

“New Math Slims Down Dinosaurs”

In *Jurassic Park*, they shake the earth so much they create waves in water puddles, but new research suggests that dinosaurs were lighter on their feet than previously imagined. Biologists at the University of Manchester used laser imaging and 3-D computer modeling to calculate the minimum amount of skin required to wrap around the skeleton. From that calculation, they estimated the animal's total volume. They tested the process on 14 modern-day animals, finding that they had to add about 20 percent more body mass to their calculation from the minimum skeletal “wrap” volume.

Scientists then went to Berlin's Museum für Naturkunde and applied the technique to the largest mounted dinosaur skeleton in the world, the giant *Brachiosaurus brancai*. After its 80-foot-long skeleton was measured, the *Brachiosaurus* was calculated to have shed an impressive 114,000 pounds, down from a once-estimated 80 tons to a lithe 23 tons, though that's still the rough equivalent of six elephants.

Body weight is key to understanding how an extinct animal lived—its life span, anatomy, and diet. Before supercomputers, estimating it was an inexact science, sometimes employing sculptures modeled on artists' interpretations that were then submerged in water to measure their volume. Scientists are now hopeful the animals' weight can be calculated with consistent accuracy. “I think the early estimates were set in that big, fat, and slow lizard mindset before the dinosaur renaissance,” the study's author, William Sellers, told *Discovery News*.

One result of the new math is that many dinosaurs will be bumped down to a lighter weight class. Textbook illustrations and museum exhibits will need to be updated to reflect their svelter figures. And the next time a *T. rex* goes on a cinematic rampage, there should be a bit less rumble in the jungle.