NATIONAL BOBWHITE CONSERVATION INITIATIVE 2.0 BIOLOGIST RANKING INFORMATION WEB MAP

Derek Evans
Data Analyst
National Bobwhite Conservation Initiative
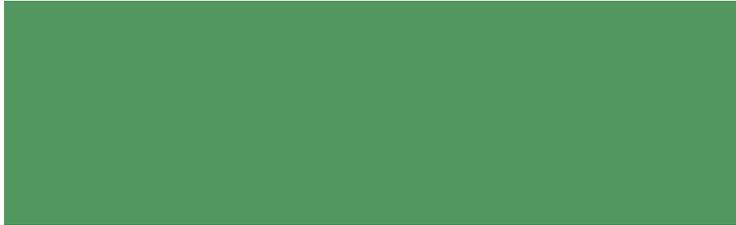
Summary

The NBCI 2.0 Biologist Ranking Information (BRI) Web Map provides spatial information regarding the likelihood (None, Low, Medium, or High) that bobwhite populations will respond to habitat management. This map also provides major land use opportunities and limitations that would help or hinder the likelihood of bobwhite recovery as well as estimates on the total birds to be added under the condition of full implementation of National Bobwhite Conservation Initiative (NBCI) habitat prescriptions (Terhune and Palmer, 2011).

The BRI is based upon work supported by funding of the National Fish and Wildlife Federation under the Southern Company, Longleaf Legacy and Power of Flight programs; the multistate conservation grant program (MSCGP) via the Wildlife and Sport Fish Restoration Program in cooperation with the Tennessee Wildlife Resources Agency (TWRA). These data were generated by biologists during a NBCI workshops hosted via Tall Timbers Research Station and Land Conservancy as part of the revision process of the strategic recovery plan. More information about the revision itself can be found at http://quailcount.org/documents/forms-protocols/NBCIver2.0.pdf.

Map Contents

QuailCount NBCI 2.0 Biologist Ranking Information

Layers

☑ Biologist Ranking Information

Potential Bobwhite Response to Management

■ High
■ Medium
■ Low
■ None

0%　　　　　　100%
Layer transparency

Download Data
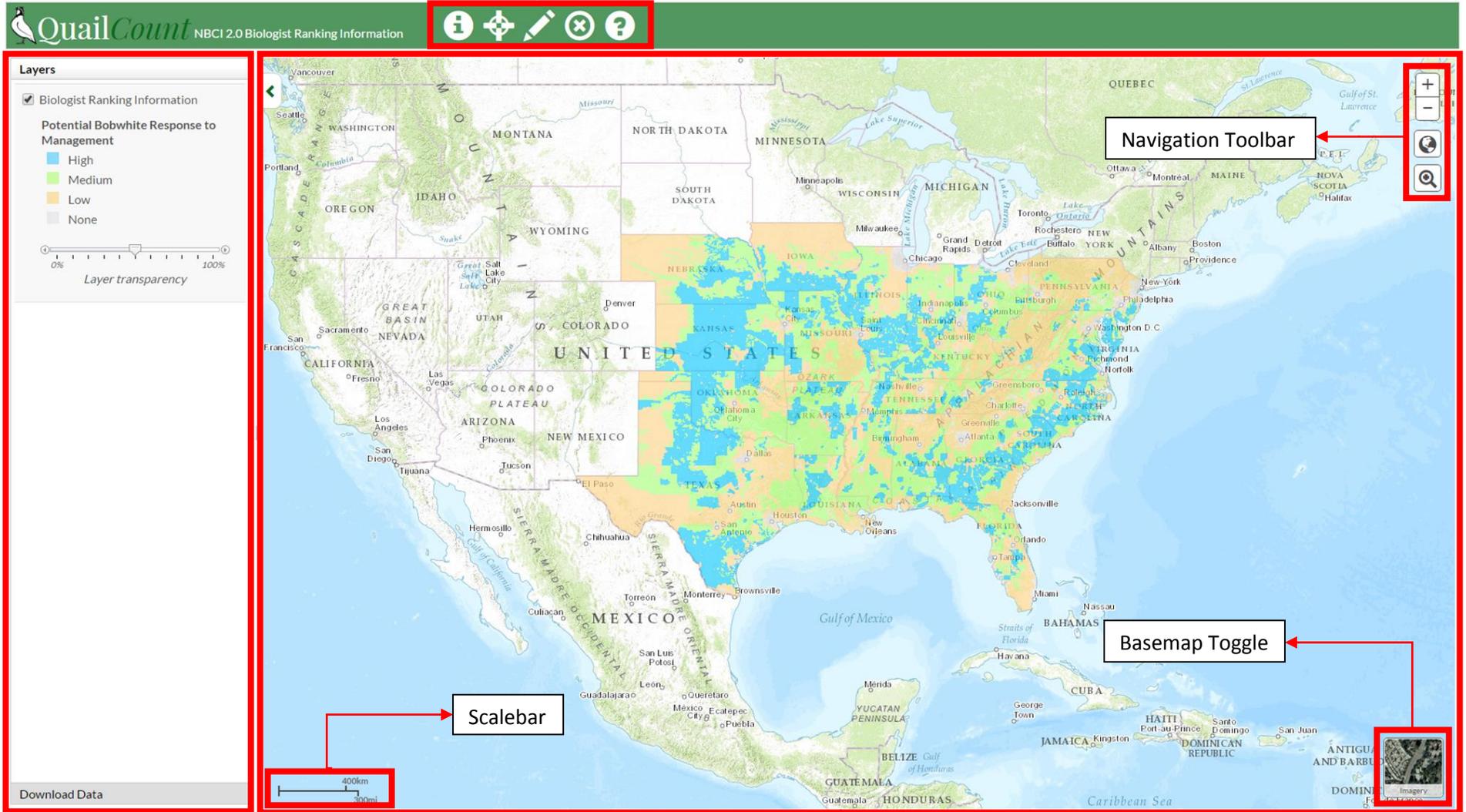
Navigation Toolbar

Basemap Toggle

Scalebar

400km
300mi

Layers/Download Pane

Map Pane

Map Pane

The map pane displays the BRI layer as well as a base map for locational reference.

Navigation Toolbar

The navigation toolbar contains tools for zooming the map in and out.

Click to zoom map in.

Click to zoom map out.

Click to zoom map to the full extent of the BRI layer.

Click to enable the zoom window tool. While holding the left mouse button down, drag the cursor over the map to create the zoom window. Release the left mouse button to zoom to the extent of the window. To disable the zoom window tool, click the zoom window icon.
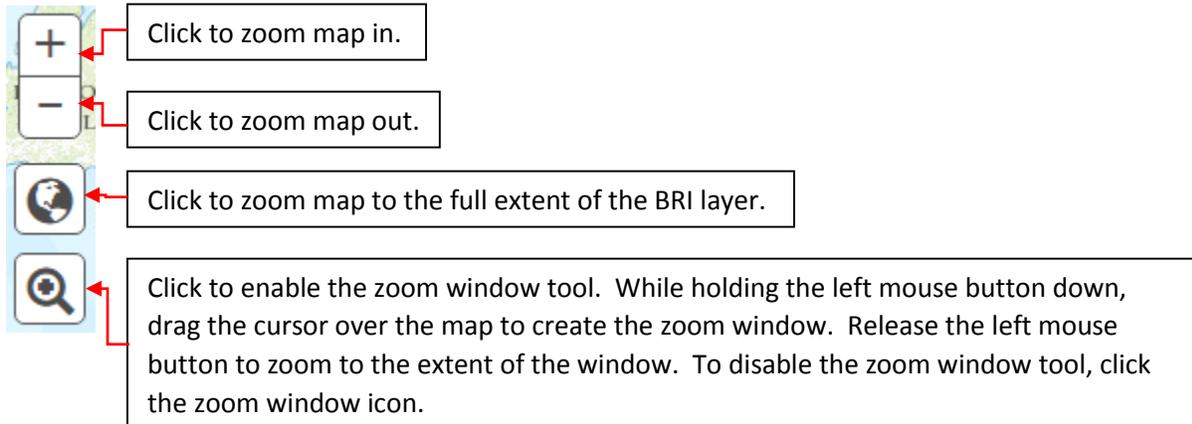
Basemap Toggle

The basemap toggle allows the basemap to be changed between the ESRI World Topographic Basemap and the ESRI World Imagery Basemap.

Scalebar

The scalebar displays the current map scale in both English and metric units.

Layers/Download Pane

The layers pane contains the layers that are projected in the web map and their accompanying legends. Since the BRI layer is the only layer present in this web map, this will be the only layer available. To toggle the visibility of the BRI layer, click the check box next to the layer name. The visibility of the BRI layer will automatically toggle at zoom levels exceeding approximately 1:18,000 due to the lack of cached tiles at this level of detail. To make the layer more transparent, adjust the layer transparency slider located beneath the legend to the right; to make the layer less transparent, adjust the slider to the left.

To access the data download pane, click the "Data Download" tab at the bottom left of the map. Here, you can order BRI data as ESRI shapefiles at no cost for:

1. a polygon selection,
2. a county within one of the 25 NBCI states,
3. one of the 25 NBCI states,
4. or all 25 NBCI states.

Figure 1. Data download pane options for data download.

Simply click the radio button next to data you would like to obtain, input your email address, confirm your email address, and the click the "Confirm Order" button (Figure 1). A screen will then appear asking you to review and confirm your order. Click the "Submit Order" button and, in a few minutes, you will receive an email with a link to download the files that you had requested. The files will download as a zip file that you will have to extract to access the ESRI shapefiles.

Selection Toolbar

The selection toolbar allows for BRI data extraction and viewing.

 Click this to enable the identify tool. The identify tool extracts data from individual features within the BRI layer. Once enabled, this icon will appear dark green. To extract and view data from a feature, click a feature within the BRI layer.

Upon clicking a feature, a window will appear with two tabs: a summary tab and a habitat tab (Figure 2). The summary tab summarizes the data extracted from the BRI layer for that particular feature. The information provided in the summary tab includes the state and county in which the feature is located, the total acreage of the feature, the unique identifier or ID of the feature in the BRI database, the potential response of bobwhite populations to management practices, the total bobwhites added based on estimated current and potential bobwhite densities, and the major land use opportunities and limitations to bobwhite management.
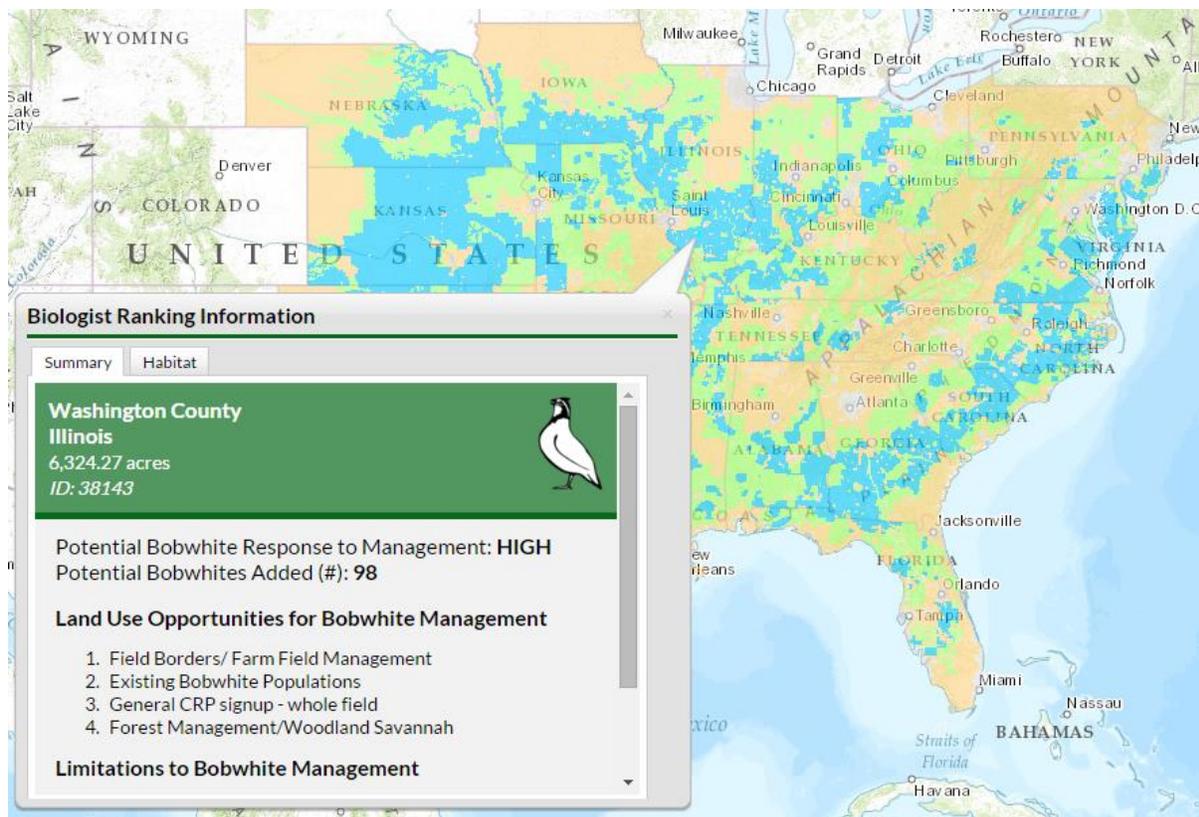
Figure 2. Info window displayed as the result of the identify tool. The info window displays various information extracted from the feature that was clicked.

The information provided in the habitat tab includes a pie graph displaying the acreage of various habitat classifications within the selected feature. To view the actual percent acreage and total acreage for each habitat classification, hover over its respective slice in the pie graph.

To disable, click the identify tool icon again. Once disabled, it will appear white.

Click this to extract data from you current location. This functions much like the identify tool except it detects your location in space and extracts data from the BRI layer where you are located.

Click this to enable the polygon selection tool. The polygon selection tool allows you to draw a polygon on the map from which data from multiple features will be extracted. Once the polygon selection tool is enabled, click anywhere on the map to begin drawing the polygon.
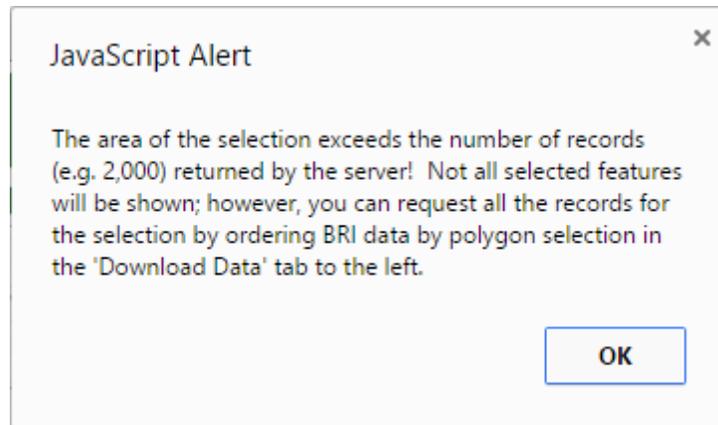
Figure 3. Polygon selection warning.

Double click to close the polygon and to extract feature data from the BRI layer where the features intersect the polygon. The polygon selection tool is automatically disabled upon drawing completion. If you receive a warning (Figure 3), then you have drawn a polygon that is too big for feature data extraction. The GIS server only allows 2000 records, or features, to be served at one time for optimal performance. Therefore, you will want to draw a smaller polygon or you can request the data for the polygon selection via the download data pane.

On finishing the polygon, a container will appear on the bottom of the screen with two panes: the left pane, or info pane, contains BRI summary and habitat totals for all features and the right pane, or data grid pane, is a spreadsheet of BRI information for the selected features (Figure 4). In the info pane within the summary tab, the potential bobwhites added and acres are totals for all the features within the polygon selection. Unlike the identify tool, the potential bobwhite response is presented as a pie graph. The pie graph shows the percent area and total area for each likelihood category (e.g. High, Medium, Low, and None) within the polygon selection. To view the actual percent acreage and total acreage for each likelihood category, hover over its respective slice in the pie graph. The land use opportunities and limitation to bobwhite management were condensed to the five most frequent opportunities and limitation within the polygon selection. Further within the habitat tab, the pie graph displays total acreages for all habitat classifications located within the polygon selection.

The data grid pane contains tabular information for each feature in the selection. Here, each row corresponds to a single feature in the selection. To view a row's corresponding feature, click on a row in the spreadsheet and its feature will appear yellow on the map. Clicking on a column header will sort the table by that columns values. Appendix A contains descriptions for the columns in the data grid pane.

Further, you can click on a selected feature in the map to view its information much like the identify tool.

 Click this icon to clear all selections from the map. This will also clear the polygon selection info pane and data grid pane from the display.

Figure 4. The info pane and data grid pane that appears once drawing for the polygon selection is complete.

Click this icon to access this help documentation for the NBCI 2.0 Biologist Ranking Information Web Map.

Mobile Device Compatibility

The NBCI 2.0 BRI Web Map was designed for compatibility with most mobile devices; however, due to the lack of available screen space on smartphones, the polygon selection tool is disabled when accessing the web map with a smartphone.

Literature Cited

Terhune, T.M. and W.E. Palmer. 2011. The Revision. Pages 27-135 in Palmer, W.E., T.M. Terhune, and D.F. McKenzie, eds. The National Bobwhite Conservation Initiative: A range-wide plan for recovering bobwhites. National Bobwhite Technical Committee Technical Publication, ver. 2.0, Knoxville, TN. http://quailcount.org/documents/forms-protocols/NBCIver2.0.pdf.

Appendix A. Descriptions for columns in the data grid pane.

ID

The unique identifier for the feature.

State

The name of the state.

County

The National Historic Geographic Information System (NHGIS) county name.

BRI Rank

The biologist ascribed likelihood, e.g. Low, Medium, High, and None, of bobwhite response to management practices (Terhune and Palmer, 2011).

Land Use Opportunity 1

The first of four major land use opportunities identified by a biologist . The major land use opportunity for restoring bobwhite populations were selected from the following list: forest management/woodland savannah, conversion of pastures to warm-season grasses, brush management, field borders/farm field management, general CRP signup (whole field), prescribed fire, restoration to native longleaf pine, existing conservation areas, exisiting quail habitat conservation areas, reclamation of mined lands, and other species management (Terhune and Palmer, 2011).

Land Use Opportunity 2

The second of four major land use opportunities identified by a biologist. The major land use opportunity for restoring bobwhite populations were selected from the following list: forest management/woodland savannah, conversion of pastures to warm-season grasses, brush management, field borders/farm field management, general CRP signup (whole field), prescribed fire, restoration to native longleaf pine, existing conservation areas, exisiting quail habitat conservation areas, reclamation of mined lands, and other species management (Terhune and Palmer, 2011).

Land Use Opportunity 3

The third of four major land use opportunities identified by a biologist. The major land use opportunity for restoring bobwhite populations were selected from the following list: forest management/woodland savannah, conversion of pastures to warm-season grasses, brush management, field borders/farm field management, general CRP signup (whole field), prescribed fire, restoration to native longleaf pine, existing conservation areas, exisiting quail habitat conservation areas, reclamation of mined lands, and other species management (Terhune and Palmer, 2011).

Land Use Opportunity 4

The fourth of four major land use opportunities identified by a biologist. The major land use opportunity for restoring bobwhite populations were selected from the following list: forest management/woodland savannah, conversion of pastures to warm-season grasses, brush management, field borders/farm field

management, general CRP signup (whole field), prescribed fire, restoration to native longleaf pine, existing conservation areas, exisiting quail habitat conservation areas, reclamation of mined lands, and other species management (Terhune and Palmer, 2011).

Other Land Use Opportunity

A major land use opportunity for restoring bobwhite populations identified by a biologist that was not in the list of major land opportunites, e.g. forest management/woodland savannah, conversion of pastures to warm-season grasses, brush management, field borders/farm field management, general CRP signup (whole field), prescribed fire, restoration to native longleaf pine, existing conservation areas, exisiting quail habitat conservation areas, and reclamation of mined lands, other species management (Terhune and Palmer, 2011).

Limitation 1

The first of four major limitations identified by a biologist. The major limitations for restoring bobwhite populations were selected from the following list: inappropriate cover types, small farm/landholding size, current or future urbanization, low bobwhite populations, difficulty of fire use, limited financial assistance or landowner programs, intensive farming, sod-forming grasses, economics, industrial forest ownership, lack of funding/staff on public lands to impliment habitat practices, low adoption, grazing pressure, historical species range limitation, and other species management (Terhune and Palmer, 2011).

Limitation 2

The second of four major limitations identified by a biologist. The major limitations for restoring bobwhite populations were selected from the following list: inappropriate cover types, small farm/landholding size, current or future urbanization, low bobwhite populations, difficulty of fire use, limited financial assistance or landowner programs, intensive farming, sod-forming grasses, economics, industrial forest ownership, lack of funding/staff on public lands to impliment habitat practices, low adoption, grazing pressure, historical species range limitation, and other species management (Terhune and Palmer, 2011).

Limitation 3

The third of four major limitations identified by a biologist. The major limitations for restoring bobwhite populations were selected from the following list: inappropriate cover types, small farm/landholding size, current or future urbanization, low bobwhite populations, difficulty of fire use, limited financial assistance or landowner programs, intensive farming, sod-forming grasses, economics, industrial forest ownership, lack of funding/staff on public lands to impliment habitat practices, low adoption, grazing pressure, historical species range limitation, and other species management (Terhune and Palmer, 2011).

Limitation 4

The fourth of four major limitations identified by a biologist. The major limitations for restoring bobwhite populations were selected from the following list: inappropriate cover types, small farm/landholding size, current or future urbanization, low bobwhite populations, difficulty of fire use, limited financial assistance or landowner programs, intensive farming, sod-forming grasses, economics,

industrial forest ownership, lack of funding/staff on public lands to impliment habitat practices, low adoption, grazing pressure, historical species range limitation, and other species management (Terhune and Palmer, 2011).

Other Limitation

A major limitation for restoring bobwhite populations identified by a biologist that was not in the list of major limitations, e.g. inappropriate cover types, small farm/landholding size, current or future urbanization, low bobwhite populations, difficulty of fire use, limited financial assistance or landowner programs, intensive farming, sod-forming grasses, economics, industrial forest ownership, lack of funding/staff on public lands to impliment habitat practices, low adoption, grazing pressure, historical species range limitation, and other species management (Terhune and Palmer, 2011).

Grassland (ac)

Acres of habitat using a vague habitat classifier including grassland areas and shrub-scrub communities.

Agriculture (ac)

Acres classified as row crop.

Pasture/Sod Grass (ac)

Acres classified as pasture and/or sod-forming grass (e.g., bahia, bermuda, fescue).

Fallow/Early Succesional (ac)

Acres classified as fallow and early-successional habitat.

Hardwood (ac)

Acres representing forested areas predominated by hardwood trees.

Pine/Evergreen (ac)

Acres of habitat designated predominantly pines (e.g., upland yellow pine forests, longleaf pine).

Mixed Forest (ac)

Acres of habitat classified as mixed forest.

Orchard (ac)

Acres designated as orchard (e.g., orange or pecan groves).

Riparian Wetland (ac)

Acres classifying areas typically found inundated with water but that maintaining a vegetation component.

Barren (ac)

Acres delineated by areas classified as non-vegetative sites, which could include sand dunes, mined lands, and etc.

Urban (ac)

Acres characterized as currently urbanized.

Water (ac)

Acres in water.

Other (ac)

Acres that are not classified as one of the following habitats: agriculture, pasture/sod-forming grass, fallow/early-succesional, orchard, riparian wetland, water, urban, barren, hardwood, and pine/evergreen, and mixed forest.

Total Bobwhites Added

The potential total number of bobwhites added based on current and potential bobwhite densities in select habitats.