



# SCAS WA Field Archery Seminar

Guildford Archery Club

2<sup>nd</sup> February 2019

Pictures courtesy of Paul Clark & Derrick Lovell

Stick man drawings Tony Harris

# Topics Covered

- ▶ Introduction
- ▶ Faces
- ▶ Boss Positions
- ▶ Peg Positions
  - ▶ Clearances
- ▶ Course Layout
  - ▶ Overshoot
  - ▶ Signage and safety
- ▶ Measuring a field course
- ▶ Practice Bosses
- ▶ Shooting Groups
- ▶ Documentation
  - ▶ Examples
- ▶ Communication
- ▶ World Archery field course rules
- ▶ Finally...
- ▶ Review

# Why are we doing this and who are we

The pool of archers with the knowledge of how to setup a WA field course within the WA rules is limited and those prepared to take it on even more so. We are hoping to expand that pool by running this seminar and at the same time hopefully ensure the course you design takes into account those rules and safety requirements.

There are a lot of slides but the intention is not to cause death by PowerPoint, we want, and encourage, open discussion on each slide.

Who are we:-

- ▶ Paul Clark - National Judge from Essex
- ▶ Tony Harris - Regional Judge from Kent
- ▶ Derrick Lovell MBE - International Judge Emeritus from Kent
- ▶ Bob Beaney - SCAS Vice Chairman

# Faces

- ▶ There are 4 face sizes in a World Archery (WA) field round. Smaller faces especially do wear out during the day so have spare ones of each.
- ▶ If it rains all faces they will deteriorate quicker.
- ▶ Faces last longer if pasted using water proof PVA glue, on the back of the target face only, onto cardboard first.
- ▶ World Record Status will require you to use licenced faces.
- ▶ The 20cm face, also known as a bunny, come in strips of 3 faces and should be put out in blocks of 4 as shown. They can be angled on the boss so long as it's clear which 3 faces make up a column



# Faces

- ▶ The 40cm face is supplied individually but should also be put out as a block of 4 faces as shown below.
- ▶ They can even be angled as shown so long as it is still clear which face is top left/right and bottom left/right



# Faces

- ▶ Both the 60 and 80cm faces come individually. On a marked day you may, if the boss has space, put out 2 60cm faces side by side otherwise they are put out individually (Not to scale)



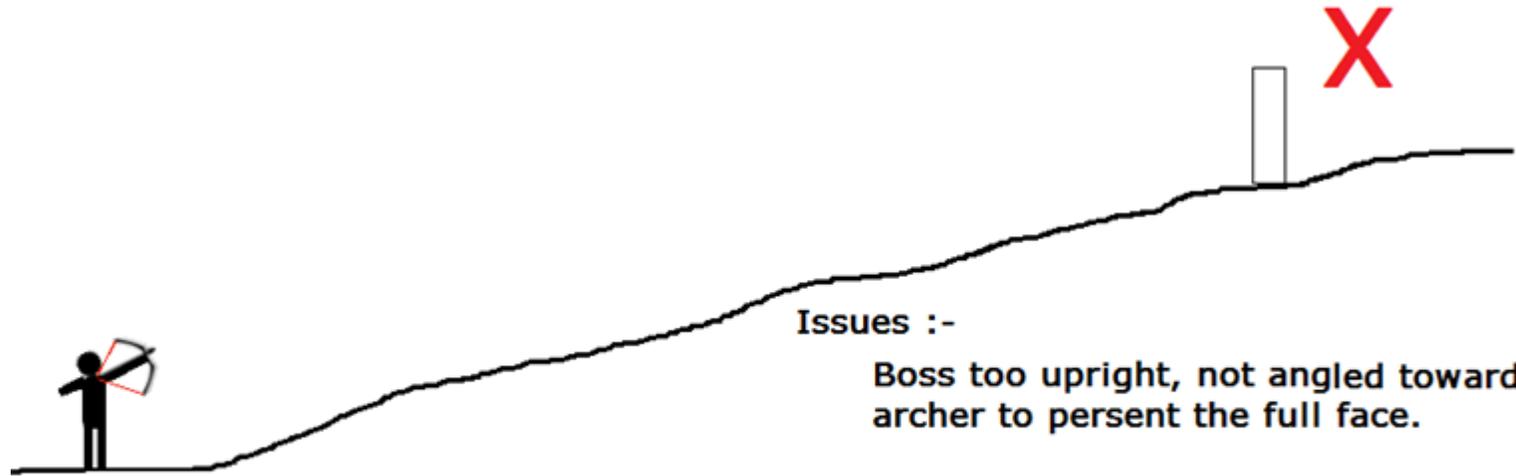
# Putting faces on the boss

- ▶ There are some rules you need to observe when putting faces onto bosses
  - ▶ There must be 15cm between the bottom of the scoring zone and the ground, this applies to all face sizes.
  - ▶ There must be adequate space between the edge of the scoring zone and the edge of the boss for all scoring arrows to be securely in the boss. Never cut the cardboard up to the edge of the scoring zone, again leave enough space for an arrow.
  - ▶ Try and use bosses that are larger than the face, this allows space to move the face to different positions and minimise soft spots
  - ▶ To aid in confusing archers, variable boss sizes are recommended, a 110cm boss with an 80cm face looks very similar to a 80cm boss with a 60cm face especially around the cross over point in distances for each face.



# Positioning Bosses

- ▶ Bosses should be positioned such that they present the face at 90 degrees to the archer as possible.



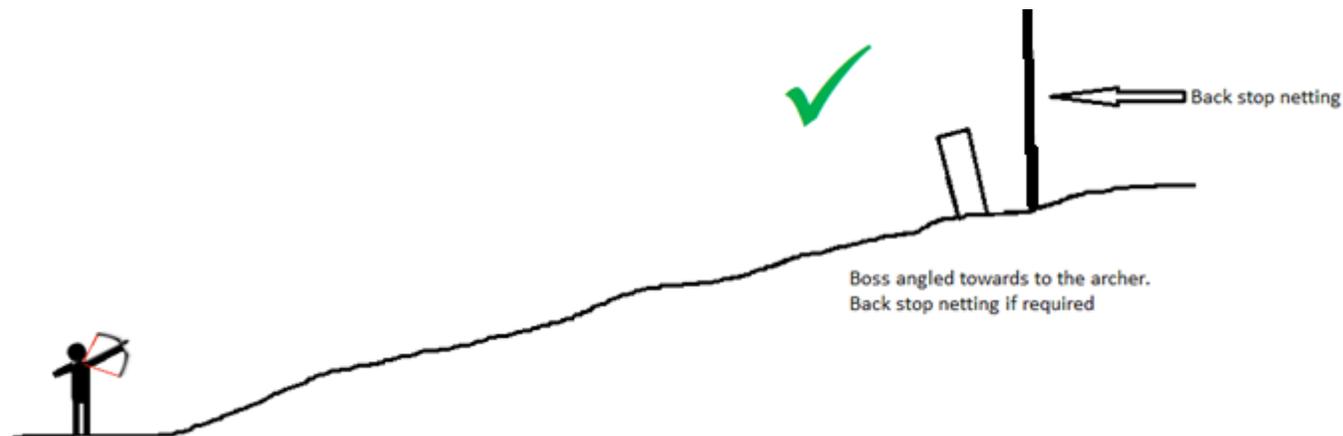
Issues :-

Boss too upright, not angled towards the archer to present the full face.

Uphill shot potentially towards the skyline, arrows missing the boss, where will the arrows go, do we need a back stop

# Positioning bosses

- ▶ Boss angled towards the archer to present the full face.
- ▶ Back stop netting in place if required.
- ▶ Backstop should be high enough to catch any arrows shot from a short distance where an archers sight may still be set from the previous targets longer distance
- ▶ Backstop may need to extend to the floor should the Boss be mounted above ground with clearance underneath it



# Positioning bosses

- ▶ Downhill shot, boss angled towards the archer to present the full face. If you have soft bosses consider that the arrows may penetrate and stick in the ground on down hill shots, stony ground may break arrows.



- ▶ Boss presented at an angle to the archers line of shot.



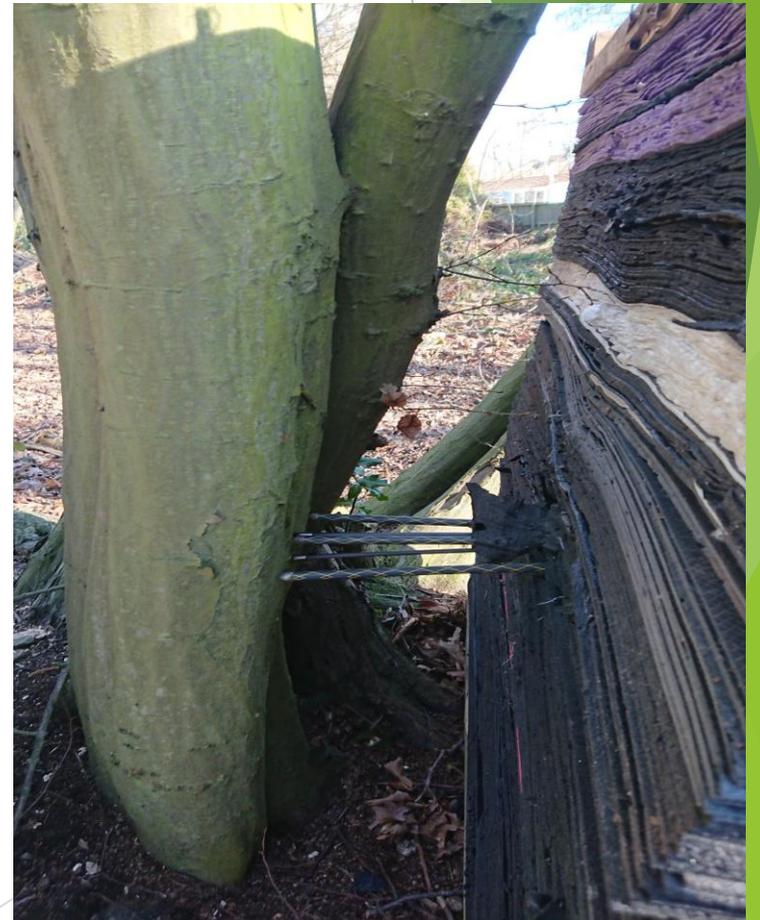
# Positioning bosses, consider the surroundings

- ▶ Look at the tree behind this boss, trees make for secure anchorage for a boss but...



## Positioning bosses, consider the surroundings

- ▶ Trees as back stops do not impress archers, they damage arrows and slow down the shoot as archers attempt to extract their arrows.

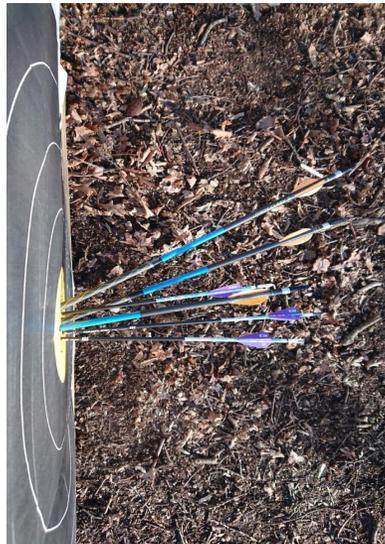


# Securing bosses

- ▶ Bosses need to be secured so they will not fall over.
- ▶ They don't need to be so securely staked down that they are impossible to move.
- ▶ But they do need to be secure enough that when archers pull arrows they are not likely to move it and change the shot for following archers.
- ▶ Foam bosses don't stop arrows so well when they become wet. A supply of nappies or other backing such as layers of carpet or other foam blocks can help.
- ▶ Two bosses strapped together is not a good idea. Archers with short arrows can find it difficult to extract them if it buries entirely into the two bosses.

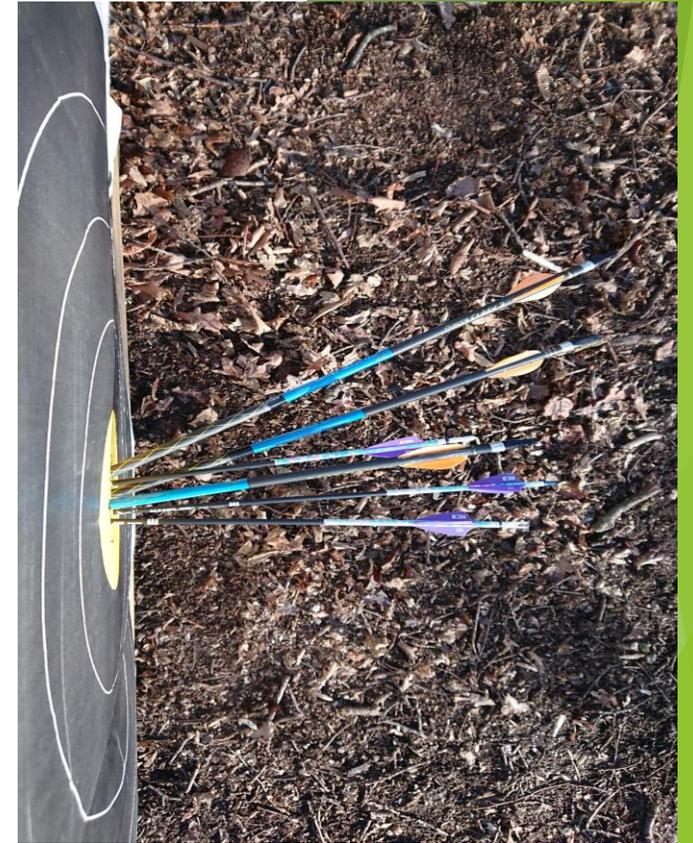
# Peg positioning and alignment

- ▶ All pegs should be in a direct line at 90 degrees to the face of the boss.
- ▶ Consider this shoot to the right
  - ▶ Red and blue pegs not in align.
  - ▶ Moving the red peg across to be behind the blue peg may work or it may put the red peg behind or close to the tree. If this happens the boss needs to be rotated towards the red peg and the blue peg moved in line with it.



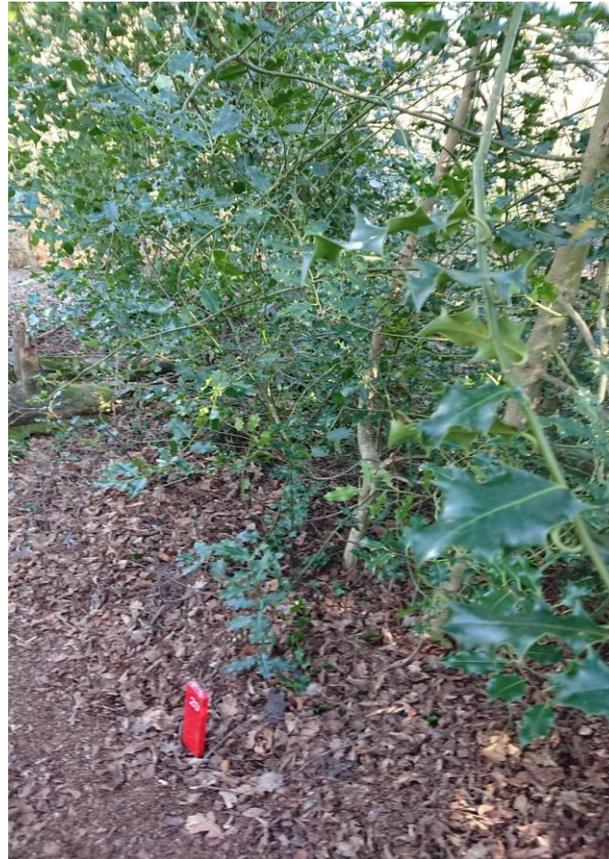
# Peg positioning and alignment

- ▶ Leaving the last shot as it was may result in this at the target
- ▶ This could result in arrow damage and potential medical issues later on if an arrow breaks as a result.
- ▶ Day 2 peg positions are likely to be on the same boss as day 1 and day 2 is the marked day, distances will be further, can you fit the day 2 pegs in?



# Peg positioning and clearances

- ▶ Lets assume we moved the red peg to align with the blue peg in the previous shot. That may result in the following situation.
  - ▶ Is this fair to the archers?
  - ▶ Does the archer have enough space?



# Peg positioning and clearances

- ▶ Archers should have an unobstructed view of the full face. This means no trees, bushes or grass blocking their view.



- ▶ You need to consider tall archers, short archers, left and right handed archers when looking at this and from both sides of the pegs.
- ▶ You also need to consider different bow types and poundage. The shot to the right may be fine for a 60lb compound or a 40lb + recurve but not for a slow longbow or low poundage recurve.

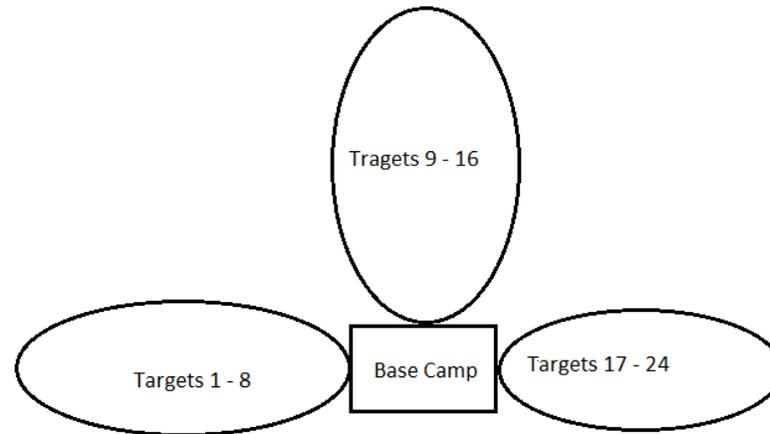


# Peg positioning and clearances

- ▶ Clearance should be adequate that two archers can shoot simultaneously, one from either side of the peg.
- ▶ Wet weather and strong winds will make branches that were out of the way during inspection droop and potentially be in the way later.
- ▶ Don't over clear the shot path but be mindful of low hanging branches

# Course layouts

- ▶ Clubs put on shoots usually to make money for the club.
- ▶ Three loops of 8 in a clover leaf layout gives you 3 opportunities to sell the archers food and drink.



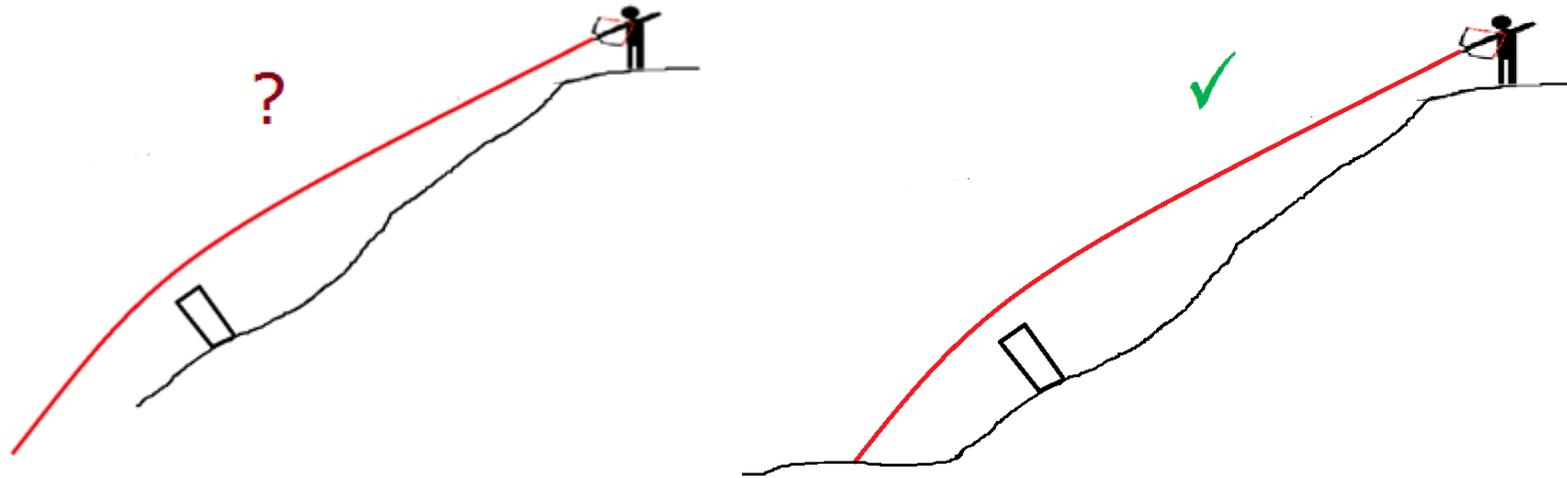
# Course Layout

- ▶ On a marked day, you need to put 6 bosses with the same face type on a 24 boss course or 3 on a 12 boss course.
- ▶ That's two at the longest, middle and shortest distance for each face type for a 24 boss course or one at the longest, middle and shortest distance on a 12 boss course.
- ▶ On an unmarked course you have a little more flexibility. You can have as many as 8 but no fewer than 4 of any face size on a 24 boss course, half those numbers on a 12 boss course.
  - ▶ Putting out a mix of face size numbers can really play with the minds of some experienced archers who note what they have already shot.
- ▶ On the marked day, 24 boss course, you need 2 at the maximum, 2 at the middle and 2 at the shortest distances
- ▶ On an unmarked day the distances of the targets faces of the same size should vary between long, medium and short distances and it is recommended to use different sizes of buttresses.

# Course Layout, Overshoot

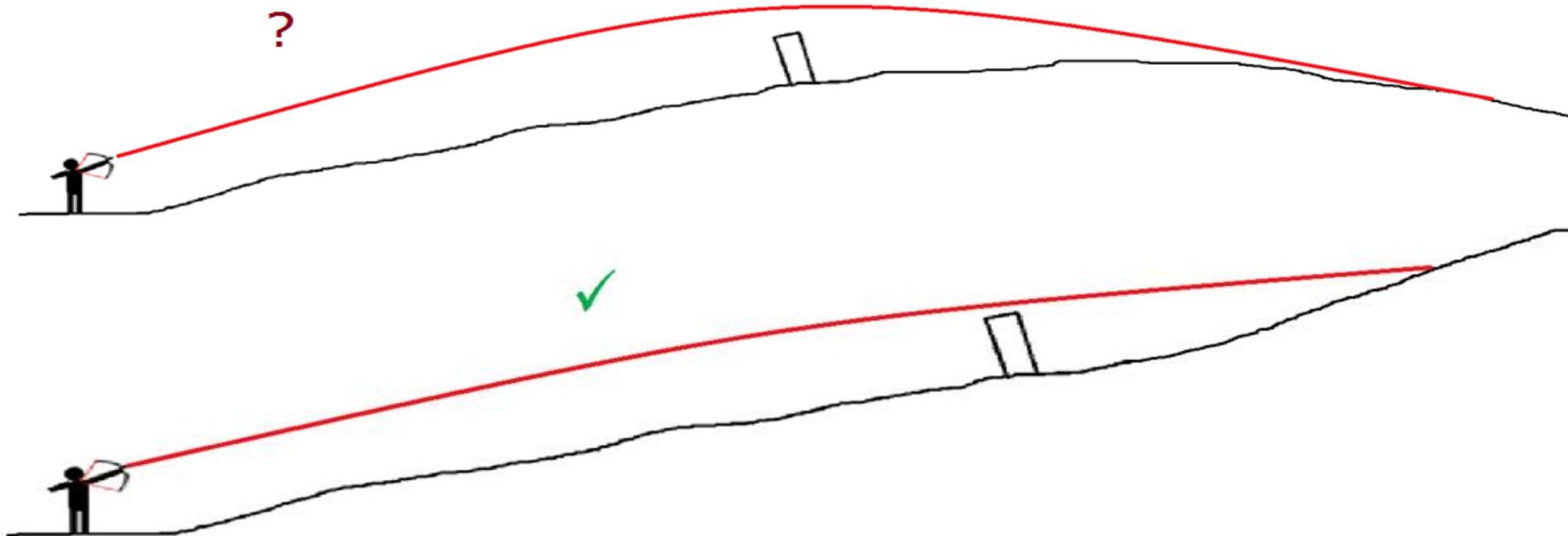
The amount of overshoot considered safe for a shot depends on the terrain within the shoot is set.

- ▶ On a flat field you should allow the standard amount you would for a target field, i.e. 150yds from the shooting peg, you will have compounds shooting!
- ▶ If the shot is down hill then look at the previous shot, an archer coming from a 60m to a 10m shoot could shoot a long way over if they forget to change their sight. The terrain behind the boss dictates what is acceptable.



# Course Layout, Overshoot

- ▶ Uphill shots, if the boss is on the skyline then you really need to consider just how far an arrow from compound bow may go, even if it only just clears the boss. A decent back stop may be your only option.
- ▶ If down the slope then slope will probably be enough on its own. Look at how far above the boss the skyline is and think if an archer is likely to loose an arrow over the top at a height likely to clear the top of the slope.



# Course Layout, Overshoot

- ▶ You can create an artificial back stop if required to help reduce the required overshoot. Backstop netting, heavy layers of carpet suspended behind the boss, trees as a back stop are not acceptable, they cause deflections in unpredictable directions.
- ▶ Archers are supposed to draw up at the boss regardless of the slope the boss is on, but we all know archers that don't!

# Course Layout, signage & safety

One of the most important safety considerations after making sure the overshoot is adequate is signage.

- ▶ Signage needs to be adequate to ensure the archers follow the safe path away from and toward the next target.
  - ▶ The safe path walk away from the boss should ideally be at 90 degrees to the shot just taken.
  - ▶ Walking away behind the boss can lead to accidents if the following group don't allow long enough after the preceding group disappears.
  - ▶ Walking up to next target must be from behind the shooting position and away from the shooting lane
  - ▶ Approaching the next target and its number board that is positioned in front of the Red peg is not allowed
  - ▶ Put up barrier tape or ropes across paths to prevent them walking into a danger zone.
- ▶ If you have slopes and the weather is poor then ropes that archers can cling to when ascending and descending those slopes can help prevent injuries.
- ▶ Number boards should be clearly visible and not too close to the shooting peg. Number boards act as a waiting area for following groups

# Measuring a field course

- ▶ World archery rules states that the measurement should be taken from between 1.5m and 2m above the ground.
- ▶ This does not discount the use of a tape measure but a laser range finder is far easier and quicker to use.
- ▶ Many sports range finders such as those used by golf players have an accuracy outside the requirements for field archery i.e. +/- 2m or more! That's not to say they can't be used but take multiple measurements.
- ▶ Range finders used by builders made by manufacture's such as Bosch, Leica & Hilti tend to have an accuracy of +/- 1mm
- ▶ Spotting a laser dot at 60m is almost impossible, a range finder with a sighting system is a must for accuracy.

# Practice Bosses

- ▶ At least one boss with each face setup on. If it's a large field then 2 if you can manage it
- ▶ Places pegs at 5 metre intervals, including distances from the minimum for the white peg (or the pink peg if approved by the membership) to the maximum for the red peg for that face size
- ▶ Make sure there is enough space between the bosses so they can operate independently, if space is limited then a fan layout works. Ideally have bosses shooting in opposite directions.
- ▶ Bosses don't need to be of the field type, target bosses will do, even straw ones!

# Shooting group size and makeup

- ▶ Groups should be no larger than 4 and no smaller than 3
- ▶ Having 2 or 4 red/blue peg archers in a group is ideal.
- ▶ Having 3 and 1 leads to effectively 3 shooting groups at each peg, potentially slowing the shoot down.
- ▶ Think about the order of your groups, 4 longbows following 4 compounds is only going to lead to frustration for the longbow archers who will be shooting quicker and spending time waiting around at each peg.
- ▶ Nothing stopping you from accepting shooting group requests.
- ▶ Waiting groups, if you are lucky enough to fill your shoot with 4 x 24 archers you can squeeze a couple more groups in by creating waiting groups. Spread them out evenly around the course but not too many on a 24 boss course, 3-4 is probably the maximum you should consider.

# Documentation

Judges love documentation and we love it early. Seriously the earlier the better, but, what we want though is what you expect to be the final documentation!

- ▶ Target/Group lists, we know many of the archers, we look especially for the short archers and the very tall archers.
  - ▶ That way we can get down on our knees to make sure the short ones can see the whole target face from the peg.
  - ▶ We can ensure that any over hanging foliage at the peg is not going to interfere with the taller ones.
- ▶ Distance check sheets, better still a copy of the spreadsheet, more of that later.
- ▶ Maps showing the approximate position of the boss and pegs with the direction of the shot. These give us a heads up of shots we want to take a more detailed look at.

# Documentation, examples

- ▶ Check sheet 2 from an unmarked day

 <b>FITA UNMARKED 24 TARGETS</b>				Checklist Number		<b>2</b>					
20cm FACES				20cm FACES				20cm FACES			
		Red Peg				Blue Peg				White Peg	
10 - 15m	Metres	T.No	Distance	5 - 10m	Metres	T.No	Distance	5 - 10m	Metres	T.No	Distance
Short	10 - 12	16	10	Short	5 - 7	9	5	Short	5 - 7	9	5
Short	10 - 12	21	10	Short	5 - 7	16	5	Short	5 - 7	16	7
Medium	11 - 14	9	12	Medium	6 - 9	2	8	Medium	6 - 9	2	9
Medium	11 - 14	11	14	Medium	6 - 9	18	9	Medium	6 - 9	18	8
Long	13 - 15	2	13	Long	8 - 10	11	10	Long	8 - 10	11	10
Long	13 - 15	18	15	Long	8 - 10	21	10	Long	8 - 10	21	10
40cm FACES				40cm FACES				40cm FACES			
		Red Peg				Blue Peg				White Peg	
15 - 25m	Metres	T.No	Distance	10 - 20m	Metres	T.No	Distance	5 - 15m	Metres	T.No	Distance
Short	15 - 19	13	18	Short	10 - 14	4	12	Short	5 - 9	4	8
Short	15 - 19	19	18	Short	10 - 14	19	12	Short	5 - 9	12	7
Medium	18 - 22	4	20	Medium	13 - 17	13	13	Medium	8 - 12	13	8
Medium	18 - 22	12	22	Medium	13 - 17	12	13	Medium	8 - 12	19	8
Long	21 - 25	6	23	Long	16 - 20	6	18	Long	11 - 15	6	13
Long	21 - 25	22	24	Long	16 - 20	22	18	Long	11 - 15	22	14
60cm FACES				60cm FACES				60cm FACES			
		Red Peg				Blue Peg				White Peg	
20 - 35m	Metres	T.No	Distance	15 - 30m	Metres	T.No	Distance	10 - 20m	Metres	T.No	Distance
Short	20 - 26	17	23	Short	15 - 21	17	16	Short	10 - 14	10	10
Short	20 - 26	24	26	Short	15 - 21	24	21	Short	10 - 14	17	13
Medium	25 - 31	7	31	Medium	19 - 26	7	26	Medium	13 - 17	24	15
Medium	25 - 31	1	30	Medium	19 - 26	1	23	Medium	13 - 17	1	16
Long	29 - 35	20	33	Long	24 - 30	20	30	Long	16 - 20	7	18
Long	29 - 35	10	34	Long	24 - 30	10	30	Long	16 - 20	20	20
80cm FACES				80cm FACES				80cm FACES			
		Red Peg				Blue Peg				White Peg	
35 - 55m	Metres	T.No	Distance	30 - 45m	Metres	T.No	Distance	15 - 25m	Metres	T.No	Distance
Short	35 - 42	5	37	Short	30 - 36	3	35	Short	15 - 19	23	16
Short	35 - 42	23	35	Short	30 - 36	14	35	Short	15 - 19	5	17
Medium	41 - 49	3	49	Medium	34 - 41	5	41	Medium	18 - 22	15	19
Medium	41 - 49	14	45	Medium	34 - 41	23	36	Medium	18 - 22	14	20
Long	47 - 55	8	53	Long	39 - 45	8	43	Long	21 - 25	3	24
Long	47 - 55	15	55	Long	39 - 45	15	45	Long	21 - 25	8	24



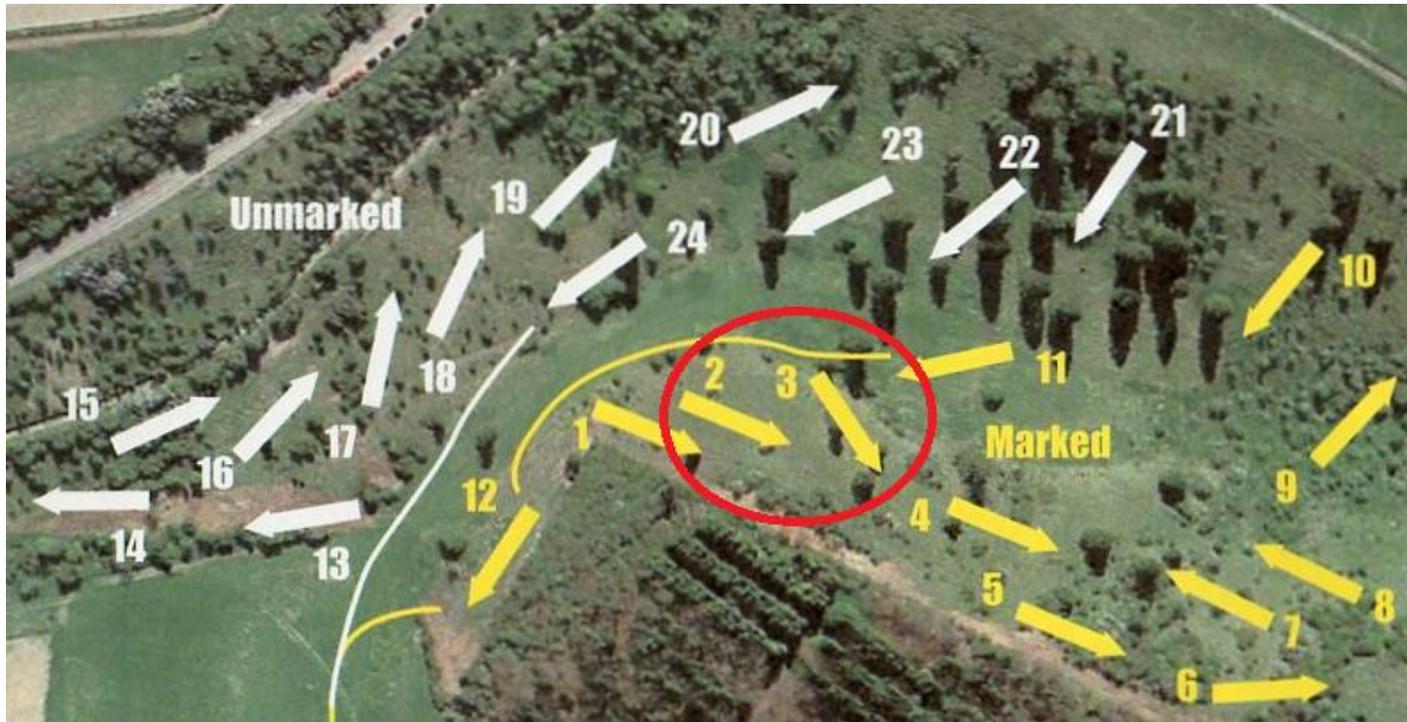
# Documentation, examples

Map, Google Earth Screen print



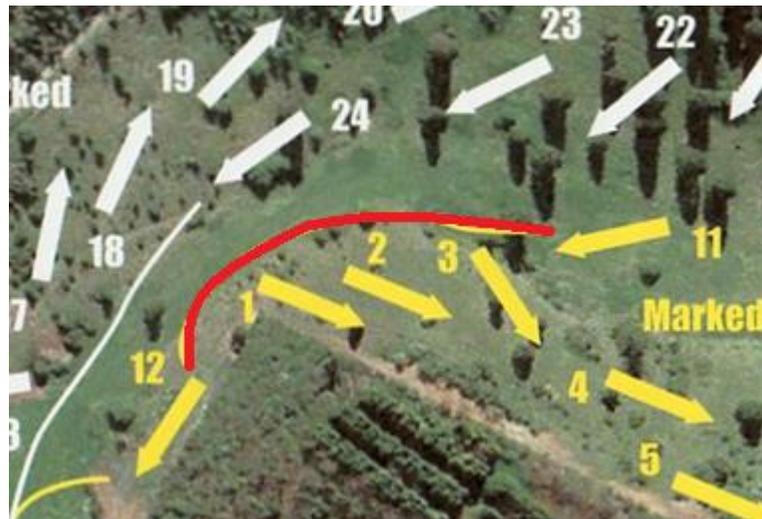
# Documentation, examples

- ▶ Taking a closer look at the last map, we mentioned we use the maps to give us a clue as to areas we might want to take a more detailed look at. Is the overshoot from target 2 going to be at target 3 adequate
- ▶ Target 11 overshoot onto target 3 could be a problem for day



# Documentation, examples

The same map helps hi-light the need for signage and barriers, getting from target 11 to 12 (red line) could easily take an archer through the shooting lanes for targets 1,2 and 3 if its not adequate, we will be looking at this area with extra vigilance.



# Documentation, the spreadsheet

Live demo of the spreadsheet and how it can help you.

# Communications

- ▶ Communications between the TO, Judges and Field Party are a must. Given the size of most field courses and the location of some the only option is via 2 way radios.
- ▶ Some judges have their own radio's but in hill surrounds these may not be powerful enough. Archery GB has a set of high power radios that can be borrowed. These are available from Pete Turner.
- ▶ The Red Call. This is used to communicate to the whole course that a medical emergency, one requiring an ambulance or similar urgent medical care is in progress. If this happens the archers should shout RED followed by their target number and continue to call it. Upon hearing this all archers should stop shooting and repeat the call. This allows the judges and first aiders to get to the incident as quickly and safely as possible. It is the responsibility of the TO to be able call for an ambulance and direct it to the location.

# New peg proposals

Firstly, these are just that proposals, if accepted their use will be the choice of the tournament organiser. These new pegs are recommended to be flat disks that can be hidden from view with respect from the red and blue pegs so as to not aid distance judgement on an unmarked day.

## Adjusted Shooting position

Shooting position	Style / age category	Unmarked round distances	Marked round distances
White (adjusted)	U15 unsighted	5-10	5-7-10
	U12	5-15	10-12-15*
	Novices Adults	10-20	15-20-25
		15-25	20-25-30

## New Shooting position

Shooting position	Style / age category	Unmarked round distances	Marked round distances
Yellow (as per current Arrowhead pegs)	Advanced novices	5-10	5-10-15
		10-15	10-15-20
		15-25	20-25-30
		20-35	30-35-40
Green	Under 10's	5-7	5-6-7
		5-8	7-8-9
		5-10	9-10-12
		10-15	10-12-15
Pink	Under 8's	5	5
		6	6
		8	8
		10	10

# Course Layout, from the rules!

- ▶ The field course shall be arranged so that the shooting positions and the targets can be reached without undue difficulty, hazard or waste of time. Field courses should be as condensed as possible.
- ▶ The walking distance from the central (assembly) area to the furthest target should be no more than 1km or 15 minutes normal walking.
- ▶ The course makers shall prepare safe paths for Judges, medical personnel and to allow for transportation of equipment round the course(s) while shooting is in progress.
- ▶ The course(s) shall not be positioned higher than 1800m above sea level and the maximum difference between the highest and the lowest point in a course shall not be more than 100m.
- ▶ The targets shall be laid out in such order as to allow maximum variety and best use of the terrain
- ▶ At all targets, one shooting peg for each distance shall be placed in such a way as to allow at least two athletes to shoot at the same time from either side of the shooting peg.

# Course Layout, from the rules

- ▶ The targets shall be laid out in such order as to allow maximum variety and best use of the terrain.
- ▶ All shooting pegs shall be marked with the distance when marked distances are to be shot. The shooting pegs shall have different colours, corresponding to each group of categories as follows:
  - ▶ Blue for the Barebow, Cadet Recurve and Cadet Compound;
  - ▶ Red for the Recurve and Compound;
  - ▶ Yellow for the Cadet Barebow.
- ▶ The tolerances are:
  - ▶ For distances 15m or less  $\pm 25\text{cm}$ ;
  - ▶ For distances between 16-60m  $\pm 1\text{m}$ .

# Course Layout, from the rules

- ▶ *Unit for Marked Course* may be adjusted by  $\pm 2\text{m}$ . The correct distance shall be marked on the shooting peg.
- ▶ The distance should be measured in the air approximately 1.5-2m above the ground. All kinds of measuring equipment can be used as long as it satisfies the tolerances.
- ▶ The butts shall provide a margin to allow all scoring arrows to be in the butt. At no point may any target face be less than 15cm from the ground. In all instances, regardless of the terrain, the buttress should be placed perpendicular to the athlete's line of sight from the shooting peg in order to present the target face's full picture.

# Course Layout from the rules

## Target set-up.

- ▶ The 20cm and 40cm faces may be placed at any angle provided it is still obvious which face or column the athlete is to shoot;
- ▶ 20cm faces shall be 12 per butt in four columns of three;
- ▶ 40cm faces shall be placed four per butt;
- ▶ 60cm faces: On marked rounds a double 60cm target face setup is recommended and their centres should be positioned so that both archers have an equal shot.

# Course Layout, from the rules

## UNIT FOR UNMARKED COURSE

Number of targets 12 targets in a unit Min- Max #	Diameter of Field Faces in cm	Blue Peg Recurve Cadet Compound Cadet Barebow Instinctive Bow (in metres)	Red Peg Recurve and Compound (in metres)
2-4	20	5 to 10	10 to 15
2-4	40	10 to 20	15 to 25
2-4	60	15 to 30	20 to 35
2-4	80	30 to 45	35 to 55

# Course Layout, from the rules

## UNIT FOR MARKED COURSE

Number of targets 12 targets in a unit Min- Max #	Diameter of Field Faces in cm	Blue Peg Recurve Cadet Compound Cadet Barebow Instinctive Bow (in metres)	Red Peg Recurve and Compound (in metres)
3	20	5, 10, 15	10, 15, 20
3	40	15, 20, 25	20, 25, 30
3	60	30, 35, 40	35, 40, 45
3	80	40, 45, 50	50, 55, 60

# Finally...

- ▶ Your judges, especially your chair of judges are there to help and advise, we would sooner answer 50 questions before we arrive on the day and have you get it right than to spend 6 hours correcting your assumptions/misunderstandings after you have built your course.
- ▶ As Judges we are there to ensure a fair competition for all archers, we are not there to pick holes in the layout. It does us no harm to advise and assist whenever the need arises.
- ▶ Most judges that do a lot of field don't mind mucking in with course alterations to get it right. But, we are not there as your work party to help build the course on the Friday and rebuild it on the Saturday.
- ▶ Judges going for upgrade are required to do at least 1 days field. With some judges that 1 day is all they will do. Please consider including these judges, just try not to pack your judging line up with them just because they are local. It will only add work for the CoJ and TO

# Review

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# Bibliography

- ▶ WA Field of Play setup rules
  - ▶ <https://worldarchery.org/rulebook/article/1360>