ABSTRACT. Let $w \geq 2$ be an integer and let D_w be the set of integers which includes zero and the odd integers with absolute value less than 2^{w-1}. Every integer n can be represented as a finite sum of the form $n = \sum a_i 2^i$, with $a_i \in D_w$, such that of any w consecutive a_i's at most one is nonzero. Such representations are called *width-w nonadjacent forms* (w-NAFs). When $w = 2$ these representations use the digits $\{0, \pm 1\}$ and coincide with the well known *nonadjacent forms*. Width-w nonadjacent forms are useful in efficiently implementing elliptic curve arithmetic for cryptographic applications. We provide some new results on the w-NAF. We show that w-NAFs have a minimal number of nonzero digits and we also give a new characterization of the w-NAF in terms of a lexicographical ordering. We also generalize a result on w-NAF and show that any base 2 representation of an integer, with digits in D_w, that has a minimal number of nonzero digits is at most one digit longer than its binary representation.