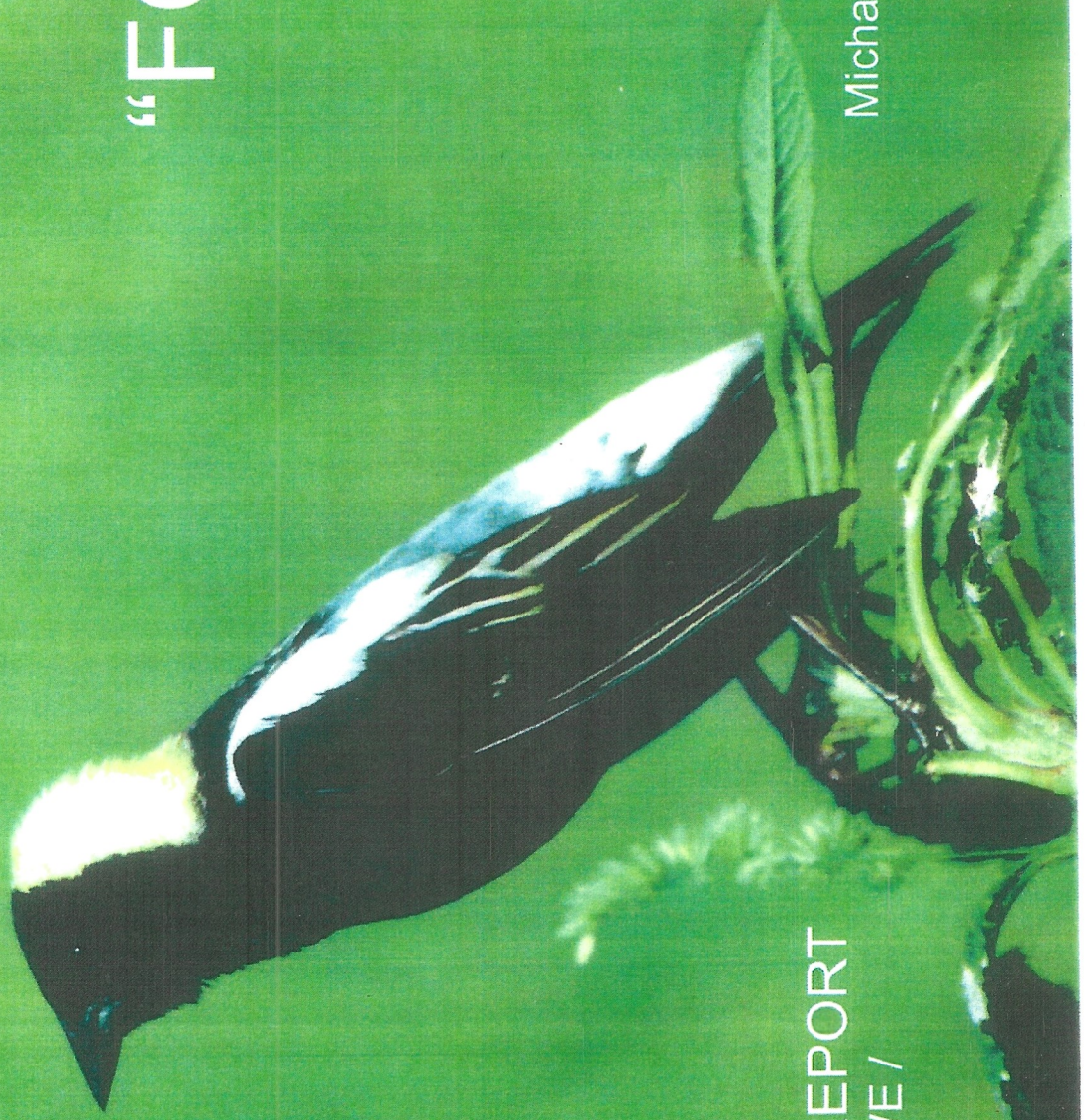


FRIENDS of BOBOLINKS

“FOB”



PILOT PROJECT REPORT
MORRISTOWN / STOWE /
WATERBURY VALLEY
(Lamoille to Winooski)

Michael Sweatman

2013

Upper Valley Grassland Birds

Calendar of Nesting Events

MAY

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
<i>Bobolinks migrate 12,000 miles to and from their wintering grounds in Argentina every year.</i>				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

JUNE

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	<i>Fledglings are chicks that have walked out of the nest. They cannot fly for at least one more week.</i>				

JULY

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31 <i>Disturbance okay for all birds</i>		

Spring migration:
Male birds arrive about a week before females

Mate pairing

Nest building and egg laying

MOST CRITICAL PERIOD OF NESTING:

Incubating eggs and feeding nestlings

If disturbed, birds will not have time to re-nest.

Haying or mowing before June 1 can allow for re-nesting, only if the field is not disturbed for the next 60 - 65 days.

Disturbance okay for most birds

+ 7 DAYS

Bobolinks: - The FOB Project – Report Contents

Abstract.....1
Introduction.....1
Summary of Results.....2
General Discussion about Bobolink Conservation.....3
General Observations on Bobolink Breeding Habitat.....4
The Bobolink Land Swap.....5
Predation on Bobolinks.....5
USDA/NRCS: “EQIP” Grassland Bird Management Program.....5
Maps.....6
Conclusion.....6
Appendix “A” – Maps.....7-18
- Map Reproduction GIS
- Samples (3) Area Maps
- Samples (8) Detailed Maps
Appendix “B” – Monitoring Analysis Criteria.....19
Appendix “C” – Declines in Bobolink Populations..... 20-23

Bobolink in song: <http://www.youtube.com/watch?v=8TXlrXiyW6o>

(“A mad, wreckless, song fantasia

An outbreak of pentup irrepressible glee.” – Schulyer Mathews 1909)

COVER Photo (courtesy of USDA)

showing every field and open space in the project area. 336 fields, representing most fields of approximately 20 acres or more were selected. The maps differentiated between forest and open spaces and every property contained a cross reference to the applicable town database. The 80% of the open spaces that were accessible, were monitored for bobolink activity. (See Appendix "A" for details.)

Early inspiration and information for this project came from several organizations including, Vermont Center for Ecostudies, University of Vermont, USDA offices in Burlington and Morrisville (see under "References" at end of this report). *4

Summary of Results

Of the total of 336 fields selected, 64 were out of reach and therefore not surveyed. The following results therefore summarize activity observed on the remaining 272 fields. Most observations were made from the roadside, and whereas sufficient time was allowed to identify bobolink presence, it is quite possible that some breeding populations were missed, although most fields were visited on several occasions during the breeding period.

The emphasis in this first year of the project was to determine the current status of breeding populations in the project area – an area that in the past has housed a healthy bobolink population. Conservation activity was concentrated on "the low-hanging fruit" – fields that were privately owned and not required by farmers for hay, corn or grazing. Several of these fields were on horse farms.

For ease of analysis and prioritization of program activity, fields were divided into the following categories (See Appendix "B"):-

- EMO/C: Fields that were mowed early (i.e. by early June) or planted with corn.....67
- MMO: Fields that were mowed by June end (excess rain notwithstanding).....54
- UMO/LLMO: Fields in grazing; scrub; fallow, etc (not preferred bobolink habitat).....63
- S/Total.....184

Essentially, these fields were considered off limits for this year's agenda.

- Remaining unmowed fields considered to have bobolink breeding potential.....88
- Total fields observed.....272

Of the remaining 88 fields, bobolinks were active/observed in44
In the remaining fields, although apparently good breeding habitat no bobs observed.....44
88

As a direct result of considerable media coverage, a limited number of personal phone calls to landowners by a few volunteers, and direct contact, 40 landowners were pleased to become associated with the project and willingly agreed to delay mowing. Others, not counted, associated with the project although it was doubtful if bobolinks bred in their fields. In summary, we have 40 or more new "FOBs" (Friends of Bobolinks) who will form the core of a new movement to create awareness and improve conservation of bobolinks in this

valley – perhaps providing an example and a methodology that can be replicated elsewhere by volunteers for conservation of not only bobolinks, but other species as well.

General Discussion about Bobolink Conservation

Considerable work is being undertaken by many competent organizations (UVM, USDA, VCE, etc.) on conservation of grassland birds, including bobolinks, which is seen as an indicator for myriad species of grassland wildlife and habitat. The joint ongoing project on Shelburne Farms is but one fine example. More is being added to scientific knowledge about the bobolink and other species every year. However, bobolink populations continue to decline at an annual rate approximating 3% annually. That is not sustainable. So, although the existing bobolink population hovers around 4 million birds, there is no room for complacency. Populations have already declined from all-time highs (early in the 20th century) by 80-90%.

The “North American Breeding Bird Survey Trend Results”, published by the USGS, shows that in the Eastern BBS Region of North America the bobolink is suffering from the most significant declines, as would be expected since the region holds the highest density of bobolink populations. The states and provinces experiencing the worst declines are, from west to east: Minnesota, Wisconsin, Michigan, Ontario, New York, Vermont, New Hampshire, Quebec, Maine and New Brunswick. (See Appendix “C”)

Oddly, and suggesting a reverse population trend westwards, the area known as the “Prairie Potholes” shows population growth.

The main reason for bobolink population declines has been attributed to more intensive farming practices; either due to ever more early mowing to provide higher protein to dairy cows; or increasingly, it seems, due to the conversion of hayfields to corn (at least in Vermont). Subsidized ethanol, reflected in increased corn prices, appears to be the main driver for conversion to corn. The irony is that most of the larger fields are either mowed early for hay, or have been converted to corn. Until a few decades ago, these same fields provided prime habitat for bobolinks that were attracted to prime grassland habitat that in those days generally was not cut until July.

The FOB project does not intend to interfere with Vermont’s dairy industry that already has to deal with enough problems of its own just to survive. Notwithstanding, it is expected that opportunities will surface as land use changes occur and potential bobolink habitat becomes available. Dairy farming and beefstock will become more central to this project in the near future.

The questions therefore that confront this project are:-

- If the bobolink population is destined to inevitable decline in the region, why bother?
- Setting aside ongoing scientific programs that provide knowledge that improves bobolink conservation efforts, what can a bunch of volunteers achieve in mixed land-use habitat?
- Should this project attempt to get farmers to set aside small amounts of suitable habitat for bobolinks (in the knowledge that Vermont Audubon gave up on a similar initiative in the Champlain Valley a few years ago)?

- Given that the overall bobolink population is relatively healthy (compared with many other species) - it is not endangered (although threatened in some areas) - should we use up scarce resources on bobolinks?

These issues are discussed briefly below:

First, on the question of why bother about bobolinks? As featured in an article by this author in "The Transcript" this summer, the bobolink is an indicator species – a flagship that is more readily seen and heard than most other grassland species – especially since Eastern Meadowlarks and Upland Sandpipers that used to be more prevalent in Vermont's grasslands, have virtually disappeared. Moreover the bobolink is a joy to observe fluttering over its breeding habitat, with its continuous bubbling song and spontaneous flights. It evokes in some people as much pleasure as the more colorful Eastern Bluebird. A common response to enquiries of landowners about the presence of bobolinks was: "We used to enjoy having bobolinks in our field/s; but alas no more!" In fact, it was evident from the numbers of apparently suitable but empty fields that bobolink numbers have become seriously depleted in recent byears. It would be indeed a sad day for Vermont's natural history if the bobolink were to become a rarity: It is no longer common.

Second; given that it is desirable to conserve not only the bobolink, but all the other species that live in grasslands, including bees, bumble bees, dragon flies, butterflies, etc...the harnessing of volunteers to assist in a relatively undemanding conservation activity over the summer should not present an insurmountable challenge. Numerous new FOB members have expressed interest in joining with other landowners in an event planned for the winter that will celebrate bobolinks and discuss plans for the coming summer in 2014. Combined voluntary efforts involving landowners will conserve bobolink habitat over time. How much remains to be seen. What has become apparent is that there are a surprising amount of people who willingly will give up time to help with a worthy conservation effort, especially in their own back yard.

Third: On the question of the role/involvement of farmers in bobolink conservation, we have decided to leave that one alone for the time being. Almost every large field in the project area was devoid of successfully breeding bobolinks; whether owned or rented by farmers, or owned by private landowners and mowed by farmers in exchange for the hay for use on their farms. As more farm-owned fields are converted to corn, more privately-owned fields are mowed for hay. Some 'farmers' with few or no cattle make a sparse living out of cutting hay (on every field within reach) and selling it on the market (usually to beef breeders or horse stables).

And fourth: No, the bobolink is not yet endangered overall. But it is becoming seriously threatened in North America, and it is likely to decline further in many parts of the eastern half of its range. It would be a sad day if future generations had to travel to the Prairie Potholes to see a bobolink!

General observations on bobolink breeding habitat.

Nearly 250 fields were visited - all clearly identified on working maps, some (with more potential) more than others Through annotated observation notes it was possible to draw a pattern of the likes and dislikes of bobolinks' breeding habitat.

First: Bobolinks seem to like large agricultural fields best – notwithstanding that they have been mowed early for several years previously (no records kept). They will breed in these fields, it seems, in preference to fields nearby that were mowed late in previous years. They don't seem

to be able to resist these Class "A" fields, even though there may be from appearances a perfectly good (but Class "B") field close by that is not mowed early. It was not uncommon to see breeding bobolinks and their nests/young falling to the mower in fields that are habitually mowed early every year.

Second: Even though bobolinks have bred successfully in one field (they are said to be field loyal), they seem to still get tempted away by Class "A" fields nearby. On a large field with which the author is well acquainted (close to home), bobolinks have bred in good numbers over the years, including last year, because it is always mowed late. This year, the bobolinks only arrived three weeks late. They bred successfully but only because mowing was delayed to early August. One theory might be that these bobolinks were tempted by a Class "A" field down the road, but after being mowed out of the Class "A" field early, returned to the "Class "B" field used in the previous year – to breed successfully.

Third: Bobolinks in this valley never breed in fields that contain grazing cattle, sheep or goats; similarly, fields that are neglected and are turning to shrubs are empty. Of the 88 apparently suitable fields for bobolinks (30% out of 272 fields) only half (15%) contained observed bobolink activity. 44 fields that looked like good breeding habitat were empty. The inevitable conclusion is that bobolinks are becoming relatively scarce even in this valley where a fair amount of unfarmed grassland habitat still exists, and where empty fields exist that were full of breeding bobolinks just a few years ago.

The Bobolink land swap:

The author was once an international banker at a time when some international debt, especially in South America, was heavily discounted on the market. This led to the development of the concept of debt-for-nature swaps, the first being consummated by Conservation International with Bolivia in the late '80s. A similar concept was adapted to some local bobolink conservation. A privately-owned field in Stowe contained several breeding bobolinks, but the local farmer needed the hay. Up the road another private landowner, also with fields, but with fewer bobolinks, agreed to 'swap' his field for the other one. The farmer agreed to delay mowing on the "good" field in exchange for being allowed to mow early on the other. Net result: more bobolinks successfully bred. This model might have potential, where farmers can be persuaded to mow hay on bobolink-free fields in exchange for giving up on one or more Class "A" fields for bobolinks.

Predation on bobolinks.

In this valley, filled with human habitation, predation risks would appear to be high. Not only is it full of cats and dogs, etc., but some fields that contain bobolinks are predated by crows. It was not possible to estimate what effect predation may have had on breeding success rates.

USDA/Natural Resources Conservation Service (NRCS) – EQIP Grassland Bird Management

This program, to encourage farmers to delay mowing, was reinstated in 2013 – albeit at a lower payment per acre of \$85 compared with \$135 offered before the program was discontinued temporarily. It is not clear how successful this program will be, since local feedback suggests that there were not many takers at \$85. So far EQIP has not factored in our deliberations in this valley since we decided to concentrate first on non-farmed fields. Likewise, we have not considered any subscription-type scheme similar to that being introduced by Dr Swallow at UVM, at least until we get a better understanding of the results of this very interesting pilot.

Maps:

An important first step was to map out the area of operation. Having selected an area big enough to have some credibility, and yet not unmanageable, the Morrisville/Stowe/Waterbury valley was selected. 96 maps covering 96 square miles were prepared by Melinda Scott, GIS Planner at the Lamoille County Planning Commission. They included most large fields in the three towns. Each town map (two for Morristown) was divided into 24 detailed maps each representing one square mile. For every property (field) a town reference number (grand list) was cross referenced to owner, address, etc. Only larger fields (approx. upwards of 15-20 acres) were selected for the project. See Appendix "A" for samples of area maps and detailed maps together with map specifications

Conclusion:

Given the intensive farming that continues on most large fields in this valley, whether owned or rented by farmers, together with the relatively small size (+/-10 acres) of most privately-owned fields, often surrounded by trees, the prospects for a healthy, breeding population remaining even at current numbers are not good. Notwithstanding, the FOB project aims to continue for at least five years in order to be able to demonstrate what may be reasonably possible within the known limitations of farming, development and other competing land uses.

It is interesting to note that in Ontario, Canada, the Province has embarked on a province-wide bobolink conservation exercise to determine the potential effectiveness of a bobolink (and Eastern Meadowlark) conservation program that can exist within an intensively-farmed landscape. This program is in response to the recently-established "Endangered Species Act for Bobolinks". Vermont, and north/east USA is not there yet; but it may not take long if some pre-emptive action is not taken.

Meanwhile, the FOB project will continue to work closely with a bobolink conservation project that is under way in the Connecticut valley under the auspices of Rosalind Renfrew at VCE, as well as ongoing work being performed by Toby Alexander at USDA and Allan Strong at UVM. We appreciate the ongoing support and advice we have received from these excellent professionals.

This report was greatly facilitated by much time and input generously provided by several kind people including Idoline Duke, Pat von Trapp, Bob Butler and Skip Flanders, who made contact with and provided many names and addresses of landowners; Melinda Scott, who provided the wonderful maps; and others, including farmer LD Bliss for advice on the farming industry in Vermont; and Jim Connacher and Paul Percy who both made the bobolink field swap possible.

Michael Sweatman:

FOB Chair: Project Coordinator: PO Box 659, Stowe, VT 05672
(michaelsweatman@gmail.com)

*1 – Draft Recovery Strategy for the Bobolink and Eastern Meadowlark in Ontario – 2013.

*2 & 3 – The Stowe Reporter; News & Citizen; The Transcript; The Waterbury Record; Stowe Land Trust Newsletter; and NPR.

*4 – Rosalind Renfrew, Vermont Center for Ecostudies; Allan M. Strong, The Rubenstein School of Environment and Natural Resources, University of Vermont; Toby Alexander, USDA/NRCS and Heather Furman of Stowe Land Trust.

APPENDIX "A" – Maps

Map Reproduction GIS:

" Maps for fieldwork were developed by Melinda Scott, GIS Planner, Lamoille County Planning Commission, using ArcGIS 10.0 mapping software, Data Driven Pages tool (Environmental Systems Research Institute, 2012). The following data sources were used to create the maps:

POLITICAL BOUNDARIES: Obtained from Vermont Center for Geographic Information, 1991.

ROADS: 1:5000 E-911 Road Data, 2012.

SURFACE WATER: Vermont Hydrography Dataset, USGS, 2001. Obtained from Vermont Center for Geographic Information.

LAND COVER: National Land Cover Data, 2006.

PARCELS and GRAND LIST: Town of Waterbury, 2011; Town of Stowe, 2012; Town of Morristown, 2012.

AERIAL IMAGERY: Bing Imagery, 2011 Microsoft Corporation and its data suppliers.

Map Reproduction - Samples

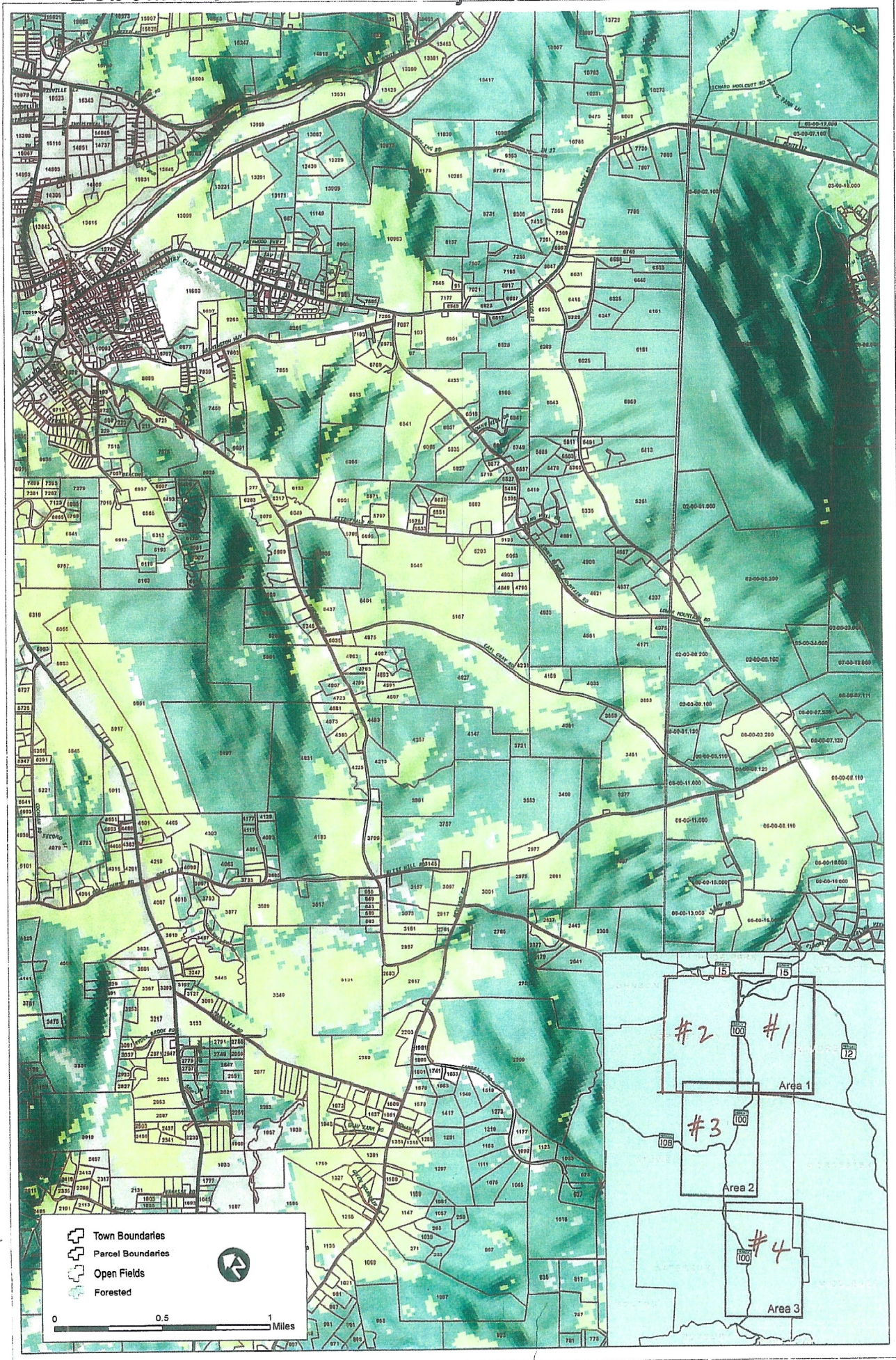
The following area map samples are attached (each Area consisting of 24 square miles divided up into 24 square mile- detail maps):-

- Area 1: Morristown (M-1) ; (Area 2: Morristown (M-2) not attached)
- Area 3: Stowe (M-3)
- Area 4: Waterbury (M-4)

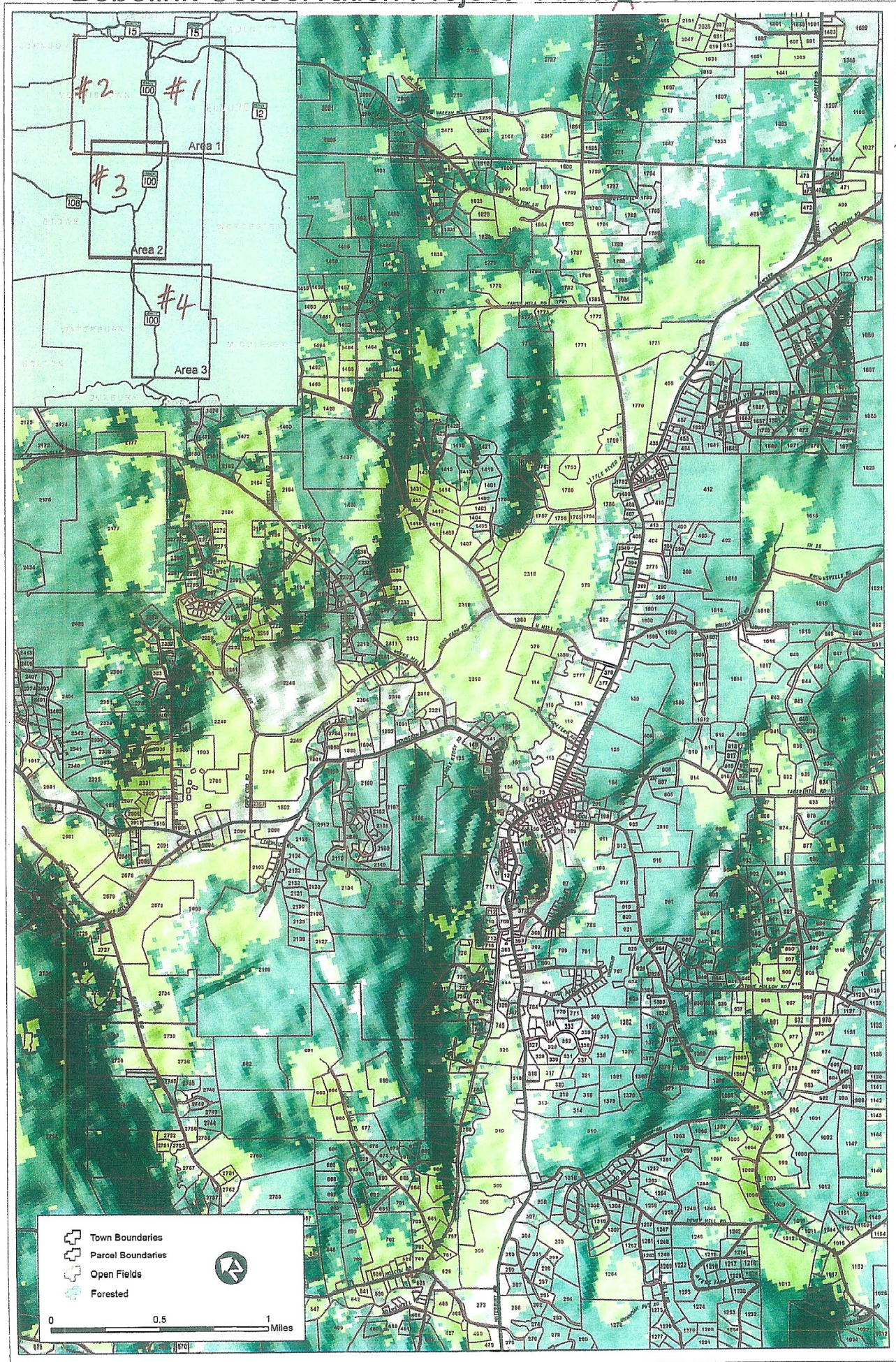
Samples of detailed maps (each one square mile (640 acres):-

- M1-18: (Area 1), junction of Randolph/Stancliffe Roads: most fields had breeding bobolinks destroyed by early mowing; in one field (#2389) some may have survived late mowing; area mowed regularly by local farmers, but bobolinks return to breed.
- M2-27: (Area 2), north of Lamoille River. Large, open area, but no bobolinks found, due to mixed land use.
- M2-30: (Area 2) in sparsely habited area, horse farming (#s 17887 & 17779) has encouraged successful bobolink breeding.
- M3-11: (Area 3), open areas consist of Mayo Farm conserved by Stowe Land Trust but intensively farmed, otherwise excellent bobolink habitat: Successful bobolink breeding occurred on adjacent private land (#s 1407, 1409, etc..) with consent of farmer ("bobolink swap").
- M4-2: (Area 4), some successful bobolink breeding in the area (mainly horse farms).
- M4-7: (Area 4), more open space where bobolinks bred successfully; but area prone to development in foreseeable future.
- M4-17: (Area 4), Open spaces (where no bobolinks found) prone to development.
- M4-19: (Area 4), Large open areas mostly grazed (no bobolinks): Smaller area to east (#819) bred bobolinks since hay mowed late for horses.

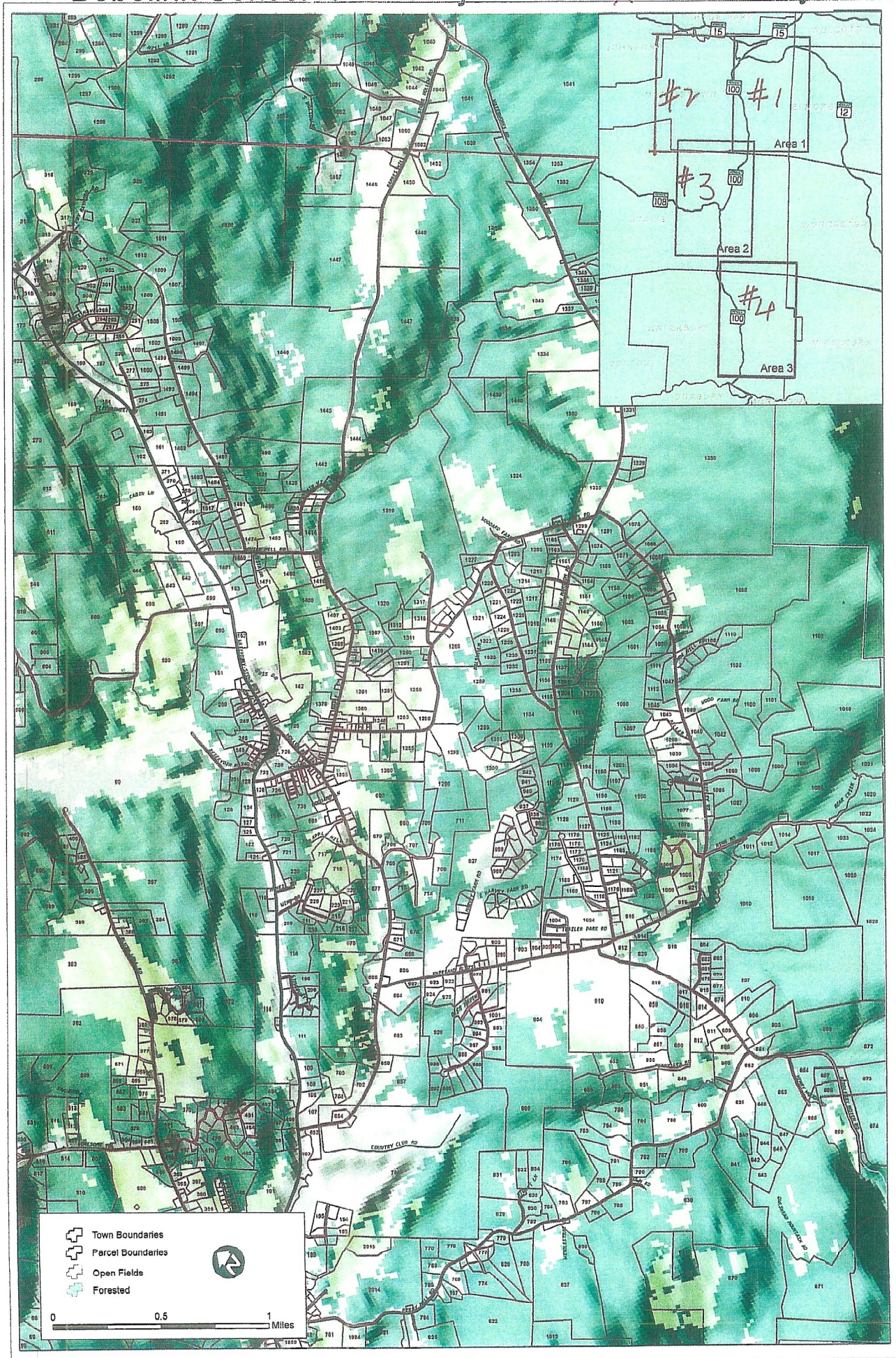
Bobolink Conservation Project - Area 1 - Morristown



Bobolink Conservation Project - Area 3 - Stowe



Bobolink Conservation Project - Area 4 - Waterbury

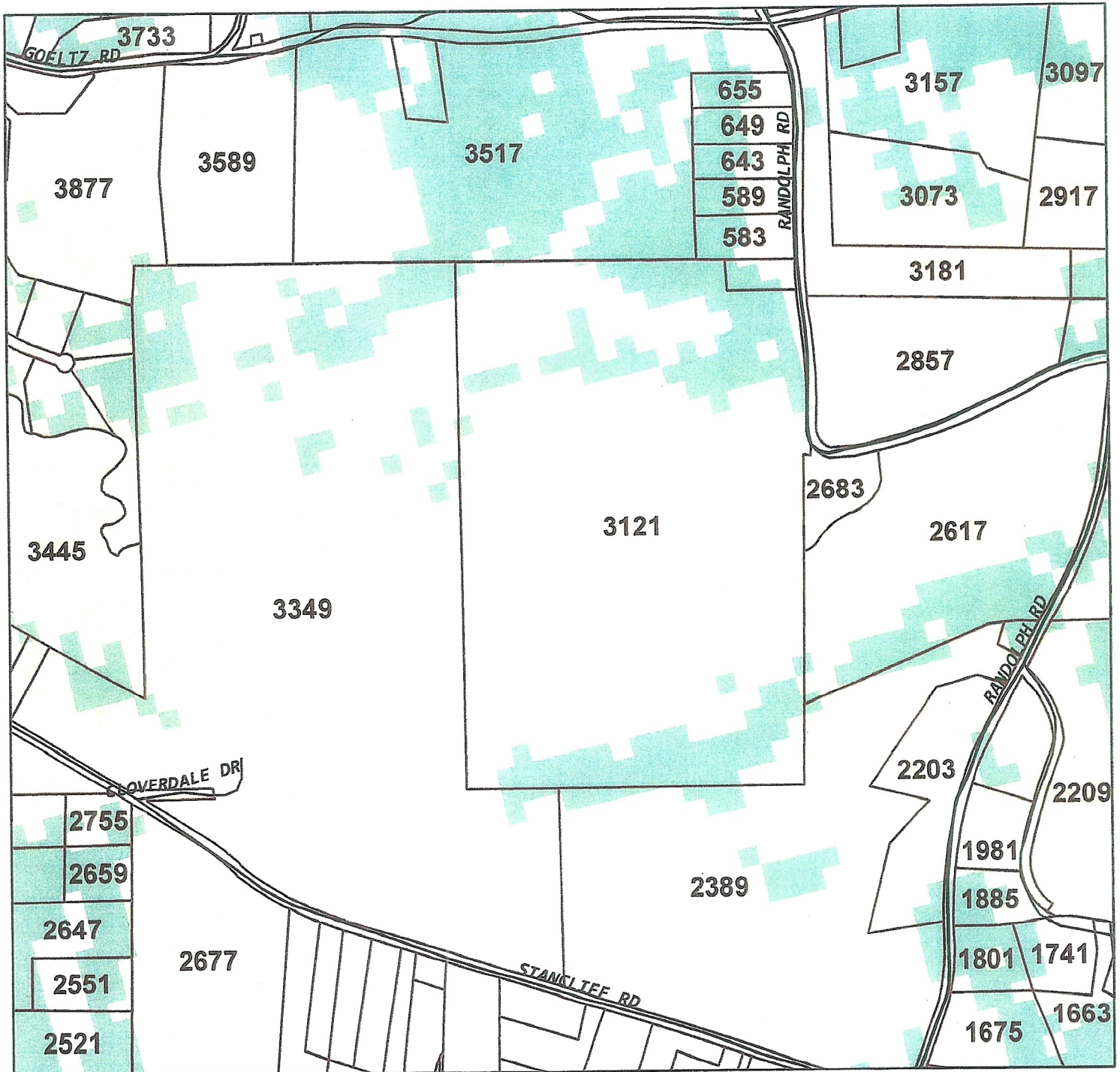


Legend:

- Town Boundaries
- Parcel Boundaries
- Open Fields
- Forested

0 0.5 1 Miles

North Arrow



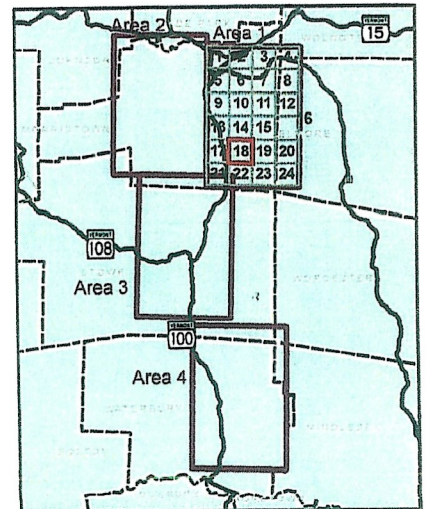
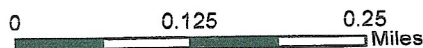
Map M-18

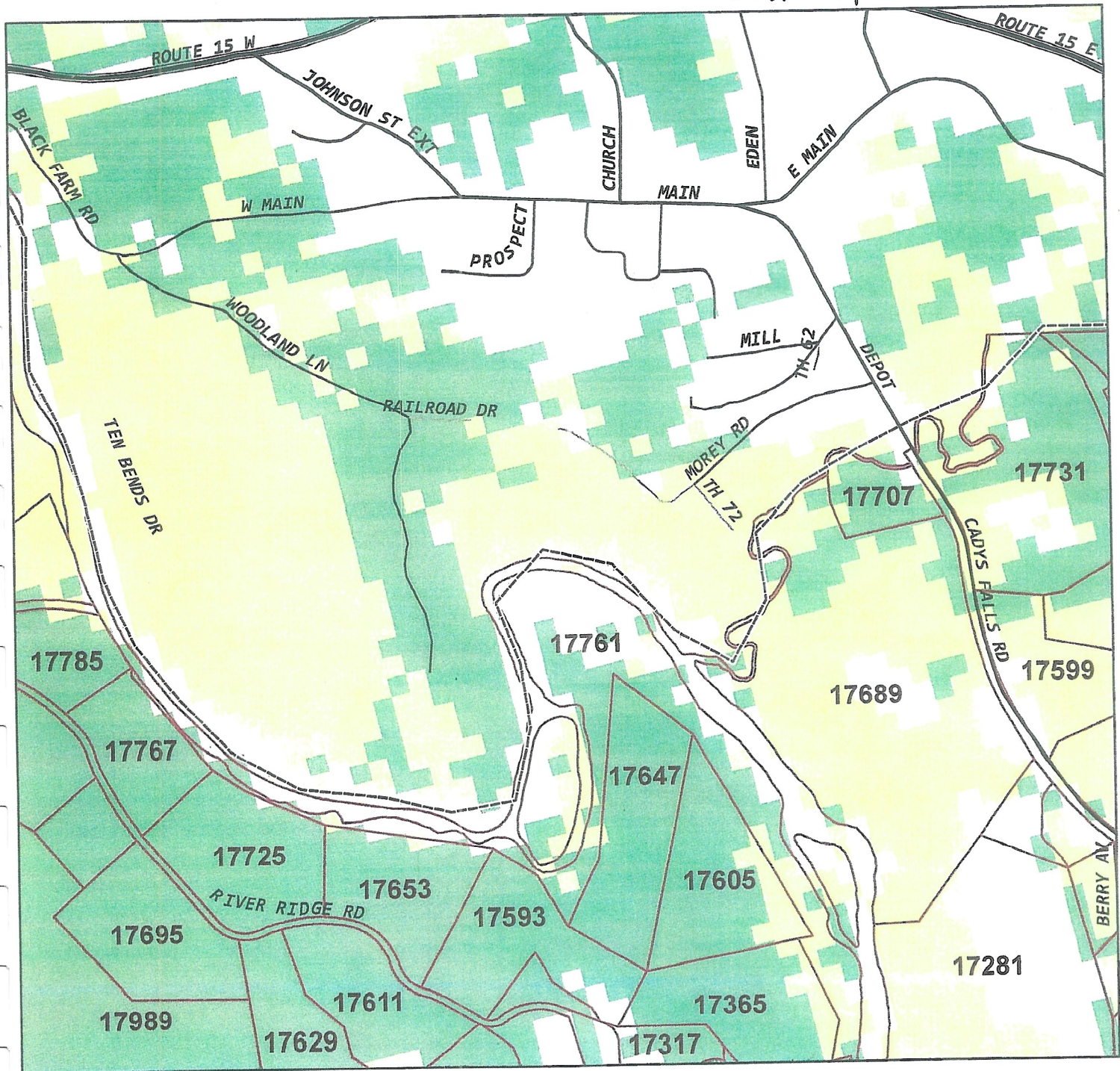
Notes:

**Bobolink Conservation
Project Maps
Morristown - Area 1**



-  Open Fields
-  Forested
-  Town Boundaries
-  Parcel Boundaries





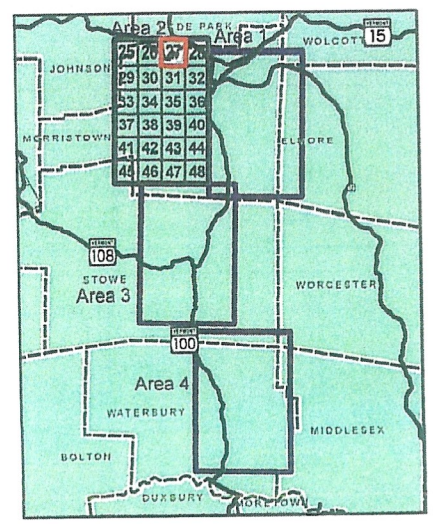
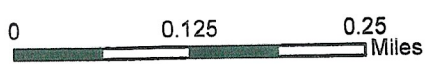
Map M-27

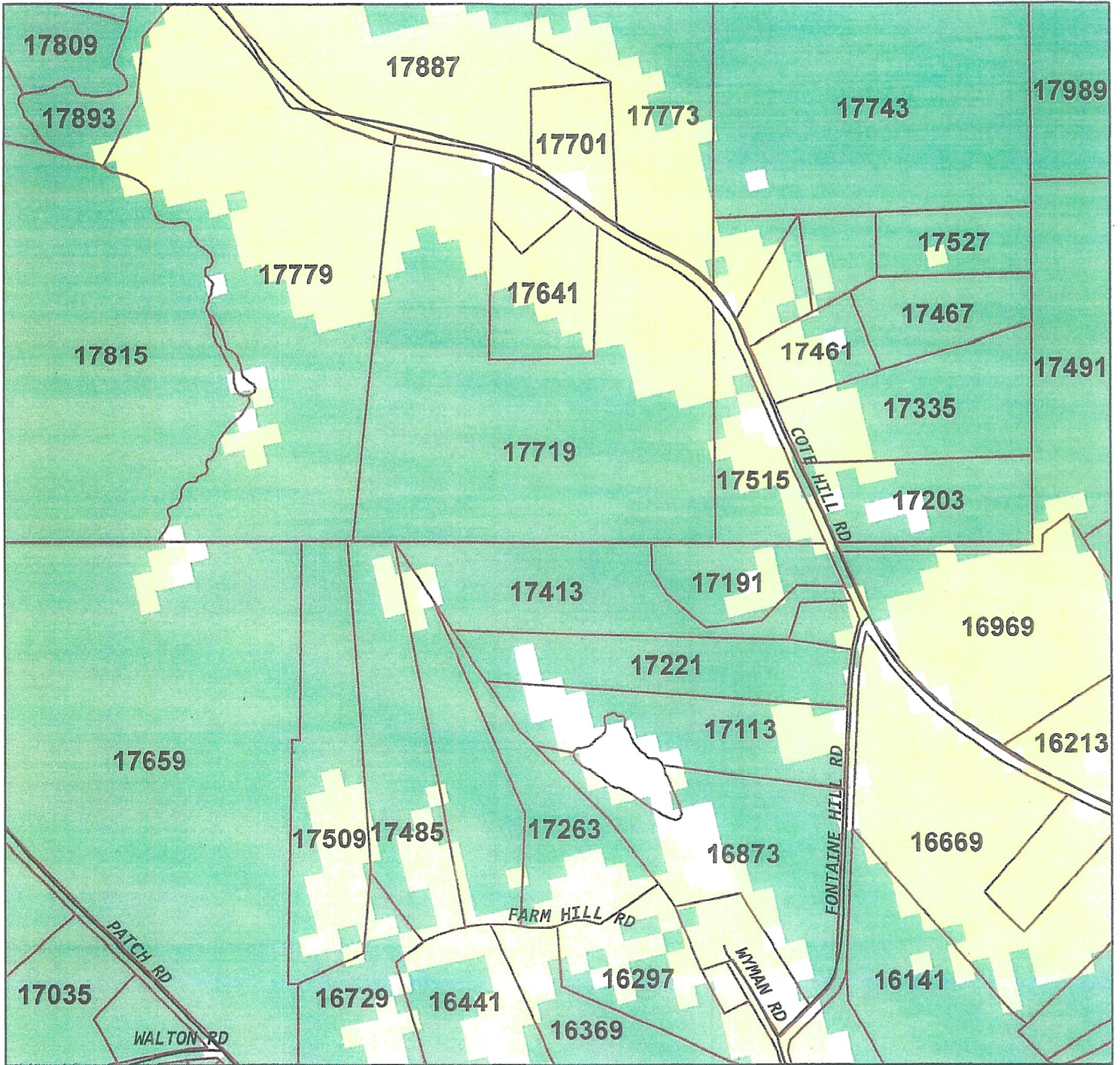
Notes:

**Bobolink Conservation
Project Maps
Morrystown - Area 2**



-  Open Fields
-  Forested
-  Town Boundaries
-  Parcel Boundaries









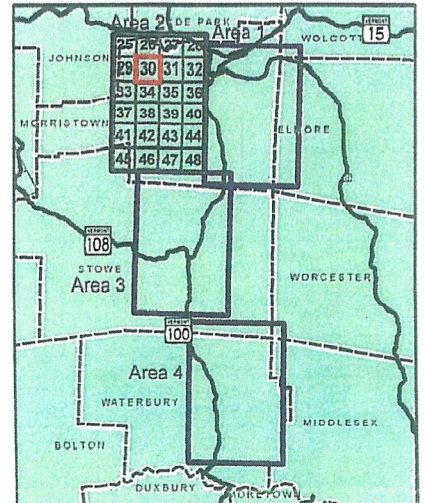
Map M-30

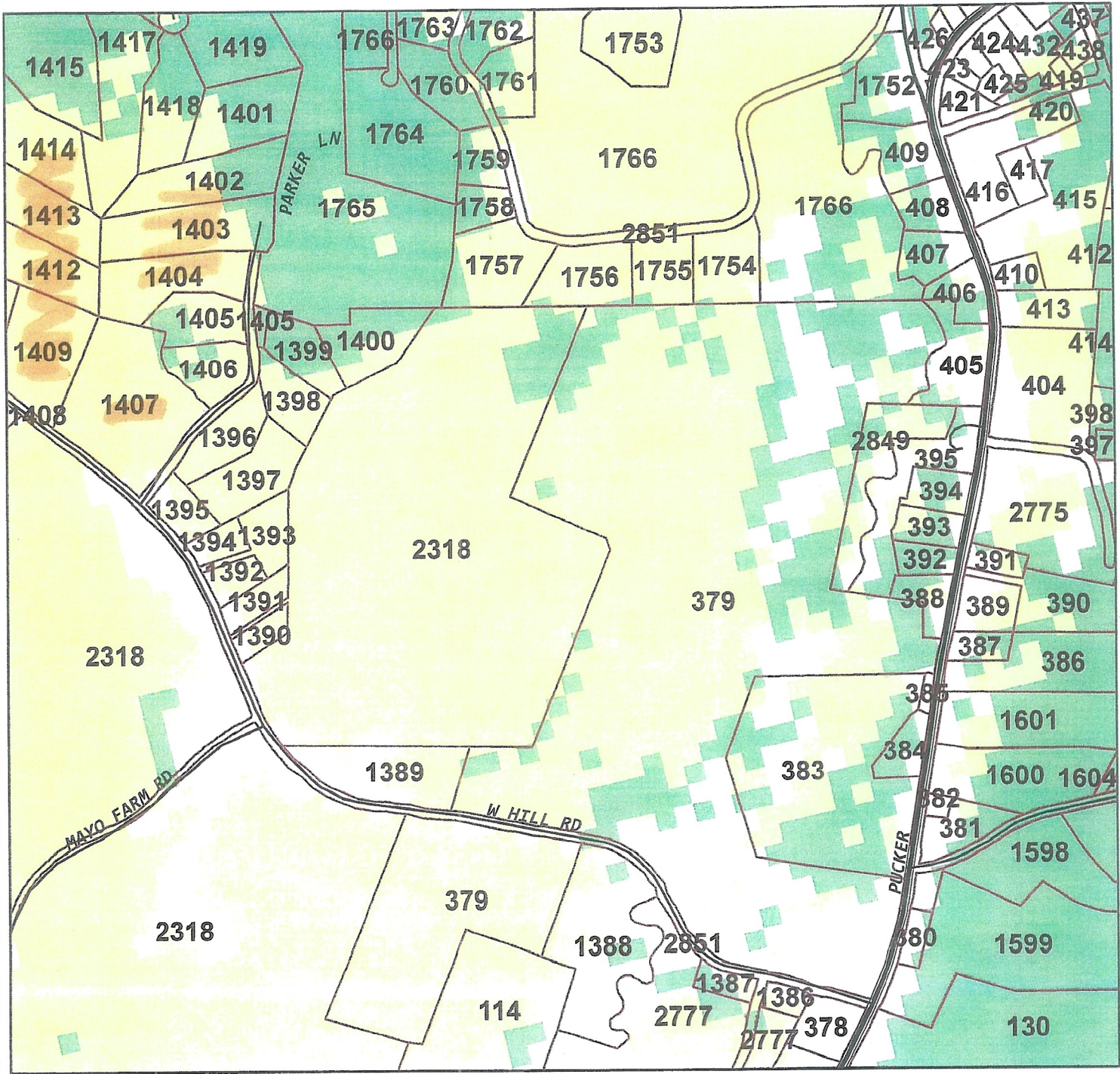
Notes:

**Bobolink Conservation
Project Maps
Morristown - Area 2**



-  Open Fields
-  Forested
-  Town Boundaries
-  Parcel Boundaries









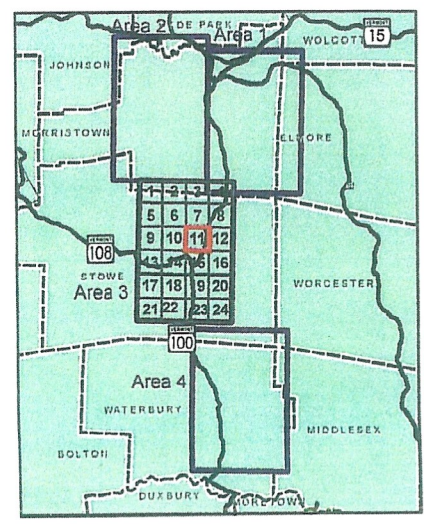
Map S-11

Notes:

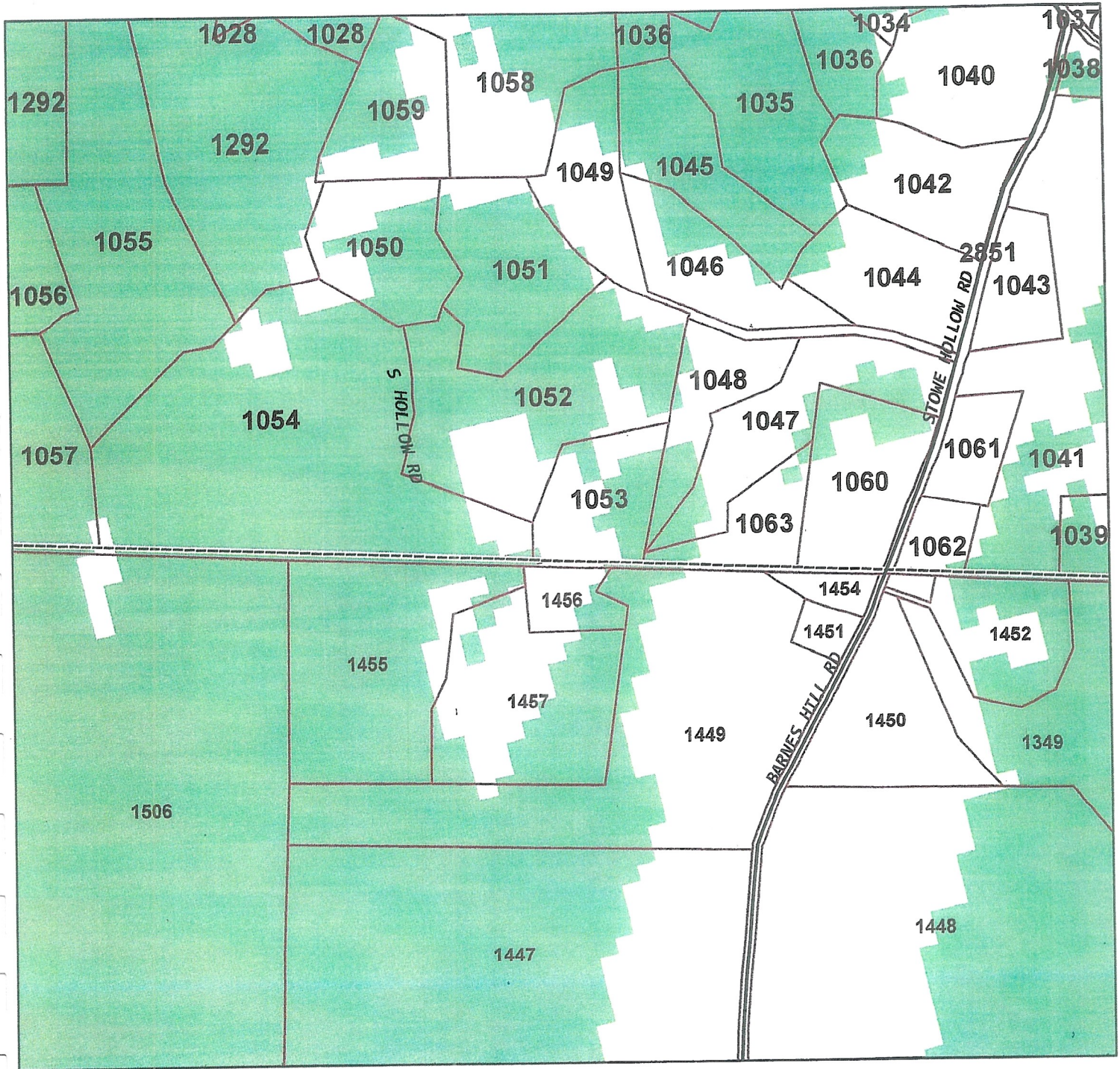
Bobolink Conservation Project Maps
Stowe - Area 3



-  Open Fields
-  Forested
-  Town Boundaries
-  Parcel Boundaries



m4-2

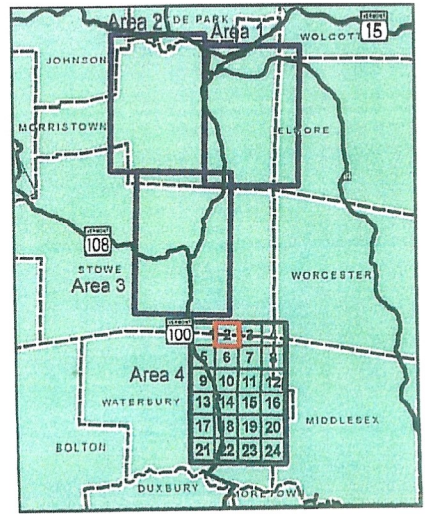


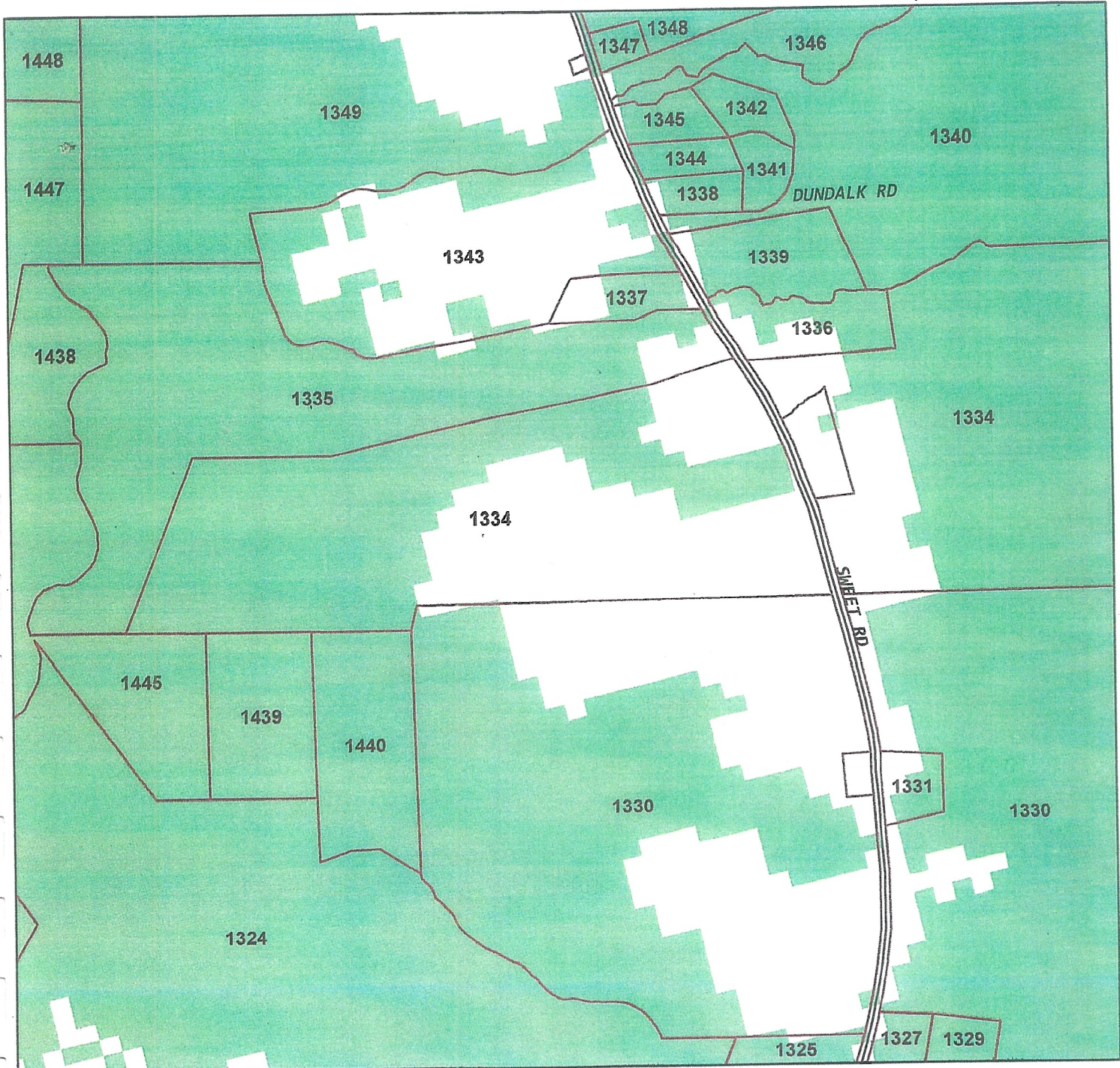
Map W-2

Notes:

**Bobolink Conservation
Project Maps
Waterbury - Area 4**

- Town Boundaries
- Parcel Boundaries
- Open Fields
- Forested







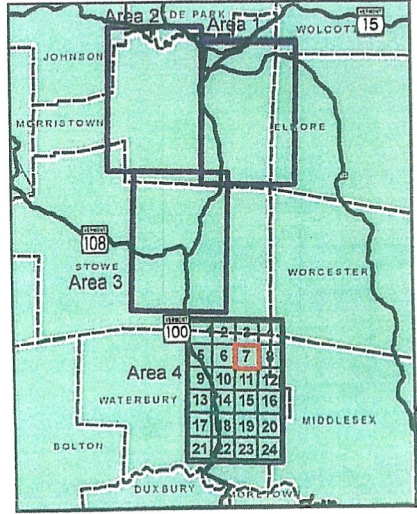


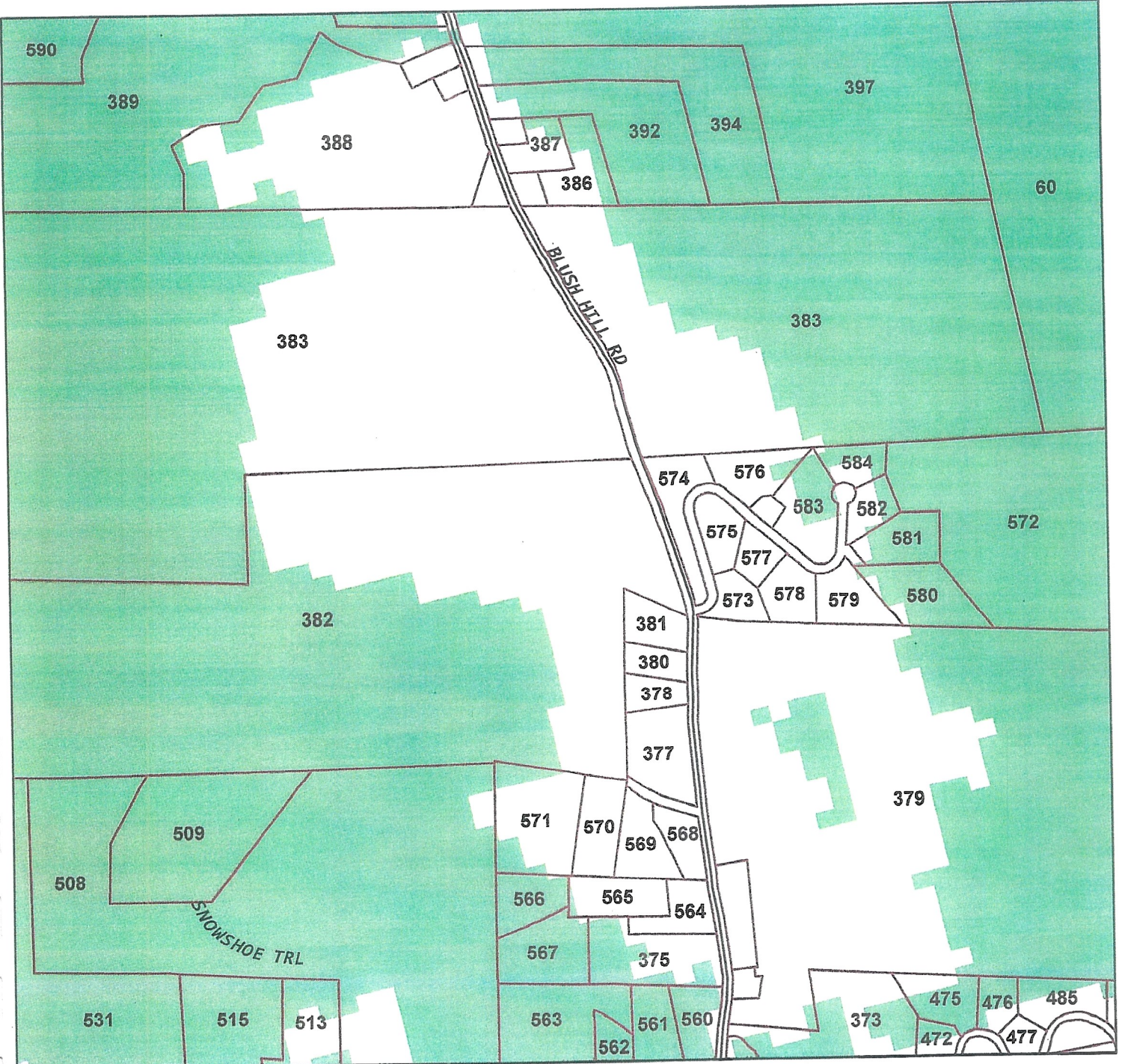
Map W-7

Notes:

**Bobolink Conservation
Project Maps
Waterbury - Area 4**

-  Town Boundaries
-  Parcel Boundaries
-  Open Fields
-  Forested





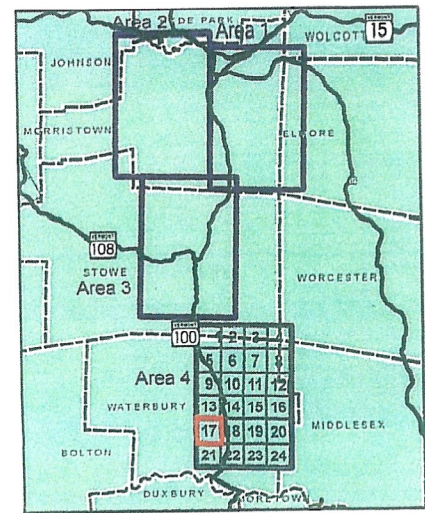
Map W-17

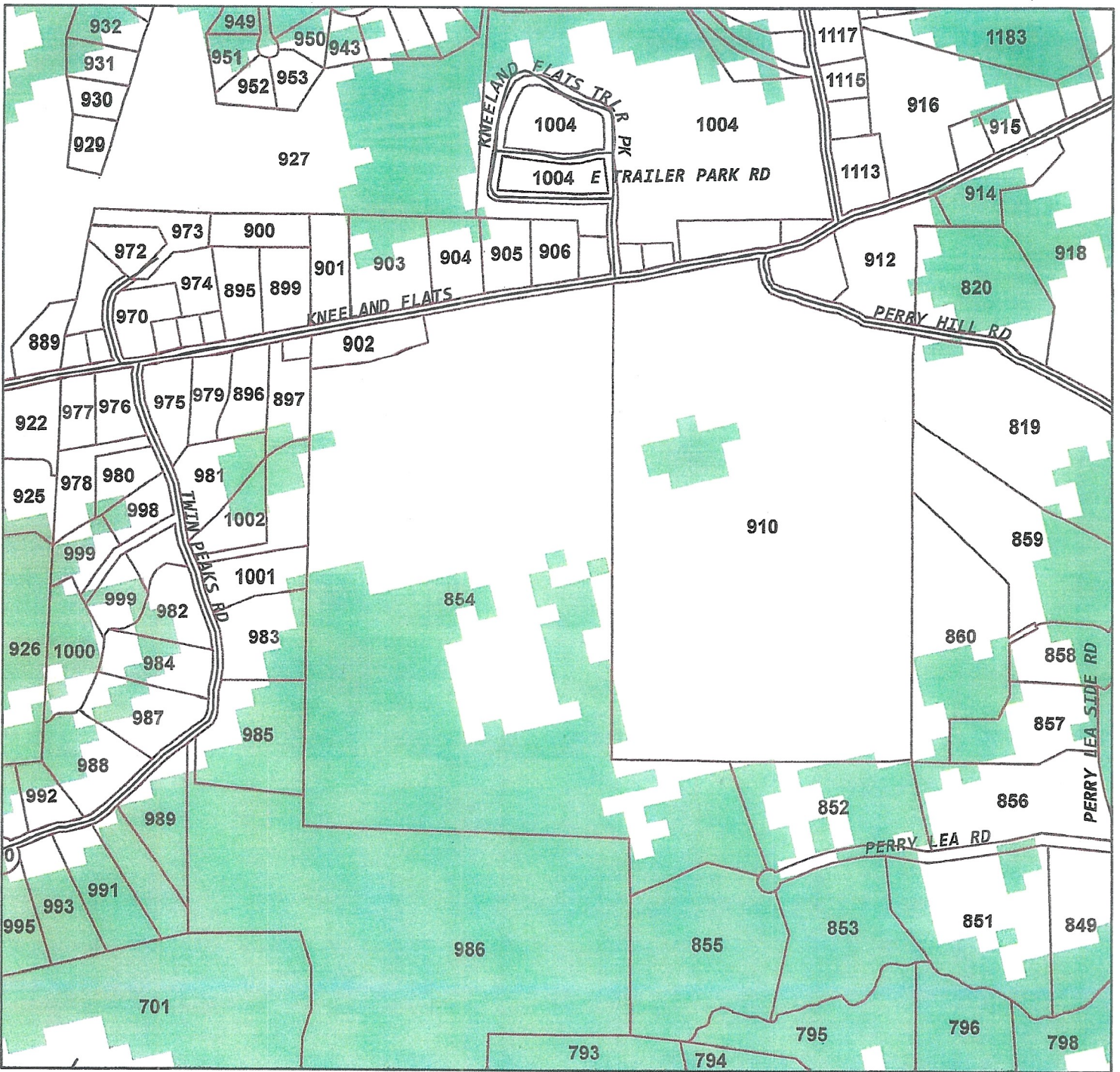
Notes:

**Bobolink Conservation
Project Maps
Waterbury - Area 4**



- Town Boundaries
- Parcel Boundaries
- Open Fields
- Forested





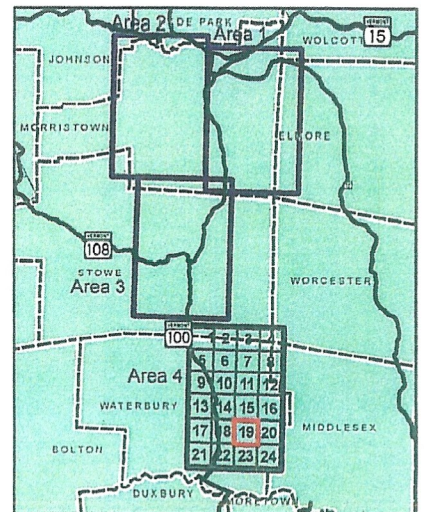
Map W-19

Notes:

**Bobolink Conservation
Project Maps
Waterbury - Area 4**



-  Town Boundaries
-  Parcel Boundaries
-  Open Fields
-  Forested



APPENDIX "B" – Monitoring Analysis Criteria.

All 272 fields monitored were analyzed according to the following criteria (recorded on excel spread sheets according to Map Areas/detailed map reference/field town cross reference):-

- "EMO/C": - early mowed (by early June) or planted with corn – off limits;
- "MMO": - middle mowed (ie by end June) where more flexibility by owner may exist;
- "LMO": - late mowed (late July) where opportunity for bobolink breeding exists;
- "UMO": - Still unmowed by early August for different reasons (FOB, grazing, shrubs,);
- "Bobs": - Presence of bobolinks observed at least once (breeding not confirmed);
- "Nobs" - No bobolink presence observed, although may have been missed;
- "FOB" - Landowner sympathetic/cooperating with FOB Project.

On average most fields were visited around six times; EMO/MMOs less frequently; UMO/Bobs more frequently. Contact was made with most landowners where potential for productive delayed mowing was evident (e.g, still unmowed by July (although heavy rains interfered with some normal mowing regimens). Little attempt was made to interfere with dairy farmers needing to cut hay throughout the summer.

Now that an approximate inventory of breeding bobolink status has been obtained in the project area in Year 1, one agenda item for Year 2 might be to ascertain whether there is any flexibility for some farmers to set aside early mowing on some (less productive) fields.

APPENDIX "C" – Declines in Bobolink Populations (see attached map/schedules)

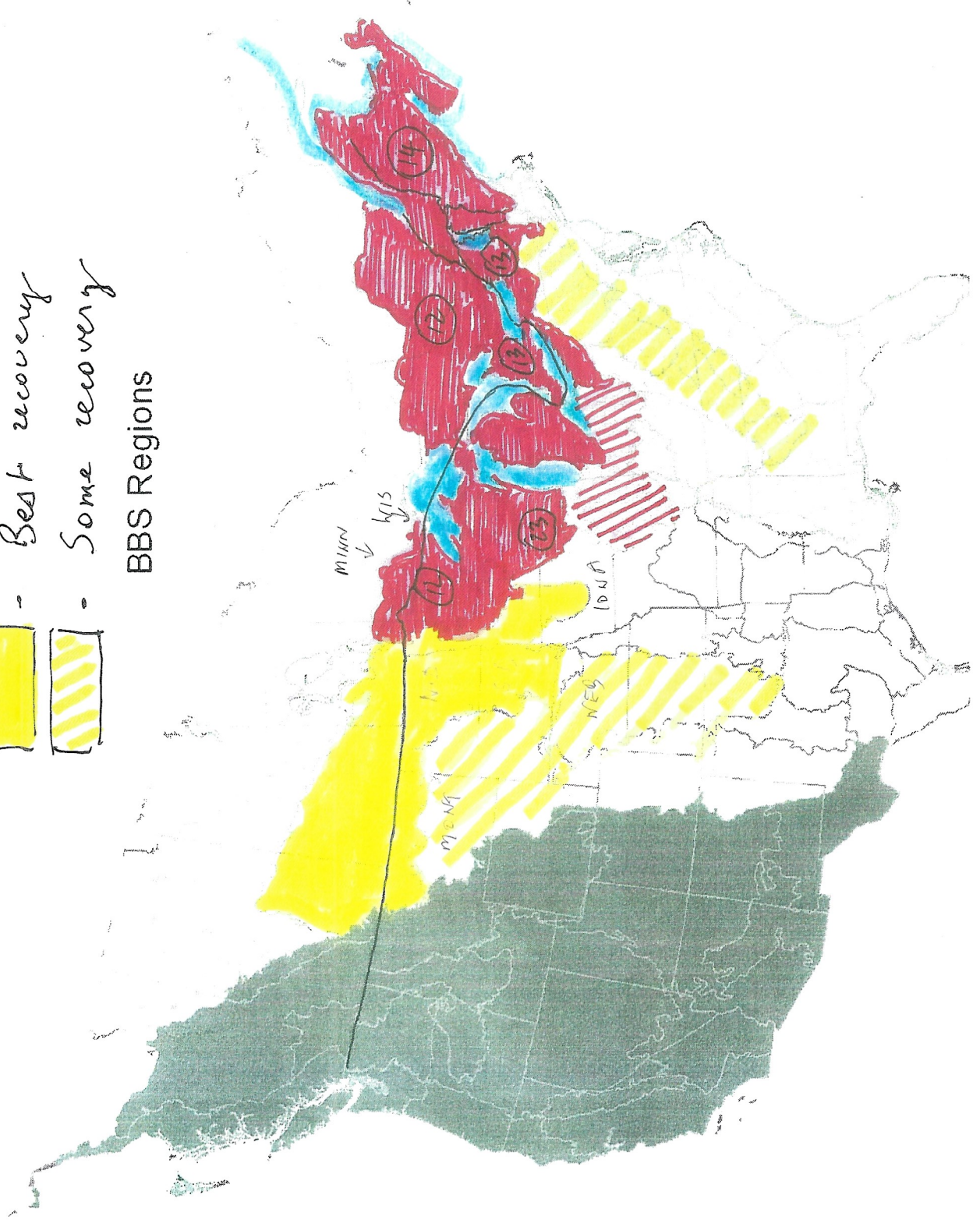
1. USGS map of North America divided into three BBS Regions (west; central & north/east): area colored red represents heaviest bobolink populations, but also heaviest declines. Yellow area shows where populations are increasing slightly – suggesting an east-to-west (reverse) population drift.
2. Show graphically actual and projected bobolink population declines.
3. Record of declines in bobolink abundance observed from comparable bird observation routes 1966-2011.

Bird Population:

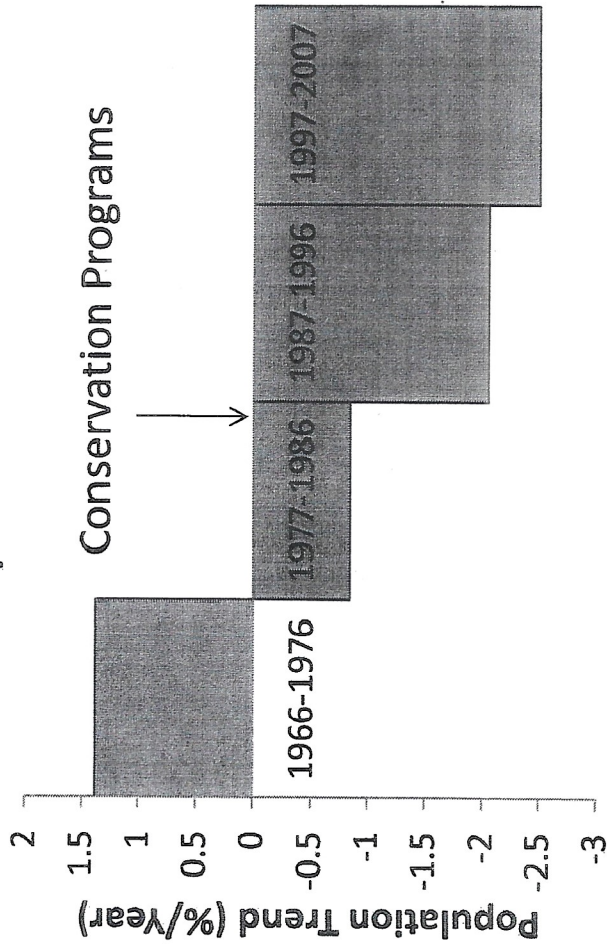
Page 1 of 1

- Heavy losses
- Light losses
- Best recovery
- Some recovery

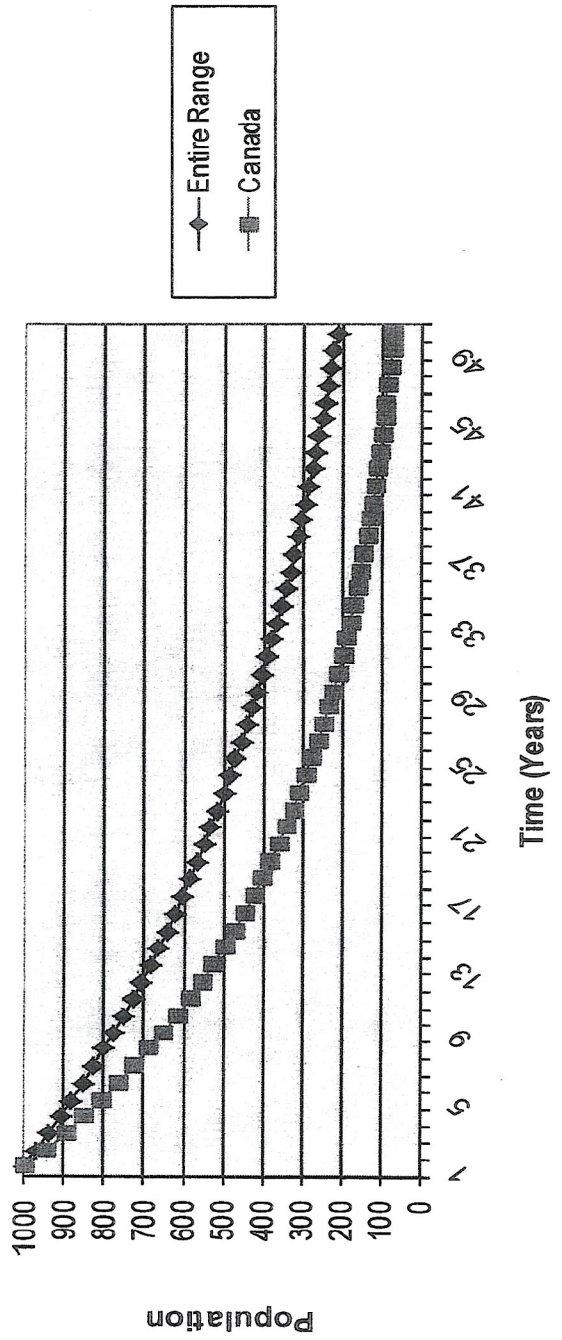
BBS Regions



Bobolink Population declines



Projected Pop. Declines Based on Current Rates



[Website for this image](#)

Bobolink

dnr.state.oh.us

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768 x 614 (1.2x larger), 61KB

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