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MAPS (Monitoring Avian Productivity and Survivorship)

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Brice Leech[1]

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What is MAPS?

The Monitoring Avian Productivity and Survivorship (MAPS) Program comprises a continent-wide network of hundreds of constant-effort mist netting stations. Analyses of the resulting banding data provide critical information relating to the ecology, conservation, and management of North American landbird populations, and the factors responsible for changes in their populations. MAPS is coordinated by the Institute for Bird Populations which also conducts winter monitoring programs MoSI (Monitoreo de Sobrevivencia Invernal) in the Neotropics & MAWS (Monitoring Avian Winter Survival) program in temperate North America.

How do we conduct MAPS?

At our station there are 10 nets that we set up at sunrise, run the nets every 45 minutes for six hours, then do it again seven more times during the summer months. After capture, the bird is bagged & taken to the central station where processing occurs. Initially we have to identify the bird (Table 1). This tells us what size band to place on the birds leg. After banding occurs aging, sexing, wing measure, then weighing before release. Documenting all the criteria used to collect the data is entered into an IBP database for analysis & comparisons with other stations.

What have we learned?

Above all we are still learning. But what we have learned is that breeding and survival of birds vary more than we thought possible. Broadscale data on landbird productivity and survivorship are not available from any other monitoring program in North America, and while trend information is useful for determining which species are most in need of conservation efforts, information on vital rates as obtained from MAPS is important in determining which conservation actions are likely to be most successful and where they should be applied. This is critical for migratory species as factors affecting productivity and survival largely act at differing times of the year and in very distinct geographic areas. It has also been concluded MAPS data are vital in understanding the consequences of climate change on birds. National Parks, such as Mammoth Cave, provide ideal and much needed "control sites" for monitoring because large scale global and regional change patterns are typically not confounded by localized land use changes.

Table 1: Birds captured at Mammoth Cave National Park MAPS station.

Species	# of birds
Common Yellow-Throat	140
Kentucky Warbler	121
Indigo Bunting	97
Carolina Wren	95
Worm-Eating Warbler	85
Ovenbird	45
Northern Cardinal	40
Hooded Warbler	30
Red-Eyed Vireo	21
Wood Thrush	22
Tufted Titmouse	16
Acadian Flycatcher	15
Louisiana Waterthrush	15
Downy Woodpecker	11
Carolina Chickadee	10
Black & White Warbler	6
Scarlet Tanager	5
Prairie Warbler	3
Northern Parula	3
Blue Wing Warbler	2
Cerulean Warbler	2
White Breasted Nut	2
White-Eyed Vireo	2
Eastern Tohee	2
Ruby-Throated Hummingbird	2
Swainson's Thrush	2
Blue Jay	2
Veery	1
Yellow-Breasted Chat	1
Yellow-Billed Cuckoo	1
Yellow-Throated Warbler	1
Blue Gray Gnatcatcher	1