The Neron-Severi group NS(X) of divisor classes modulo algebraic equivalence on an algebraic surface X is often not difficult to calculate; it is always finitely generated and its rank is an important invariant of X. Contained in this group is the monoid M(X) consisting of those classes represented by an effective divisor; M(X) is harder to calculate than NS(X) and need not be finitely generated.

In this talk we will examine cases in which M(X) is finitely generated, and cases in which finite generation fails. We will see that the techniques of determining this depend heavily on the surface type of X. In the case of finite generation we will illustrate minimal generating sets of effective divisor classes. (Received September 22, 2012)