

Can Vocal Playbacks Encourage Re-establishment of Breeding Eastern Meadowlarks on an Easily-Protected Massachusetts Grassland?

PROGRESS REPORT, 2015

Amount requested from the Blake-Nuttall Fund (2015): \$5000

Amount provided by the Blake-Nuttall Fund (2015): \$2750

Funds Expended (Equipment + Travel):

Foxpro speaker and amplifier system (4)	\$1200
Programmable timer (4)	\$120
1-watt solar battery charger (4)	\$100
12v sealed lead acid battery (4)	\$140
Lumber and wiring supplies	\$150
Travel	\$1040
TOTAL	\$2750

Summary of work during 2015. – Playback systems (Fig. 1) made use of electronic speaker and amplifiers produced by FOXPRO, Inc. (<https://www.gofoxpro.com/site/>). Electronic programmable timers were set to deliver meadowlark vocalizations from 05:00-07:15, 07:20-09:35, 09:40-11:49, and 16:30-18:39 hours. Vocalizations included digital Eastern Meadowlark songs and calls obtained from the Cornell Lab of Ornithology's Macaulay Library.

Playback speaker systems and Eastern Meadowlark decoys were deployed at Mass Audubon's Daniel Webster (Fig. 2) and Allens Pond Wildlife Sanctuaries (Fig. 3) in mid-May. Two playback systems, spaced at least 250 m apart, were located at each sanctuary.



Fig. 1. Components of Eastern Meadowlark playback and decoy systems deployed at Daniel Webster and Allens Pond Wildlife Sanctuaries. Electronics were contained in waterproof plastic boxes mounted on 1.5 m high wooden standards.



Fig. 2. Location of Eastern Meadowlark playback speakers at Daniel Webster Wildlife Sanctuary, 2015.



Fig. 3. Location of Eastern Meadowlark playback speakers at Allens Pond Wildlife Sanctuary, 2015.

In the spring of 2015, Mass Audubon bird conservation staff used the equipment documented above to conduct a preliminary experiment on the effectiveness of vocalization playbacks as a means of attracting Eastern Meadowlarks to now-vacant grassland areas that were historically occupied. Due to equipment failure, the project generated insufficient data to determine the effectiveness of the vocal playback equipment and techniques. By the time the equipment issues were identified in early June, the 2015 breeding season was well underway, making it unlikely that any meadowlarks were still prospecting for potential nesting sites. The problems with the equipment energy storage occurred despite prior systems testing focused on functioning of the programmable timers rather than battery recharging. As a result of (a) wiring issues, (b) solar panels that failed to maintain the 12-volt batteries, and (c) defecation by Red-winged Blackbirds and Bobolinks that, by using the playback speaker supports as territorial perches, obscured portions of the solar panels from the sun, in all cases battery levels dropped within several days to levels insufficient to operate the speaker system.

In 2016, we will use the equipment again following a series of protocol changes will include (a) lengthy testing of solar panel recharge capabilities, (b) relocation of field efforts from Daniel Webster (2 units) and Allens Pond (2 units) sanctuaries to Mass Audubon's Arcadia Wildlife Sanctuary (4 units) in Easthampton, and (c) shift of the target deployment date of speakers from mid-May to no later than 10 April.

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