Effect of Streamside Development on Distribution and Productivity of American Dippers (*Cinclus Mexicanus*) in Western Montana[TWS]

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Human development may play an important role in determining the distribution and success of organisms. Habitat specialists such as the American Dipper (*Cinclus mexicanus*), are particularly likely to be affected by alterations to their habitat. During 1996 and 1997, I examined the effect of streamside development on the distribution and productivity of dippers in the Bitterroot Valley of Western Montana. I surveyed 23 creeks, located and monitored 49 nests, and conducted extensive habitat analyses of dipper territories and non-use areas. Average dipper densities were 0.3 3 +/- 0.12 pairs/km of stream during the breeding season. Dipper breeding territories were more likely to occur in less developed portions of streams. However, there was no significant difference between number of young fledged in developed vs. undeveloped territories (P=0.264). Water depth in dipper territories was significantly greater at the end of the breeding season than in non-use areas (P=0.001) suggesting dipper distributions may be affected by intensive de-watering of creeks for irrigation. The presence of bridges, which provide nest sites for dippers, have allowed dippers to colonize the lower reaches of creeks and nest in areas that may be more vulnerable to flooding and predation. However, there was no significant difference between number of young fledging from bridge vs. natural nest sites (P=0.463). Indeed, bridges at lower elevations allowed dippers to breed earlier and in some cases, to double brood. Overall, the most important factor in determining dipper distributions and productivity in the Bitterroot appears to be the availability of nest sites.