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John Etnyre* (etnyre@math.gatech.edu), **Hyunki Min** and **Anubhav Mukherjee**. *On 3-manifolds that are boundaries of exotic 4-manifolds.*

We give several criteria on a closed, oriented 3-manifold that will imply that it is the boundary of a (simply connected) 4-manifold that admits infinitely many distinct smooth structures. We also show that any weakly fillable contact 3-manifold, or contact 3-manifolds with non-vanishing Heegaard Floer invariant, is the boundary of a simply connected 4-manifolds that admits infinitely many distinct smooth structures each of which supports a symplectic structure with concave boundary, that is there are infinitely many exotic caps for any such contact manifold. The proofs require the development of Heegaard-Floer cobordism invariants and a surgery formula for them. (Received January 11, 2022)