

A Guide to Understanding Sheep Ageing

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Photo by Bill Jex



Outline

- Biology of Horn Growth
- Provincial Regulations
- Assessing Age
- Examples
- Recommendations for Hunters
- References

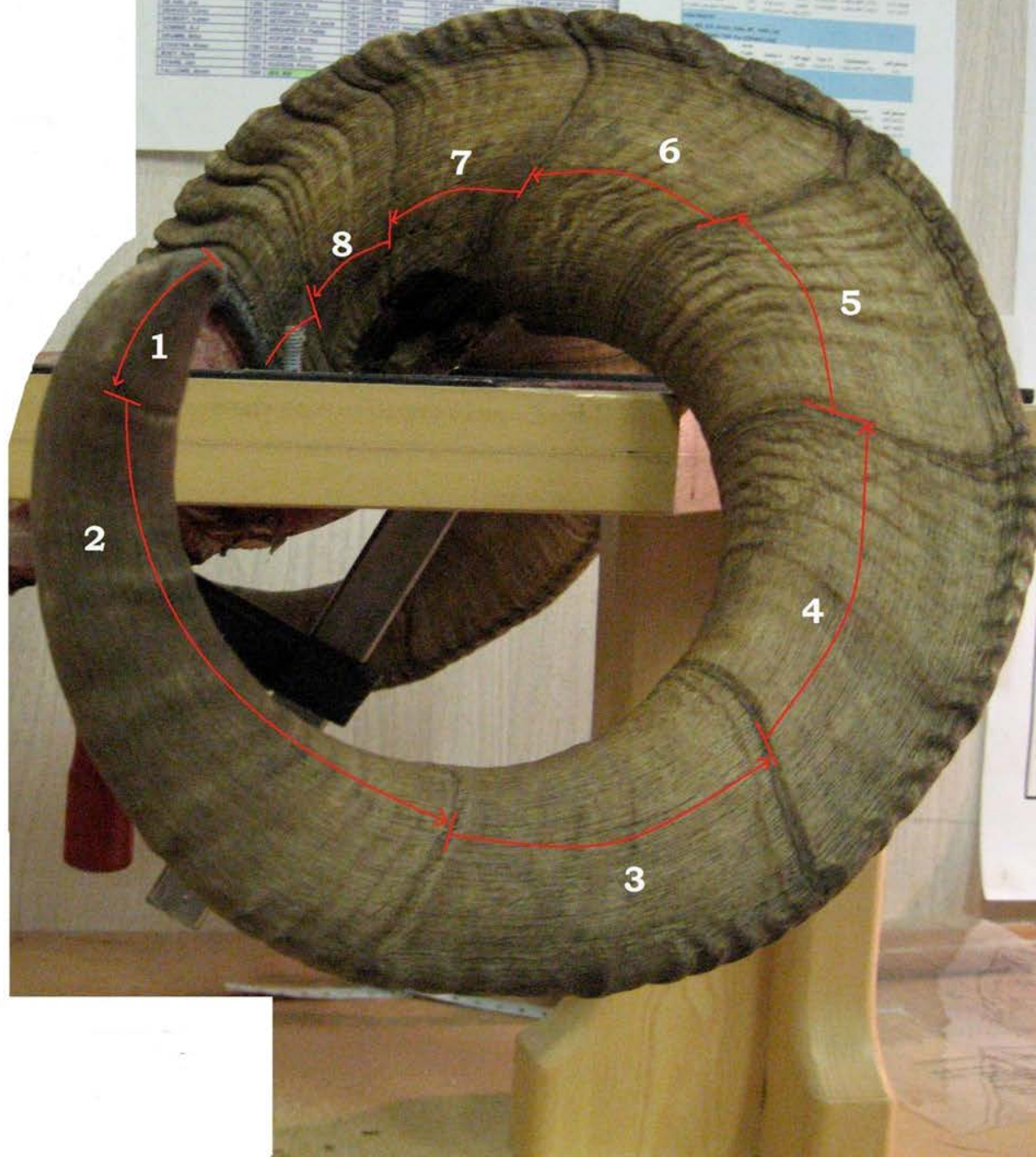
Biology of Horn Growth

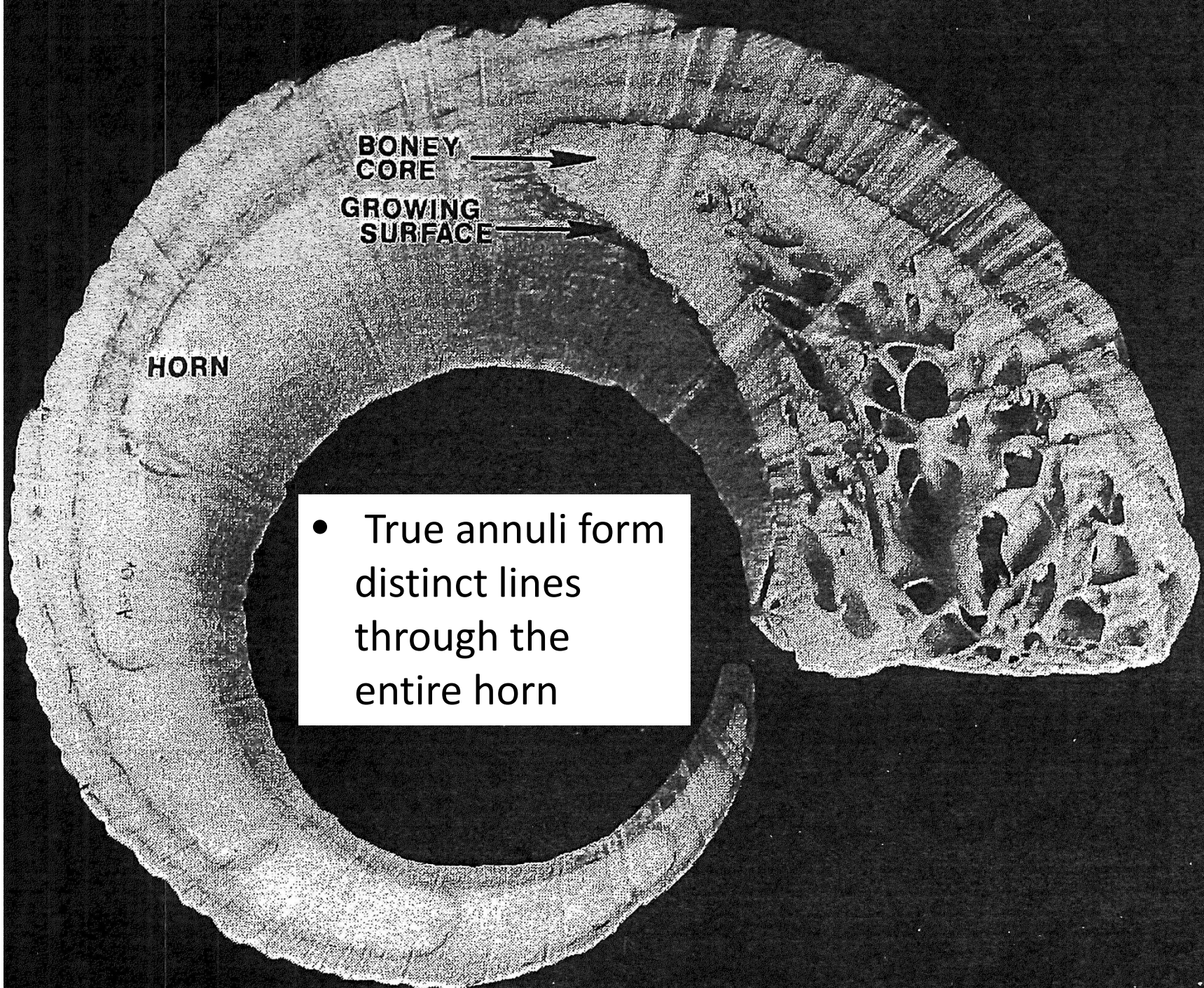


- A **horn** is a pointed projection of skin on the head of various animals
- **Horns** consist of a covering of keratin and other proteins surrounding a core of live bone.
- True **horns** are found mainly among the ruminant artiodactyls in the families Antilocapridae (pronghorn) and Bovidae (goats, sheep, etc.).
- **Horns** start to grow soon after birth, and continue to grow throughout the life of the animal (except in pronghorns).



- Annuli are formed during winter
- False-annuli occur whenever a ram's horn growth changes
- There is proportional-symmetry in the distances between each annulus
- Greatest growth during the 2nd year.





- True annuli form distinct lines through the entire horn

Thinhorn Sheep

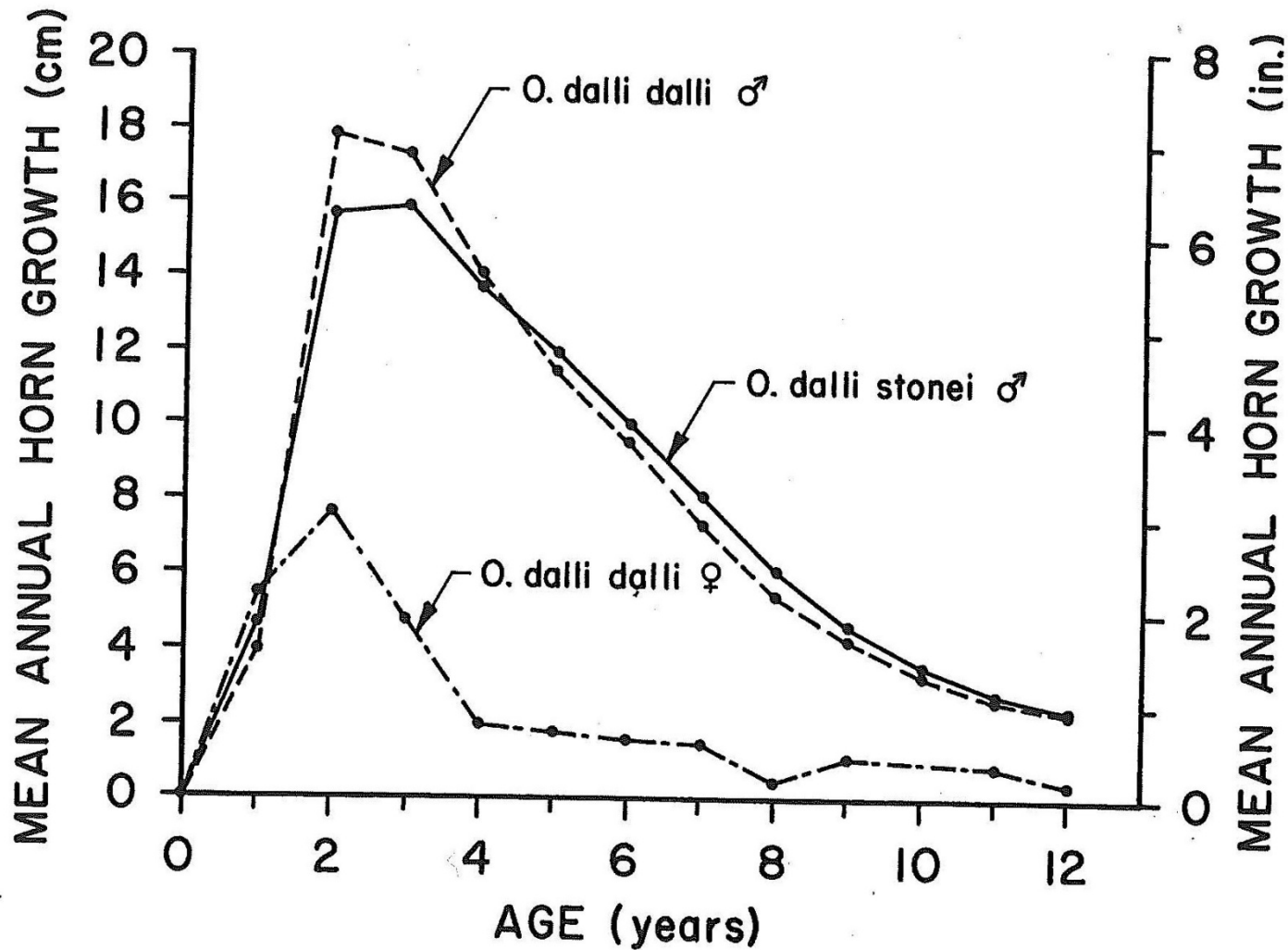


Figure 2.7. Mean annual horn growth of Dall's and Stone's sheep rams and Dall's sheep ewes (from W. E. Heimer, unpubl. data; J. P. Elliott; unpubl. data).

Bighorn Sheep

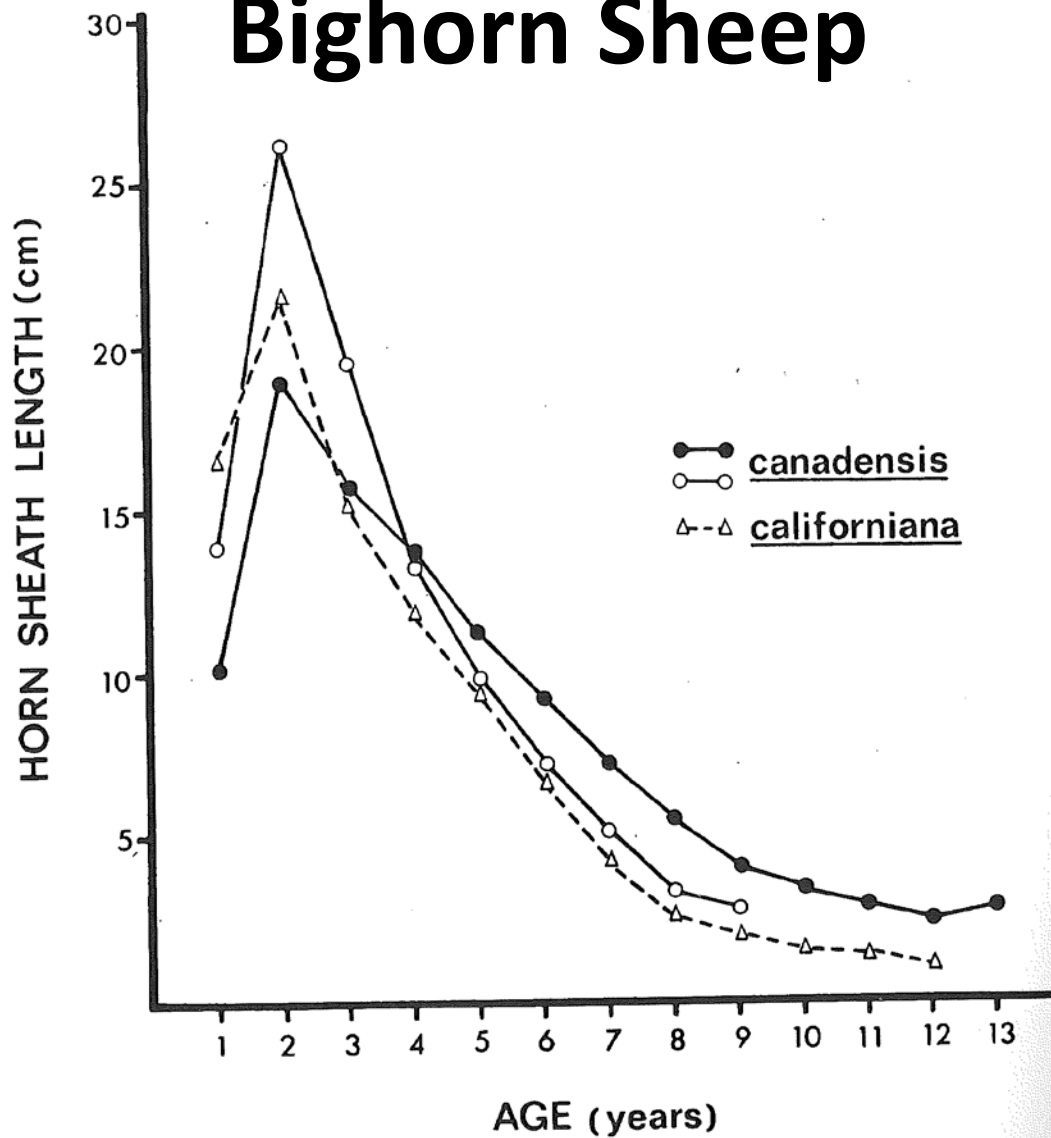
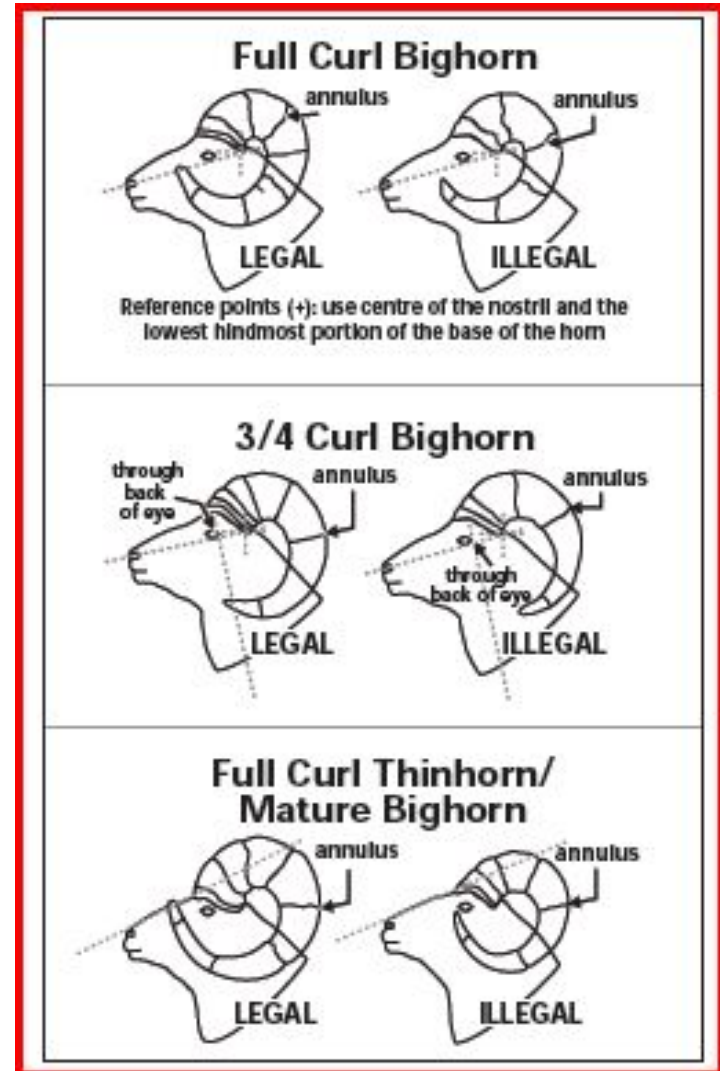


Figure 3.5. The typical pattern of annual horn sheath growth in bighorn males. Two populations of Rocky Mountain bighorn with different growth rates are compared to data from a California population (after D. M. Shackleton, unpubl. data).

Provincial Regulations

- "full curl thinhorn ram mountain sheep" means any thinhorn ram mountain sheep that has attained the age of 8 years as evidenced by true horn annuli as determined by the regional manager or his designate, or whose horn tip, when viewed squarely from the side at right angles to the sagittal plane of the skull, extends dorsally beyond the nose bridge plane;





In Order to be Considered Legal, a Thinhorn Ram must be:

1) Either Full Curl - Meaning that the horn tip extends beyond the Forehead-Nose bridge when viewed squarely from the side...

**...or has
Attained an
Age of At-Least
8 Years Old.**

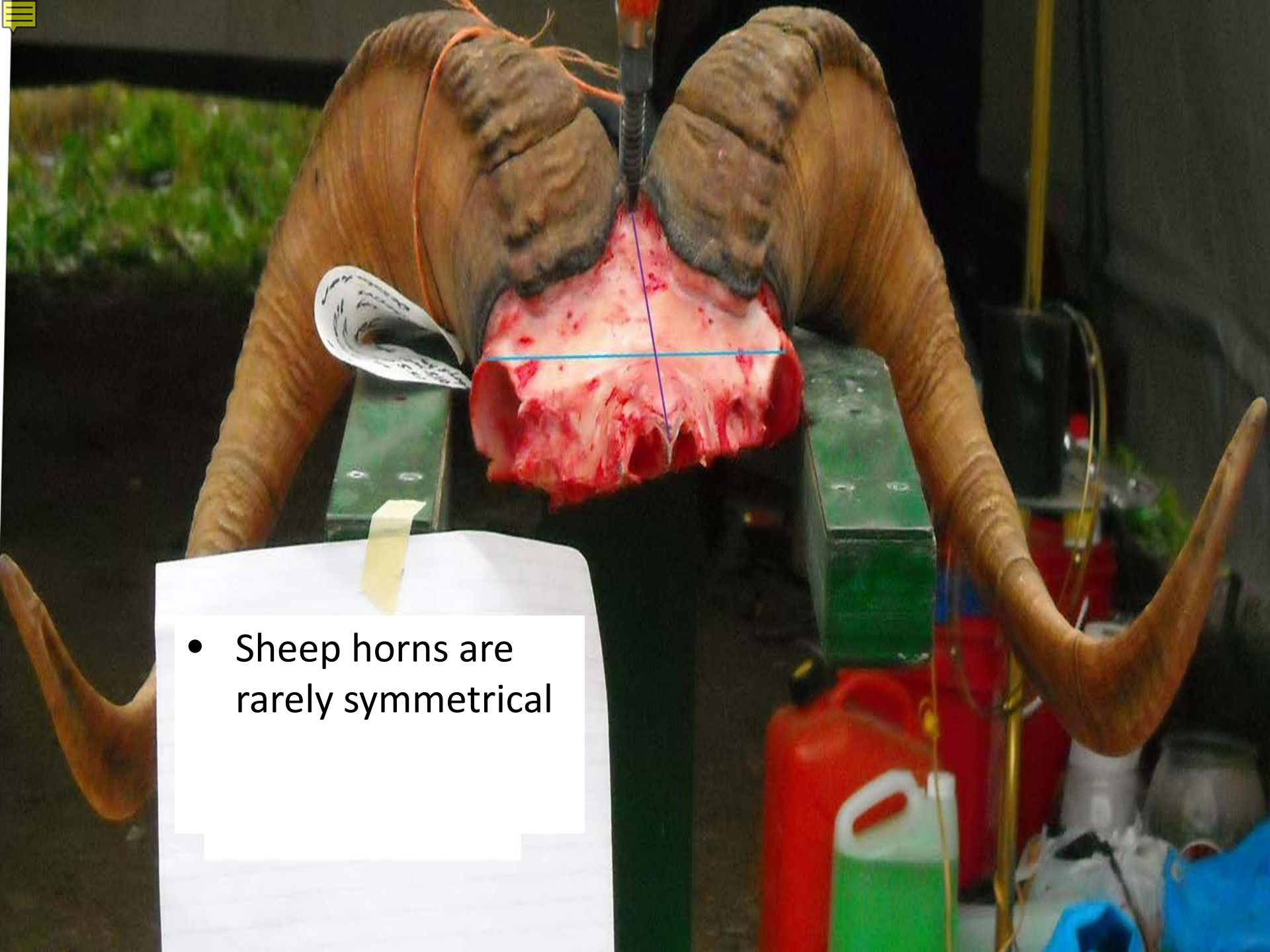




Assessing Age

When considering the age of a ram there are clues to whether the ram is young and possibly not legal:

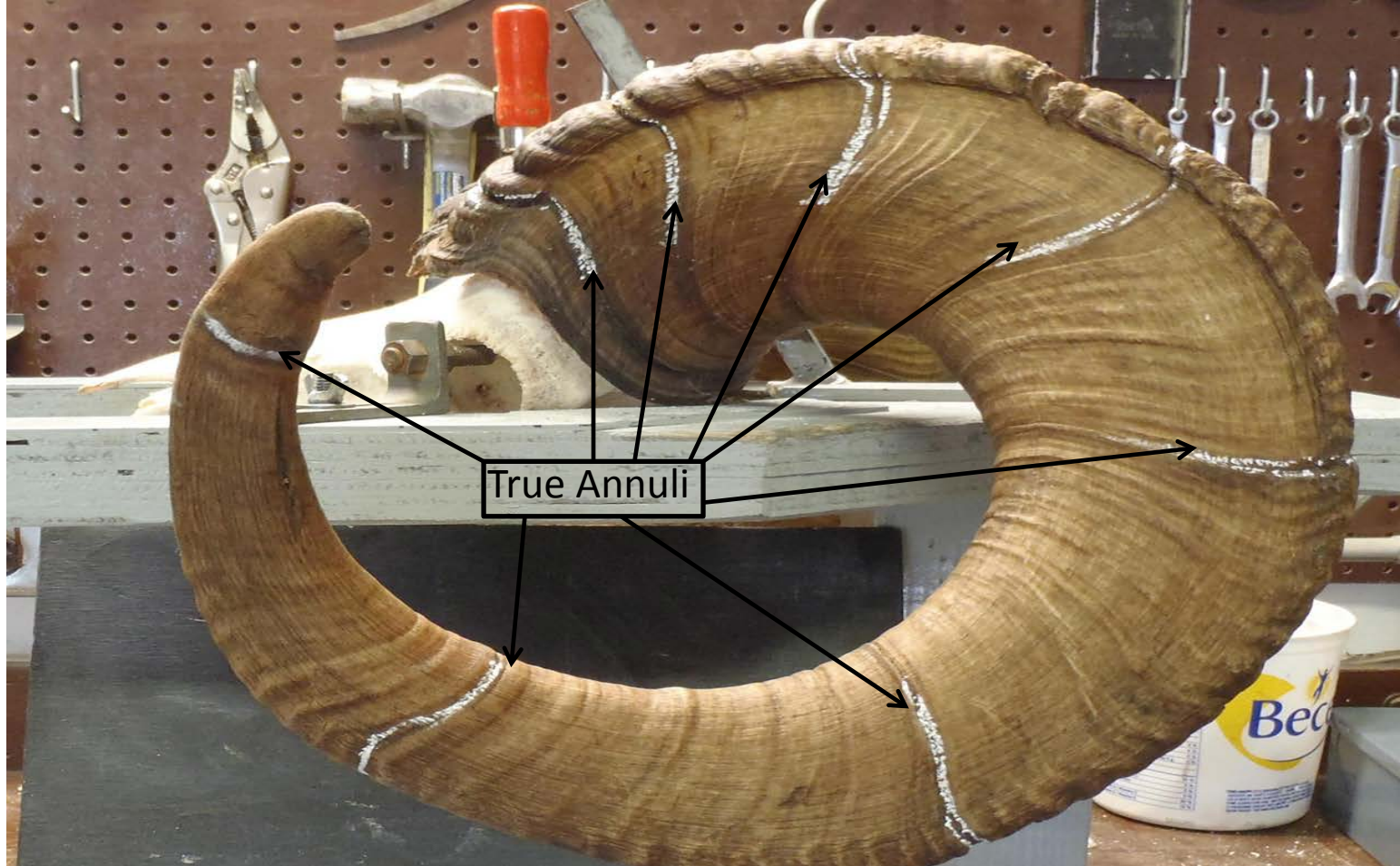
- Large spacing between annuli near base
- Smooth horns especially around the bases
- Lots of dark horn near the base (black horn generally indicates current years growth)
- Not full curl
- Not broomed
- Nose does not have the rounded or “roman nose” appearance
- Horns have little or no outward flare

- 
- Sheep horns are rarely symmetrical

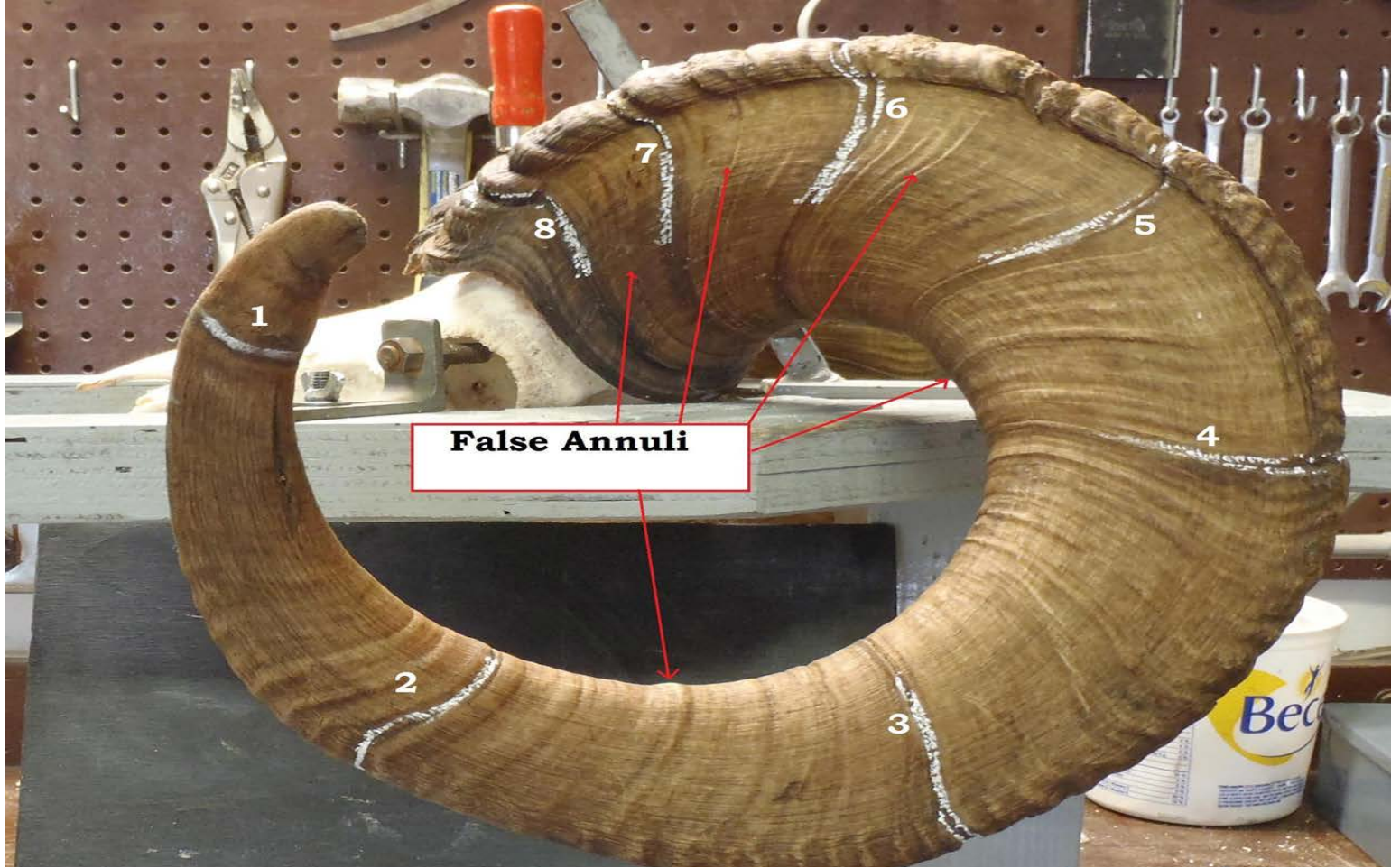


- Annuli can be easy to determine, based on clear horn growth and well defined annular grooves and annulus 'lip'.



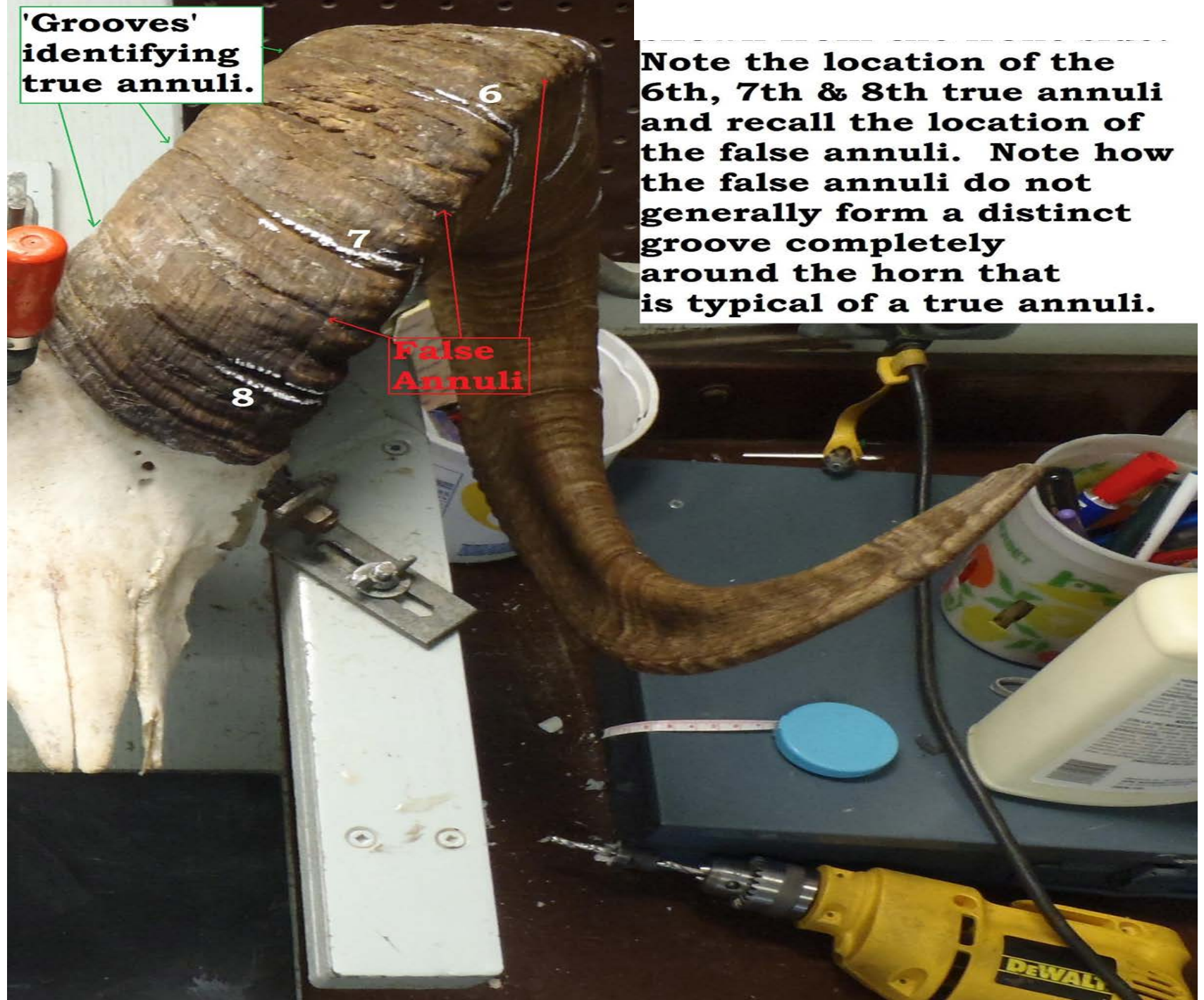


- True annuli form a dark groove that is accentuated on the outer curve of the horn.
- The inter-annuli distance gets proportionally smaller after the second annuli.
- False annuli are often bulges and the groove does not extend around the back of the horn.



'Grooves'
identifying
true annuli.

Note the location of the
6th, 7th & 8th true annuli
and recall the location of
the false annuli. Note how
the false annuli do not
generally form a distinct
groove completely
around the horn that
is typical of a true annuli.



False
Annuli

6

7

8

DEWALT

Examples:

Ram #1



05.08.2010 10:38

Ram #1

- The annuli are not well defined.



Note the false annuli here.

05.08.2010 10:38



Ram #2

- Watch for false annuli



Ram #2

- This ram has a series of false annuli that would be difficult to see in the field
- Some life history characteristic causes horn growth in this ram to change intra-annuli

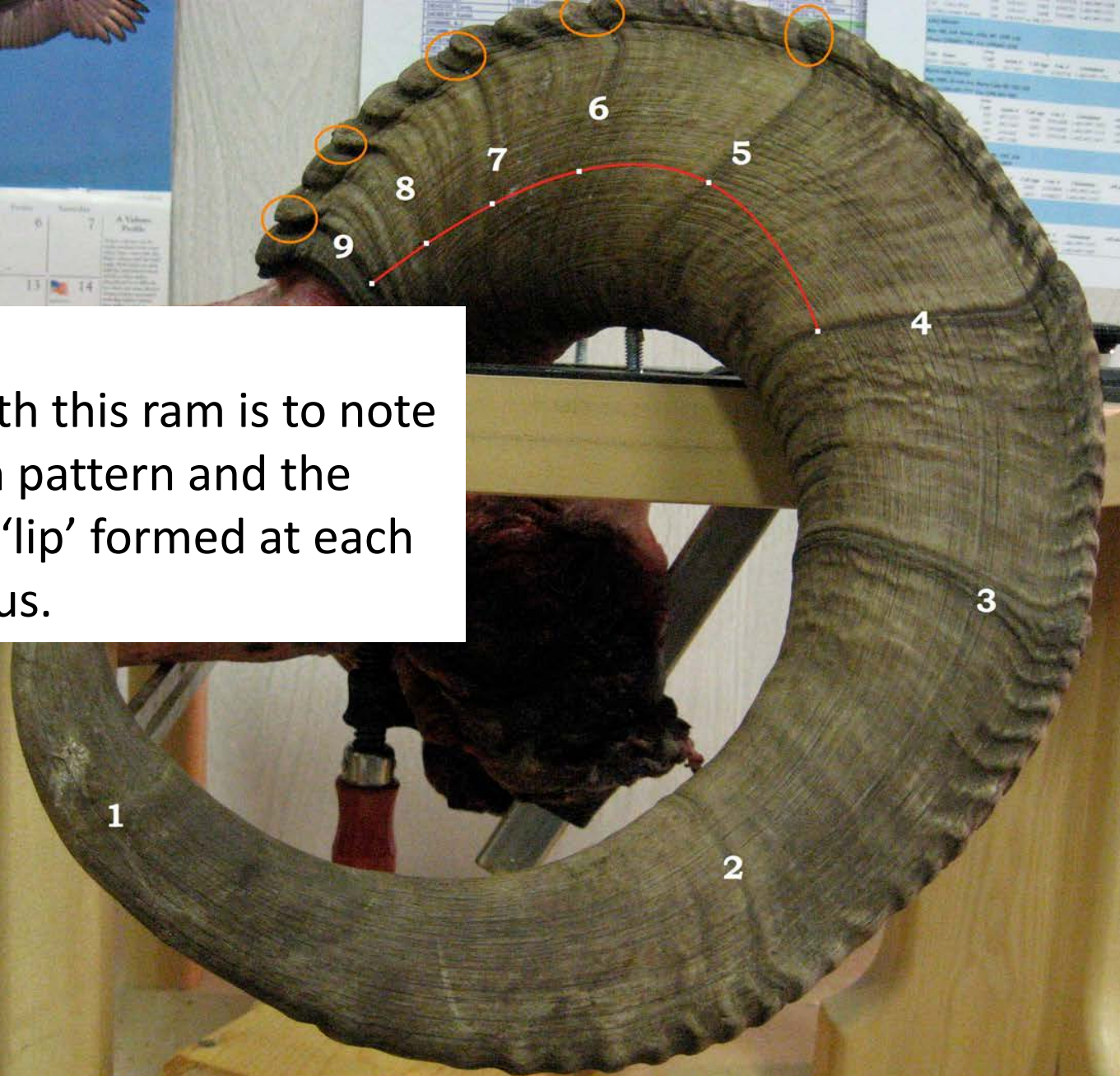
Ram #3

- Look at inter-annuli distance



Ram #3

- The key with this ram is to note the growth pattern and the distinctive 'lip' formed at each true annulus.





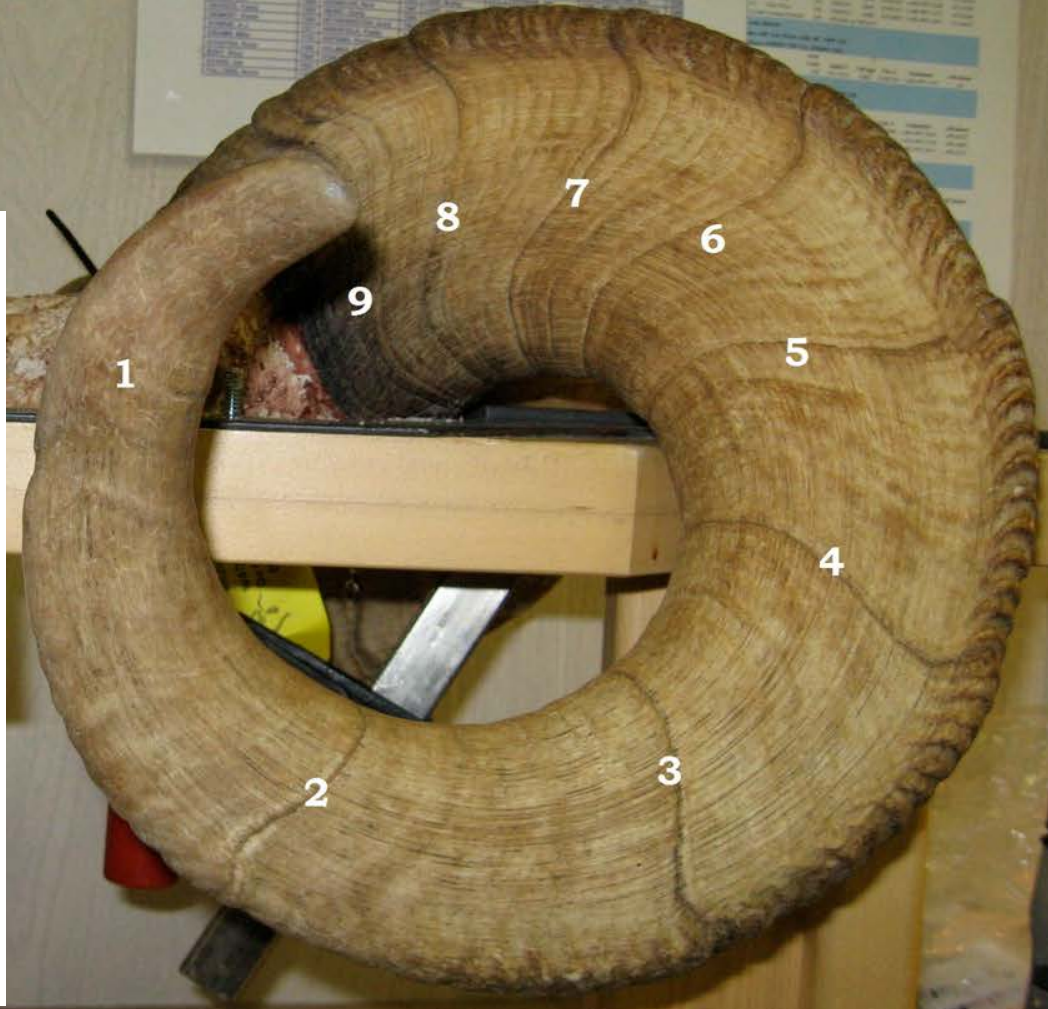
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&
Integrated Land Management Bureau
Direct Phone Numbers

Division	Section	Staff Name	Phone Number
Wildlife	Wildlife	Mr. [Name]	[Phone Number]
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Ram #4

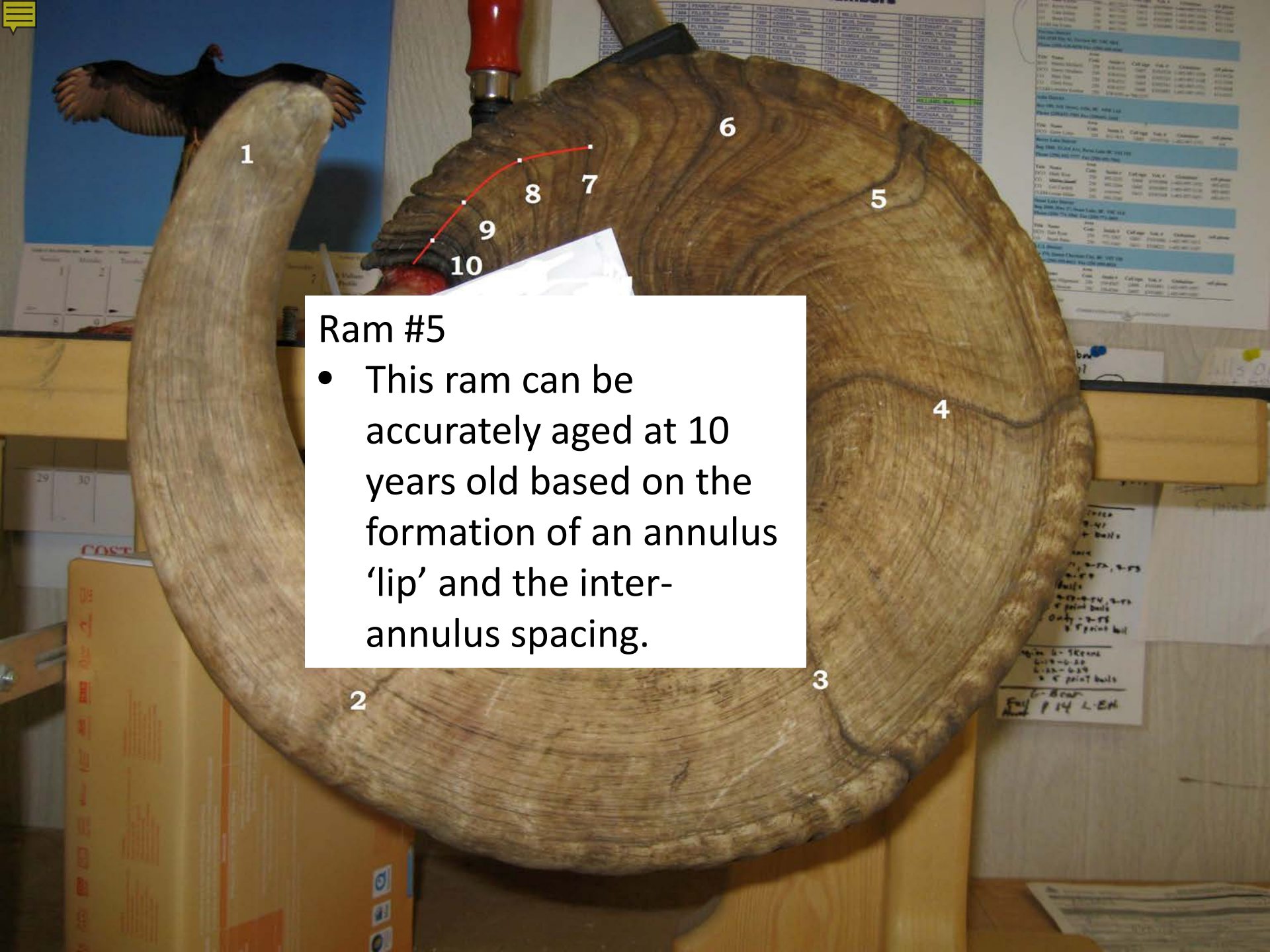
- The tight curl makes ageing this ram difficult.





Ram #4

- The tight curl hides the base, but note that the inter-annulus distance remains consistent, only getting progressively shorter with age.
- Clearly defined annuli.
- This ram is at least 9 years old.



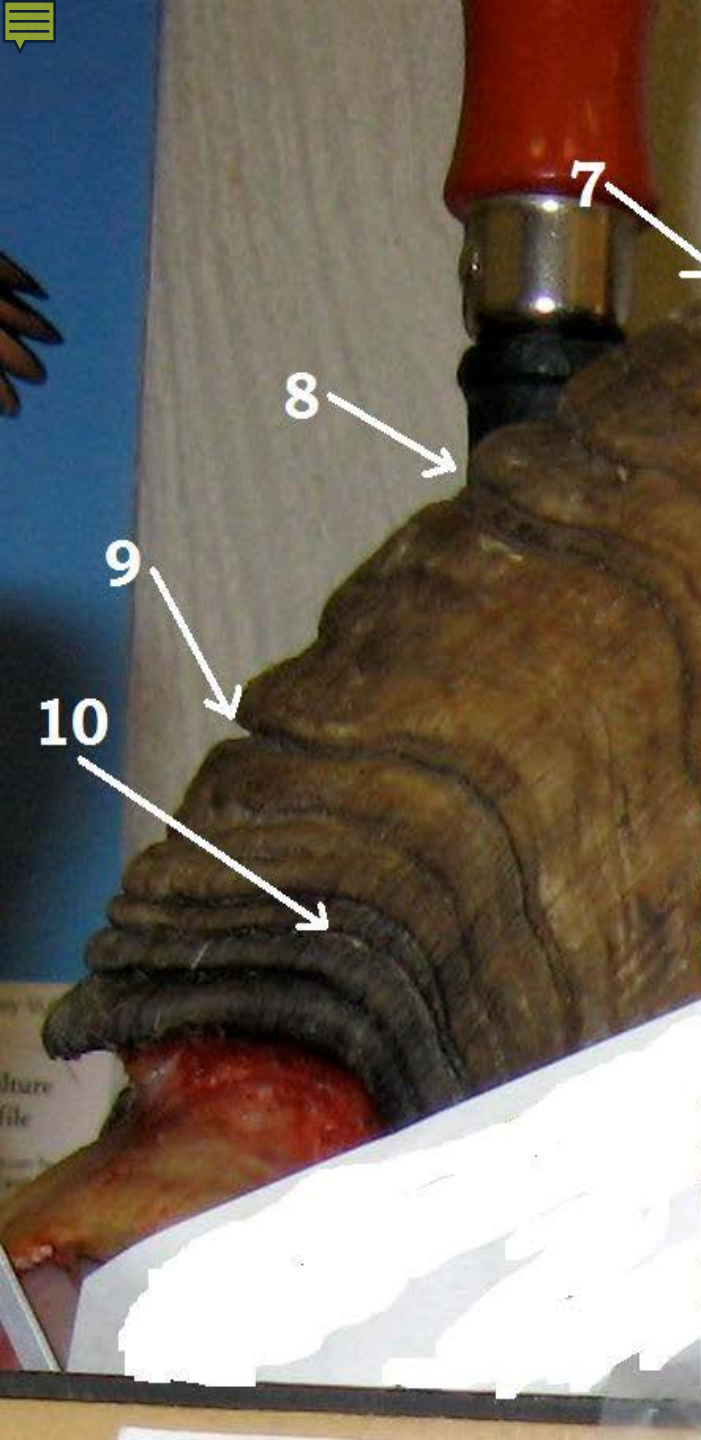
Ram #5

- This ram can be accurately aged at 10 years old based on the formation of an annulus 'lip' and the inter-annulus spacing.

Fiber	Name	Code	Index #	Call sign	Vol. #	Collection	Call date
1001	WILSON, William	100	100101	1001	1001	1001	1001
1002	SMITH, John	100	100102	1002	1002	1002	1002
1003	DAVIS, Robert	100	100103	1003	1003	1003	1003
1004	JONES, Mary	100	100104	1004	1004	1004	1004
1005	BROWN, James	100	100105	1005	1005	1005	1005
1006	WILSON, William	100	100106	1006	1006	1006	1006
1007	SMITH, John	100	100107	1007	1007	1007	1007
1008	DAVIS, Robert	100	100108	1008	1008	1008	1008
1009	JONES, Mary	100	100109	1009	1009	1009	1009
1010	BROWN, James	100	100110	1010	1010	1010	1010

Handwritten notes on a piece of paper:

10-12-84
10-13-84
10-14-84
10-15-84
10-16-84
10-17-84
10-18-84
10-19-84
10-20-84
10-21-84
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10-26-84
10-27-84
10-28-84
10-29-84
10-30-84
10-31-84



BE...	7270	KENNEDY, Jason	7263	MUR...
FLYNN, Linda	7533	KIEM, Rick	7387	NAM...
BLA...	7785	GARCIA-BARRY, Suzy	7292	O'DO...
BOUDR...	7535	WYNACE, Don	7363	OLIE...
BR...			7789	PAR...
			7293	PAUL...
			7289	PEAR...
				PERF...

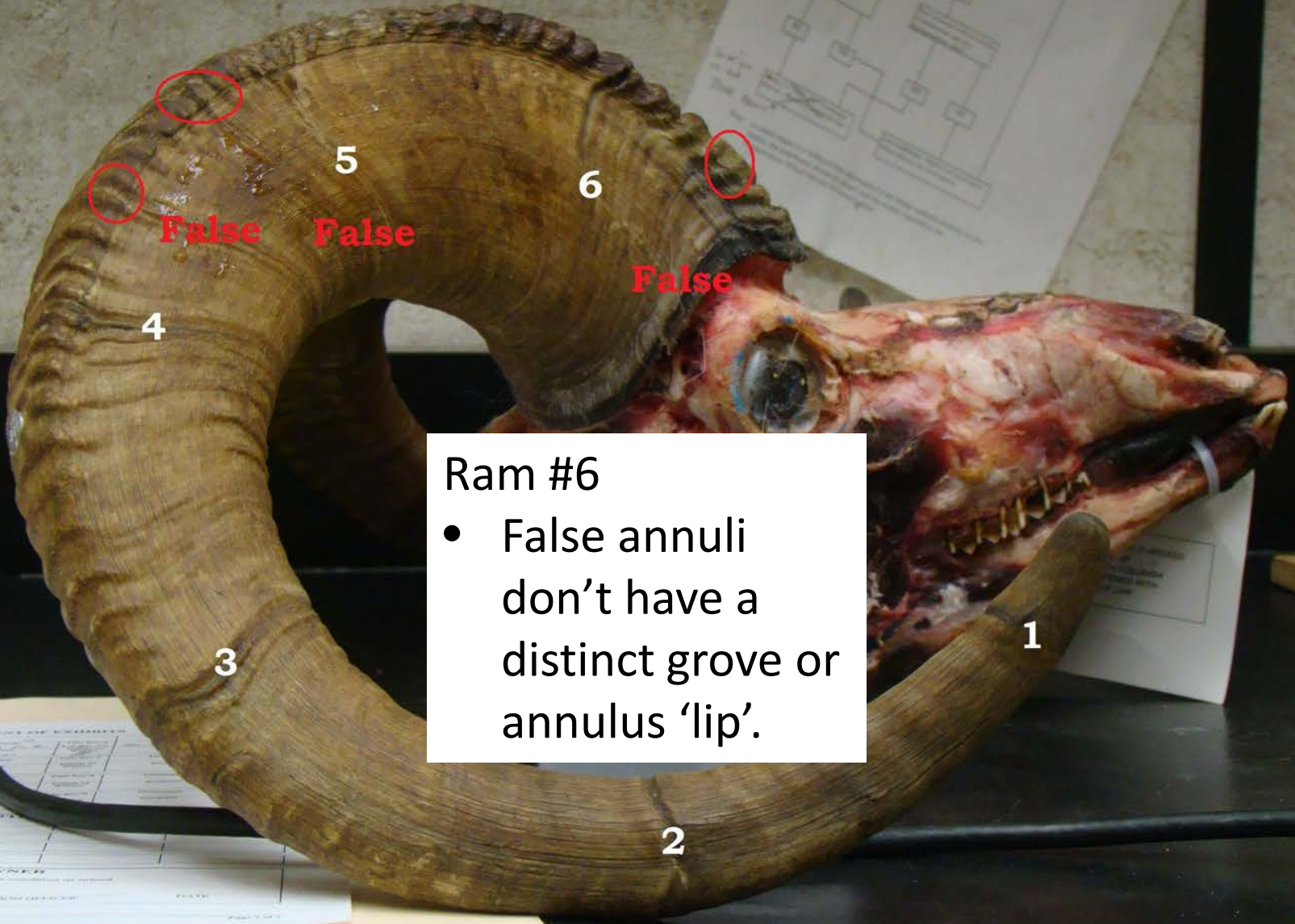
Ram #5

- This shows the 10th annulus.
- Also, the double-groove pattern can be seen in the 7th and 9th annuli as well, lending more proof that this ram should be aged at 10 years old.



Ram #6

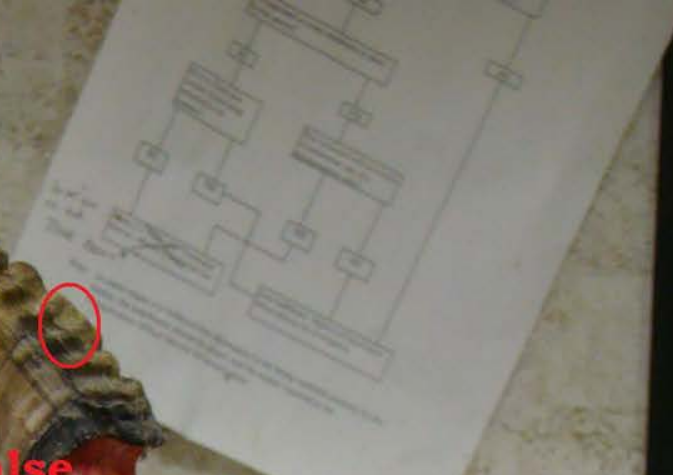
- Watch for false annuli.



Ram #6

- False annuli don't have a distinct groove or annulus 'lip'.

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Recommendations:

- Get the best optics, that you can afford.
- Get as close as possible.
- Take your time and be patient.
- Get as many angles and profiles of the horns as possible.
- Be confident in your decision.



Additional References

Mountain sheep of North America. *Edited by* R. Valdez and P.R. Krausman. The University of Arizona Press, Tucson, Arizona, USA.

BC Hunting Blog:

<http://bchuntingblog.com/blog/2012/06/16/judging-stones-sheep-in-the-field/>

BC Hunting Regulations Synopsis:

<http://www.env.gov.bc.ca/fw/wildlife/hunting/regulations/>

Wild Sheep Society of BC:

<http://www.wildsheepsociety.net/HornCurlTest.html>

