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ILLINOIS BREEDING BIRD ATLAS

1986 ANNUAL REPORT

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## INTRODUCTION

The Illinois Breeding Bird Atlas (BBA) is a cooperative, 5-year project (1986-1990) intended, in part, to document the distribution of all avian species breeding within the state. Funded through the Nongame Wildlife Conservation Fund (Nongame Check-off), the project is co-sponsored by State and National Audubon Chapters, local birding groups, and the Illinois Department of Conservation (IDOC). The history of the atlasing effort and procedures for the field phase of the BBA are outlined in the Handbook for Surveyors, 1986-1990 (Appendix A).

The principle objectives of the BBA, as described in the "Handbook for surveyors, 1986-1990", are:

- 1) to accurately determine the distribution of all the bird species breeding in Illinois during the period 1986-1990,
- 2) to develop an ecological data base,
- 3) to determine which species are threatened or endangered and to provide distributional data on these species,
- 4) to document and protect areas of unique and fragile habitat vital to continued reproduction for certain species,
- 5) to provide a conservation tool for the use of legislators, land-use planners, developers, and environmentalists,
- 6) to provide a documented baseline data source for biologists and researchers, against which future and inevitable change can be measured,
- 7) to use survey techniques which can be reduplicated 10, 50 or 500 years in the future, and
- 8) to educate the public about birds as a natural resource.

In October 1986, the Avian Ecology Program (AEP) of the Division of Natural Heritage IDOC advertised for bids to conduct data entry, editing, report generation, and preparation and distribution of 1987 BBA materials. All necessary software, report generation programs, documentation for programs, and data were to be supplied by IDOC. A contract submitted by The Max McGraw Wildlife Foundation was accepted. Five specific jobs were identified, and under the provisions of the contract were to be completed by the Foundation:

- 1) Data entry and editing,
- 2) Report preparation,
- 3) Preparation and distribution of maps and materials for 1987 atlas blocks,
- 4) Identification of problems, and
- 5) Assist in public information/promotion of BBA.

This document is prepared specifically to fulfill the requirements of the contract.

## JOB 1- DATA ENTRY AND EDITING.

Upon receipt of the contract, the Foundation began installation of Atlas programs and documentation on its Sperry PC/IT (Model P-3126-51) computer. Data entry was initiated in December 1986. The database management system selected for the BBA project was the Ashton-Tate dBASE III Plus (Version 1.1). A dBASE program was prepared by Data Coordinator of the Natural Heritage Division, John E. Buhnerkempe, that allowed interactive data entry with three files (BIRD, BLOCK and STATUS). Descriptions of these data files are provided in Appendix B.

An editing report was generated for each block using the program BLOCDUMP.PRG (Appendix B-6). One block report was sent to each principle observer. Reports for each block within the primary county were also sent to each county coordinator. Each observer/coordinator was asked to review this report for accuracy and to resolve problems indicated on this report (i.e., missing data, observer hours, documentation, or incorrect status codes). Replies were requested within four weeks of receipt of the report. Errors detected by observer/coordinators were subsequently corrected.

A total of 9813 observation records were entered and edited. This data was obtained from 201 priority blocks located in 20 counties (Table 1; Figure 1) surveyed during 1986.

## JOB 2 - REPORT GENERATION.

### A. Results of the 1986 Breeding Bird Atlas

A total of 9813 observations of 170 species of birds were compiled during the 1986 field season. Some 277 observers (Table 1; Appendix D) spent 4630 hours afield in 201 (83.1%) of the 242 priority blocks scheduled in 1986 (Table 1). Priority blocks scheduled for each county during the first field season ranged from 6 to 25 with generally excellent coverage (ranging from 17 to 100%).

Effort, as measured by observer hours per priority block, ranged from 2 to 147 with an average of nearly 24 (Appendix E). On a county-wide basis, effort ranged between 29.0 to 436.1 averaging nearly 232 hours (Table 1; Appendix E). Total county effort is affected by the number of priority blocks, number of observers and the time observers spent in the field.

As stated earlier, some 170 species of birds were identified in the 201 priority blocks. Species lists for counties ranged from 68 (Lawrence County) to 127 (Cook County) species (Table 1; Appendix F). Species lists for priority blocks ranged from 14 to 91 and averaged nearly 50 species (Appendix G). Obviously, species lists derived for each block were dependent upon: 1) habitat diversity, 2) observer effort and 3) observer competence.

The objective of the BBA is not only to document a species' presence, it is also to determine its breeding status. The status is determined by 20 evidence categories (Appendix A) based upon the behavior of the bird at time of observation. The goal is to upgrade the category ranking for each species to the highest level (i.e., confirmed). Table 2 lists the percentage of observations (not species) in the various status categories by county. The state average for confirmed species by county was 35.6%. Observers in only two counties (Kane, 55.9% and McHenry, 51.4%) were able to place over 50% of the avian observations into the confirmed category.

It is difficult to determine, with the report programs currently available, the number of species observed by breeding status codes (observed, possible, probable or confirmed) for any map unit (county, region or state) other than block. Appendix G lists the observations by Atlas Block number, while Appendix F provides a species list for each county.

#### B. Summary reports for the 1986 Breeding Bird Atlas.

A request for programs to generate information needed in the 1986 annual report was submitted to AEP on 28 February 1987 (Appendix C). A portion of the requested report generation programs was delivered and installed on the Foundation system 4 August 1987. Technical problems associated with the programs and the Foundation's computer system prevented accurate generation of both the requested reports and reports prepared and provided by IDOC staff. Some of the problems associated with the software are not yet resolved (see Appendix E).

In the bid request, the contract specifically stated the IDOC Natural Heritage Division would supply program software to generate summary reports. The Foundation submitted summary reports (see Appendix C) that would effectively summarize the breeding status of avian species on a county-wide or regional basis. Unfortunately, however, the suggested summary reports have not been prepared by IDOC staff. These reports would also be useful to inform BBA participants of the project progress and results. The reports that have been prepared and submitted in this document were generated using the program software currently available from IDOC.

Figure 1. Counties surveyed as part of the 1986 Illinois Breeding Bird Atlas.

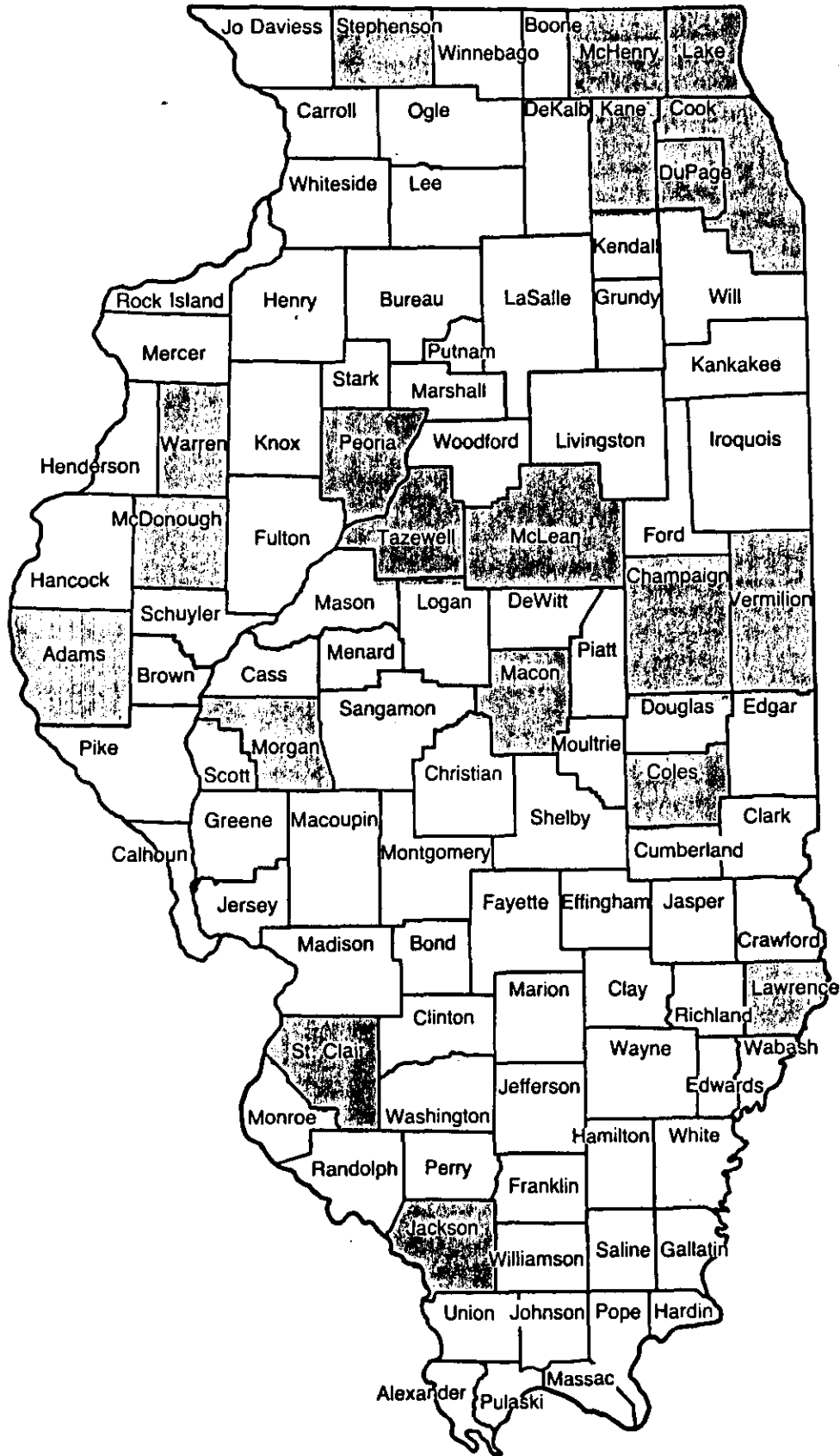


Figure 2. Counties scheduled to be surveyed as part of the 1987 Illinois Breeding Bird Atlas.

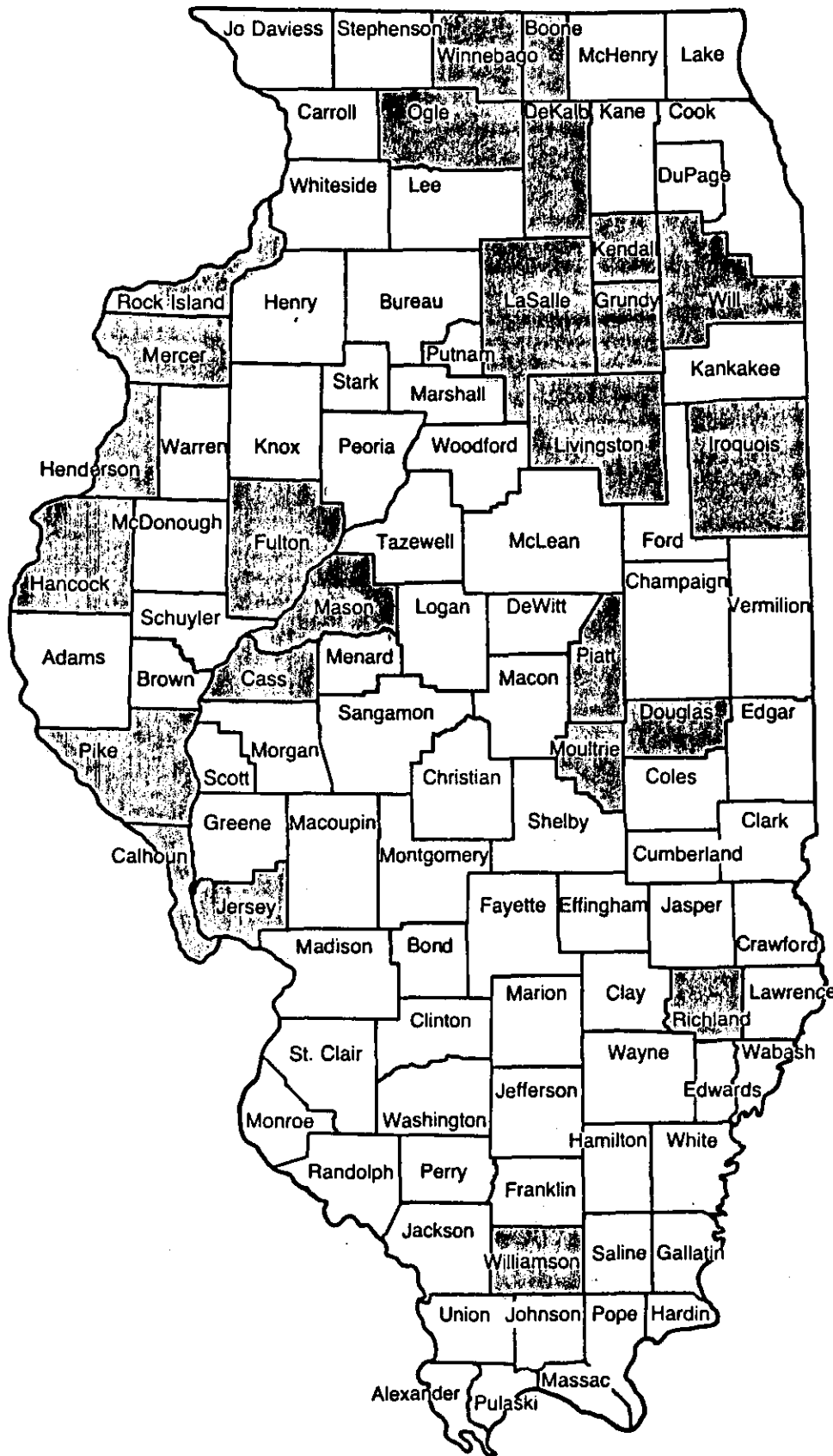




Table 1. Summary of 1986 Illinois Breeding Bird Atlas effort by county.

County	Priority Blocks Assigned/Completed	Numbers of Observations of Birds by Status Code				Total No. Species	No. of Observers	Obs. Hrs.
		OB	PO	PR	CO			
Adams	18 / 15	112	142	260	220	103	22	345.0
Champaign	16 / 16	10	202	249	134	92	10	134.0
Coles	9 / 9	15	74	250	187	96	12	207.1
Cook	16 / 16	68	221	178	286	127	45	436.1
DuPage	7 / 7	56	49	112	139	98	22	312.0
Jackson	12 / 6	43	86	66	62	94	13	112.0
Kane	9 / 9	35	85	114	297	100	13	419.0
Lake	9 / 6	20	78	91	42	75	10	87.2
Lawrence	6 / 1	8	12	25	23	68	3	21.0
Macon	9 / 9	41	99	152	142	97	11	233.0
McDonough	12 / 10	115	86	116	168	91	18	341.8
McHenry	12 / 12	43	117	220	402	111	16	386.3
McLean	25 / 25	48	263	273	363	87	11	378.1
Morgan	10 / 4	23	53	50	74	79	3	29.0
Peoria	15 / 12	135	226	161	183	109	18	274.5
St. Clair	12 / 5	47	63	47	28	82	7	78.0
Stephenson	8 / 8	12	128	71	97	73	9	137.2
Tazwell	10 / 8	30	101	143	188	100	13	264.0
Vermilion	15 / 15	45	210	234	377	116	17	358.8
Warren	12 / 8	5	120	184	79	75	4	83.3
TOTALS	242 / 201	911	2415	2996	3491	170	277	4637.4

APPENDIX E

COUNTY SUMMARIES ANNOTATING  
THE DEGREE OF COVERAGE BY BLOCK

## Illinois Breeding Bird Atlas

Block= 027A3 Map Name= CRYSTAL LAKE (4208823)  
 Primary County= ILMCH Observer= CRAIG S. MILLER

Name	OB	PO	PR	CO
Pied-billed Grebe				FL
Great Blue Heron		/		
Green-backed Heron				ON
Black-crowned Night-Heron		/		
Mute Swan		/		
Canada Goose				FL
Wood Duck				FL
Mallard				FL
Blue-winged Teal				FL
Red-tailed Hawk			C	
American Kestrel				FY
Ring-necked Pheasant				FL
Virginia Rail			T	
Sora				FL
Killdeer				FL
Spotted Sandpiper				FL
Upland Sandpiper		/		
Rock Dove				FL
Mourning Dove				FL
Black-billed Cuckoo				FY
Yellow-billed Cuckoo				FY
Eastern Screech-Owl		/		
Great Horned Owl		/		
Common Nighthawk		/		
Chimney Swift		/		
Ruby-throated Hummingbird				ON
Belted Kingfisher				FY
Red-headed Woodpecker				FY
Red-bellied Woodpecker				FY
Downy Woodpecker				FY
Hairy Woodpecker			P	
Northern Flicker				FY
Eastern Wood-Pewee				ON
Willow Flycatcher				ON
Eastern Phoebe			P	
Great Crested Flycatcher			T	
Eastern Kingbird				FY
Horned Lark				FY
Purple Martin				FY
Tree Swallow				FY
Northern Rough-winged Swallow			P	
Bank Swallow				ON
Barn Swallow				FY
Blue Jay				FY
American Crow				FY
Black-capped Chickadee				FY
White-breasted Nuthatch				FY
House Wren				FY
Sedge Wren			T	

## Illinois Breeding Bird Atlas

Block= 027A3    Map Name= CRYSTAL LAKE    (4208823)  
 Primary County= ILMCHE    Observer= CRAIG S. MILLER

Name	OB	PO	PR	CO
Marsh Wren			T	
Wood Thrush			T	
American Robin				FY
Gray Catbird				FY
Brown Thrasher				FY
Cedar Waxwing				FL
European Starling				FL
Yellow-throated Vireo		X		
Warbling Vireo			T	
Red-eyed Vireo				FL
Yellow Warbler				FY
Common Yellowthroat				FY
Northern Cardinal				FL
Rose-breasted Grosbeak				FL
Indigo Bunting				ON
Rufous-sided Towhee		X		
Chipping Sparrow				FY
Field Sparrow				FY
Vesper Sparrow				FY
Savannah Sparrow				FY
Song Sparrow				FY
Swamp Sparrow				FY
Red-winged Blackbird				FY
Eastern Meadowlark				FY
Common Grackle				FY
Brown-headed Cowbird			M	
Northern Oriole				FL
American Goldfinch				FY
House Sparrow				FY

Number Observed =	0	
Number Possible =	10	
Number Probable =	11	
Number Confirmed =	57	★

Total Species	78
Personal Hours	10.0

Illinois Breeding Bird Atlas  
County Species List

McHenry

Pied-billed Grebe  
Least Bittern  
Great Blue Heron  
Great Egret  
Green-backed Heron  
Black-crowned Night-Heron  
Mute Swan  
Canada Goose  
Wood Duck  
Mallard  
Blue-winged Teal  
Hooded Merganser  
Sharp-shinned Hawk  
Broad-winged Hawk  
Swainson's Hawk  
Red-tailed Hawk  
American Kestrel  
Gray Partridge  
Ring-necked Pheasant  
Northern Bobwhite  
Virginia Rail  
Sora  
Common Moorhen  
American Coot  
Killdeer  
Spotted Sandpiper  
Upland Sandpiper  
Common Snipe  
American Woodcock  
Forster's Tern  
Black Tern  
Rock Dove  
Mourning Dove  
Black-billed Cuckoo  
Yellow-billed Cuckoo  
Eastern Screech-Owl  
Great Horned Owl  
Common Nighthawk  
Whip-poor-will  
Chimney Swift  
Ruby-throated Hummingbird  
Belted Kingfisher  
Red-headed Woodpecker  
Red-bellied Woodpecker  
Downy Woodpecker  
Hairy Woodpecker  
Northern Flicker  
Eastern Wood-Pewee  
Acadian Flycatcher  
Alder Flycatcher  
Willow Flycatcher  
Least Flycatcher  
Eastern Phoebe  
Great Crested Flycatcher

Illinois Breeding Bird Atlas  
County Species List

Eastern Kingbird  
Horned Lark  
Purple Martin  
Tree Swallow  
Northern Rough-winged Swallow  
Bank Swallow  
Cliff Swallow  
Barn Swallow  
Blue Jay  
American Crow  
Black-capped Chickadee  
White-breasted Nuthatch  
Brown Creeper  
House Wren  
Sedge Wren  
Marsh Wren  
Blue-gray Gnatcatcher  
Eastern Bluebird  
Wood Thrush  
American Robin  
Gray Catbird  
Brown Thrasher  
Cedar Waxwing  
European Starling  
Yellow-throated Vireo  
Warbling Vireo  
Red-eyed Vireo  
Yellow Warbler  
Black-and-white Warbler  
American Redstart  
Prothonotary Warbler  
Ovenbird  
Common Yellowthroat  
Yellow-breasted Chat  
Scarlet Tanager  
Northern Cardinal  
Rose-breasted Grosbeak  
Indigo Bunting  
Dickcissel  
Rufous-sided Towhee  
Chipping Sparrow  
Field Sparrow  
Vesper Sparrow  
Savannah Sparrow  
Grasshopper Sparrow  
Song Sparrow  
Swamp Sparrow  
Bobolink  
Red-winged Blackbird  
Eastern Meadowlark  
Western Meadowlark  
Yellow-headed Blackbird  
Common Grackle  
Brown-headed Cowbird  
Orchard Oriole  
Northern Oriole

Illinois Breeding Bird Atlas  
County Species List

American Goldfinch  
House Sparrow

County Summary Showing Degree of Coverage

County: ILMCHE Year: 86

<u>Block</u>	<u>Observed</u>	<u>Possible</u>	<u>Probable</u>	<u>Confirmed</u>	<u>Total</u>	<u>Hours</u>
009D3	3(12.9)	9(12.9)	15(21.4)	43(61.4)	70	73.3
010A3	9(43.3)	13(43.3)	6(20.0)	2(6.7)	30	7.0
008C3	2(4.7)	4(4.7)	29(34.1)	50(58.8)	85	70.0
010D3	5(15.8)	9(15.8)	26(45.6)	17(29.8)	57	27.0
028B3	1(15.4)	10(15.4)	17(26.2)	37(56.9)	65	24.0
026A3	3(19.4)	13(19.4)	37(55.2)	14(20.9)	67	83.0
027B3	0(7.0)	5(7.0)	12(16.9)	54(76.1)	71	14.0
009B3	11(27.1)	13(27.1)	15(31.3)	9(18.8)	48	4.5
027A3	0(12.8)	10(12.8)	11(14.1)	57(73.1)	78	10.0
008B3	0(15.4)	12(15.4)	8(10.3)	58(74.4)	78	13.0
009C3	5(10.1)	7(10.1)	17(24.6)	40(58.0)	69	43.0
009A3	4(16.8)	12(18.8)	27(42.2)	21(32.8)	64	17.5
-----						
Total	43	117	220	402	782	386.3
Average	3.6	9.7	18.3	33.5	65	32.2
-----						