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An elastic body impacting the water surface; inspired by diving birds SUNGHWAN JUNG, ALEX OCHS, SEAN GART, Department of Engineering Science and Mechanics, Virginia Tech — We investigate how a soft elastic body responds to water-entry impact analogous to a bird diving into water to catch prey. Dumbbell shaped objects made of two acrylic spheres connected by an elastic rod are dropped into water. A buckling threshold was found by varying impact force and elastic rod stiffness. This threshold may have implication as to how birds are able to safely dive into water at high speeds and avoid any neck-injury.

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