

Appendix B. Test statistics and sample sizes for individual species trends. Change = annual change expressed as number of individuals per sampling unit. N = number of stands analyzed. Individual species graphs are in Appendix A.

| Species                   | Chequamegon NF |       |                |     | Chippewa NF |       |                |     | Superior NF |       |                |     | St. Croix, Minn |       |                |     | Southeast Minn. |       |                |     |
|---------------------------|----------------|-------|----------------|-----|-------------|-------|----------------|-----|-------------|-------|----------------|-----|-----------------|-------|----------------|-----|-----------------|-------|----------------|-----|
|                           | change         | P     | R <sup>2</sup> | N   | change      | P     | R <sup>2</sup> | N   | change      | P     | R <sup>2</sup> | N   | change          | P     | R <sup>2</sup> | N   | change          | P     | R <sup>2</sup> | N   |
| Ring-necked Pheasant      |                |       |                |     |             |       |                |     |             |       |                |     |                 |       |                |     | -0.043          | 0.066 | 0.61           | 11  |
| Mourning Dove             |                |       |                |     |             |       |                |     |             |       |                |     |                 |       |                |     | 0.001           | 0.981 | 0.00           | 18  |
| Red-bellied Woodpecker    |                |       |                |     |             |       |                |     |             |       |                |     |                 |       |                |     | -0.030          | 0.592 | 0.08           | 48  |
| Yellow-bellied Sapsucker  | 0.037          | 0.001 | 0.80           | 37  | -0.031      | 0.075 | 0.34           | 36  | 0.004       | 0.488 | 0.06           | 37  | -0.010          | 0.593 | 0.04           | 12  | 0.002           | 0.864 | 0.01           | 21  |
| Downy Woodpecker          |                |       |                |     |             |       |                |     |             |       |                |     |                 |       |                |     | -0.013          | 0.719 | 0.04           | 17  |
| Hairy Woodpecker          | 0.002          | 0.846 | 0.01           | 8   | 0.029       | 0.146 | 0.25           | 5   |             |       |                |     |                 |       |                |     |                 |       |                |     |
| Eastern Wood-Pewee        | -0.060         | 0.007 | 0.67           | 42  | -0.047      | 0.011 | 0.58           | 49  | -0.091      | 0.000 | 0.94           | 13  | -0.018          | 0.069 | 0.40           | 39  | 0.060           | 0.040 | 0.69           | 184 |
| Yellow-bellied Flycatcher | 0.091          | 0.001 | 0.82           | 18  | 0.003       | 0.863 | 0.00           | 18  | 0.034       | 0.037 | 0.44           | 41  | -0.008          | 0.702 | 0.02           | 9   |                 |       |                |     |
| Alder Flycatcher          | 0.111          | 0.013 | 0.61           | 12  | -0.017      | 0.339 | 0.11           | 8   | -0.008      | 0.741 | 0.01           | 15  | -0.015          | 0.536 | 0.06           | 5   |                 |       |                |     |
| Least Flycatcher          | 0.024          | 0.547 | 0.05           | 48  | 0.101       | 0.001 | 0.77           | 62  | 0.005       | 0.770 | 0.01           | 38  | 0.148           | 0.000 | 0.99           | 52  |                 |       |                |     |
| Great Crested Flycatcher  | -0.012         | 0.457 | 0.08           | 15  | -0.067      | 0.003 | 0.69           | 12  |             |       |                |     | -0.036          | 0.155 | 0.27           | 9   | -0.035          | 0.265 | 0.30           | 78  |
| Eastern Kingbird          | 0.012          | 0.389 | 0.11           | 5   |             |       |                |     |             |       |                |     |                 |       |                |     |                 |       |                |     |
| Yellow-throated Vireo     |                |       |                |     | 0.032       | 0.043 | 0.42           | 14  |             |       |                |     | 0.055           | 0.020 | 0.56           | 9   | -0.038          | 0.204 | 0.37           | 27  |
| Blue-headed Vireo         | -0.022         | 0.406 | 0.10           | 7   | 0.026       | 0.009 | 0.60           | 9   | 0.015       | 0.376 | 0.10           | 7   |                 |       |                |     |                 |       |                |     |
| Warbling Vireo            |                |       |                |     |             |       |                |     |             |       |                |     |                 |       |                |     | 0.034           | 0.018 | 0.79           | 7   |
| Red-eyed Vireo            | 0.071          | 0.079 | 0.38           | 109 | -0.001      | 0.978 | 0.00           | 112 | 0.058       | 0.060 | 0.37           | 141 | 0.056           | 0.036 | 0.49           | 138 | 0.060           | 0.064 | 0.62           | 141 |
| Blue Jay                  | 0.006          | 0.779 | 0.01           | 40  | 0.004       | 0.811 | 0.01           | 24  | 0.017       | 0.350 | 0.11           | 39  | -0.035          | 0.261 | 0.18           | 15  | 0.021           | 0.061 | 0.62           | 78  |
| American Crow             |                |       |                |     |             |       |                |     |             |       |                |     |                 |       |                |     | 0.185           | 0.018 | 0.79           | 168 |
| Black-capped Chickadee    | -0.013         | 0.377 | 0.11           | 54  | 0.035       | 0.095 | 0.31           | 32  | 0.064       | 0.044 | 0.41           | 12  | 0.038           | 0.116 | 0.31           | 25  | 0.094           | 0.016 | 0.80           | 79  |
| Red-breasted Nuthatch     | 0.025          | 0.028 | 0.52           | 19  | 0.037       | 0.047 | 0.41           | 22  | 0.014       | 0.200 | 0.20           | 29  | 0.065           | 0.218 | 0.21           | 5   |                 |       |                |     |
| White-breasted Nuthatch   | 0.009          | 0.459 | 0.08           | 7   | 0.128       | 0.002 | 0.72           | 8   |             |       |                |     | 0.047           | 0.023 | 0.55           | 18  | 0.059           | 0.031 | 0.73           | 68  |
| Brown Creeper             | -0.043         | 0.046 | 0.45           | 26  | -0.003      | 0.773 | 0.01           | 25  | 0.019       | 0.016 | 0.53           | 19  |                 |       |                |     |                 |       |                |     |
| House Wren                |                |       |                |     |             |       |                |     |             |       |                |     |                 |       |                |     | 0.052           | 0.014 | 0.82           | 68  |
| Winter Wren               | -0.071         | 0.001 | 0.83           | 38  | -0.032      | 0.101 | 0.30           | 38  | -0.028      | 0.210 | 0.19           | 56  | 0.000           | 0.989 | 0.00           | 7   |                 |       |                |     |
| Golden-crowned Kinglet    | 0.018          | 0.391 | 0.11           | 7   | -0.027      | 0.299 | 0.13           | 11  | 0.027       | 0.187 | 0.21           | 26  | -0.025          | 0.092 | 0.35           | 6   |                 |       |                |     |
| Ruby-crowned Kinglet      |                |       |                |     |             |       |                |     | -0.027      | 0.052 | 0.39           | 6   |                 |       |                |     |                 |       |                |     |
| Blue-gray Gnatcatcher     |                |       |                |     |             |       |                |     |             |       |                |     |                 |       |                |     | -0.031          | 0.308 | 0.25           | 77  |
| Veery                     | -0.006         | 0.731 | 0.02           | 53  | 0.036       | 0.352 | 0.11           | 72  | -0.001      | 0.967 | 0.00           | 97  | 0.059           | 0.004 | 0.73           | 112 | 0.175           | 0.264 | 0.30           | 9   |
| Swainson's Thrush         |                |       |                |     |             |       |                |     | 0.025       | 0.017 | 0.53           | 25  |                 |       |                |     |                 |       |                |     |
| Hermit Thrush             | -0.038         | 0.009 | 0.65           | 65  | -0.032      | 0.112 | 0.29           | 60  | 0.027       | 0.203 | 0.19           | 50  | 0.016           | 0.299 | 0.15           | 28  |                 |       |                |     |
| Wood Thrush               | 0.071          | 0.043 | 0.46           | 8   |             |       |                |     |             |       |                |     | 0.035           | 0.238 | 0.19           | 6   | 0.090           | 0.008 | 0.85           | 24  |
| American Robin            | 0.067          | 0.002 | 0.75           | 61  | 0.047       | 0.000 | 0.80           | 39  | 0.021       | 0.039 | 0.43           | 69  | 0.011           | 0.679 | 0.03           | 16  | 0.140           | 0.000 | 0.97           | 63  |
| Gray Catbird              |                |       |                |     | 0.196       | 0.000 | 0.91           | 5   |             |       |                |     | 0.004           | 0.847 | 0.01           | 8   | -0.011          | 0.655 | 0.05           | 15  |
| Brown Thrasher            | 0.043          | 0.108 | 0.33           | 9   |             |       |                |     |             |       |                |     |                 |       |                |     |                 |       |                |     |
| Cedar Waxwing             |                |       |                |     | 0.022       | 0.442 | 0.08           | 5   |             |       |                |     |                 |       |                |     |                 |       |                |     |

Appendix B (continued).

| Species                  | Chequamegon NF |       |                |     | Chippewa NF |       |                |     | Superior NF |       |                |     | St. Croix, Minn |       |                |     | Southeast Minn. |       |                |     |
|--------------------------|----------------|-------|----------------|-----|-------------|-------|----------------|-----|-------------|-------|----------------|-----|-----------------|-------|----------------|-----|-----------------|-------|----------------|-----|
|                          | change         | P     | R <sup>2</sup> | N   | change      | P     | R <sup>2</sup> | N   | change      | P     | R <sup>2</sup> | N   | change          | P     | R <sup>2</sup> | N   | change          | P     | R <sup>2</sup> | N   |
| Blue-winged Warbler      |                |       |                |     |             |       |                |     |             |       |                |     |                 |       |                |     | -0.140          | 0.020 | 0.78           | 6   |
| Golden-winged Warbler    | 0.031          | 0.183 | 0.24           | 7   | 0.000       | 0.997 | 0.00           | 15  | -0.104      | 0.000 | 0.87           | 6   | -0.019          | 0.652 | 0.03           | 8   |                 |       |                |     |
| Tennessee Warbler        |                |       |                |     |             |       |                |     | -0.059      | 0.371 | 0.10           | 7   |                 |       |                |     |                 |       |                |     |
| Nashville Warbler        | -0.017         | 0.258 | 0.18           | 81  | 0.006       | 0.891 | 0.00           | 76  | 0.006       | 0.771 | 0.01           | 140 | -0.055          | 0.010 | 0.63           | 57  |                 |       |                |     |
| Northern Parula          | -0.019         | 0.052 | 0.44           | 20  | -0.011      | 0.587 | 0.04           | 20  | 0.025       | 0.123 | 0.27           | 43  |                 |       |                |     |                 |       |                |     |
| Yellow Warbler           |                |       |                |     | -0.111      | 0.010 | 0.58           | 7   |             |       |                |     |                 |       |                |     | -0.094          | 0.053 | 0.65           | 12  |
| Chestnut-sided Warbler   | 0.027          | 0.187 | 0.23           | 54  | 0.046       | 0.041 | 0.43           | 79  | -0.039      | 0.154 | 0.24           | 116 | 0.028           | 0.164 | 0.26           | 87  |                 |       |                |     |
| Magnolia Warbler         |                |       |                |     | 0.025       | 0.277 | 0.15           | 5   | 0.038       | 0.013 | 0.56           | 67  |                 |       |                |     |                 |       |                |     |
| Yellow-rumped Warbler    | 0.017          | 0.669 | 0.03           | 37  | 0.043       | 0.141 | 0.25           | 36  | 0.032       | 0.240 | 0.17           | 51  | 0.027           | 0.305 | 0.15           | 13  |                 |       |                |     |
| Black-thr. Green Warbler | 0.023          | 0.239 | 0.19           | 89  | -0.001      | 0.950 | 0.00           | 39  | -0.010      | 0.494 | 0.06           | 58  | -0.011          | 0.290 | 0.16           | 22  |                 |       |                |     |
| Blackburnian Warbler     | 0.037          | 0.101 | 0.34           | 44  | -0.046      | 0.120 | 0.27           | 37  | 0.013       | 0.351 | 0.11           | 84  | 0.039           | 0.194 | 0.23           | 5   |                 |       |                |     |
| Pine Warbler             | 0.010          | 0.720 | 0.02           | 15  | 0.004       | 0.799 | 0.01           | 37  | 0.065       | 0.012 | 0.57           | 6   |                 |       |                |     |                 |       |                |     |
| Black-and-white Warbler  | -0.020         | 0.164 | 0.26           | 36  | 0.037       | 0.013 | 0.56           | 34  | -0.012      | 0.008 | 0.61           | 94  | -0.049          | 0.001 | 0.80           | 24  |                 |       |                |     |
| American Redstart        | 0.145          | 0.000 | 0.85           | 8   | 0.066       | 0.031 | 0.46           | 47  | 0.028       | 0.280 | 0.14           | 35  | 0.075           | 0.013 | 0.61           | 30  | -0.018          | 0.745 | 0.03           | 82  |
| Ovenbird                 | -0.124         | 0.056 | 0.43           | 113 | -0.241      | 0.000 | 0.84           | 105 | -0.068      | 0.108 | 0.29           | 137 | -0.072          | 0.031 | 0.51           | 135 | 0.048           | 0.122 | 0.49           | 135 |
| Northern Waterthrush     | 0.074          | 0.248 | 0.19           | 5   |             |       |                |     | 0.021       | 0.490 | 0.06           | 7   |                 |       |                |     |                 |       |                |     |
| Connecticut Warbler      |                |       |                |     | -0.129      | 0.000 | 0.86           | 13  |             |       |                |     |                 |       |                |     |                 |       |                |     |
| Mourning Warbler         | 0.015          | 0.581 | 0.05           | 32  | -0.046      | 0.004 | 0.67           | 41  | -0.027      | 0.190 | 0.20           | 93  | -0.013          | 0.222 | 0.20           | 35  |                 |       |                |     |
| Common Yellowthroat      | -0.033         | 0.007 | 0.67           | 35  | -0.011      | 0.587 | 0.04           | 56  | -0.043      | 0.009 | 0.60           | 31  | -0.029          | 0.002 | 0.76           | 80  | 0.014           | 0.571 | 0.09           | 41  |
| Canada Warbler           | -0.021         | 0.176 | 0.24           | 16  | 0.045       | 0.084 | 0.33           | 5   | -0.030      | 0.023 | 0.49           | 65  |                 |       |                |     |                 |       |                |     |
| Scarlet Tanager          | -0.025         | 0.094 | 0.35           | 32  | -0.029      | 0.074 | 0.34           | 48  | -0.019      | 0.432 | 0.08           | 6   | 0.012           | 0.583 | 0.05           | 18  | 0.019           | 0.465 | 0.14           | 58  |
| Eastern Towhee           | 0.046          | 0.117 | 0.31           | 10  |             |       |                |     |             |       |                |     |                 |       |                |     | 0.045           | 0.002 | 0.93           | 29  |
| Chipping Sparrow         | -0.016         | 0.490 | 0.07           | 16  | 0.011       | 0.638 | 0.03           | 40  | -0.019      | 0.066 | 0.36           | 26  |                 |       |                |     | -0.054          | 0.072 | 0.60           | 10  |
| Clay-colored Sparrow     | -0.138         | 0.012 | 0.62           | 11  |             |       |                |     |             |       |                |     |                 |       |                |     |                 |       |                |     |
| Field Sparrow            |                |       |                |     |             |       |                |     |             |       |                |     |                 |       |                |     | -0.070          | 0.027 | 0.74           | 11  |
| Vesper Sparrow           | 0.091          | 0.134 | 0.29           | 8   |             |       |                |     |             |       |                |     |                 |       |                |     |                 |       |                |     |
| Song Sparrow             | -0.036         | 0.024 | 0.54           | 20  | -0.052      | 0.045 | 0.41           | 34  | -0.021      | 0.283 | 0.14           | 20  | -0.008          | 0.608 | 0.04           | 24  | -0.006          | 0.837 | 0.01           | 40  |
| Swamp Sparrow            | -0.017         | 0.530 | 0.06           | 11  | 0.075       | 0.017 | 0.53           | 19  |             |       |                |     | -0.073          | 0.009 | 0.64           | 12  |                 |       |                |     |
| White-throated Sparrow   | -0.086         | 0.002 | 0.77           | 33  | -0.136      | 0.001 | 0.74           | 49  | -0.107      | 0.008 | 0.60           | 123 | -0.065          | 0.024 | 0.54           | 24  |                 |       |                |     |
| Northern Cardinal        |                |       |                |     |             |       |                |     |             |       |                |     |                 |       |                |     | 0.030           | 0.482 | 0.13           | 115 |
| Rose-breasted Grosbeak   | 0.034          | 0.128 | 0.30           | 41  | -0.048      | 0.003 | 0.69           | 19  | -0.039      | 0.037 | 0.44           | 44  |                 |       |                |     | -0.051          | 0.213 | 0.35           | 62  |
| Indigo Bunting           |                |       |                |     | 0.095       | 0.025 | 0.48           | 8   |             |       |                |     | -0.012          | 0.566 | 0.05           | 12  | 0.026           | 0.044 | 0.68           | 71  |
| Red-winged Blackbird     | -0.117         | 0.042 | 0.47           | 5   |             |       |                |     |             |       |                |     |                 |       |                |     | -0.001          | 0.960 | 0.00           | 25  |
| Brewer's Blackbird       | 0.816          | 0.014 | 0.60           | 5   |             |       |                |     |             |       |                |     |                 |       |                |     |                 |       |                |     |
| Brown-headed Cowbird     | 0.044          | 0.041 | 0.47           | 23  | -0.082      | 0.003 | 0.69           | 13  |             |       |                |     | -0.048          | 0.039 | 0.48           | 16  | -0.167          | 0.000 | 0.98           | 82  |
| American Goldfinch       |                |       |                |     |             |       |                |     |             |       |                |     |                 |       |                |     | -0.046          | 0.324 | 0.24           | 15  |
| Evening Grosbeak         | -0.085         | 0.110 | 0.32           | 5   |             |       |                |     |             |       |                |     |                 |       |                |     |                 |       |                |     |

