Skaff Estate Breeding Bird/Agricultural Habitat Survey

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Introduction

A basic survey of the birds breeding in three discrete areas surrounding the Aammiq marsh was conducted in late April and early May 2004. The principle purpose of this survey was to ascertain which species of birds breed in the various manageable habitats, other than the reedbed of the marsh itself (see Aammiq marsh breeding bird survey May 2000) available on the Skaff estate. More specifically, the survey was meant to identify and make correlations between breeding species and different agricultural habitats with hopes that the results may be helpful in making future management decisions for the estate.

Methods

Early morning (06:00 – 09:30) preliminary visits were made to five areas of the Skaff estate to determine their suitability for inclusion in the survey and establish the walking routes to be used during the survey. Due to time constraints, two areas were ruled out as less crucial because of the more permanent nature of the habitats contained in them. Both the forested area surrounding the Skaff houses above Aammiq village and the avenue of trees along the southern edge of the marsh are unlikely to be converted to crops or grazing land, the two principle habitats studied in this survey. Three areas were chosen (see Map A): 1) a principally cultivated parcel also containing several sections of rough grazing land that lies to the west and north of the reedbed, 2) a similar parcel lying to the south of the reedbed, and 3) the diverse area immediately surrounding the stables at Haouch Aammiq. The first area (Map B) consists of alfalfa fields at various stages of growth, potato fields, watermelon fields, a field remaining plowed but unplanted through the time of the survey, and several fields of rough grazing (a variety of grasses, thistles, and shrubs kept under one meter by water buffalo, sheep and goats). The second area (Map C) consists of large plowed but unplanted fields, several sections of rough grazing, and a wheat field. The third area (Map D) contains a small poplar tree plantation, several fields of rough grazing used primarily by horses, sections of dense trees (mainly young deciduous) and brush, and cultivated fields planted in various vegetables. Walking routes through the three survey areas were chosen to make the entire area accessible by eye and ear at least once, assuming therefore that all birds visible or singing would be detected and recorded. Natural and easily accessible routes were given preference, but at times the comfort of the surveyor was sacrificed to access all areas.

Survey visits were made on April 30, May 6, and May 13 to area 1, on May 1, May 8, and May 14 to area 2, and on May 5, May 12, and May 18 to area 3. Each visit ran approximately three and a half hours, from 06:00 to 09:30, beginning soon after the sun rose over the anti-Lebanon range. The set route was walked at a normal pace, stopping whenever necessary to identify a bird or birds either sighted or heard. Because the purpose of the survey necessitated positively identifying all birds detected, ample time was taken at each stop until identification was certain. The survey areas were too large and sometimes inaccessible and the survey period too brief to conduct specific territory mapping, so each area was divided into sections based on habitat. Birds were recorded in the section in which they were detected, and efforts were made to avoid double counting any bird as it crossed section boundaries. The walking route for each area was done in reverse on alternate visits to remove bias for time of day (some birds may only sing very early and some may only start once it begins to warm up). Although all birds were recorded (in case other noticeable trends or important relationships were discovered), special care and observation were given to birds showing any typical breeding behaviors, especially singing, territorial aggressiveness, and courtship displays. In the first two areas, care was taken not to record birds singing or seen in reedbeds of the ditches or actual marsh. These birds, especially the various breeding warbler species, were only recorded when they were observed in the actual habitat being surveyed. Several active nests were discovered, and these were duly noted.

Results

Abbreviations for section descriptions (see Maps 2, 3, and 4)

Alf	Alfalfa at various stages of growth
Mix	Mixed open, young deciduous, and bushes
Plo	Plowed field remaining unplanted
Pop	Poplar plantation
Pot	Potato field
Rou	Rough grazing land
Veg	Vegetable field
Whe	Wheat field

Observation tallies (bird names in **bold** signifies breeding behavior)

Area 1	April 30				May 6				May 13			
	Alf	Pot	Plo	Rou	Alf	Pot	Plo	Rou	Alf	Pot	Plo	Rou
Corn Bunting	7			1	3			3	6			2
Black-headed Bunting	2							1				
Corn Crake	9											
Swallow	12						2					
Blackcap	2											
Great Reed Warbler	2				2			7				5
Calandra Lark	5			3	8	6		6	13	3		4
Quail	5				1							
House Martin				50								
Sand Martin				5								
Swift				10								
Yellow Wagtail							1					2
Red-backed Shrike								1				
Black Stork							3				2	
Short-toed Lark						2	1			2	3	
Spur-winged Plover							2				2	
Bee-eater							10			11		

Area 2

	May 1			May 8			May 14		
	Rou	Whe	Plo	Rou	Whe	Plo	Rou	Whe	Plo
Corn Bunting	4				2	1	4	1	
Red-backed Shrike							1		
Corn Crake				1					
Swallow	14		4		4				
Blackcap	1								
Great Reed Warbler	15			13	1		15	1	3
Calandra Lark	4+nest	3	7		3+nest	6	7	2	9
Quail	1	2							
Masked Shrike							1		
Sand Martin	10						3		
Graceful Prinia				1					
Yellow Wagtail	2						2		
Winchat	1					1			
Roller							1		
Great Snipe	1								
Spotted Flycatcher	1		1				2		
Fan-tailed Warbler	1			1			2	2	
House Martin							3		
Red-rumped Swallow							1		

Area 3

	May 5				May 12				May 18			
	Pop	Veg	Mix	Rou	Pop	Veg	Mix	Rou	Pop	Veg	Mix	Rou
Cetti's Warbler			8				10				15	
Black-headed Bunting		1				4		1		3	1	1
Olivaceous Warbler			10				10				13	
Blackcap	3						6				2	
Spanish Sparrow												1
Calandra Lark						2						
Turtle Dove	3							3				3
House Martin			2			10						
Sand Martin			3			10						
Red-rumped Swallow						3						
Great Tit	3				2				2			
Wood Warbler							1					
Blackbird		1	2				5+nest				2+nest	
Thrush Nightingale			1				4				3	
Bee-eater		34										
Masked Shrike			1				1			2	2	
Red-backed Shrike						2						
Spotted Flycatcher			1				2				2	
Goldfinch			2								2	

Consolidated tables (showing total species numbers for each habitat in each area)

Area 1 All Dates

	Alf	Pot	Plo	Rou
Corn Bunting	16			6
Black-headed Bunting	2			1
Corn Crake	9			
Swallow	12		2	
Blackcap	2			
Great Reed Warbler	4			12
Calandra Lark	26	9		13
Quail	6			
House Martin				50
Sand Martin				5
Swift				10
Yellow Wagtail			1	2
Red-backed Shrike				1
Black Stork			5	
Short-toed Lark		4	4	
Spur-winged Plover			4	
Bee-eater			10	11

Area 2 All Dates

	Rou	Whe	Plo
Corn Bunting	8	3	1
Red-backed Shrike	1		
Corn Crake	1		
Swallow	14	4	4
Blackcap	1		
Great Reed Warbler	43	2	3
Calandra Lark	11	8	22
Quail	1	2	
Masked Shrike	1		
Sand Martin	13		
Graceful Prinia	1		
Yellow Wagtail	4		
Winchat	1		1
Roller	1		
Great Snipe	1		
Spotted Flycatcher	3		1
Fan-tailed Warbler	4	2	
House Martin	3		
Red-rumped Swallow	1		

Area 3 All Dates

	Pop	Veg	Mix	Rou
Cetti's Warbler			33	
Black-headed Bunting		8	1	2
Olivaceous Warbler			33	
Blackcap	3		8	
Spanish Sparrow				1
Calandra Lark		2		
Turtle Dove	3			6
House Martin		10	2	
Sand Martin		10	3	
Red-rumped Swallow		3		
Great Tit	7			
Red-backed Shrike		2		
Wood Warbler			1	
Blackbird		1	9	
Thrush Nightingale			8	
Bee-eater		34		
Masked Shrike		1	4	
Spotted Flycatcher			5	
Goldfinch			4	

Evidence of breeding for each species
-Corn Bunting: Singing males from prominent perches; territorial chasing
-Black-headed Bunting: Singing males from prominent perches
-Great Reed Warbler: Singing individuals both in and out of reed beds; flying into thickets with insect in mouth
-Calandra Lark: Song-flight and two active nests
-Yellow Wagtail: Pair interactions and mating display
-Short-toed Lark: Song-flight and food gathering
-Spur-winged Plover: Aggressive pair defense of nesting site
-Graceful Prinia: Singing male from prominent perch
-Fan-tailed Warbler: Singing individuals from perches and song-flight; flushing from <1m out of dense grass and wheat
-Cetti's Warbler: Competing songs and calls from brush
-Olivaceous Warbler: Singing and territorial chasing
-Great Tit: Singing
-Blackbird: Active nest
-Masked Shrike: Territorial chasing between two of species
-Goldfinch: Singing and chasing

Analysis and Conclusions

The first observation to be made is that almost all the birds observed clearly preferred the edges on the outside of or between habitat areas to any specific individual agricultural habitat. This preference was difficult to quantify in the observation data, but it was quite clear while actually out in the field. Whether it was the abundance of great reed warblers probably breeding in the reeds but making much use of the alfalfa and rough grazing along the edge of said reeds, the spur-winged plovers with a nest in a plowed field but very close to a wet and vegetated ditch, or the olivaceous warblers singing and defending territory in the low trees along the edge of every field in Area 3, this trend seems unmistakable and without exception. Even before any analysis of specific species and habitats is made, this trend leads us to conclude that it should be a principle factor in looking at any future management decisions for the Skaff estate. The creation of an agricultural monoculture, i.e. the sole cultivation of wheat, should be avoided at all costs. Bird life thrives in areas diverse in flora and ecological features, and it is kept at a minimum in artificially created areas of only one plant species of limited avian value.

This being said, some correlations *can* be made between the specific agricultural habitats identified for this study and various species of breeding birds. Aside from the preference for edges in the form of vegetated drainage ditches, hedges of trees and brush, and other habitat borders noted above, the areas of rough grazing provided the next best habitat for the breeding birds. Some of the rough grazing areas were better than others: the more overgrown (less grazed), wet, and florally diverse areas of Areas 1 and 2 supported more diverse populations of birds than the overgrazed horse pastures in Area 3. Corn buntings, black-headed buntings, calandra larks, yellow wagtails, fan-tailed warblers, and graceful prinias all showed preference for these overgrown rough grazing areas as breeding sites. Calandra larks and corn buntings were also frequent visitors to the alfalfa fields, although it is not clear if successful breeding cycles could be carried out in those areas due to the regular mowing that takes place. The plowed fields, either unplanted or with young potato plants in them, were also used by the calandra larks for hunting and nesting, but they also played host to two less common species. The short-toed larks and spur-winged plovers both showed an absolute preference for these open earthen areas, although again, breeding success was not guaranteed due to regular re-plowing and other human disturbance. The wheat field in Area 2, although lacking in the diversity evident in some other habitats, did yield an active calandra lark nest and clear evidence of a breeding pair of fan-tailed warblers. The poplar plantation in Area 2 was one of the habitats most devoid of bird life, but there was at least one pair of breeding great tits present throughout the study. The active blackbird nest was actually within the poplar area but in a section overgrown with smaller trees and thickets. The mixed areas of trees, bushes, and small open areas in Area 3 provided breeding habitat for olivaceous warblers, cetti's warblers, goldfinches, blackbirds, and masked shrikes. Almost all the birds observed in the vegetable fields were actually predominantly in the wooded edges and overgrown boundaries between these fields. Agricultural workers were present and working during each of the three visits to these fields, and this evidence of the high maintenance required of vegetables is perhaps the reason there were no birds breeding in the actual fields themselves.

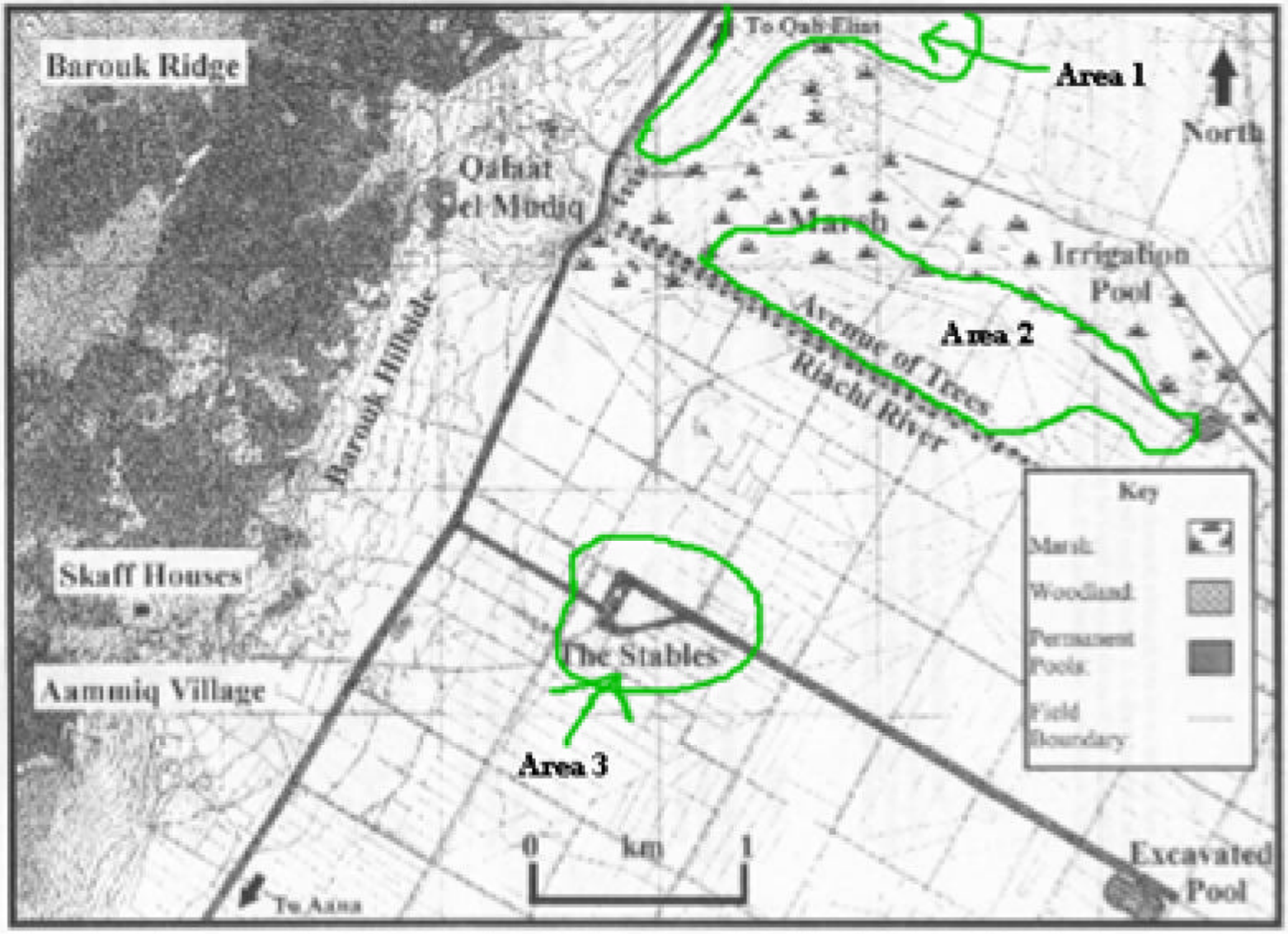
The presence of nine corncrakes in a relatively small section of tall alfalfa during the first visit should be noted. Due to declining numbers over the last decades, the corncrake has been designated an internationally threatened bird and is subject to special monitoring efforts. A survey through the spring migration period of several alfalfa and wheat fields for resting corncrakes would be valuable in establishing the global importance of the Aammiq wetland.

Although an agricultural environment will not support the same diversity and abundance of bird life as one untouched by human hands, the current management plan for the Skaff estate seems conducive to the continued maintenance of an avian fauna surprising in its numbers and variety. However, further improvement could be seen if the following recommendations were followed. The creation of more edge and border areas could be brought about by the subdivision of current fields into smaller sections and the cultivation of a greater variety of grains and vegetables on the estate. A rotation schedule for the rough grazing areas could be established that would leave at least one section wild and ungrazed each year, allowing for uninterrupted breeding cycles and well-protected nesting areas for many of the birds observed in this study. After the harvest of the poplar plantation, a new forest of native species could be nurtured in the same spot, creating an area attractive both to a greater variety of birds and to human visitors to the estate. Finally, in the specific case of the spur-winged plover, efforts could be made by the management to identify nesting sites in the plowed fields each spring and protect these sites from further plowing or cultivation for the duration of the breeding cycle.

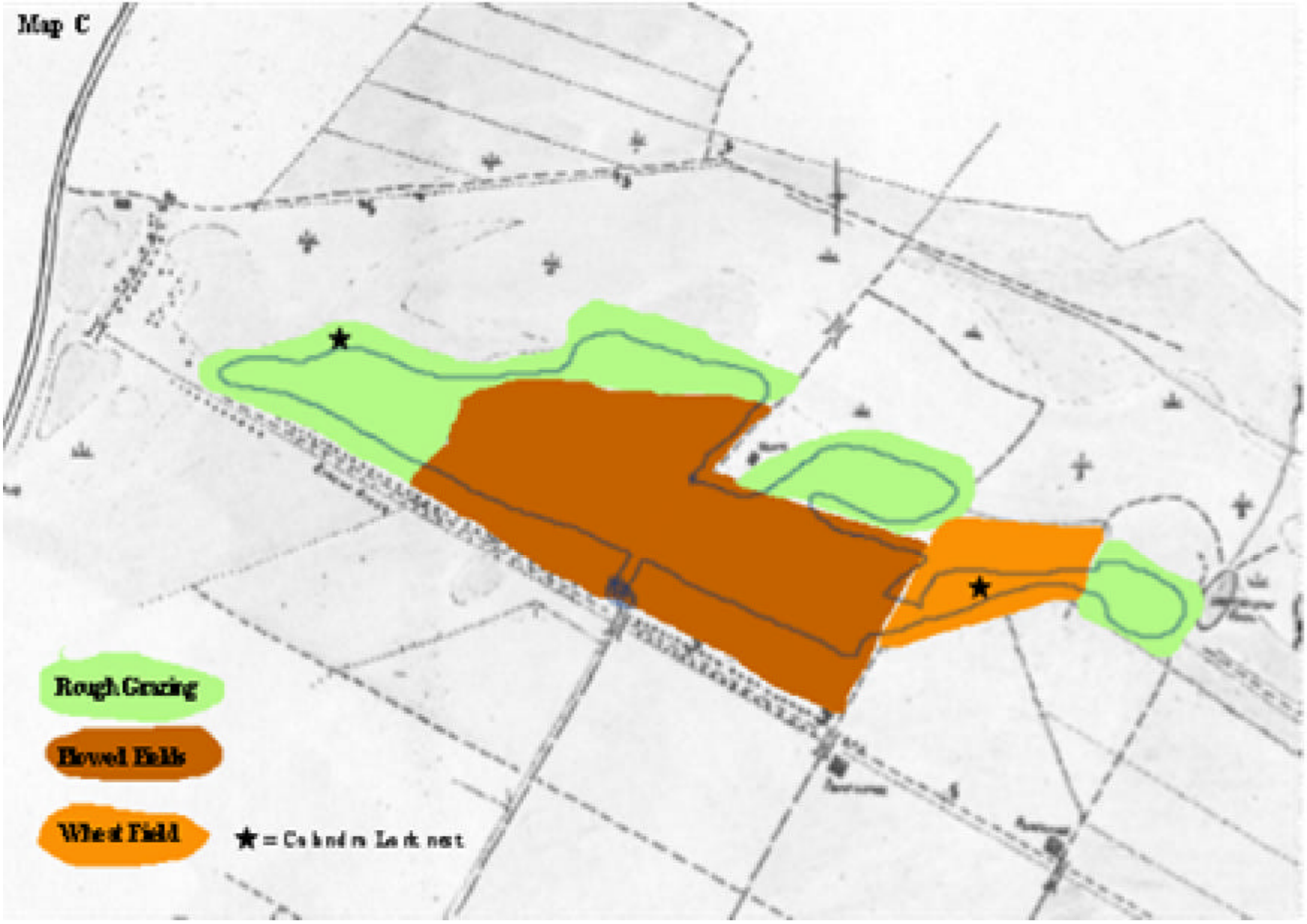
If the current ban on hunting is maintained and slight modifications are made in agricultural management practices, the Skaff estate can reasonably expect to see an increase in both the numbers and diversity of breeding birds using the various habitats. Continued research, perhaps replicating this study annually or biannually, will document these changes and suggest further improvements.

Map A

Map of the Aammiq Area




Map B
Rough Grazing
Flowed Fields
Potato Fields
Alfalfa Fields
= Sprague's Pipit nest


Map C
Rough Grazing
Plowed Fields
Wheat Field
★ = Calandra Lark nest


Map D
Poplar Plantation
Rough Grazing
Mixed Open
Vegetable Fields
Mouch Aamnig
= Blackbird nest
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