Bank swallow (Riparia riparia) breeding in aggregate and natural habitats

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Abstract

I examined bank swallow (Riparia riparia) colony persistence and occupancy, in lakeshore, river and man-made aggregate pit habitat. Habitat persistence was highest on the lakeshore and lowest in aggregate pits, likely due to annual removal and relocation of aggregate resources. Bank swallow colonies in aggregate pit sites were more likely to persist if a colony was larger or if burrows were located higher on the nesting face. I also compared nest productivity and health factors of bank swallows in lakeshore and aggregate pit habitats. While clutch size was the same in both habitat types, the number of fledglings from successfully hatched nests was significantly higher in aggregate pit sites than from lakeshore sites. Weight of fledgling bank swallows did not differ significantly between habitat types, however weight of adults from aggregate pits decreased significantly over the nesting season. Parasite loads on fledgling bank swallows were significantly lower in aggregate pits than in lakeshore sites. According to these indicators, aggregate pits appear to provide equivalent or higher quality habitat for bank swallows than the natural lakeshore sites, making them adequate and potentially key for this species recovery. Aggregate pit operators can manage for swallows by (1) creating longer, taller faces to attract birds and decrease predation, and (2) supplementing their habitat with water sources to encourage food availability.

Keywords: Bank Swallow, Riparia riparia, Aerial Insectivore, Aggregate Pits, Substitute Habitats, Productivity Rates, Occupancy, Colony Persistence, Ectoparasites