Blue tit Field methods:

We conducted brood size manipulations and population monitoring of blue tits (*Cyanistes caeruleus*) at Wytham Wood, a 380 ha woodland in Oxfordshire, U.K (1º 20’W, 51º 47’N). We regularly checked approximately 1100 artificial nest boxes at the site and monitored the 330 to 450 blue tit pairs occupying those boxes in 2001-2003 during our experiments and then in later years as part of a long-term monitoring project from which we could derive recruitment and survival data. Nearly all birds made only one breeding attempt during our April to June study period. At each blue tit nest, we recorded the date the first egg appeared, clutch size, and hatching date. For all chicks alive at age 14 days, we measured mass and tarsus length and fitted a uniquely numbered British Trust for Ornithology (BTO) aluminium leg ring. We attempted to capture all adults at their nests between day 6 and day 14 of the chick-rearing period. For these adults we measured mass, tarsus length, and wing length and fitted a uniquely numbered BTO leg ring. During the 2001-2003 breeding seasons, we manipulated brood sizes using cross fostering. We matched broods for hatching date and brood size and moved chicks between these paired nests one or two days after hatching. We sought to either enlarge or reduce all manipulated broods by approximately one fourth. To control for effects of being moved, each reduced brood had a portion of its brood replaced by chicks from the paired increased brood. Net manipulations varied from plus or minus four chicks in broods of 12 to 16 to plus or minus one chick in broods of 4 or 5. We left approximately one third of all broods un-manipulated, and these serve as a reference. These unmanipulated broods were not selected systematically to match manipulated broods in clutch size or laying date. They were simply not included in the experiment by happenstance.