









# Line Distance Sampling Pattern 2001

Pass 1

Pass 2

Pass 3

Retrace line to beginning; stay  
together on each side of line

d

Lead

Follow

1 2

Beginning of 100-m segment;  
tape anchored to this spot

5-8 m 5-8 m

Search in a zig-zag pattern o  
to 5-8m, then a sharp turn ba  
toward line. Overlap line slight  
Stay abreast of partner.

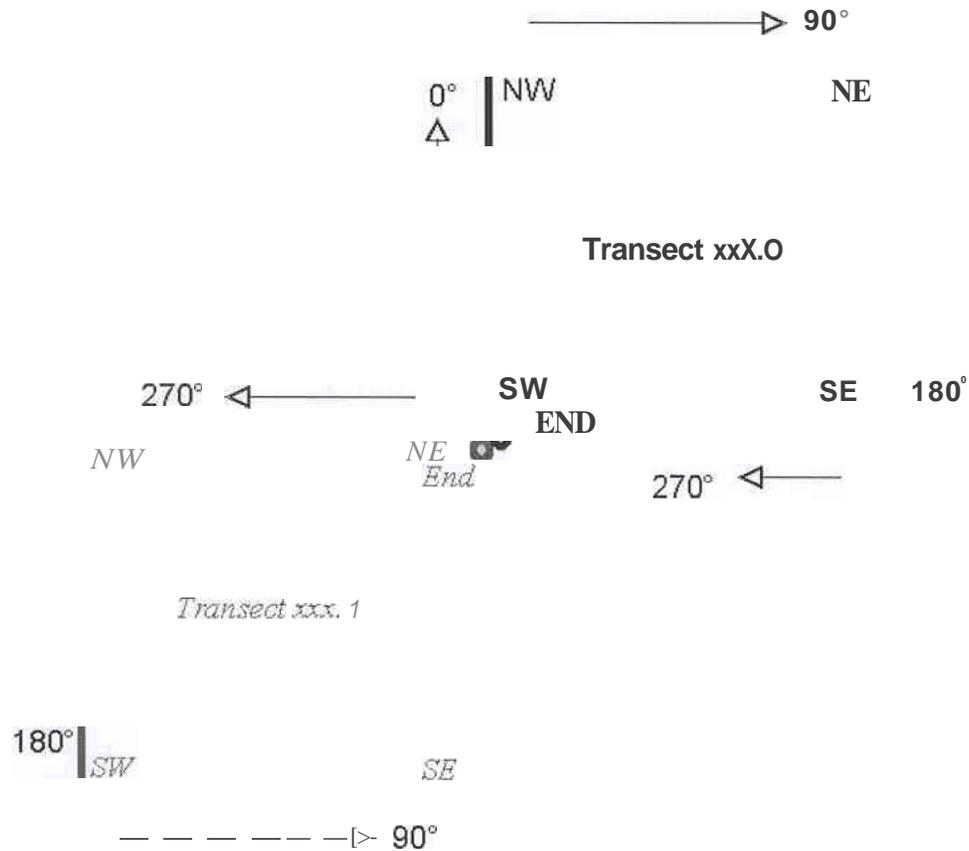
# Line Distance Sampling Pattern 2001

400 meters

400 meters

SW

# Line Distance Sampling Pattern 2002 & 2003



# Line Distance Sampling Pattern 2004-2005

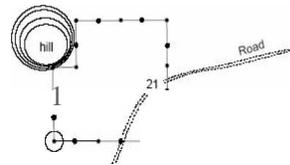


Fig. 9. Rerouting a transect to avoid a hazardous cliff area.

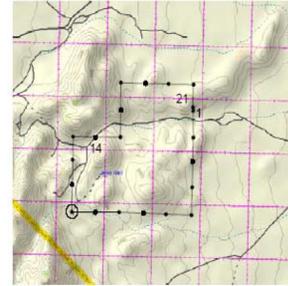


Fig. 10. Hypothetical example from Piute Valley, Nevada. Note point 1 is about 200 m North of the road to maintain 500-m segments. Alternatively, the start could be where point 14 is on this scheme.

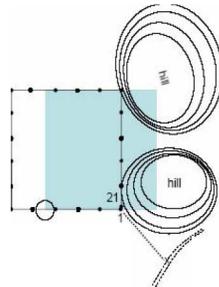


Figure 11. Shifting a transect west to avoid cliff areas.

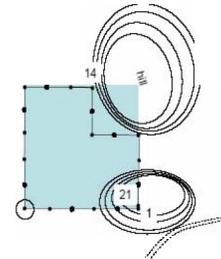


Fig. 12. Only situations where the crew feels unsafe should cause deflections. In this case, the southern hill should not be avoided just because it's a hill. Note point 14 remains on the lower slope of the hill to maintain 500-m segments.

**2001-2003: transect  
line laid on ground  
100 m at a time; zig-  
zag search pattern**



**2004-2005: transect  
line created 'on the  
fly'; no zig-zag  
search pattern;  
leader and follower  
(double observer)**



# Training

- All personnel, regardless of experience trained
  - Every year
- Lectures
- Training lines with styrofoam tortoises
  - Known positions allow detailed analysis of performance
  - Painted models mimic real tortoises

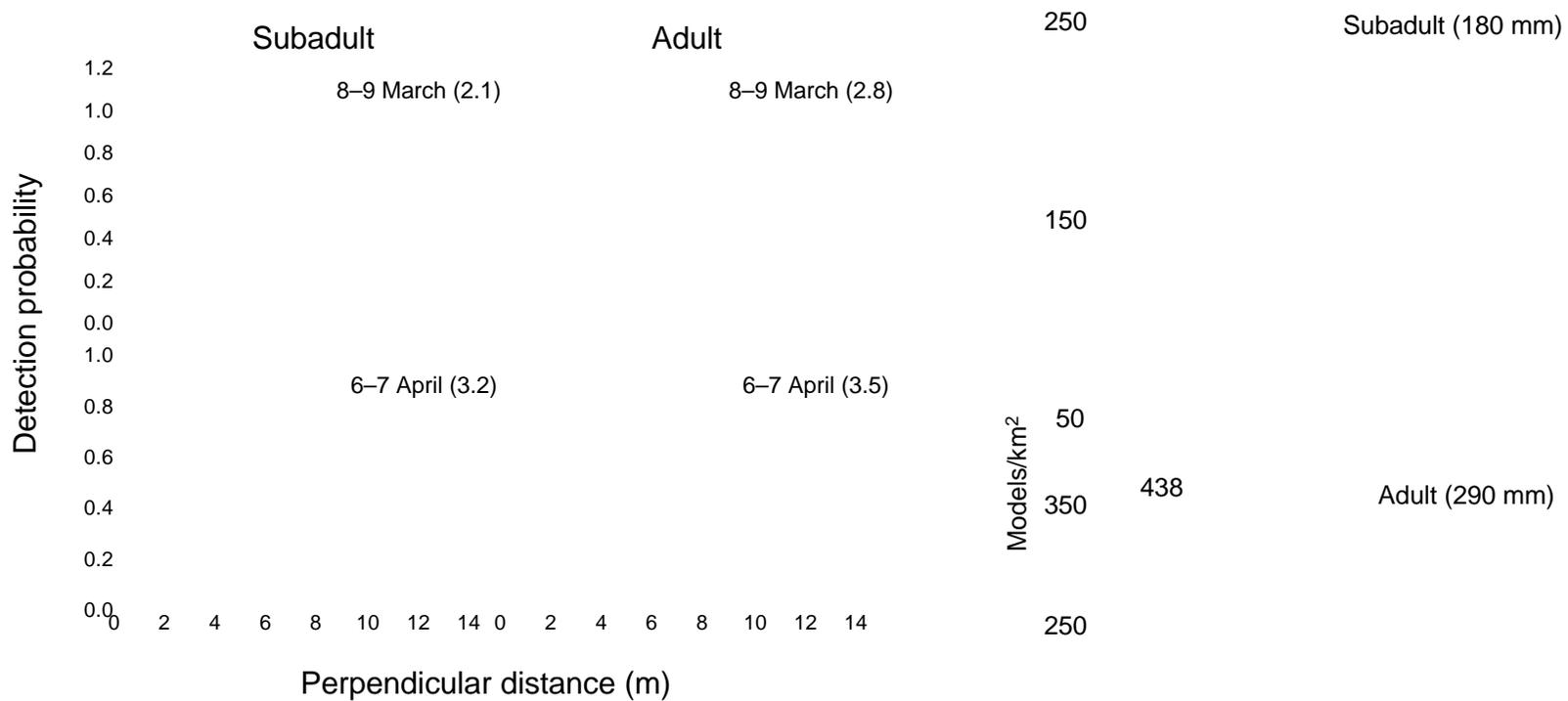


8km of training lines NE of Jean, NV

# Which Are Real?



# Repeat Training is Effective



- Inexperienced 2005
  - Top histograms – 1<sup>st</sup> training
  - Bottom histograms – 3<sup>rd</sup> training

- 2005 (dashed line = truth)
  - Inexperienced (UNR), episodes 1-3
  - Experienced (KIVA)







