

**TREE AND SAGE BRUSH
DENSITY AND ITS
INFLUENCE ON SNOW
ACCUMULATION AT A
THE LOWER FOREST
BOUNDARY**

BY ERNIE LAWSON

BACKGROUND

How does sagebrush or tree density influence snow deposition in a lower tree line ecotone?

- What is an ecotone?
- Why study ecotones?



FIELD SITE



Measurements

SNOW

Depth

Mass

Density

VEGETATION

Height

Diameter

Distance

Density

Methods

▪ The point-center quarter method was used to record density.

▪ A hypsometer was used to measure:

✓ Height

✓ Distance

✓ Diameter



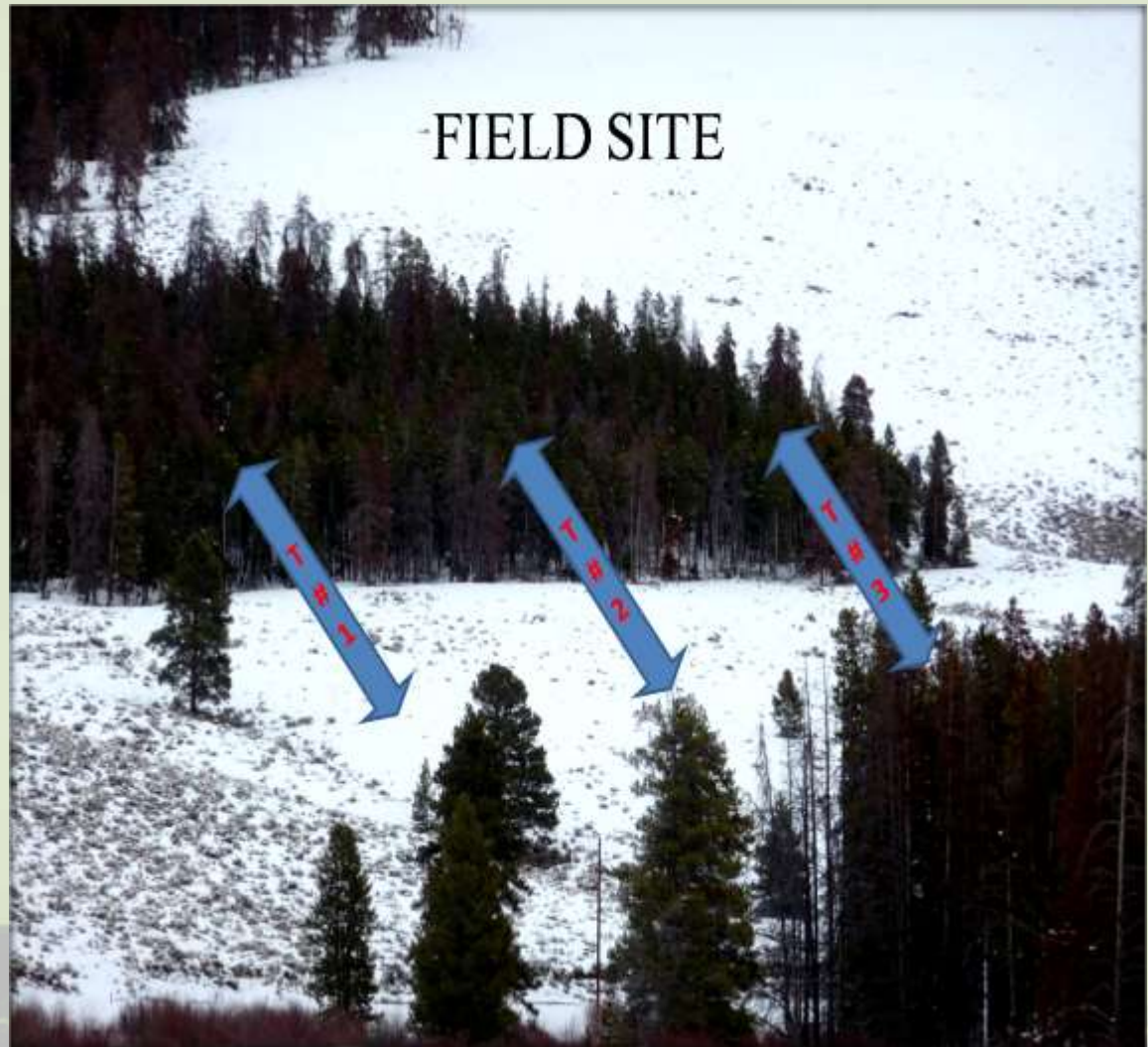
Methods

- The PVC pipe was used to take snow samples.
- The sample was weighed on site with a spring scale.
- The weight and depth was recorded to figure the density.

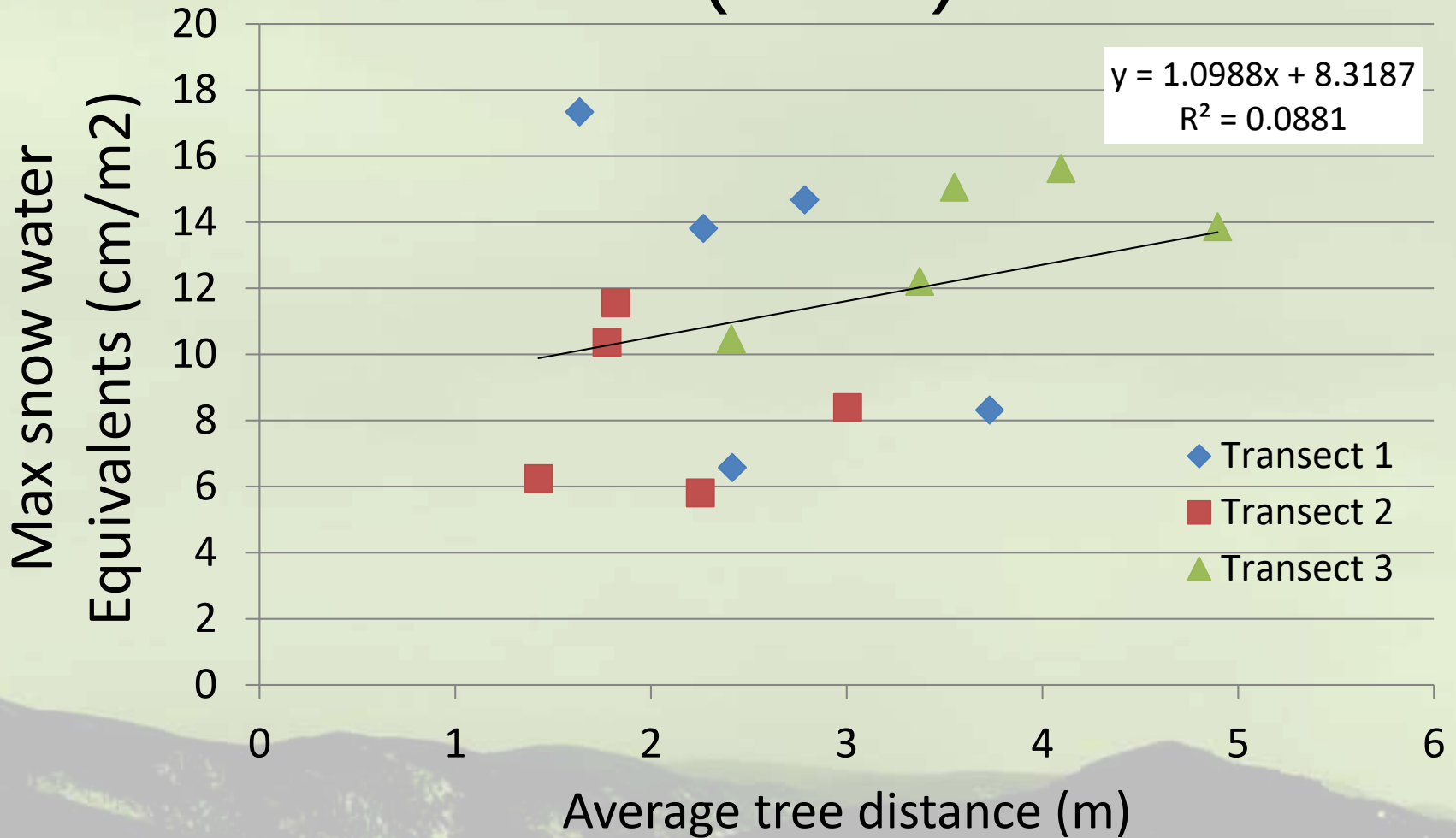


Methods

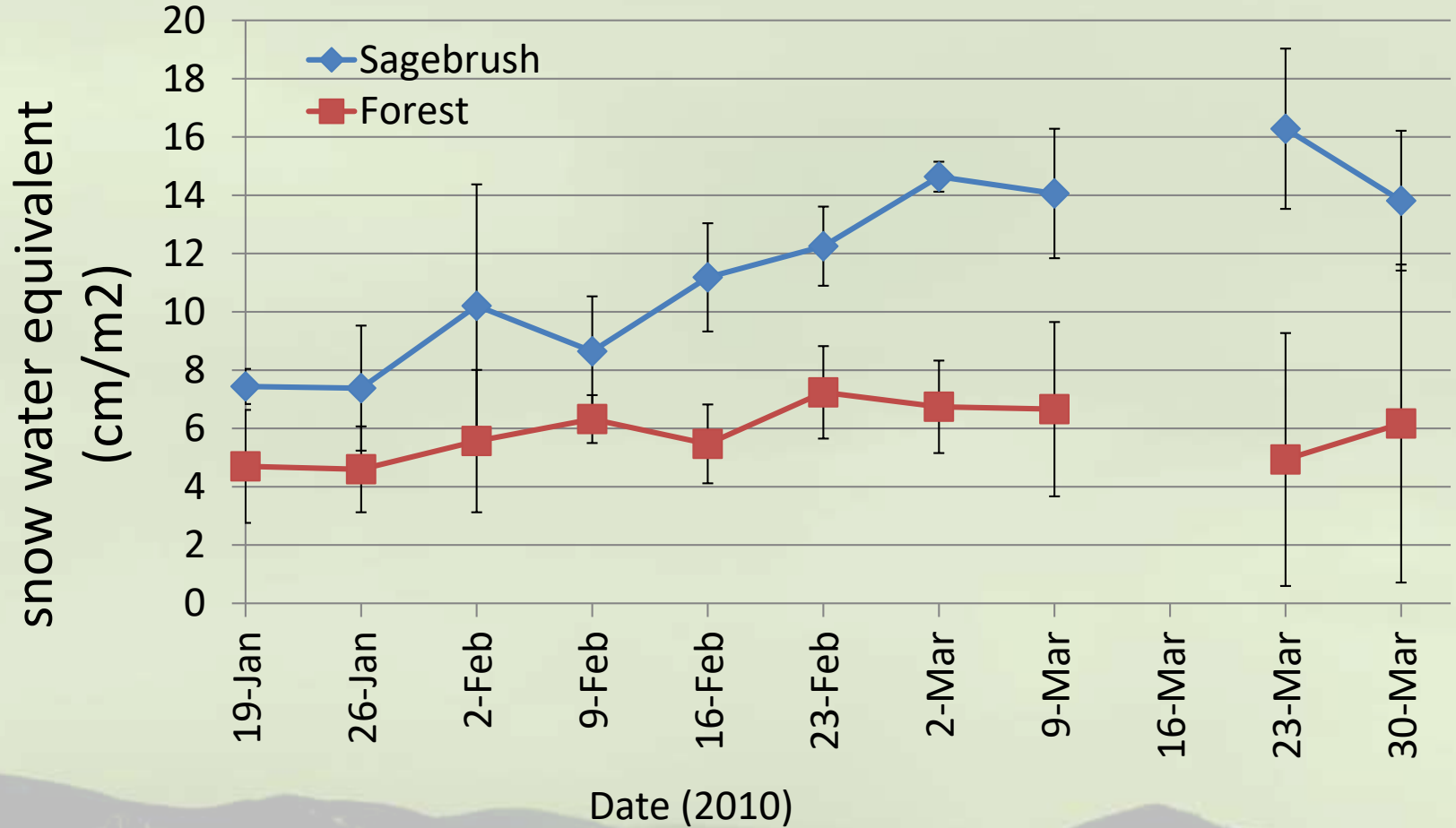
- Snow depth was taken with a snow measuring pole.
- Every five meters snow depth was taken along a transect that extended 25 m in the shrubland and 25m in forest.



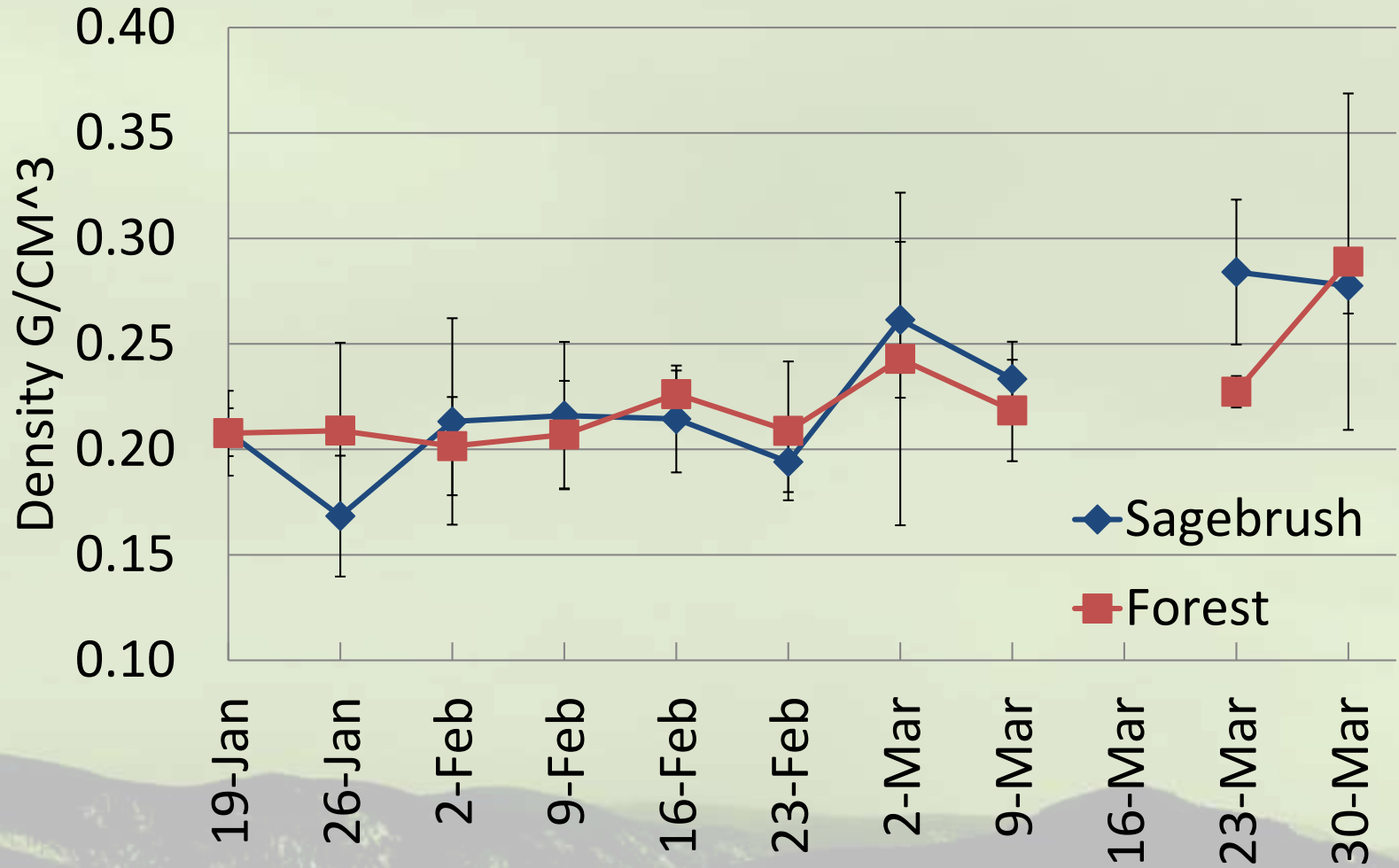
INFLUENCE OF TREE DISTANCE ON (SWE)



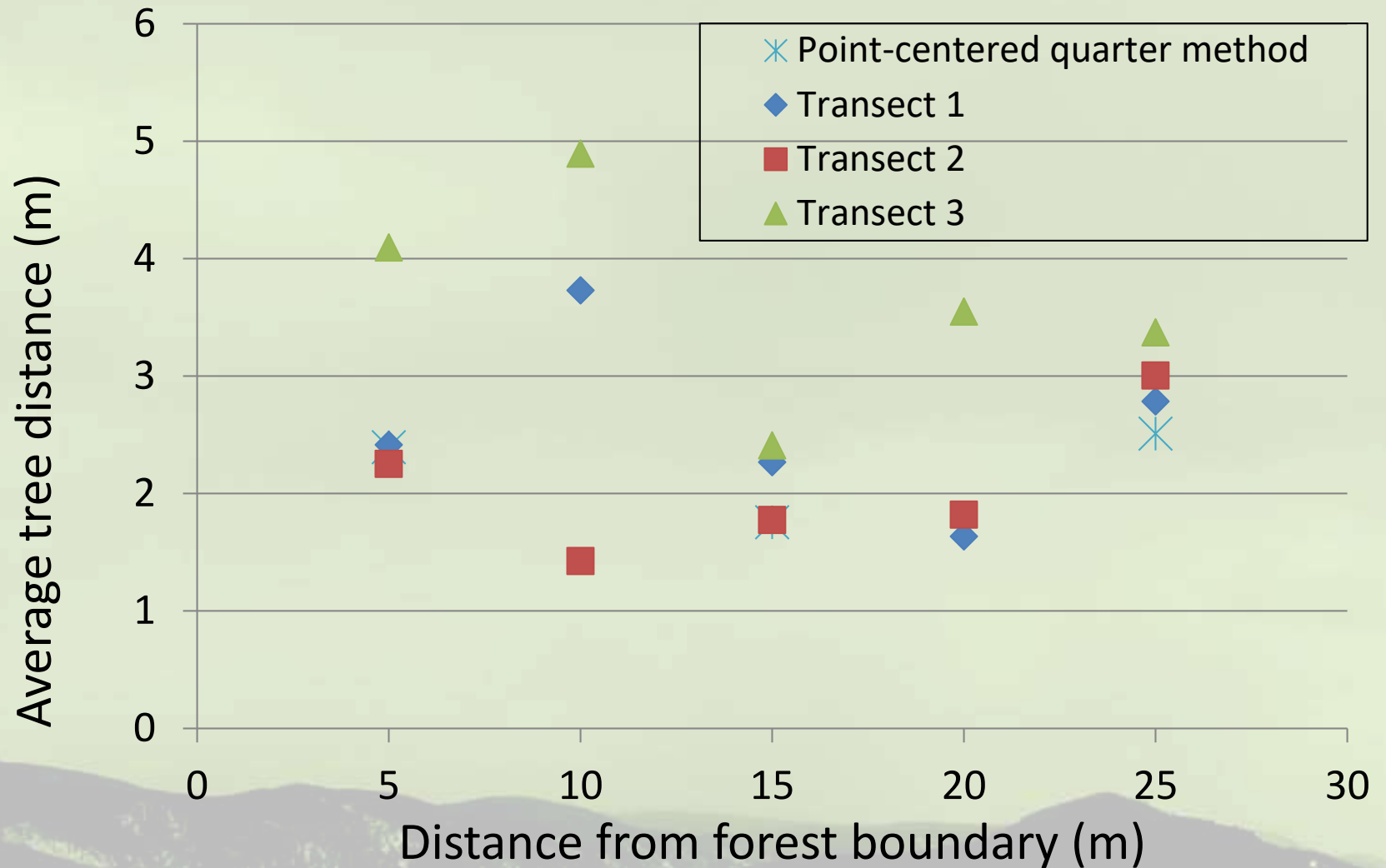
SNOW WATER



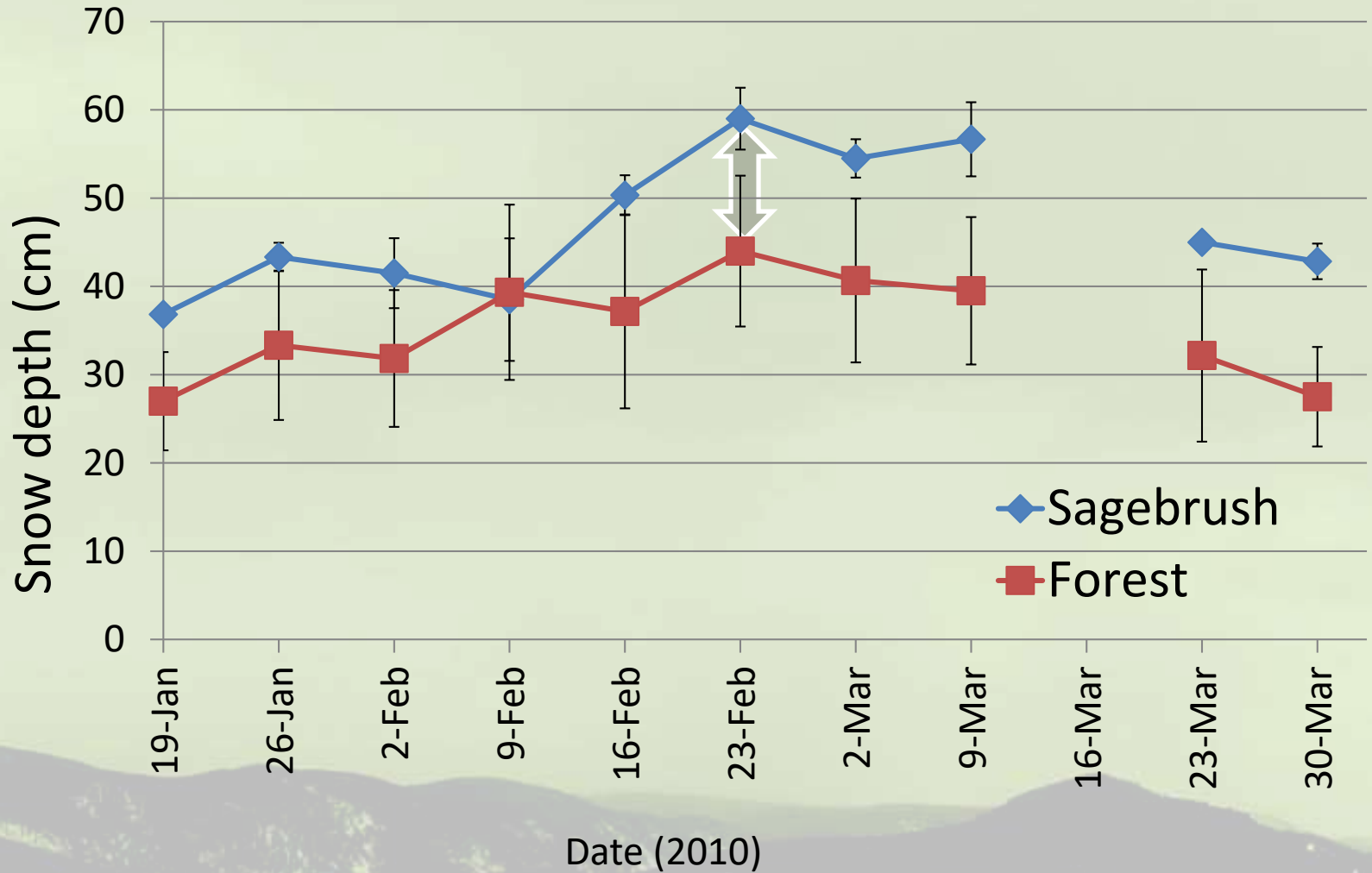
SNOW DENSITY



TREE DISTANCE



SNOW DEPTH



SUMMARY OF RESULTS

Less snow in forest accumulated than in sagebrush.

Snowmelt is delayed in forest than in sagebrush.



DISCUSSION

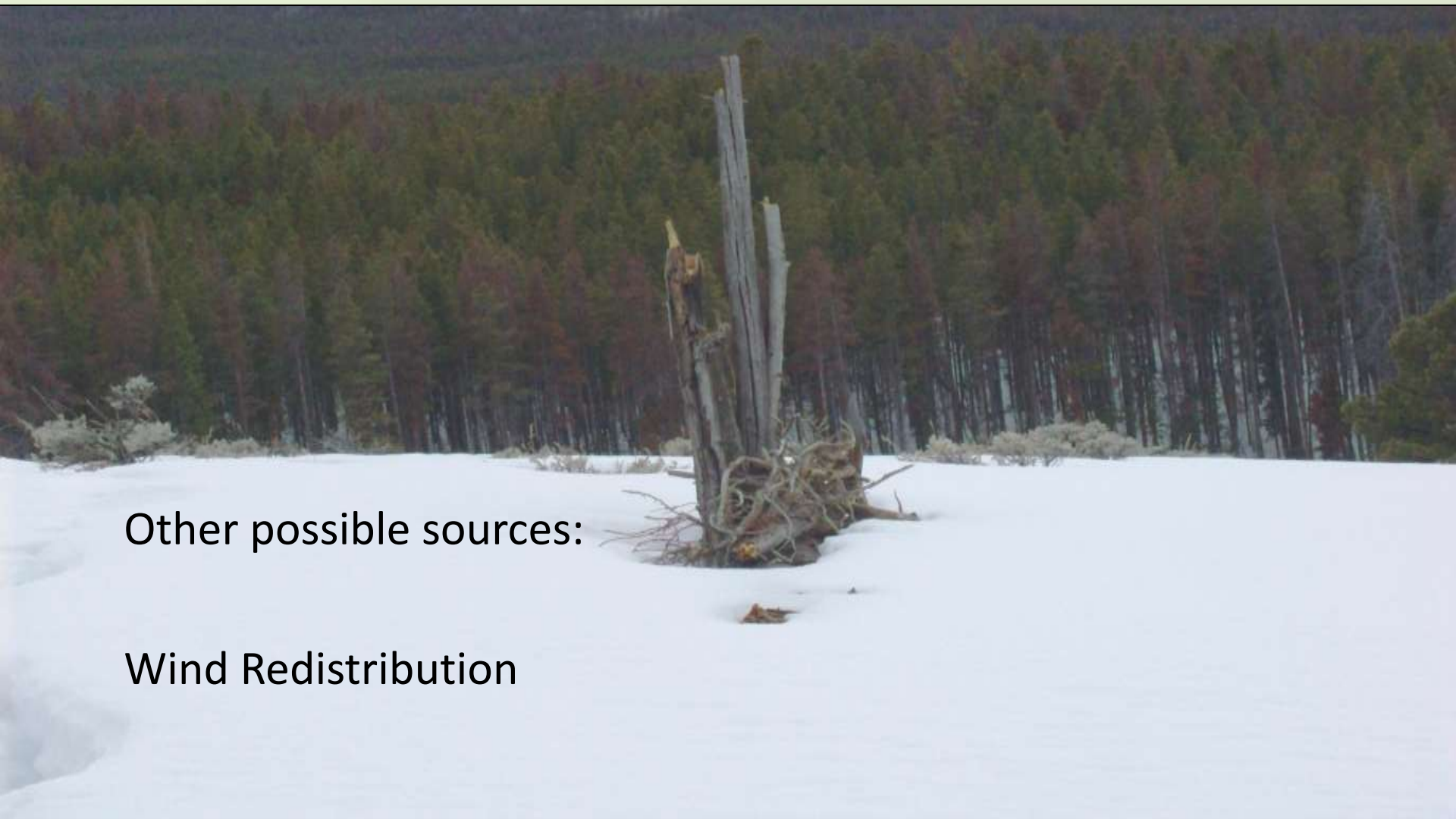
- Canopy interception by trees



DISCUSSION

Other possible sources:

Wind Redistribution



CONCLUSION

- Where there is more snow there is more water availability for vegetation.
- Snow deposition was influenced by vegetation density.



ACKNOWLEDGEMENTS

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