The cohomology of the classifying space of surface bundles (or, equivalently, the moduli space of Riemann surfaces) is an active topic of research, especially in the so-called “unstable” range of dimensions. The same kind of study is possible for the classifying space of a higher-dimensional manifold. In this talk, I will describe how certain techniques (due to Randall-Williams) to find relations between tautological classes in the unstable range of the cohomology of the classifying space of surface bundles can be applied in the higher-dimensional case. (Received September 23, 2011)