Data Article

Data on birds and habitat associated with forest management on public conservation areas in the Mississippi Alluvial Valley

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A B S T R A C T

This data article contains data collected from 2006–2012 in forests located on 31 State or Federal conservation lands in or adjacent to the Mississippi Alluvial Valley. We present the location, treatment type, and silvicultural age of data collection locations. Presented data on bird detections and forest habitat were collected during avian point counts and associated forest habitat plots and linked to the publication (D.J. Twedt and R.R. Wilson, 2017) [5].

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Specifications Table

| Subject area | Biology |
|--------------|---------|
| More specific subject area | Wildlife Management |
| Type of data | Table, figure, supplementary spreadsheet |
| How data was acquired | Avian point counts (time and distance categories within 10-minute intervals [2]) Trees and habitat coverage within 10 basal area factor (BAF) prism plots [1] |
| Data format | Raw, summarized |

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Experimental factors
Forest stands were unharvested control stands or subjected to silvicultural harvests intended to enhance wildlife habitat [3].

Experimental features
Control stands had not been harvested for > 20 years and included designated natural areas not subject to harvest. Treated stands were subjected to wildlife forestry silvicultural harvests from 1 to 20 years before data collection. Silvicultural harvests ranged markedly in extent and intensity.

Data source location
Mississippi Alluvial Valley, southern USA

Data accessibility
Data are provided within this article

Value of the data
- Data provide location, relative intensity of silvicultural treatment, and age of treatment for use in evaluation of the distribution of wildlife forestry treatments.
- Categorical time, distance, and species of first detection of each individual bird provide information to evaluate detection probability [4] and detection distance sufficient to enable density estimates that can be compared with avian density estimates from other forest types and under different management.
- Forest habitat conditions, including tree species, basal area, and ordinal estimates of vegetative cover, characterize habitat surveyed and which thereby provide benchmarks for bird detections in relation to bottomland hardwood forests of varying structural characteristics.

1. Data

The data presented herein were collected during avian counts at point locations on public conservation lands in or proximate to the Mississippi Alluvial Valley, within Arkansas, Louisiana, Mississippi, and Tennessee, USA (Supplementary Table 1). Locations were in forests stands subjected to a range of intensity of silvicultural treatments and number of years post-harvest (Fig. 1). The avian dataset (Supplementary Table 2) provides species, distance (within 4 categorical distance radii), and time (within 3 time intervals) of first detection of each identified bird. The habitat dataset (Supplementary Table 3) provides information on categorical vegetation cover as well as species and

![Fig. 1](image-url)
diameter class of trees that were within 10 BAF (square feet/acre basal area factor) prism plots that were associated with locations of avian counts. Analyses of these data are presented in the associated research article [5].

2. Experimental design, materials and methods

2.1. Study areas

Within each of four states (Arkansas, Louisiana, Mississippi, and Tennessee), we surveyed birds on up to five public conservation management areas (National Wildlife Refuge, Wildlife Management Area, or National Forest) during each year of study (2006–2012). On each public conservation area, our experimental units were forest stands on which silvicultural treatment was prescribed for the entirety of the stand, even if treatment was not uniform throughout the stand. Year of treatment was the year treatment was initiated. Experimental stands were treated within the past 20 years (Fig. 1), whereas control stands had not been subjected to silvicultural treatment within the past 20 years - typically not since coming under public management. Local managers subjectively chose control stands with preference for stands of similar forest type to treated stands and included stands designated as natural areas or ‘old-growth areas’.

Table 1
Descriptors of data collected during avian point counts in the Mississippi Alluvial Valley, 2006–2012.

| Station | Conservation management area. Typically a National Wildlife Refuge (NWR), Wildlife Management Area (WMA), or National Forest. |
|---------|----------------------------------------------------------------------------------------------------------------------------------|
| Unit    | Sub-division of management area.                                                                                                                                                      |
| Compartment | Forest management compartment.                                                                                                                                                     |
| Stand   | Surveyed stand within compartment - This was the area to which treatments were applied and thus the Experimental Unit of study.                                                   |
| Point   | Designation of bird survey count location                                                                                                                                              |
| Date    | Date of survey (year-month-day)                                                                                                                                                       |
| StartTime | Start Time of Bird Survey Point Count (nearest minute on 24 h clock)                                                                                                                  |
| Species | Four-letter (English name) Alpha Codes of bird species in accordance with the 57th AOU Supplement (2016) http://www.birdpop.org/pages/birdSpeciesCodes.php |
| D25_0_3min | Number of detections of the species within 25 m of survey point during first 3 min of survey.                                                                                          |
| D25_4_5min | Number of detections of the species within 25 m of survey point during minutes 4–5 of survey.                                                                                         |
| D25_6_10min | Number of detections of the species within 25 m of survey point during minutes 6–10 of survey.                                                                                       |
| D50_0_3min | Number of detections of the species at distance > 25 but < 50 m from survey point during first 3 min of survey.                                                               |
| D50_4_5min | Number of detections of the species at distance > 25 but < 50 m from survey point during minutes 4–5 of survey.                                                              |
| D50_6_10min | Number of detections of the species at distance > 25 but < 50 m from survey point during minutes 6–10 of survey.                                                              |
| D100_0_3min | Number of detections of the species at distance > 25 but < 100 m from survey point during first 3 min of survey.                                                               |
| D100_4_5min | Number of detections of the species at distance > 25 but < 100 m from survey point during minutes 4–5 of survey.                                                             |
| D100_6_10min | Number of detections of the species at distance > 25 but < 100 m from survey point during minutes 6–10 of survey.                                                               |
| D150_0_3min | Number of detections of the species at distance > 25 but < 150 m from survey point during first 3 min of survey.                                                             |
| D150_4_5min | Number of detections of the species at distance > 25 but < 150 m from survey point during minutes 4–5 of survey.                                                             |
| D150_6_10min | Number of detections of the species at distance > 25 but < 150 m from survey point during minutes 6–10 of survey.                                                              |
2.2. Bird surveys

Within each selected forest stand, birds were surveyed at up to six sampling locations that were systematically located 250-meters apart from a random start location and were > 100-m from a primary road or an agricultural edge (Supplementary Table 1). Between 15 May and 30 June, sample
locations were surveyed, during clement weather (i.e., no rain or excessive wind) by an experienced observer who recorded bird detection data (Table 1) using a standard field data collection form (Fig. 2). Observers recorded the first detection of each bird within radial distance bands of 0–25 m,
Table 2
Descriptors of data collected at 10 BAF (square feet/acre basal area factor) prism plots that were associated with avian point counts in the Mississippi Alluvial Valley, 2006–2012.

| Station | Conservation management area. Typically a National Wildlife Refuge (NWR), Wildlife Management Area (WMA), or National Forest. |
|---------|-------------------------------------------------------------------------------------------------------------------------|
| Unit    | Sub-division of management area.                                                                                           |
| Compartment | Forest management compartment                                                                                           |
| Stand   | Surveyed stand within compartment - This was the area to which treatments were applied and thus the Experimental Unit of study. |
| Point   | Designation of Bird Survey Point Count location with which vegetation plot(s) are associated                               |
| Date    | Date of survey (year–month–day)                                                                                           |
| StartTime | Start Time of Bird Survey Point Count (nearest minute on 24 h clock)                                                    |
| HabitatPlot | Designation of Vegetation Plot associated with Bird Survey Point Count (1 or 2 plots were associated with each Bird Survey Point Count). |
| Observer | Observer                                                                                                                  |
| Treatment | Descriptive designation of treatment as applied by operational forester.                                                      |
| TrmtYear | Year treatment commenced.                                                                                                |
| Vine     | Ordinal scale (1 = none, 2 = sparse, 3 = moderate, or 4 = heavy); category percentages of ordination scale were 0%, > 0–< 25%, 25–50%, > 50%. |
| Cane     | Ordinal scale (1 = none, 2 = sparse, 3 = moderate, or 4 = heavy); category percentages of ordination scale were 0%, > 0–< 25%, 25–50%, > 50%. |
| Understory (< 3 m in height) | Ordinal scale (1 = none, 2 = sparse, 3 = moderate, or 4 = heavy); category percentages of ordination scale were 0%, > 0–< 25%, 25–60%, > 60%. |
| Mid_story (3–9 m in height) | Ordinal scale (1 = none, 2 = sparse, 3 = moderate, or 4 = heavy); category percentages of ordination scale were 0%, > 0–< 25%, 25–60%, > 60%. |
| Overstory (> 9 m in height) | Ordinal scale (1 = none, 2 = sparse, 3 = moderate, or 4 = heavy); category percentages of ordination scale were 0%, > 0–< 50%, 50–80%, > 80%. |
| TreeSps  | 4 letter alpha code designation for tree species Genus (2 letters) and species (2 letters) - Species are listed below: |
| BasalArea | Basal Area of the species within the 10 BAF prism plot (i.e., 10x number of stems 'in' plot)                            |
| dbh_LT10 | Number of trees of the species 'in' the 10 BAF prism plot with diameters at breast height (dbh) that were > 4 inches and < 10 inches; (> 10 cm–24 cm) |
| dbh_10_20 | Number of trees of the species 'in' the 10 BAF prism plot with diameters at breast height (dbh) that were > 10 inches and < 20 inches; (25–50 cm) |
| dbh_20_30 | Number of trees of the species 'in' the 10 BAF prism plot with diameters at breast height (dbh) that were > 20 inches but < 30 inches; (51–76 cm) |
| dbh_GT30 | Number of trees of the species 'in' the 10 BAF prism plot with diameters at breast height (dbh) that were > 30 inches; (> 76 cm)       |
| Alpha Code | Species name                                                                                                                   |
| - ACNE       | Acer negundo Boxelder                                                                                                         |
| - ACRU       | Acer rubrum Red maple                                                                                                          |
| - ACSA       | Acer saccharinum or Acer saccharum Maple or sugar                                                                             |
| - ASTR       | Asimina triloba Pawpaw                                                                                                         |
| - BENI       | Betula nigra River birch                                                                                                       |
| - CAAQ       | Carya aquatica Bitter pecan                                                                                                    |
| - CACA       | Carya illinoincis Sweet pecan                                                                                                  |
| - CATO       | Carya ovata Shagbark hickory                                                                                                   |
| - CELA       | Carya species Unidentified hickory                                                                                              |
| - CODR       | Cornus drummondii Rough-leafed dogwood                                                                                          |
| - COFL       | Cornus florida Flowering dogwood                                                                                               |
| - COSP       | Cornus species Unidentified dogwood                                                                                            |
| - CRSP       | Crataegus species Unidentified hawthorn                                                                                         |
| - DIVI       | Diospyros virginiana Swamp foresteria, swamp privet                                                                          |
| - FOAC       | Foresteria acuminata                                                                                                           |
| - FRPE       | Fraxinus pennsylvanica Green ash                                                                                               |
| - GLAQ       | Gleditsia aquatica Water locust                                                                                                 |
Table 2 (continued)

| Species (scientific) | Notes       |
|----------------------|-------------|
| GLED                 | Gleditsia species | Unidentified locust |
| GLTR                 | Gleditsia triacanthos | Honey locust |
| ILDE                 | Ilex decidua | Possumhaw, deciduous holly |
| JUVI                 | Juniperus virginiana | Eastern red cedar |
| LIST                 | Liquidambar strasyslva | Sweet gum |
| LITU                 | Liriodendron tulipifera | Tulip tree |
| MORU                 | Morus rubra | Red mulberry |
| NYAQ                 | Nyssa aquatica | Water tupelo |
| NYSY                 | Nyssa sylvatica | Black gum |
| OSVI                 | Ostrya virginiana | Ironwood, hop hornbeam |
| PITA                 | Pinus taeda | Loblolly pine |
| PLAQ                 | Planaera aquatica | Water elm, planetree |
| PLOC                 | Platanus occidentalis | American sycamore |
| PODE                 | Populus deltoides | Cottonwood |
| PRSE                 | Prunus serotina | Black cherry |
| QUAL                 | Quercus alba | White oak |
| QUER                 | Quercus species | Unidentified oak |
| QUPA                 | Quercus falcata | Southern red oak |
| QULA                 | Quercus laurifolia | Laurel oak |
| QULY                 | Quercus lyrata | Overcup oak |
| QUMI                 | Quercus michauxii | Cow oak, swamp chestnut oak |
| QUNI                 | Quercus nigra | Water oak |
| QUNU                 | Quercus nuttallii, Quercus texana | Nuttall's oak |
| QUPA                 | Quercus pagoda | Cherrybark oak |
| QUPH                 | Quercus phellos | Willow oak |
| QUSH                 | Quercus shumardii | Shumard oak |
| QUST                 | Quercus | Unidentified oak |
| QUVE                 | Quercus velutina | Black oak |
| RED                  | (Lobatae) red oak group species | Unidentified 'red' oak |
| ROPS                 | Robinia pseudoacacia | Black locust |
| SAAL                 | Sassafras albidum | Sassafras |
| SANI                 | Salix nigra | Black willow |
| SASE                 | Sapium sebifera, Triadica sebifera | Tallow tree |
| SNAG                 | (dead tree) | Unidentified dead tree |
| TADI                 | Taxodium distichum | Blad cypress |
| ULAL                 | Ulmus alata | Winged elm |
| ULAM                 | Ulmus americana | American elm |
| ULCR                 | Ulmus crassifolia | Cedar elm |
| ULMU                 | Ulmus species | Unidentified elm |
| ULRU                 | Ulmus rubra | Slippery elm, red elm |
| UNKN                 | unknown | Unidentified species |
| WHIT                 | (Quercus) white oak group species | Unidentified 'white' oak |

> 25–50 m, > 50–100 m, and > 100–150 m, and within time intervals of 0–3 min, > 3–5 min, and > 5–10 min (Supplementary Table 1).

2.3. Habitat surveys

Using variable radius plots based on a 10 (square feet/acre) basal area factor (BAF) prism [1], we assessed habitat at two plots associated with each bird survey location: 1 plot at the point and another at approximately 100 m from the point, except in 2006 when only a single plot was sampled. At each habitat plot, we recorded data using a standard field data collection form (Fig. 3) to record habitat (Table 2) including the species and diameter at breast height of each tree within the 10 BAF plot within four size classes: (10– < 25 cm, 25– < 50 cm, 50–76 and > 50 cm, and > 76 cm). We also
recorded visually discernable cover on an ordinal scale (1 = none, 2 = sparse, 3 = moderate, or 4 = heavy) for: vines and cane at 0, > 0 < 25, 25–50, > 50%; understory (< 3 m in height) and midstory (3–9 m) at 0, > 0 < 25, 25–60, > 60%; and overstory canopy (> 9 m) at 0, > 0, < 50, 50–80, > 80% (Supplementary Table 3).

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Transparency document. Supporting information

Transparency data associated with this article can be found in the online version at http://dx.doi.org/10.1016/j.dib.2016.11.011.

Appendix A. Supporting information

Supplementary data associated with this article can be found in the online version at http://dx.doi.org/10.1016/j.dib.2016.11.01.

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