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Judy Holdener* (holdenerj@kenyon.edu), Department of Mathematics and Statistics, 201 N College Road, Gambier, OH 43022, and **Zachary Weiner** (weinerz@kenyon.edu). *A Search Technique for Identifying Abundancy Outlaws of the form $(\sigma(N) + t)/N$* . Preliminary report.

Let k/l be a rational number greater than 1, and let $I : \mathbb{N} \rightarrow \mathbb{Q} \cap (1, \infty)$ be the map defined by $I(n) = \sigma(n)/n = (\sum_{d|n} d)/n$. Then k/l is said to be an *abundancy outlaw* if $k/l \notin \text{Image}(I)$. In this talk, we present a search technique for identifying abundancy outlaws of the form $(\sigma(N) + t)/N$, where $(\sigma(N) + t, N) = 1$. Defining m_N to be the largest divisor of m each of whose prime factors divide N , and v the multiple of N yielding minimal $I(v)$ satisfying $\sigma(v)_N | (v/N)$, $(\sigma(N) + t)/N$ is an abundancy outlaw for all $t < I(v)N - \sigma(N)$. (Received February 02, 2015)