Citizen Scientist Monitoring of Osprey Distribution and Reproductive Success Along the Yellowstone River, MT

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The Yellowstone Valley Audubon Society monitors ospreys (*Pandion haliaetus*) nesting along the Yellowstone River 1) to increase science literacy by engaging volunteers and undergraduate interns in conservation, 2) to reduce conflicts between utility companies and ospreys nesting on power poles, and 3) to rescue nestlings entangled in baling twine used in nest construction. Trained volunteers surveyed the study area and determined reproductive success for occupied nests from April through August 2012-2015. All nests were located on anthropogenic substrates: platforms on poles, bridge spans, power poles, and cell towers. Mean (SE) number of young fledged per occupied nest was above that needed to sustain the local population: 1.87 (0.22) in 2012 (n = 30 nests), 1.35 (0.18) in 2013 (n = 48 nests), 1.51 (0.16) in 2014 (n = 55 nests), and 1.48 (0.17) in 2015 (n = 62 nests). Although some nest sites consistently produced more fledglings than others, reproductive success was unrelated to distance to nearest neighbor, density of breeding pairs within 5 km, and location along the river. From 2012-2015, 11 nestlings and one adult became entangled in baling twine: three died, one was euthanized, and eight nestlings fledged normally after being freed. A disease of unknown etiology appeared to affect nearly 50% of nestlings in 2015. Carcasses tested by the National Wildlife Health Center were negative for Avian Influenza, West Nile Virus, and Newcastle Disease. The discovery of new nests annually, robust reproductive success, and relatively low density suggested the population was in the growth phase.