# Supplemental Files 3-

**Meta-analysis of published frequencies of the first decade of field-based mortality and seropositivity in avian species affected by West Nile virus in the United States**

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### Supplemental File 3 – List of articles from which data was extracted for recalculation of the number of seropositive birds analyzed based on article, taxonomic strata, and time.

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### Supplemental File 4 – List of articles from which data was extracted for recalculation of the number of dead birds testing positive for West Nile virus based on article, taxonomic strata, and time.

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YAREMYCH SA, WARNER RE, MANKIN PC, BRAWN JD, RAIM A, NOVAK R (2004). West Nile virus and high death rate in American crows. *Emerging Infectious Diseases*, 10: 709-711.

### Supplemental file 5 – Species of birds in which data was extracted from publications for recalculation of the number of seropositive birds based on article, taxonomic strata, and time.

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| **Order** | **Family** | **Species Name** | **Common Name** |
| **Anseriformes** | Anatidae | *Aix sponsa* | Wood Duck |
| **Anseriformes** | Anatidae | *Anas platyrhynchos* | Mallard duck |
| **Anseriformes** | Anatidae | *Aythya collaris* | Ring-necked duck |
| **Anseriformes** | Anatidae | *Branta canadensis* | Canada Goose |
| **Ciconiiformes** | Ardeidae | *Ardea alba* | Great egret |
| **Ciconiiformes** | Ardeidae | *Bubulcus ibis* | Cattle egret |
| **Ciconiiformes** | Ardeidae | *Egretta thula* | Snowy egret |
| **Ciconiiformes** | Ardeidae | *Ixobrychus exilis* | Least Bittern |
| **Ciconiiformes** | Ardeidae | *Nycticorax nycticorax* | Black-crowned night heron |
| **Columbiformes** | Columbidae | *Columba livia* | Rock pigeon |
| **Columbiformes** | Columbidae | *Columbina passerina* | Common ground dove |
| **Columbiformes** | Columbidae | *Zenaida asiatica* | White-winged dove |
| **Columbiformes** | Columbidae | *Zenaida macroura* | Mourning dove |
| **Cuculiformes** | Cuculidae | *Coccyzus americanus* | Yellow-billed cuckoo |
| **Falconiformes** | Accipitridae | *Accipiter cooperii* | Cooper’s Hawk |
| **Falconiformes** | Accipitridae | *Accipiter gentilis* | Northern Goshawk |
| **Falconiformes** | Accipitridae | *Buteo lineatus* | Red-shouldered Hawk |
| **Falconiformes** | Accipitridae | *Buteo jamaicensis* | Red-tailed Hawk |
| **Falconiformes** | Accipitridae | *Buteo swainsoni* | Swainson's hawk |
| **Falconiformes** | Falconidae | *Caracara cheriway* | Crested caracara |
| **Falconiformes** | Falconidae | *Falco sparverius* | American kestrel |
| **Galliformes** | Odontophoridae | *Callipepla californica* | California quail |
| **Galliformes** | Odontophoridae | *Callipepla gambelii* | Gambel's quail |
| **Galliformes** | Phasianidae | *Gallus gallus* | Chicken |
| **Galliformes** | Tetraonidae | *Centrocercus urophasianus* | Greater sage-grouse |
| **Gruiformes** | Rallidae | *Fulica americana* | American coot |
| **Passeriformes** | Cardinalidae | *Cardinalis cardinalis* | Norhtern Cardinal |
| **Passeriformes** | Cardinalidae | *Guiraca caerulea* | Blue grosbeak |
| **Passeriformes** | Cardinalidae | *Passerina ciris* | Painted bunting |
| **Passeriformes** | Cardinalidae | *Passerina cyanea* | Indigo bunting |
| **Passeriformes** | Cardinalidae | *Pheucticus ludovicianus* | Rose-breasted grosbeak |
| **Passeriformes** | Cardinalidae | *Pheucticus melanocephalus* | Black-headed grosbeak |
| **Passeriformes** | Cardinalidae | *Piranga olivacea* | Scarlet tanager |
| **Passeriformes** | Cardinalidae | *Piranga rubra* | Summer tanager |
| **Passeriformes** | Corvidae | *Aphelocoma californica* | Western scrub-jay |
| **Passeriformes** | Corvidae | *Corvus brachyrhynchos* | American crow |
| **Passeriformes** | Corvidae | *Corvus ossifragus* | Fish crow |
| **Passeriformes** | Corvidae | *Cyanocitta cristata* | Blue Jay |
| **Passeriformes** | Corvidae | *Pica nuttalli* | Yellow-billed Magpie |
| **Passeriformes** | Emberizidae | *Chondestes grammacus* | Lark sparrow |
| **Passeriformes** | Emberizidae | *Junco hyemalis* | Dark-eyed junco |
| **Passeriformes** | Emberizidae | *Melospiza georgiana* | Swamp sparrow |
| **Passeriformes** | Emberizidae | *Melospiza lincolnii* | Lincoln’s sparrow |
| **Passeriformes** | Emberizidae | *Melospiza melodia* | Song sparrow |
| **Passeriformes** | Emberizidae | *Passerculus sandwichensis* | Savannah Sparrow |
| **Passeriformes** | Emberizidae | *Passerella iliaca* | Fox sparrow |
| **Passeriformes** | Emberizidae | *Pipilo aberti* | Abert’s towhee |
| **Passeriformes** | Emberizidae | *Pipilo erythrophthalmus* | Eastern towhee |
| **Passeriformes** | Emberizidae | *Spizella arborea* | American tree sparrow |
| **Passeriformes** | Emberizidae | *Spizella passerina* | Chipping Sparrow |
| **Passeriformes** | Emberizidae | *Spizella pusilla* | Field sparrow |
| **Passeriformes** | Emberizidae | *Zonotrichia albicollis* | White-throated Sparrow |
| **Passeriformes** | Emberizidae | *Zonotrichia atricapilla* | Golden-crowned sparrow |
| **Passeriformes** | Emberizidae | *Zonotrichia leucophrys* | White-crowned sparrow |
| **Passeriformes** | Emberizidae | *Zonotrichia querula* | Harris’ sparrow |
| **Passeriformes** | Fringillidae | *Carduelis tristis* | American goldfinch |
| **Passeriformes** | Fringillidae | *Carpodacus mexicanus* | House Finch |
| **Passeriformes** | Hirundinidae | *Stelgidopteryx serripennis* | Northern rough-winged swallow |
| **Passeriformes** | Hirundinidae | *Tachycineta bicolor* | Tree swallow |
| **Passeriformes** | Icteridae | *Agelaius phoeniceus* | Red-winged blackbird |
| **Passeriformes** | Icteridae | *Agelaius tricolor* | Tricolored blackbird |
| **Passeriformes** | Icteridae | *Dolichonyx oryzivorus* | Bobolink |
| **Passeriformes** | Icteridae | *Euphagus cyanocephalus* | Brewer's blackbird |
| **Passeriformes** | Icteridae | *Icterus bullockii* | Bullock's oriole |
| **Passeriformes** | Icteridae | *Icterus galbula* | Baltimore oriole |
| **Passeriformes** | Icteridae | *Icterus spurious* | Orchard oriole |
| **Passeriformes** | Icteridae | *Molothrus ater* | Brown-headed cowbird |
| **Passeriformes** | Icteridae | *Quiscalus major* | Boat-tailed grackle |
| **Passeriformes** | Icteridae | *Quiscalus mexicanus* | Great-tailed grackle |
| **Passeriformes** | Icteridae | *Quiscalus quiscala* | Common grackle |
| **Passeriformes** | Lanidae | *Lanius ludovicianus* | Loggerhead shrike |
| **Passeriformes** | Mimidae | *Dumetella carolinensis* | Gray catbird |
| **Passeriformes** | Mimidae | *Mimus polyglottos* | Northern mockingbird |
| **Passeriformes** | Mimidae | *Toxostoma redivivum* | California thrasher |
| **Passeriformes** | Mimidae | *Toxostoma rufum* | Brown thrasher |
| **Passeriformes** | Paridae | *Baeolophus bicolor* | Tufted titmouse |
| **Passeriformes** | Paridae | *Poecile atricapillus* | Black-capped chickadee |
| **Passeriformes** | Paridae | *Poecile carolinensis* | Carolina chickadee |
| **Passeriformes** | Parulidae | *Dendroica caerulescens* | Black-throated blue warbler |
| **Passeriformes** | Parulidae | *Dendroica coronata* | Yellow-rumped Warbler |
| **Passeriformes** | Parulidae | *Dendroica discolor* | Prairie warbler |
| **Passeriformes** | Parulidae | *Dendroica magnolia* | Magnolia warbler |
| **Passeriformes** | Parulidae | *Dendroica palmarum* | Palm warbler |
| **Passeriformes** | Parulidae | *Dendroica pensylvanica* | Chestnut-sided warbler |
| **Passeriformes** | Parulidae | *Dendroica petechia* | Yellow warbler |
| **Passeriformes** | Parulidae | *Dendroica pinus* | Pine warbler |
| **Passeriformes** | Parulidae | *Dendroica striata* | Blackpoll warbler |
| **Passeriformes** | Parulidae | *Geothlypis trichas* | Common yellowthroat |
| **Passeriformes** | Parulidae | *Helmitheros vermivorus* | Worm-eating warbler |
| **Passeriformes** | Parulidae | *Icteria virens* | Yellow-breasted chat |
| **Passeriformes** | Parulidae | *Mniotilta varia* | Black-and-white warbler |
| **Passeriformes** | Parulidae | *Oporornis formosus* | Kentucky warbler |
| **Passeriformes** | Parulidae | *Oporornis tolmiei* | MacGillivray’s warbler |
| **Passeriformes** | Parulidae | *Parula americana* | Northern parula |
| **Passeriformes** | Parulidae | *Protonotaria citrea* | Prothonotary warbler |
| **Passeriformes** | Parulidae | *Seirus noveboracensis* | Northern waterthrush |
| **Passeriformes** | Parulidae | *Seiurus aurocapillus* | Ovenbird |
| **Passeriformes** | Parulidae | *Setophaga ruticilla* | American redstart |
| **Passeriformes** | Parulidae | *Vermivora celata* | Orange-crowned warbler |
| **Passeriformes** | Parulidae | *Vermivora peregrina* | Tennessee warbler |
| **Passeriformes** | Parulidae | *Vermivora pinus* | Blue-winged warbler |
| **Passeriformes** | Parulidae | *Vermivora ruficapilla* | Nashville warbler |
| **Passeriformes** | Parulidae | *Wilsonia canadensis* | Canada warbler |
| **Passeriformes** | Parulidae | *Wilsonia citrina* | Hooded warbler |
| **Passeriformes** | Parulidae | *Wilsonia pusilla* | Wilson’s warbler |
| **Passeriformes** | Passeridae | *Passer domesticus* | House sparrow |
| **Passeriformes** | Regulidae | *Regulus calendula* | Ruby-crowned kinglet |
| **Passeriformes** | Remizidae | *Auriparus flaviceps* | Verdin |
| **Passeriformes** | Sittidae | *Sitta carolinensis* | White-breasted nuthatch |
| **Passeriformes** | Sturnidae | *Sturnus vulgaris* | European starling |
| **Passeriformes** | Thraupidae | *Piranga ludoviciana* | Western tanager |
| **Passeriformes** | Troglodytidae | *Cistothorus palustris* | Marsh wren |
| **Passeriformes** | Troglodytidae | *Thryothorus ludovicianus* | Carolina wren |
| **Passeriformes** | Troglodytidae | *Troglodytes aedon* | House wren |
| **Passeriformes** | Troglodytidae | *Thryomanes bewickii* | Bewick's wren |
| **Passeriformes** | Turdidae | *Catharus fuscescens* | Veery |
| **Passeriformes** | Turdidae | *Catharus guttatus* | Hermit thrush |
| **Passeriformes** | Turdidae | *Catharus minimus* | Gray-cheeked thrush |
| **Passeriformes** | Turdidae | *Catharus ustulatus* | Swainson’s thrush |
| **Passeriformes** | Turdidae | *Hylocichla mustelina* | Wood thrush |
| **Passeriformes** | Turdidae | *Sialia sialis* | Eastern bluebird |
| **Passeriformes** | Turdidae | *Turdus migratorius* | American robin |
| **Passeriformes** | Tyrannidae | *Contopus virens* | Eastern wood-pewee |
| **Passeriformes** | Tyrannidae | *Empidonax flaviventris* | Yellow-bellied flycatcher |
| **Passeriformes** | Tyrannidae | *Empidonax traillii/alnorum* | Traill’s flycatcher |
| **Passeriformes** | Tyrannidae | *Empidonax virescens* | Acadian flycatcher |
| **Passeriformes** | Tyrannidae | *Myiarchus cinerascens* | Ash-throated Flycatcher |
| **Passeriformes** | Tyrannidae | *Myiarchus crinitus* | Great crested flycatcher |
| **Passeriformes** | Tyrannidae | *Sayornis nigricans* | Black phoebe |
| **Passeriformes** | Tyrannidae | *Sayornis phoebe* | Eastern phoebe |
| **Passeriformes** | Tyrannidae | *Tyrannus verticalis* | Western Kingbird |
| **Passeriformes** | Vireonidae | *Vireo gilvus* | Warbling vireo |
| **Passeriformes** | Vireonidae | *Vireo griseus* | White-eyed vireo |
| **Passeriformes** | Vireonidae | *Vireo olivaceous* | Red-eyed vireo |
| **Piciformes** | Picidae | *Melanerpes carolinus* | Red-bellied woodpecker |
| **Piciformes** | Picidae | *Picoides borealis* | Red-cockaded Woodpecker |
| **Piciformes** | Picidae | *Picoides pubescens* | Downy woodpecker |
| **Piciformes** | Picidae | *Picoides villosus* | Hairy woodpecker |
| **Strigiforme** | Strigidae | *Bubo virginianus* | Great Horned Owl |
| **Strigiforme** | Strigidae | *Strix nebulosa* | Great gray owl |
| **Strigiforme** | Strigidae | *Strix occidentalis* | Spotted owl |
| **Strigiforme** | Strigidae | *Tyto alba* | Barn owl |

### Supplemental File 6 - Species of birds in which data was extracted from publications for recalculation of recalculation of the number of dead birds testing positive for West Nile virus based on article, taxonomic strata, and time.

|  |  |  |  |
| --- | --- | --- | --- |
| **Order** | **Family** | **Scientific Name** | **Common Name** |
| **Anseriformes** | Anatidae | *Anas platyrhynchos* | Mallard duck |
| **Anseriformes** | Anatidae | *Branta canadensis* | Canada goose |
| **Charadriiformes** | Laridae | *Larus delawarensis* | Ring-billed gull |
| **Ciconiiformes** | Ardeidae | *Ardea herodias* | Great blue heron |
| **Ciconiiformes** | Ardeidae | *Butorides virescens* | Green Heron |
| **Ciconiiformes** | Ardeidae | *Egretta thula* | Snowy egret |
| **Ciconiiformes** | Ardeidae | *Nycticorax nycticorax* | Black-crowned night heron |
| **Ciconiiformes** | Cathartidae | *Cathartes aura* | Turkey Vulture |
| **Columbiformes** | Columbidae | *Columba livia* | Rock pigeon |
| **Columbiformes** | Columbidae | *Columbina inca* | Inca Dove |
| **Columbiformes** | Columbidae | *Patagioenas fasciata* | Band tailed pigeon |
| **Columbiformes** | Columbidae | *Zenaida macroura* | Mourning dove |
| **Falconiformes** | Accipitridae | *Accipiter cooperii* | Cooper’s Hawk |
| **Falconiformes** | Accipitridae | *Accipiter striatus* | Sharp-shinned Hawk |
| **Falconiformes** | Accipitridae | *Buteo jamaicensis* | Red-tailed hawk |
| **Falconiformes** | Accipitridae | *Buteo lineatus* | Red-shouldered hawk |
| **Falconiformes** | Falconidae | *Falco sparverius* | American kestrel |
| **Galliformes** | Odontophoridae | *Callipepla californica* | California quail |
| **Galliformes** | Phasianidae | *Bonasa umbellus* | Ruffed grouse |
| **Galliformes** | Phasianidae | *Meleagris gallopavo* | Wild Turkey |
| **Galliformes** | Tetraonidae | *Centrocercus urophasianus* | Greater sage-grouse |
| **Gruiformes** | Rallidae | *Fulica americana* | American coot |
| **Passeriformes** | Bombycillidae | *Bombycilla cedrorum* | Cedar Waxwing |
| **Passeriformes** | Cardinalidae | *Cardinalis cardinalis* | Norhtern Cardinal |
| **Passeriformes** | Cardinalidae | *Pheucticus melanocephalus* | Black-headed grosbeak |
| **Passeriformes** | Corvidae | *Aphelocoma coerulescens* | Western scrub-jay |
| **Passeriformes** | Corvidae | *Corvus brachyrhynchos* | American crow |
| **Passeriformes** | Corvidae | *Corvus corax* | Common raven |
| **Passeriformes** | Corvidae | *Corvus ossifragus* | Fish crow |
| **Passeriformes** | Corvidae | *Cyanocitta cristata* | Blue jay |
| **Passeriformes** | Corvidae | *Cyanocitta stelleri* | Steller’s Jay |
| **Passeriformes** | Corvidae | *Pica hudsonia* | Black-billed magpie |
| **Passeriformes** | Corvidae | *Pica nuttali* | Yellow-billed magpie |
| **Passeriformes** | Emberizidae | *Junco hyemalis* | Dark-eyed junco |
| **Passeriformes** | Emberizidae | *Melospiza melodia* | Song sparrow |
| **Passeriformes** | Emberizidae | *Passerella iliaca* | Fox sparrow |
| **Passeriformes** | Emberizidae | *Pipilo crissalis* | California Towhee |
| **Passeriformes** | Emberizidae | *Pipilo maculatus* | Spotted Towhee |
| **Passeriformes** | Emberizidae | *Zonotrichia atricapilla* | Golden-crowned sparrow |
| **Passeriformes** | Emberizidae | *Zonotrichia leucophrys* | White-crowned sparrow |
| **Passeriformes** | Fringillidae | *Carduelis pinus* | Pine Siskin |
| **Passeriformes** | Fringillidae | *Carduelis psaltria* | Lesser Goldfinch |
| **Passeriformes** | Fringillidae | *Carduelis tristis* | American goldfinch |
| **Passeriformes** | Fringillidae | *Carpodacus mexicanus* | House Finch |
| **Passeriformes** | Fringillidae | *Carpodacus purpureus* | Purple Finch |
| **Passeriformes** | Hirundinidae | *Hirundo rustica* | Barn Swallow |
| **Passeriformes** | Hirundinidae | *Petrochelidon pyrrhonota* | Cliff Swallow |
| **Passeriformes** | Icteridae | *Agelaius phoeniceus* | Red-winged blackbird |
| **Passeriformes** | Icteridae | *Euphagus cyanocephalus* | Brewer's blackbird |
| **Passeriformes** | Icteridae | *Icterus bullockii* | Bullock's oriole |
| **Passeriformes** | Icteridae | *Molothrus ater* | Brown-headed cowbird |
| **Passeriformes** | Icteridae | *Quiscalus quiscula* | Common grackle |
| **Passeriformes** | Lanidae | *Lanius ludovicianus* | Loggerhead shrike |
| **Passeriformes** | Mimidae | *Dumetella carolinensis* | Gray catbird |
| **Passeriformes** | Mimidae | *Mimus polyglottos* | Northern mockingbird |
| **Passeriformes** | Paridae | *Baeolophus inornatus* | Oak Titmouse |
| **Passeriformes** | Parulidae | *Dendroica coronata* | Yellow-rumped Warbler |
| **Passeriformes** | Parulidae | *Dendroica petechia* | Yellow warbler |
| **Passeriformes** | Parulidae | *Seiurus aurocapillus* | Ovenbird |
| **Passeriformes** | Parulidae | *Vermivora celata* | Orange-crowned warbler |
| **Passeriformes** | Parulidae | *Wilsonia pusilla* | Wilson’s warbler |
| **Passeriformes** | Passeridae | *Passer domesticus* | House sparrow |
| **Passeriformes** | Sturnidae | *Sturnus vulgaris* | European starling |
| **Passeriformes** | Thraupidae | *Piranga ludoviciana* | Western tanager |
| **Passeriformes** | Turdidae | *Catharus guttatus* | Hermit thrush |
| **Passeriformes** | Turdidae | *Catharus ustulatus* | Swainson’s thrush |
| **Passeriformes** | Turdidae | *Sialia mexicana* | Western Bluebird |
| **Passeriformes** | Turdidae | *Turdus migratorius* | American robin |
| **Passeriformes** | Tyrannidae | *Sayornis nigricans* | Black phoebe |
| **Passeriformes** | Tyrannidae | *Tyrannus verticalis* | Western Kingbird |
| **Piciformes** | Picidae | *Colaptes auratus* | Northern flicker |
| **Piciformes** | Picidae | *Melanerpes formicivorus* | Acorn Woodpecker |
| **Piciformes** | Picidae | *Picoides nuttallii* | Nuttall’s Woodpecker |
| **Strigiforme** | Strigidae | *Bubo virginianus* | Great Horned Owl |
| **Strigiforme** | Strigidae | *Megascops asio* | Eastern streech owl |
| **Strigiforme** | Strigidae | *Megascops kennicottii* | Western Screech owl |
| **Strigiforme** | Strigidae | *Strix varia* | Barred owl |
| **Strigiforme** | Strigidae | *Tyto alba* | Barn owl |
| **Trochiliformes** | Trochilidae | *Calypte anna* | Anna’s Hummingbird |