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*Generalizations of Wild semigroups related to the  $3x + 1$  problem.*

Recently Lagarias introduced the Wild semigroup, which is intimately connected to the  $3x + 1$  Conjecture. Applegate and Lagarias proved a weakened form of the  $3x + 1$  Conjecture while simultaneously characterizing the Wild semigroup through the Wild Number Theorem. In this talk, we consider a generalization of the Wild semigroup which leads to the statement of a weak  $qx + 1$  conjecture for  $q$  any prime. We sketch a proof of our conjecture for  $q = 5$  together with a result analogous to the Wild Number Theorem. Next, we look at two other classes of variations of the Wild semigroup and outline the proof of a general statement of the same type as the Wild Number Theorem. (Received September 26, 2006)