This paper gives an asymptotic description of the Noether-Lefchetz locus for smooth projective hypersurfaces in $\mathbb{P}_{\mathbb{C}}^{2n+1}$ of large degree. I prove that successive small codimensional components of this locus correspond to surfaces containing a small degree subvariety of dimension n. This result generalises the work of Green and Voisin for surfaces in $\mathbb{P}_{\mathbb{C}}^{3}$ containing a line and a conic.