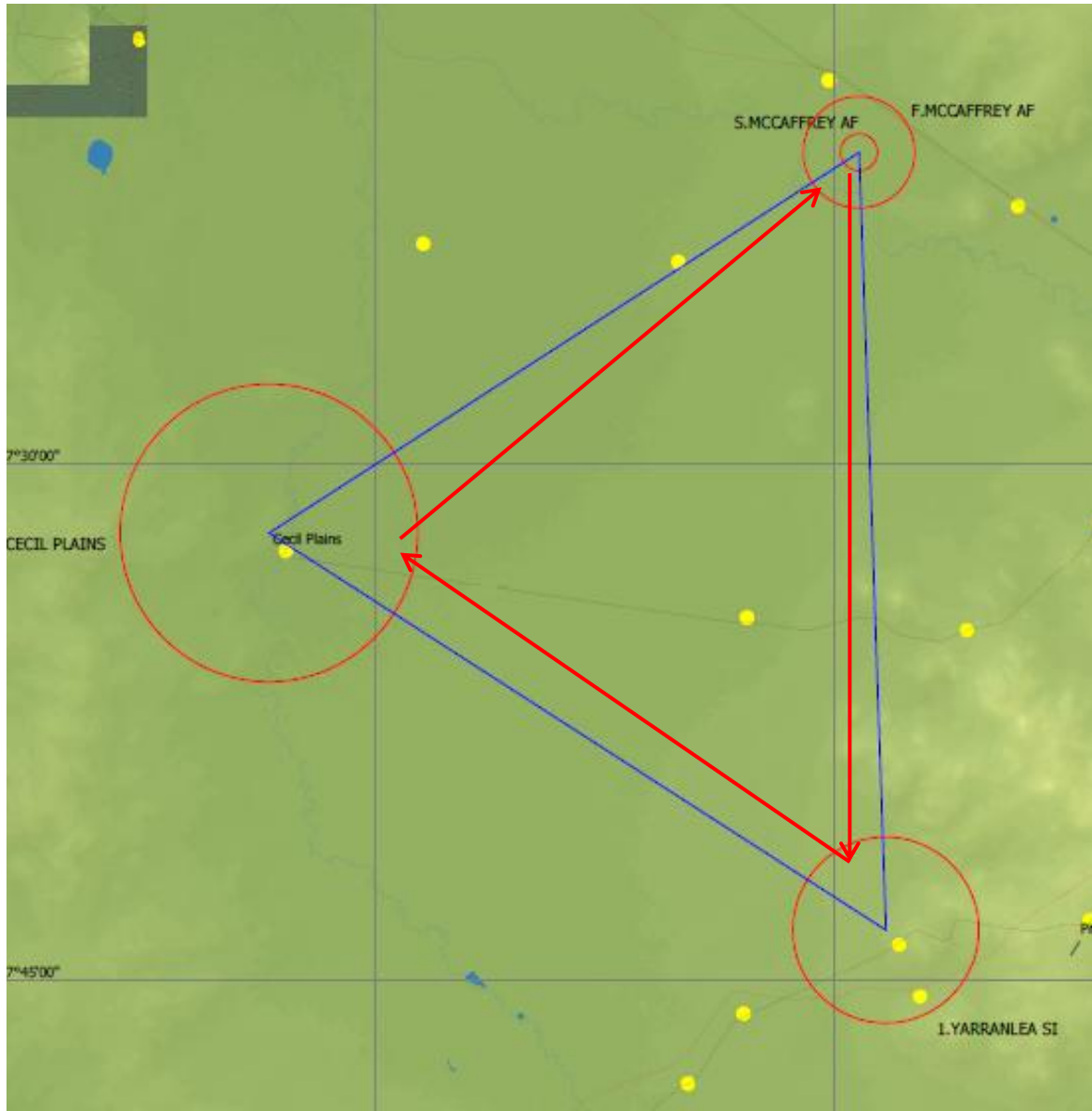


- Start DDSC 1km Radius
- TP 1 Yarranlea Silo (Variable Radius)
- TP 2 Cecil Plains (Variable Radius)
- Finish DDSC 3km Radius



### 119km Triangle to the South

- The shown Task is for a **Hornet**
- 1.0 km Radius DDSC (Start)
  - 5.0 km Radius on Yarranlea Silo
  - 3.1 km Radius on Cecil Plains
  - 3.0 km Radius DDSC (Finish)
  - Total Task 104.8km
  -





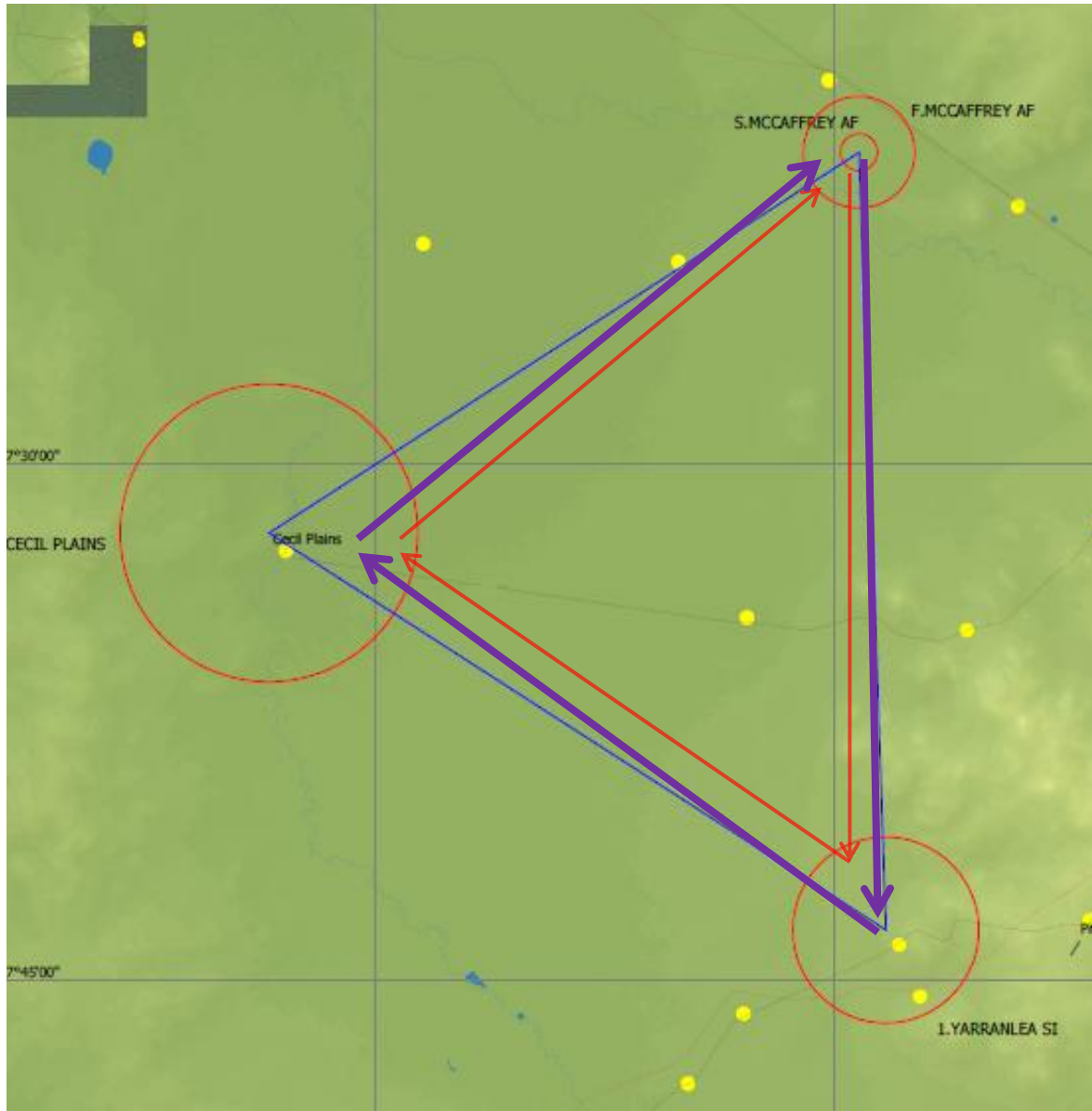
### 119km Triangle to the South

The shown Task is for a Hornet

- 1.0 km Radius DDSC (Start)
- 5.0 km Radius on Yarranlea Silo
- 3.1 km Radius on Cecil Plains
- 3.0 km Radius DDSC (Finish)
- Total Task 104.8km

Because of the better performance of an **LS7**, its task is

- 1.0 km Radius DDSC (Start)
- **0.5 km** Radius on Yarranlea Silo
- **3.8 km** Radius on Cecil Plains
- 3.0 km Radius DDSC (Finish)
- Total Task 111.6km



# How Do I know my 'TP Radius'?



*Gliders to be - Dry only*

<u>Aircraft</u>	<u>Handicap</u>	<u>Task Distance</u>	<u>TP 1 Circle Radius</u>	<u>TP 2 Circle Radius</u>
ASG 29	1.135	118.9	0.0	0.0
Ventus 2c 18m	1.125	117.9	0.0	0.6
ASW 27b	1.115	116.8	0.5	117.7
Arcus	1.110	116.3	0.5	1.0
Nimbus 2	1.110	116.3	0.5	117.2
ASW 20	1.085	113.7	0.5	2.6
Duo Discus	1.085	113.7	0.5	114.5
Ls 3	1.075	112.6	0.5	3.2
Discus B	1.065	111.6	0.5	112.5
LS 7	1.065	111.6	0.5	3.8
Mosquito	1.065	111.6	0.5	112.5
SZD 55	1.065	111.6	0.5	3.8
ASW 19	1.020	106.9	0.5	107.7
Jantar Std 2/3	1.010	105.8	5.0	2.5
<b>Hornet</b>	<b>1.000</b>	<b>104.8</b>	<b>5.0</b>	<b>113.6</b>
Jeans	0.980	102.7	5.0	4.4
Libelle Std	0.980	102.7	5.0	111.5
ASW 15	0.960	100.6	5.0	5.6
Puch	0.835	87.5	5.0	13.4



# How Do I know my 'TP Radius'?



*Gliders to be - Dry only*

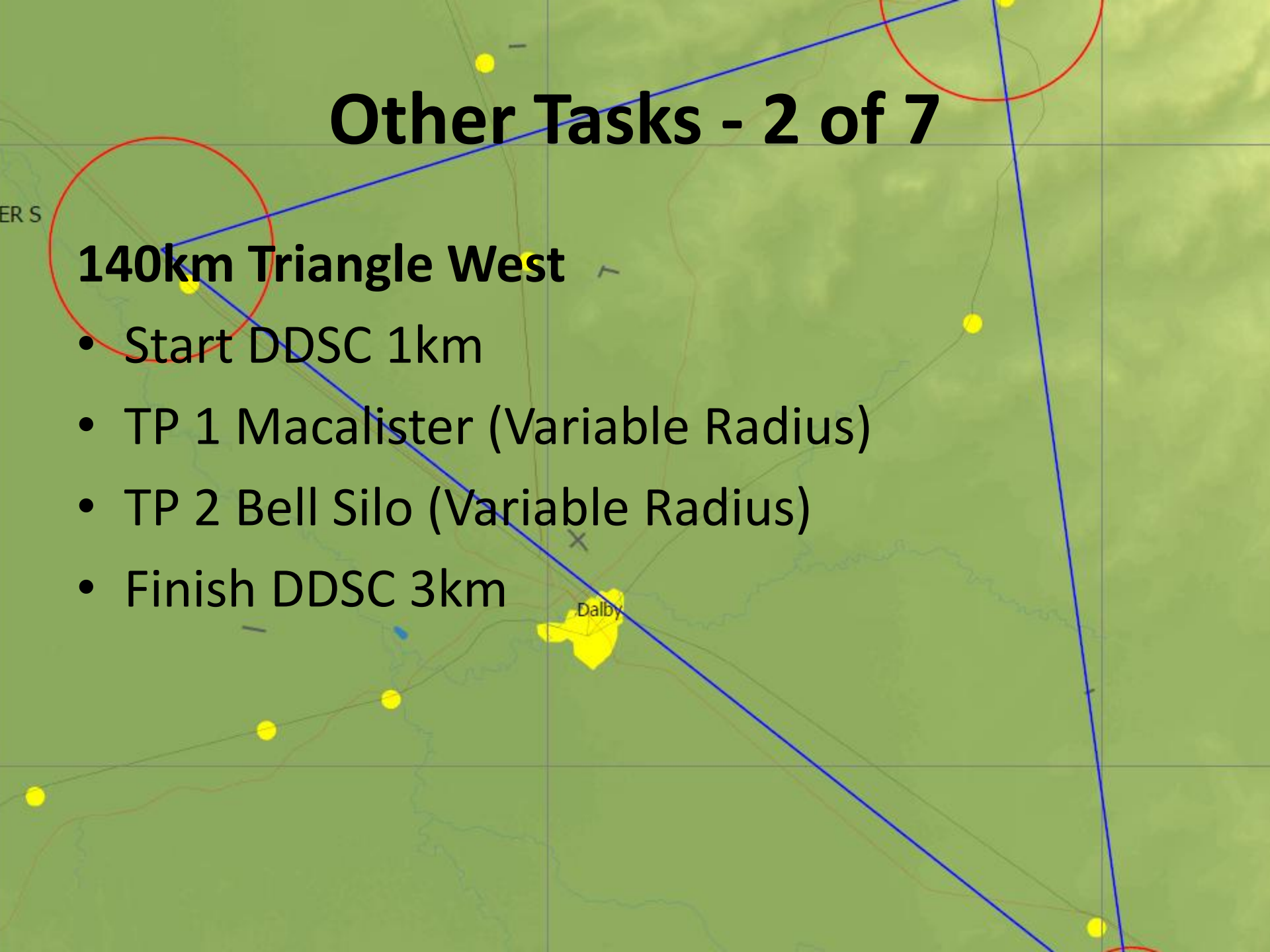
<u>Aircraft</u>	<u>Handicap</u>	<u>Task Distance</u>	<u>TP 1 Circle Radius</u>	<u>TP 2 Circle Radius</u>
ASG 29	1.135	118.9	0.0	0.0
Ventus 2c 18m	1.125	117.9	0.0	0.6
ASW 27b	1.115	116.8	0.5	117.7
Arcus	1.110	116.3	0.5	1.0
Nimbus 2	1.110	116.3	0.5	117.7
ASW 20	1.085	113.7	0.5	2.6
Duo Discus	1.085	113.7	0.5	114.5
Ls 3	1.075	112.6	0.5	3.2
Discus B	1.065	111.6	0.5	112.5
LS 7	1.065	111.6	0.5	3.8
Mosquito	1.065	111.6	0.5	112.5
SZD 55	1.065	111.6	0.5	3.8
ASW 19	1.020	106.9	0.5	107.7
Jantar Std 2/3	1.000	105.8	5.0	2.5
<b>Hornet</b>	<b>1.000</b>	<b>104.8</b>	<b>5.0</b>	<b>113.6</b>
Jeans	0.980	102.7	5.0	4.4
Libelle Std	0.980	102.7	5.0	111.5
ASW 15	0.960	100.6	5.0	5.6
Puc	0.835	87.5	5.0	13.4

**Each Task Has its Own Unique 'Table'**

# Other Tasks - 2 of 7

## 140km Triangle West

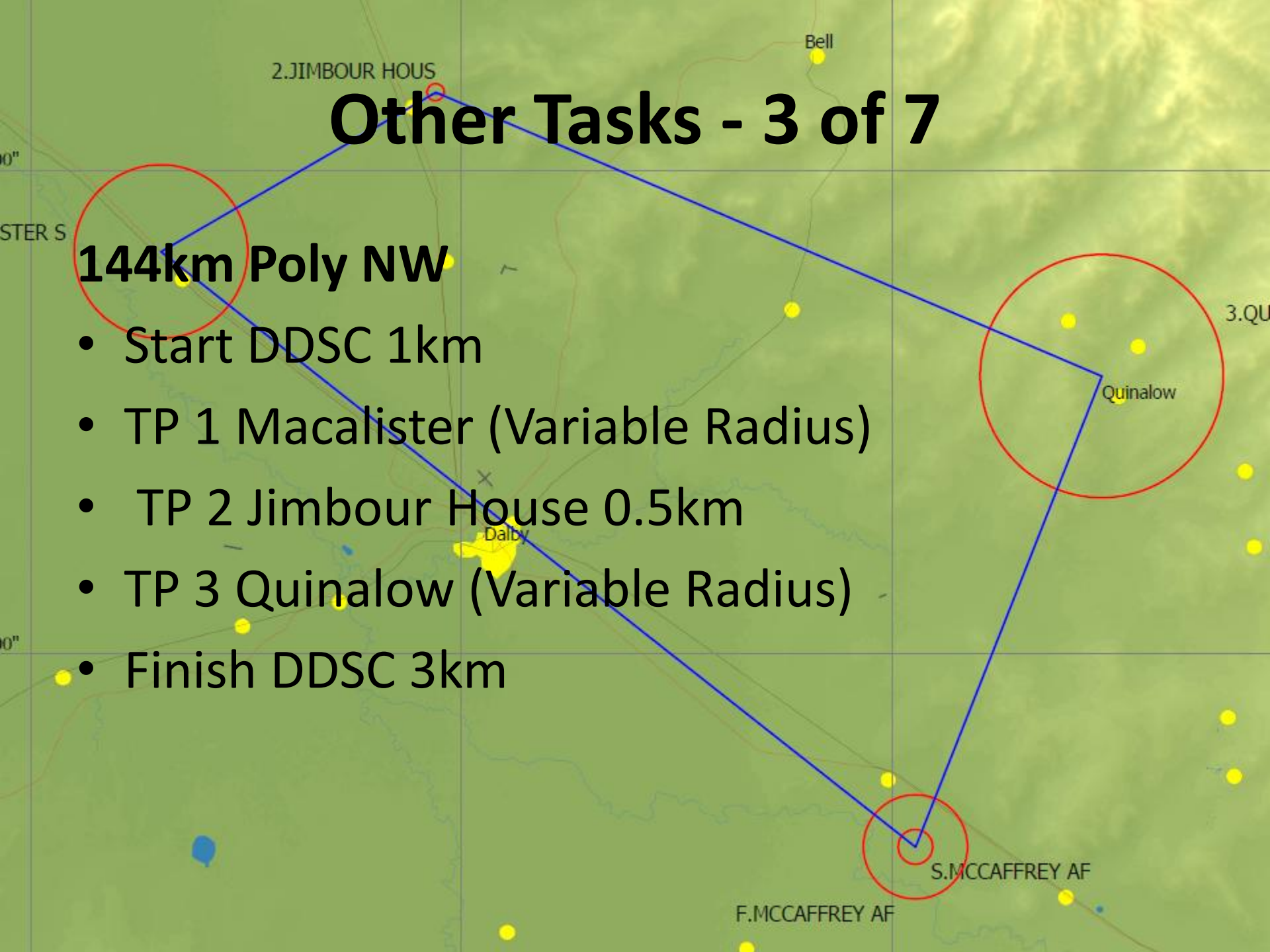
- Start DDSC 1km
- TP 1 Macalister (Variable Radius)
- TP 2 Bell Silo (Variable Radius)
- Finish DDSC 3km



# Other Tasks - 3 of 7

## 144km Poly NW

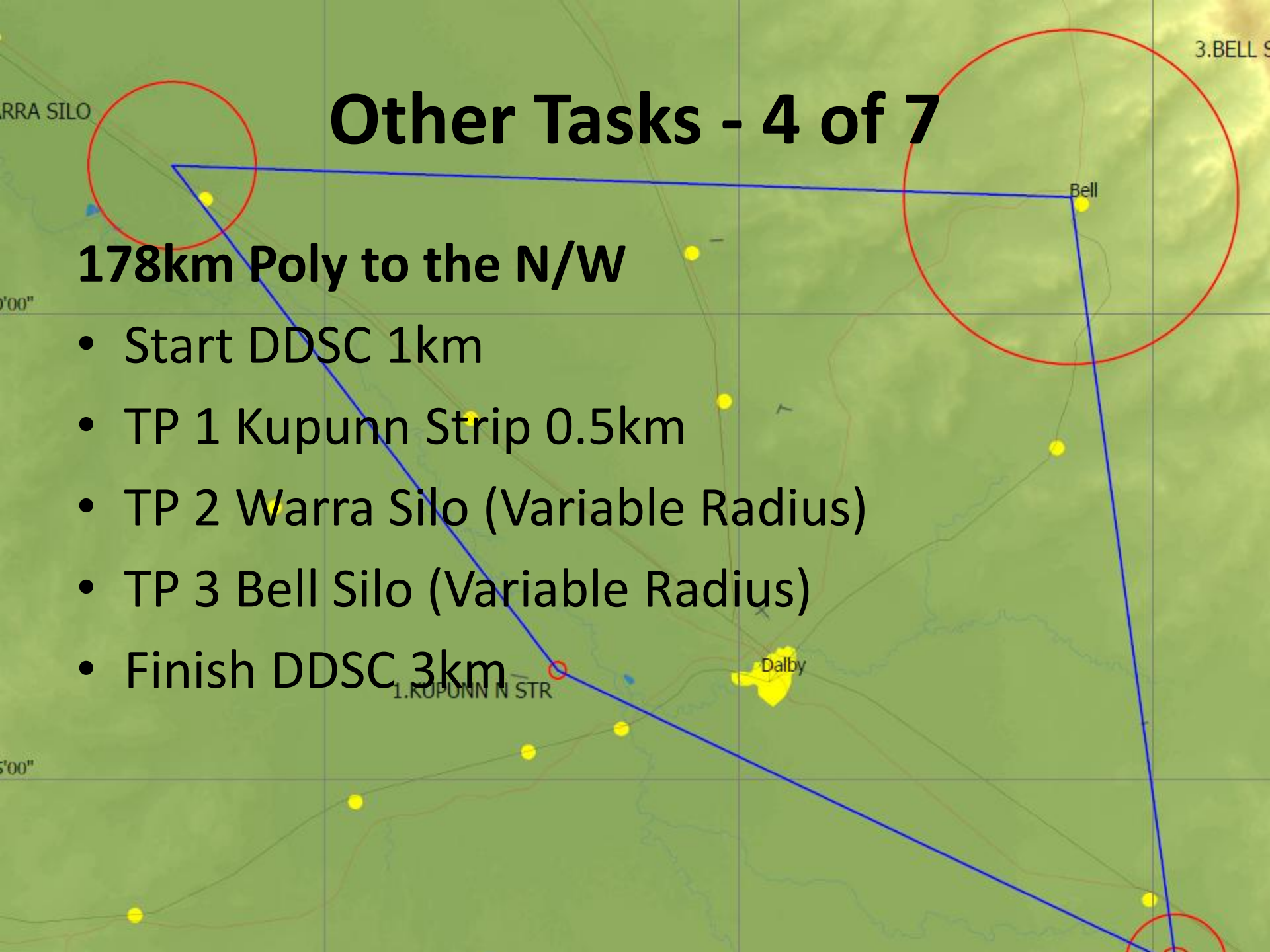
- Start DDSC 1km
- TP 1 Macalister (Variable Radius)
- TP 2 Jimbour House 0.5km
- TP 3 Quinalow (Variable Radius)
- Finish DDSC 3km



# Other Tasks - 4 of 7

## 178km Poly to the N/W

- Start DDSC 1km
- TP 1 Kupunn Strip 0.5km
- TP 2 Warra Silo (Variable Radius)
- TP 3 Bell Silo (Variable Radius)
- Finish DDSC 3km

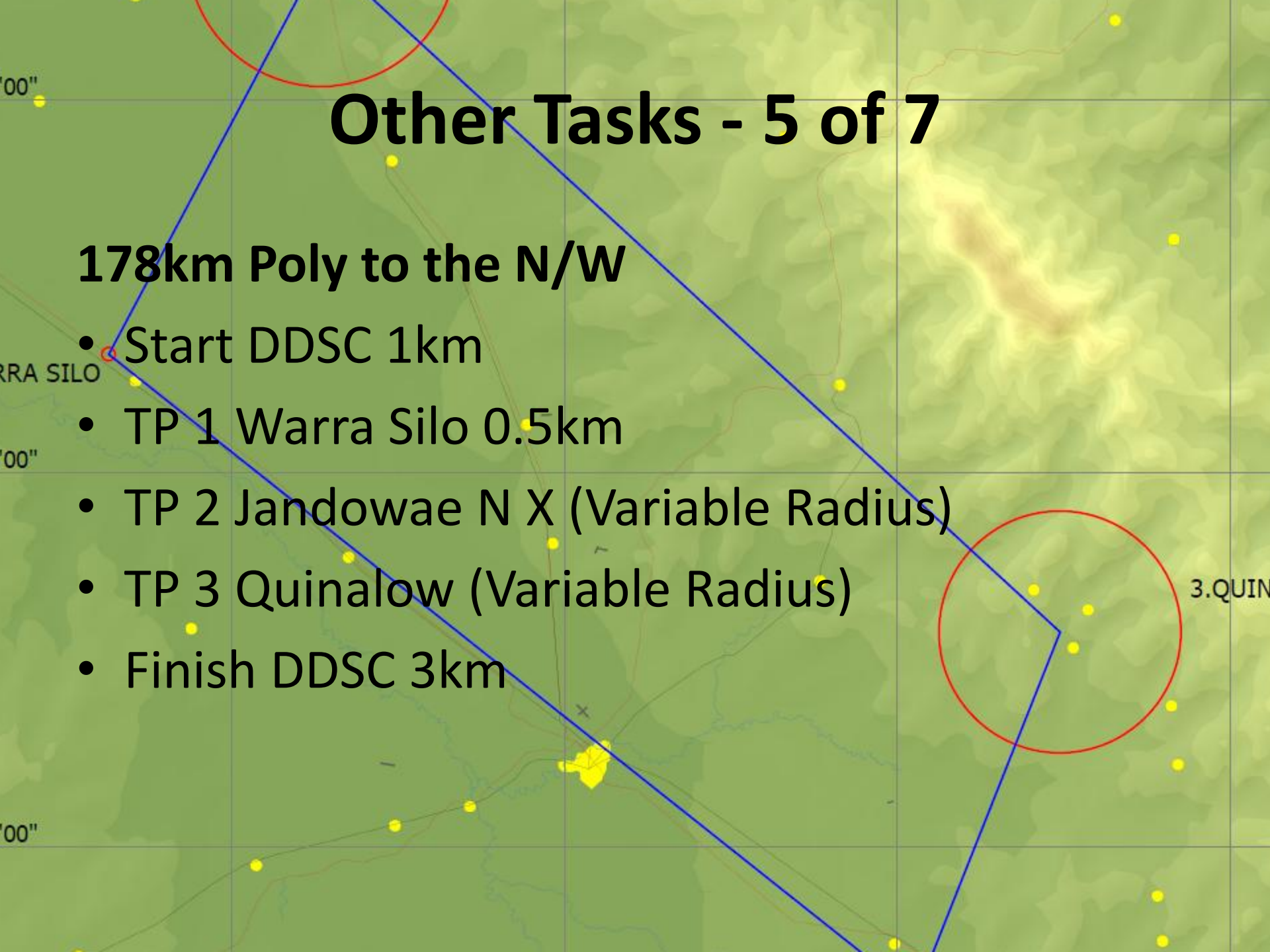




# Other Tasks - 5 of 7

## 178km Poly to the N/W

- Start DDSC 1km
- TP 1 Warra Silo 0.5km
- TP 2 Jandowae N X (Variable Radius)
- TP 3 Quinalow (Variable Radius)
- Finish DDSC 3km



# Other Tasks - 6 of 7

## 357km Tri West

Start DDSC 1km

- TP 1 Miles Silo 0.5km
- TP 2 The Gums (Variable Radius)
- Finish DDSC 3km





# Other Tasks - 7 of 7

## 500km Tri South

Start DDSC 1km

- TP 1 Miles A/F 0.5km
- TP 2 Goondiwindi A/F (Variable Radius)
- Finish DDSC 3km

# Each Task has a unique 'Table'



Gliders to be - Dry only

Aircraft	Handicap	Task Distance	TP 1 Circle Radius	TP 2 Circle Radius
ASG 29	1.135	118.9	0.0	0.0
Ventus 2c 18m	1.125	117.9	0.0	0.6
ASW 27b	1.115	116.8	0.5	0.7
Arcus	1.110	116.3	0.5	1.0
Nimbus 2	1.110	116.3	0.5	1.0
ASW 20	1.085	113.7	0.5	2.6
Duo Discus	1.085	113.7	0.5	2.6
Ls 3	1.075	112.6	0.5	3.2
Discus B	1.065	111.6	0.5	3.8
LS 7	1.065	111.6	0.5	3.8
Mosquito	1.065	111.6	0.5	3.8
SZD 55	1.065	111.6	0.5	3.8
ASW 19	1.020	106.9	0.5	6.7
Jantar Std 2/3	1.010	105.8	5.0	2.5
Hornet	1.000	104.8	5.0	3.1
Jeans	0.980	102.7	5.0	4.4
Libelle Std	0.980	102.7	5.0	4.4
ASW 15	0.960	100.6	5.0	5.6
Puch	0.835	87.5	5.0	13.4

Gliders to be - Dry only

Aircraft	Handicap	Task Distance	TP 1 Circle Radius	TP 2 Circle Radius
ASG 29	1.135	140.0	0.0	0.0
Ventus 2c 18m	1.125	138.8	0.0	0.8
ASW 27b	1.115	137.5	0.5	1.1
Arcus	1.110	136.9	0.5	1.5
Nimbus 2	1.110	136.9	0.5	1.5
ASW 20	1.085	133.8	0.5	3.5
Duo Discus	1.085	133.8	0.5	3.5
Ls 3	1.075	132.6	0.5	4.3
Discus B	1.065	131.4	0.5	5.1
LS 7	1.065	131.4	0.5	5.1
Mosquito	1.065	131.4	0.5	5.1
SZD 55	1.065	131.4	0.5	5.1
ASW 19	1.020	125.8	5.0	3.7
Jantar Std 2/3	1.010	124.6	5.0	4.5
Hornet	1.000	123.3	5.0	5.3
Jeans	0.980	120.9	5.0	6.9
Libelle Std	0.980	120.9	5.0	6.9
ASW 15	0.960	118.4	5.0	8.5
Puch	0.835	103.0	10.0	13.0

Gliders to be - Dry only

Aircraft	Handicap	Task Distance	TP 1 Circle Radius	TP 2 Circle Radius	TP 3 Circle Radius
ASG 29	1.135	144.0	0.0	0.5	0.0
Ventus 2c 18m	1.125	142.7	0.0	0.5	0.9
ASW 27b	1.115	141.5	0.5	0.5	1.3
Arcus	1.110	140.8	0.5	0.5	1.7
Nimbus 2	1.110	140.8	0.5	0.5	1.7
ASW 20	1.085	137.7	0.5	0.5	4.0
Duo Discus	1.085	137.7	0.5	0.5	4.0
Ls 3	1.075	136.4	0.5	0.5	4.9
Discus B	1.065	135.1	0.5	0.5	5.8
LS 7	1.065	135.1	0.5	0.5	5.8
Mosquito	1.065	135.1	0.5	0.5	5.8
SZD 55	1.065	135.1	0.5	0.5	5.8
ASW 19	1.020	129.4	5.0	0.5	4.9
Jantar Std 2/3	1.010	128.1	5.0	0.5	5.8
Hornet	1.000	126.9	5.0	0.5	6.8
Jeans	0.980	124.3	5.0	0.5	8.6
Libelle Std	0.980	124.3	5.0	0.5	8.6
ASW 15	0.960	121.8	5.0	0.5	10.4
Puch	0.835	105.9	10.0	0.5	16.2

See Excel Spreadsheet for details

PDF copy on DDSC website



# What next?



- Agree on one (or two ie B Task) of the set Tasks at Morning Briefing.
- Fly 2 tasks if the day is good.
- If you are not 'Cross-Country' endorsed? See whether someone that is will fly with you in a 2 seater.
- Even if you are pre-solo, the opportunity may be there to see what cross-country flying is like.
- Most of all it is about 'enjoyable learning'