**Estimated Density Distribution Rasters for 26 Species of Landbirds and Shorebirds, 2013–2014**

**Predicted Density Geotifs**

**Tags**  
Susitna-Watana Hydroelectric Project, Alaska, Susitna River, landbirds, shorebirds, geotifs, estimated density distribution

**Summary**

The overall goal of this effort was to collect information on landbirds and shorebirds in areas with the potential to be affected by construction and operation of the proposed Susitna-Watana Hydroelectric Project in Alaska. This metadata is for all rasters in the directory /10-WILD/10.16-LSBRD/Density\_geotifs, which represent estimated density distribution for 26 species of birds studied as part of the Landbird and Shorebird Migration, Breeding, and Habitat Use Study (10.16). Data are based on surveys from May 23–June 20, 2013, and May 20–June 18, 2014. Density distribution maps for landbirds and shorebirds recorded during point-count surveys in the revised study area, 2013–2014, are in Appendix B of the Study Completion Report.

**Description**

Methodology for estimated density distribution rasters for landbirds and shorebirds:

ABR, Inc. used zero-inflated Poisson models to determine the relationship between corrected abundance at each sampling point and each of the 8 habitat types and elevation. Based on these models we estimated density across the study area. The entire study area was divided into 500 x 500 m grid cells. Each grid cell was assigned a habitat type and elevation based on the habitat type and elevation value extracted at the centroid of each cell. The program R with spatial libraries rgdal (v1.1-10; Bivand et. al 2016) and raster (v2.5-8;Hijmans 2016) were used for all attribute assignments and R2jags (v0.5-7; Yu-Sung and Yajima 2015) was used for generation of zero-inflated Poisson models.

Species acronyms used in raster file names:

|  |  |
| --- | --- |
| AMPI | American Pipit |
| AMRO | American Robin |
| ARWA | Arctic Warbler |
| ATSP | American Tree Sparrow |
| BLPW | Blackpoll Warbler |
| BOCH | Boreal Chickadee |
| CORE | Common Redpoll |
| DEJU | Dark-eyed Junco |
| FOSP | Fox Sparrow |
| GCSP | Golden-crowned Sparrow |
| GCTH | Gray-cheeked Thrush |
| GRAJ | Gray Jay |
| HETH | Hermit Thrush |
| LISP | Lincoln's Sparrow |
| NOWA | Northern Waterthrush |
| OCWA | Orange-crowned Warbler |
| OSFL | Olive-sided Flycatcher |
| RCKI | Ruby-crowned Kinglet |
| SAVS | Savannah Sparrow |
| SWTH | Swainson's Thrush |
| VATH | Varied Thrush |
| WCSP | White-crowned Sparrow |
| WISN | Wilson's Snipe |
| WIPT | Willow Ptarmigan |
| WIWA | Wilson's Warbler |
| YRWA | Yellow-rumped Warbler |

**Credits**

Alaska Energy Authority; ABR, Inc.—Environmental Research & Services

## [Resource Maintenance  ▼](file:///C:\Users\azusi\AppData\Local\Temp\tmp6983.tmp.htm#ID0EDNA)

Resource maintenance

Update frequency  not planned

## [Resource Constraints  ▼](file:///C:\Users\azusi\AppData\Local\Temp\tmp6983.tmp.htm#ID0EANA)

Constraints

Limitations of use

None

Legal constraints

Limitations of use

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## [Resource Points of Contact  ▼](file:///C:\Users\azusi\AppData\Local\Temp\tmpC883.tmp.htm#ID0ECNA)

Point of contact

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Contact's role  owner

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Point of contact

Organization's name ABR, Inc.—Environmental Research & Services

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e-mail address [info@abrinc.com](mailto:info@abrinc.com?subject=Landbird%20and%20Shorebird%20Riverine%20Survey%20Transects%202013–2014)

## Spatial Data Properties  ▼

Georectified Grid  ▼

\* Number of dimensions 2

Axis dimensions properties

Dimension type  column (x-axis)

\* Dimension size 244

\* Resolution  1640.420000 ftUS

Axis dimensions properties

Dimension type  row (y-axis)

\* Dimension size 175

\* Resolution  1640.419992 ftUS

\* Cell geometry  area

\* Point in pixel  center

\* Transformation parameters are available Yes

\* Check points are available No

Corner points

\* Point 1685631.226694 3157717.912922

\* Point 1685631.226694 3444791.411435

\* Point 2085893.706690 3444791.411435

\* Point 2085893.706690 3157717.912922

\* Center point 1885762.466692 3301254.662178

ArcGIS Raster Properties  ▼

General Information

\* Pixel depth 32

\* Compression type LZW

\* Number of bands 2

\* Raster format TIFF

\* Source type continuous

\* Pixel type floating point

\* No data value -3.4e+038

\* Has colormap No

\* Has pyramids No

## Spatial Data Content

## ▼

Image Description

\* Type of information  image

Band information

\* Description Band\_1

\* Maximum value 5.028572

\* Minimum value 0.000000

\* Number of bits per value 32

Band information

\* Description Band\_2

\* Maximum value 7.648787

\* Minimum value 0.000000

\* Number of bits per value 32

**Distribution**

**▼**

Distribution format

\* Name Raster Dataset

[Distributor  ▼](file:///C:\\Users\\azusi\\AppData\\Local\\Temp\\tmp6983.tmp.htm" \l "ID0ECAKA)

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Organization's name Alaska Energy Authority

Contact's role  distributor

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Administrative area AK

Postal code 99503

Country US

e-mail address [SUWAhelp@aidea.org](mailto:SUWAhelp@aidea.org?subject=Landbird%20and%20Shorebird%20Riverine%20Survey%20Transects%202013–2014)

Available format

Name  Raster Dataset

Ordering process

Terms and fees None

Online source

Location <http://gis.suhydro.org/SuWa/10-WILD/10.16-LSBRD/Density_geotifs>

Online source

Location <http://www.susitna-watanahydro.org/type/documents/>

Name “10.16 Landbird and Shorebird Migration, Breeding, and Habitat Use Study – Study Completion Report” under “2017; Study Completion and Implementation Reports”