Angry Bird: Spring Constant of Slingshot

Using Tracker, measure the length of the stretch of the slingshot as 2.43 m.

- Use Tracker to find the velocity of the bird just as it is released from the slingshot.
- If the angry bird has a mass of 135 kg (remember it is a big bird ~0.7m high was the measurement for acceleration to be 9.8 m/s^2—the mass of a 70cm diameter spherical water balloon is 180kg—water density is 1000 kg/m^3 and average bird density is around 750 kg/m^3), what is the kinetic energy of the bird just after release from the slingshot (max kinetic energy)?
- What is the spring constant of the slingshot (note that the slingshot seems to break soon after launch)?

Hamershock, et al, "Determination of Body Density for Twelve Bird Species," ADA266452, Wright-Patterson AFB, April 1993. Accessed Online, October 11, 2011. <http://oai.dtic.mil/oai/oai?verb=getRecord&metadataPrefix=html&identifier=ADA266452>