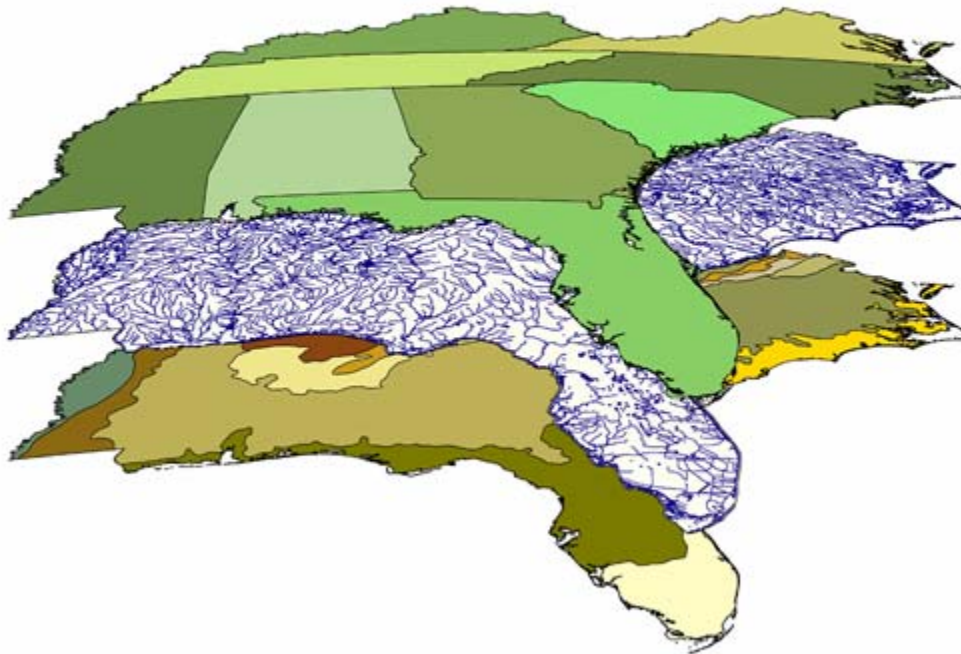


# MANUAL FOR REVIEWING SE-GAP VERTEBRATE DATABASE/MODELS

## SOUTHEAST GAP ANALYSIS PROJECT



[www.basic.ncsu.edu/segap](http://www.basic.ncsu.edu/segap)

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**Computer Requirements:**

Windows XP or Vista  
MS Access 2003 or newer  
DVD-ROM or internet connection

**YOU MUST COPY THE DATABASE TO YOUR LOCAL COMPUTER.**

If you received this database on a CD or DVD, you will need to copy it to your computer's hard drive. It will not be able to save changes, otherwise.

**Accessing PDF maps:** By default, the database will try to open the species' range and distribution PDF maps over the internet. If it cannot connect to the BaSIC webserver, it will try to open PDFs using the DVD if provided. If you received a DVD complete with map PDFs, **DO NOT** copy the PDFs to your computer. Just make sure the DVD is located in the appropriate drive. If you have an internet connection that is slow opening the PDFs and would like to access them through the DVD, simply disconnect your internet connection.

Before you begin working with Microsoft Access and the reviewer database, you should have basic computer skills necessary for navigating in the Windows environment including:

- opening and closing files
- saving files
- navigating directory structures
- an understanding of the basic interface terminology (menus, dialog boxes, radio buttons, pull down menus, window bars, active>inactive windows, checkboxes, etc...)
- double clicking, "click-and-dragging", right and left clicking
- minimizing>expanding windows

If you are using **Access 2007** or higher:

You will need to enable the database and path where you copied it in the "Trust Center" settings. Also, the forms take up a large amount of the screen. Uncheck the Ribbon at the top of the window to allow the forms to be viewed in full.

If at anytime you have a problem, close the database and re-open it. The user must step through the interface in a specific order and/or have specific forms open for the database to function properly. If you continue to have problems, contact Matt Rubino at NC State University. The contact info is in the database under "Contact and Citation Information" as well as at the end of this document.

The companion document SE-GAP Ancillary Data Metadata.pdf can be referenced for further details regarding much of the information presented in this database. It includes added descriptions of parameters and their development by SE-GAP and how they are applied in modeling. It is also available on the web at <http://www.basic.ncsu.edu/segap/Ancillary.html>

## OPENING THE DATABASE AND “LOGGING-IN”

### Steps:

1. Open the database from Microsoft Access. A form will open in which you will provide your name and the date of your review.

Review/Reviewer Information

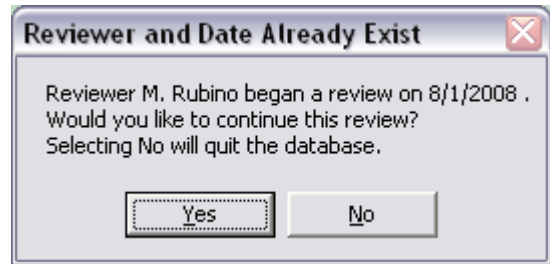
**Welcome to the SE-GAP  
Species Modeling Review  
Database. Thank you very much  
for your input!**

Please provide the name of the reviewer:

Please enter the date of the review:

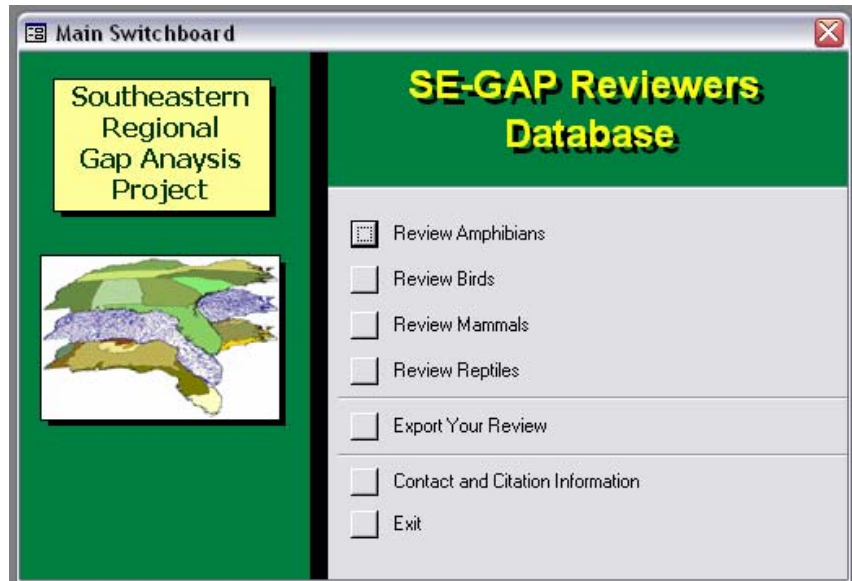
(MM/DD/YYYY)

2. Click the **Begin Model Review** button to start your review session. If you have logged-in before and are returning to a review session, clicking on this button will open a dialog box asking if you want to continue a review.



3. Click **Yes** if you want to continue your previous review. Clicking **No** will close the database.
4. If you would like to create a review session under a different name or date, replace the name and date at the initial start up.

5. Clicking **Yes** will open the database "Switchboard". From here you can review models, export your review to an Excel spreadsheet, check on contact and citation information, or close the database.



6. You can navigate your model review by taxa: Amphibians, Birds, Mammals, or Reptiles. Click the **Review Birds** button.

7. A new window opens listing all the bird species modeled by SE-GAP. This list can be sorted by Species Code, Common Name, or Scientific Name by clicking on the respective headers.

8. Note that list shows a species code created by SE-GAP, the species common name, the species scientific name and check box identifying whether or not the species has been reviewed. The check boxes are currently grayed out meaning no species models have yet been reviewed.

9. Click on **Acadian Flycatcher**.

Species Code:	Common Name:	Scientific Name:	Return to Taxa Selection	Species Reviewed
BBABDU	American Black Duck	<i>Anas rubripes</i>		<input type="checkbox"/>
BBACFL	Acadian Flycatcher	<i>Empidonax vireescens</i>		<input type="checkbox"/>
BBALFL	Alder Flycatcher	<i>Empidonax alnorum</i>		<input type="checkbox"/>
BBAMBI	American Bittern	<i>Botaurus lentiginosus</i>		<input type="checkbox"/>
BBAMCO	American Coot	<i>Fulica americana</i>		<input type="checkbox"/>
BBAMCR	American Crow	<i>Corvus brachyrhynchos</i>		<input type="checkbox"/>
BBAMGO	American Goldfinch	<i>Carduelis tristis</i>		<input type="checkbox"/>
BBAMKE	American Kestrel	<i>Falco sparverius</i>		<input type="checkbox"/>
BBAMDY	American Oystercatcher	<i>Haematopus palliatus</i>		<input type="checkbox"/>
BBAMRE	American Redstart	<i>Setophaga ruticilla</i>		<input type="checkbox"/>
BBAMRO	American Robin	<i>Turdus migratorius</i>		<input type="checkbox"/>
BBAMWO	American Woodcock	<i>Scolopax minor</i>		<input type="checkbox"/>

10. The **Species Review Information** form opens. From here, you will be able to navigate all aspects of the species' model, conduct your evaluation, and examine range and predicted distribution maps for each species.

SE-GAP Species Review Information

Empidonax vireescens  
*Acadian Flycatcher*

Responsible Lab: NARSAL/GA-GAP

Species Code: BBACFL      Element Code: ABPAE33020     

Map Unit Selection, Ancillary Spatial Constraints, and Reference Information      Bayesian Belief Network Evaluation      Known Range and Predicted Distribution Maps by Region and States



## VIEWING SPECIES' SPECIFIC MODELING PARAMETERS – REFERENCES, HABITAT NOTES, AND MAP UNITS

### Steps:

1. With the **Species Review Information** form for **Acadian Flycatcher** still open, let's begin to examine, and evaluate the model for this species.

SE-GAP Species Review Information

Empidonax virescens  
*Acadian Flycatcher*

Responsible Lab:  
NARSAL/GA-GAP

Species Code: BBACFL      Element Code: ABPAE33020     

Map Unit Selection, Ancillary Spatial Constraints, and Reference Information      Bayesian Belief Network Evaluation      Known Range and Predicted Distribution Maps by Region and States

2. This form has three sections - one for navigating to model parameters and references, one for displaying range and predicted distribution maps and one for assessing the review using a Bayesian Belief Network. Leave this form open until you have finished a review. You will continue to come back to it during the process of reviewing a species' model.

References

Empidonax virescens  
*Acadian Flycatcher*

References:

Saunders, W. E. 1909. The Acadian Flycatcher in Ontario. *Auk* 26: 430.

Hesperheide, H. A. 1971. Flycatcher habitat selection in the eastern deciduous forest. *The Auk* 88:61-74.

Conner, R. N., and C. S. Adkisson. 1975. Effects of clearcutting on the diversity of breeding birds. *Journal of Forestry* 73:781-5.

Robbins, C. S., D. K. Dawson, and B. A. Dowell. 1989. Habitat area requirements of breeding forest birds of the middle Atlantic states: *Wildlife Monographs* No. 103.

Blake, J.G., and B. Loiselle. 1992. Habitat use by neotropical migrants at La Selva Biological Station and Braulio Carrillo National Park, Costa Rica. Pages 257-72 in J.M. Hagan III and D.W. Johnston (editors). *Ecology and Conservation of Neotropical Migr*

Whitehead, D. R., and T. Taylor. 2002. Acadian Flycatcher (*Empidonax virescens*). In *The Birds of North America*, No. 614 (A. Poole and F. Gill, eds.). The Birds of North America, Inc., Philadelphia, PA.

Bent, A.C. 1942. Life histories of North American flycatchers, larks, swallows, and their allies. U.S. National Museum Bulletin 179. Washington, DC.

     There are 31 references in the database for this species.     

3. Click the **References** button.
4. A window will open displaying a

list of references in the database for that species. Some or all of these references may have been used directly in model development.

5. Close the **References** form and click the **Habitat Notes** button.
6. The **Habitat Notes** form will open showing two text windows – one with text descriptions of habitat gathered from individual state GAP projects for states that modeled that species, and one for a compiled habitat description pertaining to species' habitat utilization throughout the Southeastern US.

**Habitat Notes**

AVIAN BBACFL Empidonax virescens  
 ABPAE33020 Acadian Flycatcher

Find Record

Place cursor in field for selection

Existing State Habitat Notes:

STATE: AL  
 Breeding:  
 Requires shady areas, moist dense vegetation at low and mid elevations. Occurrence increases with tracts above 7500 acres. FORESTED WETLANDS (including southern riverine forests, southern mixed hardwood swamp forests, bald cypress, pocosin, Carolina bays, and Appalachian riverine forests); UPLAND BROADLEAF WOODLANDS (oak-hickory, southern hardwoods at low elevations, and Appalachian cove forests at mid elevations); and MIXED BROADLEAF-NEEDLELEAF WOODLANDS (pine-oak and pine-white cedar at low elevations, red cedar-hemlock-eastern white pine-mixed deciduous at mid elevation and red spruce-beech-maple at high elevations), (Hunter). Floodplain and swamp forests, also rich moist forests on uplands. Deciduous woodlands, shaded ravines, heavily-wooded bottomlands, rivers and swamps, hammocks or cypress ponds. Common in wilder, unsettled regions; sometime in orchards. Prefers deep shade in dense and fairly mature woodlands. Especially prefers beeches and hornbeams; also ironwood, elm rarely pine. Requires tall canopy, preferably of deciduous trees. Needs extensive woodlands, is absent or in reduced numbers in isolated woodlots of less than 40 Ha (Anderson). Probability of occurrence is a maximum with tract greater than 3000 Ha (Robbins). Bottomland hardwood forests (Gulfoyle). Floodplain or rich moist forest. Prefers Family mature, deeply shaded dense woodlands of at least 75 acres. Requires a tall canopy and prefers deciduous trees, especially oak, beech, and hornbeam (Anderson et al 1981). Found in moist bottomland hardwood forests throughout its range and prefers habitats with mature trees, closed canopies and open understories for foraging. Most abundant in mature oak-gum-cypress and oak-pine stands throughout the southeast (Barry et al 1995)..

Compiled Habitat Notes for the Region:

Vegetation types for the southeastern U.S. from Hamel et al. (1982), in order of suitability, are: oak-gum-cypress and elm-ash-cottonwood are listed as optimal habitat at both the sapling-poletimber, and sawtimber stages; cove hardwoods are listed as suitable at the sapling-poletimber stage and optimal at the sawtimber stage; southern mixed mesic hardwoods are listed as only marginal at the sapling-poletimber stage and optimal at the sawtimber stage; bay swamp-pocosin, oak-hickory, and white pine-hemlock are all listed as only marginal at the sapling-poletimber stage and suitable at the sawtimber stage; mixed pine-hardwood is listed as only marginal at both the sapling-poletimber and sawtimber stages. In all cases, midstory and overstory canopy are used for all activities (feeding/foraging, nesting, perching, roosting, and singing) and dead trees or limbs are used for feeding/foraging and singing. Requires a tall canopy and prefers deciduous trees, especially oak, beech, and hornbeam (Anderson et al 1981). Occurs throughout North Carolina except in the mountains above 4,000 ft. (Hamel 1992, Potter et al 1980). Most abundant in mature oak-gum-cypress and oak-pine stands throughout the southeast (Barry et al 1995). Will breed in dry habitats, although favors wet deciduous forests, such as swamps, riverside woods, floodplain forest, and streamside woods (Fussell 1994, Hamel 1992, Kaufman 1996, Potter et al 1980, Simpson 1992). Also prefers forests with a moderate understory (Hamel 1992).

This flycatcher forages from a perch in the middle level of the forest, mainly hawking insects, although will glean from foliage and twigs as well (Kaufman 1996).

Nest is usually in a deciduous tree or shrub and averages 13 ft. above ground (Kaufman 1996). If in a tree, the nest is generally in lower branches and far out on the limb from the trunk (Harrison 1975).

Please Document Reviewer Name and Date (i.e. Steve Williams, 25Feb03)

Close Form References

7. Close the **Habitat Notes** form.
8. Click the **Map Unit Selections** button. The **Species Habitat Type Associations** form will open. This form lists the habitats SE-GAP selected as being utilized by a species during the breeding season. These associations are the base spatial data of species' predicted distribution models.



**Filter Habitat Types by General Land Cover:**  
(NLCD 2001 Class)

Note: multiple selections allowed - use Ctrl or Shift keys

Filter

Clear Filter

Reviewer Comments

BARE ROCK/SAND  
DECIDUOUS FOREST/WOODLAND  
DEVELOPED OPEN SPACE  
ESTUARINE EMERGENT WETLAND  
ESTUARINE FORESTED WETLAND  
ESTUARINE SHRUB/SCRUB WETLAND  
EVERGREEN FOREST/WOODLAND  
GRASSLAND/HERBACEOUS

Empidonax virescens  
Acadian Flycatcher

Show Utilized  
Show Unutilized  
Show All

Habitat Types: (click to see description)	MU Use:	Aux Use:	Select "Edit Map Units" to ...
<a href="#">Agricultural and cropland</a>	none	none	Edit Map Units
<a href="#">Airfields/golf courses/cemeteries</a>	none	none	Edit Map Units
<a href="#">Appalachian balds</a>	none	none	Edit Map Units
<a href="#">Atlantic white cedar</a>	all	none	Edit Map Units
<a href="#">Beaches and dunes</a>	none	none	Edit Map Units
<a href="#">Bogs/fens/ephemeral wetlands</a>	some	none	Edit Map Units
<a href="#">Bottomland hardwood</a>	some	none	Edit Map Units
<a href="#">Cliffs, domes, outcrops</a>	none	none	Edit Map Units
<a href="#">Coastal prairie</a>	none	none	Edit Map Units
<a href="#">Commercial Urban</a>	none	none	Edit Map Units

Close Form

Record: 1 of 50 (Filtered)

Note that this form actually contains 50 habitat types. The 50 types are aggregations of land cover types mapped by the SE-GAP project. Land cover types (i.e. map units) are a combination of anthropogenic classes (row crops, urban development, etc) and NatureServe defined and developed Ecological Systems (Comer et al. 2003). See the BaSIC website for more information regarding the development of SE-GAP land cover mapping and the NatureServe website (NatureServe 2008) for specific information about NatureServe Ecological Systems.

- The form can be filtered using more broadly categorized habitats (i.e. National Land Cover Dataset classes) using the filter at the top of the form. Select “GRASSLAND/HERBACEOUS” in the list box and click the **Filter** button.

10. The form has been narrowed to only 3 habitat types: “Coastal prairie”, “Meadows/Florida and Georgia prairies”, and “Rank annuals”. Using the filter, you can narrow your assessment of species habitat utilization selections.
11. Click the **Clear Filter** button and the form returns to listing all 50 habitat types.
12. The form displays habitat utilization selections as either primary or auxiliary (i.e. used when in proximity to primary habitat), and whether that use includes All, Some, or None of the map units mapped by SE-GAP.
13. The list can also be filtered to display only those habitats utilized or not utilized by a species.

Click the **Show Utilized** button.

14. The form shows only the 15 habitats used by Acadian Flycatcher.

15. Notice that **SOME** or **ALL** map units are selected by Acadian Flycatcher in each of the 15 habitat types, and **NONE** are used in an auxiliary or proximity based manner.

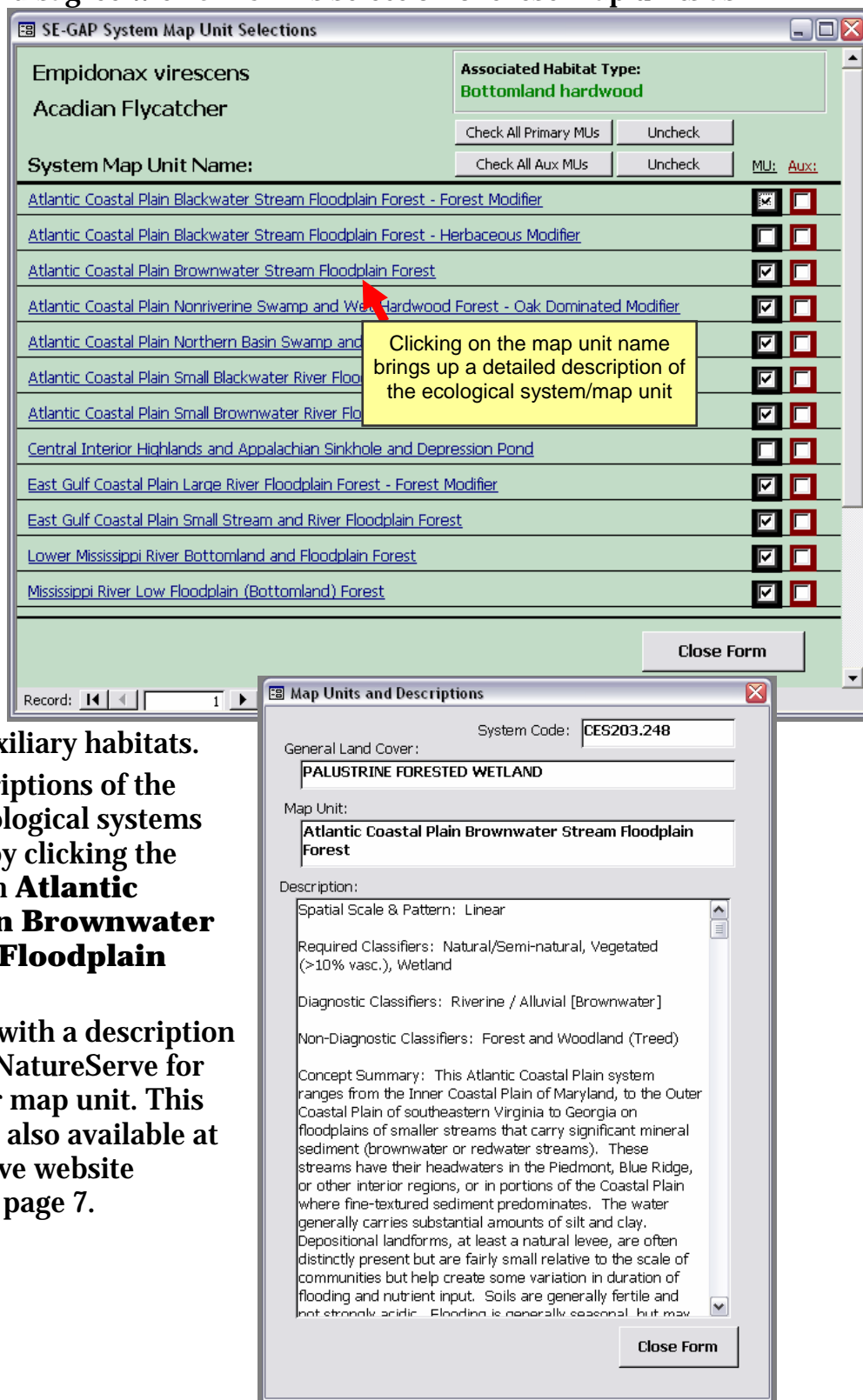
Habitat Types: (click to see description)	MU Use:	Aux Use:	Select "Edit Map Units" to ...
<a href="#">Atlantic white cedar</a>	all	none	<input type="button" value="Edit Map Units"/>
<a href="#">Bogs/fens/ephemeral wetlands</a>	some	none	<input type="button" value="Edit Map Units"/>
<a href="#">Bottomland hardwood</a>	some	none	<input type="button" value="Edit Map Units"/>
<a href="#">Cypress-tupelo</a>	some	none	<input type="button" value="Edit Map Units"/>
<a href="#">Dry mixed hardwoods</a>	some	none	<input type="button" value="Edit Map Units"/>
<a href="#">Hardwood plantation</a>	all	none	<input type="button" value="Edit Map Units"/>
<a href="#">Hemlock/white pine/hardwood</a>	all	none	<input type="button" value="Edit Map Units"/>
<a href="#">Mesic mixed hardwoods</a>	all	none	<input type="button" value="Edit Map Units"/>
<a href="#">Mixed mesophytic (cove hardwood)</a>	all	none	<input type="button" value="Edit Map Units"/>
<a href="#">Oak savanna</a>	some	none	<input type="button" value="Edit Map Units"/>

16. Click the **Edit Map Units** button adjacent to “Bottomland hardwoods”. A new form opens listing the map units aggregated into the general habitat type of bottomland hardwoods. These are the land cover classes/map units/ecological systems mapped by SE-GAP.
17. Notice that there are several map units checked as a primary habitat (and a couple that are not checked). The SE-GAP model includes these map units

(within the broader category of bottomland hardwoods) as part of the predicted distribution model for Acadian Flycatcher. As a reviewer, you can either agree or disagree with SE-GAP’s selection of these map units as

appropriate habitat for this species. You can either check or un-check any of the map units listed on the form as a part of your review. Note also the buttons at the top of the form. These allow you to check or uncheck all map units as either primary or auxiliary habitats.

18. Detailed descriptions of the map units/ecological systems are available by clicking the name. Click on **Atlantic Coastal Plain Brownwater Stream and Floodplain Forest**.
19. A form opens with a description developed by NatureServe for that particular map unit. This information is also available at the NatureServe website mentioned on page 7.



## VIEWING SPECIES' SPECIFIC MODELING PARAMETERS – ANCILLARY SPATIAL DATA

### Steps:

1. Close the **Map Unit Description** and **Map Units Selections** forms.
2. Close the **Species Habitat Type Associations** form.
3. From the **Species Review Information** form, click the **Ancillary Spatial** button.

**Ancillary Data Parameters**  
Empidonax virescens Acadian Flycatcher

**Land Cover Derivatives**

**Patch Size**

Contiguous:

Min. Size:  hectares

Buffer In:  meters

Buffer From:  meters

NonContiguous:

% in  hectares

**Edge**

Edge Type:

Buffer Values:

Ecotone Width:  meters

**Forest Interior (static)**

Forest/Non-Forest Use:

Buffer Distance from Forest Edge:

meters

**Hydrography**

**Type/Buffer**

Type:	Buffer From:	Buffer Into:
<input checked="" type="checkbox"/> Flowing Water	<input type="text" value="500"/>	<input type="text" value="0"/>
<input type="checkbox"/> Open/Standing Water	<input type="text" value=""/>	<input type="text" value=""/>
<input checked="" type="checkbox"/> Wet Vegetation	<input type="text" value="0"/>	<input type="text" value="9999"/>

**Salinity**

Type:

**Stream Flow**

Min:	Max:
Accumulation: <input type="text" value=""/>	<input type="text" value=""/>
Velocity: <input type="text" value=""/>	<input type="text" value=""/>

**Road Density/Urban Avoidance Mask**

Level:

High - Intolerant  
Med. - Mod. tolerant  
Low - More tolerant

**Elevation**

Minimum:  meters

Maximum:  meters

**Landforms**

<input type="checkbox"/> Cliffs	<input type="checkbox"/> Coves/Draws
<input type="checkbox"/> Steep Slopes	<input type="checkbox"/> Dry Flats
<input type="checkbox"/> Slope Crests	<input type="checkbox"/> Moist Flats
<input type="checkbox"/> Upper Slopes	<input type="checkbox"/> Wet Flats
<input type="checkbox"/> Flat Summits	<input type="checkbox"/> Slope Bottoms
<input type="checkbox"/> Side Slopes	

**Modeling Notes:**

Check here if this species requires modeling by hand

minimum patch size is 40 ha. Include all deciduous and mixed forest types to identify these patches. Upland forest types should only be selected if they are within 500m of a stream.

4. This form contains all the modeling parameters for data inputs other than map units. The data includes land cover derivatives such as patch size, forest/open edge ecotones, and forest interior; hydrography including water type, buffer distances, salinity, and velocity; road density/urban avoidance; elevation thresholds; and landforms. There is also a text box listing any notes modelers may have made during model development.

5. **Land Cover Derivatives – Patch Size.** For certain species, a minimum amount of habitat is necessary for certain aspect of their biology. If these area thresholds are mentioned in the literature, they can be applied to refine species' models. Checking the **Contiguous** check box allows you to adjust the minimum size. You can also select a buffer distance to include or exclude additional habitat within that contiguous patch. A non-contiguous patch is evaluated in spatial modeling using a moving window analysis. In some cases, it's less important that habitat be contiguous and more important that a certain amount of habitat is available within a given area (essentially a density measure). For species where information regarding a percent habitat usage within a given area is available, this can be applied spatially. The text boxes to enter percentage and area in hectares will not be enabled until you check the **NonContiguous** box.

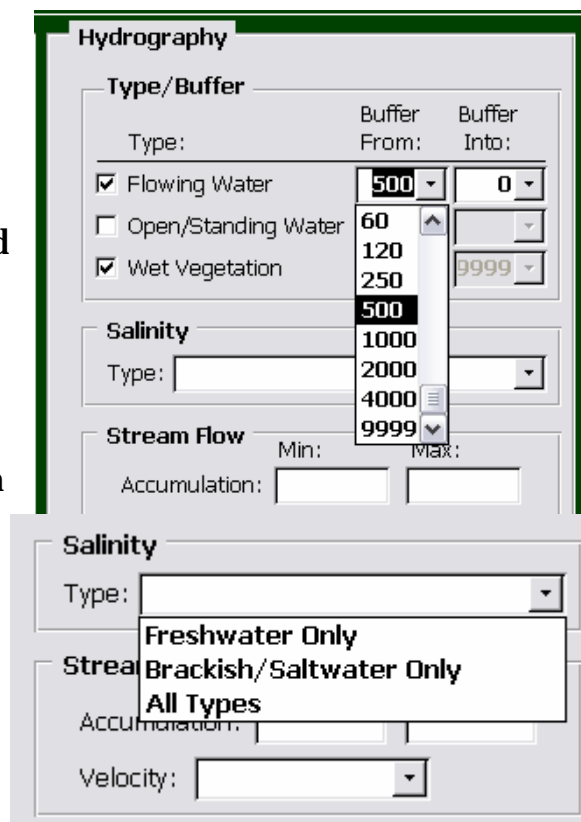
The screenshot shows the 'Land Cover Derivatives' dialog box with the 'Patch Size' section active. The 'Contiguous' checkbox is checked. The 'Min. Size' is set to 40 hectares. The 'Buffer In' and 'Buffer From' fields are empty with dropdown arrows. The 'NonContiguous' checkbox is unchecked, and its associated percentage and area fields are disabled.

6. **Land Cover Derivatives – Edge.** Ecotones are transition areas between open and forested habitats. SE-GAP grouped forested map units and open map units (pasture/hay, row crops, prairies etc...) and buffered away from and into each. Shrublands and Woodlands were also included to account for additional complexity along edges. Use the drop-down box to select an edge type, then select an ecotone edge width.

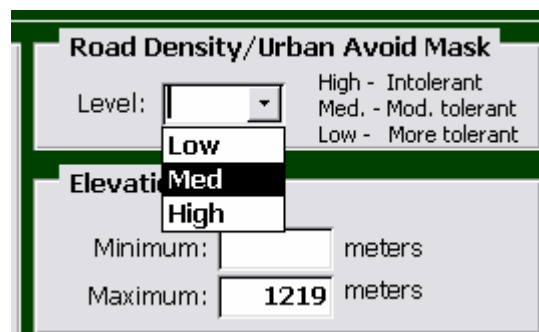
The screenshot shows the 'Edge' section of the dialog box. The 'Edge Type' dropdown is set to 'Forest/Open Ecotone Only' with a sub-option 'F/O + Shrubland/Woodland'. Below it, a text box contains '100 meters'. The 'Forest Interior (static)' section has a 'Forest/Non-Forest Use' dropdown and a 'Buffer Distance from Forest Edge' field set to '100 meters'. A 'Graphic Example' button is visible. A 'Close Form' button is at the bottom.

7. **Land Cover Derivatives – Forest Interior.** Certain species either avoid or favor interior forest. This is easily implemented in modeling by selecting one of the two and specifying a distance at which the species could either be included or excluded from forest. Clicking on the **Graphic Example** button will open a graphic illustrating the interior and exterior buffering selections.
8. **Hydrography.** Water type and proximity are important aspects of species' habitats. These parameters can be implemented easily in spatial modeling.

Selecting the check box for one of the three types (flowing – rivers, streams, etc...; open – lakes, reservoir, sounds, etc...; wet vegetation – a compilation of wetland, marsh, and swamp map units) allows you to set the type used and a buffer distance away from or into the water feature preferred by the species. Salinity can be set as either “Freshwater Only”, “Brackish/Saltwater Only”, or the species tolerates “All Types”. Stream flow can be used to distinguish fast or slow moving waters. Accumulation is a spatial measure of contributing drainage area. Because this measure is useful mostly to spatial modelers, information regarding the parameter usually does not exist in the literature, and therefore rarely used.

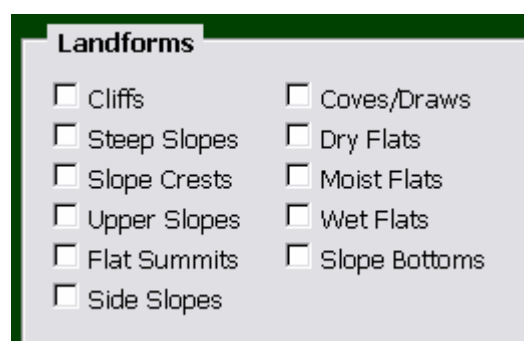


9. **Road Density/Urban Avoid Mask.** Many species avoid human environments. This data layer is a combination of road density and developed map units at three levels – “High” (very intolerant of human disturbance), “Medium”, and “Low” (more tolerant).



10. **Elevation.** A number of species occur only between, above, or below certain elevations. For species where the literature is explicit about elevation constraints, these values are easily implemented in spatial modeling.

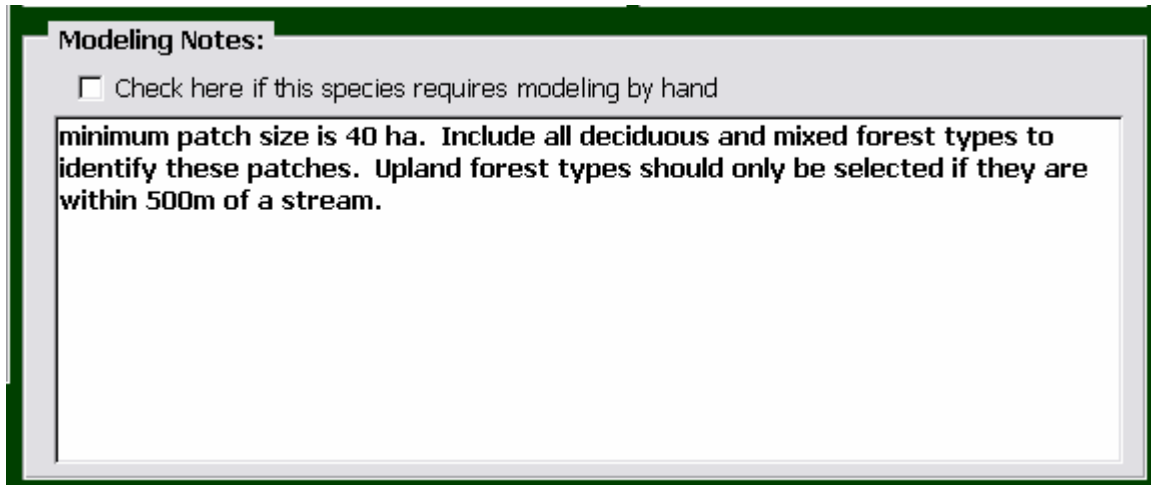
11. **Landforms.** These categories were developed using combination of elevation derived information (slope,





aspect), soils, hydrography, and ecoregional data to describe the landscape. Check any of the boxes to limit the species' model to specific landforms.

12. **Modeling Notes.** In some instances, modelers added specific notes regarding the model approach. The “hand model” check indicates that a model is either more complex or utilizes data in a specific way not readily apparent in the other parts of the form.



**Modeling Notes:**

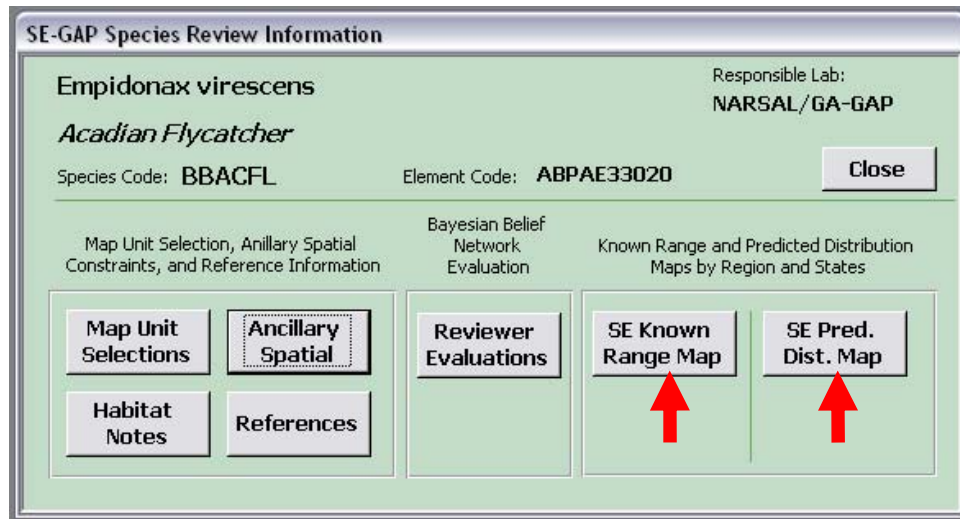
Check here if this species requires modeling by hand

minimum patch size is 40 ha. Include all deciduous and mixed forest types to identify these patches. Upland forest types should only be selected if they are within 500m of a stream.

## VIEWING SPECIES RANGE AND DISTRIBUTION MAPS

### Steps:

1. Species' range and distribution maps can be accessed either over the internet or via the DVD if provided. The database will first try to open the maps using an internet connection, and then using the DVD. If you have a copy of the DVD containing PDF maps, make sure that DVD is located in the



appropriate drive. If you don't have the DVD, you must have an active web connection. Message boxes will alert you to any map access problems.

2. From the **Species Review Information** form, click the **SE Known Range Map** button.
3. A PDF will open with Adobe Reader (you must have Adobe Reader installed on your computer) depicting the species' range in blue. Although this is a fairly high resolution image, and you may zoom in and out, it is not editable. To edit this map, either print it out and draw on it, or if you have Adobe Acrobat, you could copy the image to your hard drive and edit it with Acrobat.
4. Opening the maps through an internet connection will cause your default web browser to open the maps by connecting to the BaSIC web server. You may first receive a Microsoft message warning of potential viruses from the source (the source will show the URL to the BaSIC server). Click **OK** to allow your browser to open the map.
5. Clicking on the **SE Pred. Dist Map** button will open another PDF showing the range in blue and the species' predicted distribution in red.

## REVIEWER QUESTIONS – BAYESIAN BELIEF NETWORK

### Steps:

1. From the **Species Review Information** form, click the **Reviewer Evaluations** button.

2. This form contains several questions we would like you to answer in order to assess the ‘performance’ of the model. That is, have the model parameters been selected in such a way that the species’ range and predicted distribution maps accurately reflect reality on the landscape?

3. Your response to these questions will allow us to not only assess the models but also guide potential re-development of models using a Bayesian framework. In addition, we can provide data from the reviews with models to further inform users about the expert confidence, or shortcomings that could potentially affect model usability.

4. Additionally, we would like input on any model aspect affecting biological importance within a given area; biologically

important components not listed in model parameters; and any relationships, with references, that may be lacking. If you are familiar with spatial data and its use in distribution modeling, we would certainly want to

**SE-GAP Species Review Information**

Empidonax virescens  
*Acadian Flycatcher*

Species Code: BBACFL      Element Code: ABPAE33020      Responsible Lab: NARSAL/GA-GAP

Map Unit Selection, Ancillary Spatial Constraints, and Reference Information      Bayesian Belief Network Evaluation      Known Range and Predicted Distribution Maps by Region and States

Map Unit Selections      Ancillary Spatial      **Reviewer Evaluations**      SE Known Range Map      SE Pred. Dist. Map

Habitat Notes      References

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**Bayesian Belief Network Reviewer Question Form**

Species Code: BBACFL      Scientific Name: Empidonax virescens      Common Name: Acadian Flycatcher

**Bayesian Belief Network Reviewer Questions**

Rank your response to the following questions:  
(Strongly Disagree (1) – Strongly Agree (5))

1) I am an expert in the natural history of this species      0

2) The range map is an accurate representation of the known range of this species in the southeastern U.S.      0

3) The parameters used to model the predicted distribution of this species accurately represent its habitat requirements in the southeastern U.S.      0

4) The spatial data adequately represent the species' habitat requirements during the breeding season.      0

5) Rate your level of agreement in the predicted distribution performance      0

6) The published literature adequately documents the habitat requirements for this species in the southeastern U.S.      0

Date of Evaluation: 1/1/2008

Comments:

be alerted to such information. Please add this information in the “Comments” section.

5. Finally, please check the states that correspond to your geographic area of expertise.

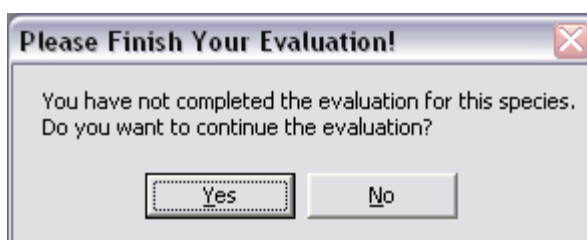
Please check your geographic area of expertise :

Florida     North Carolina     Virginia

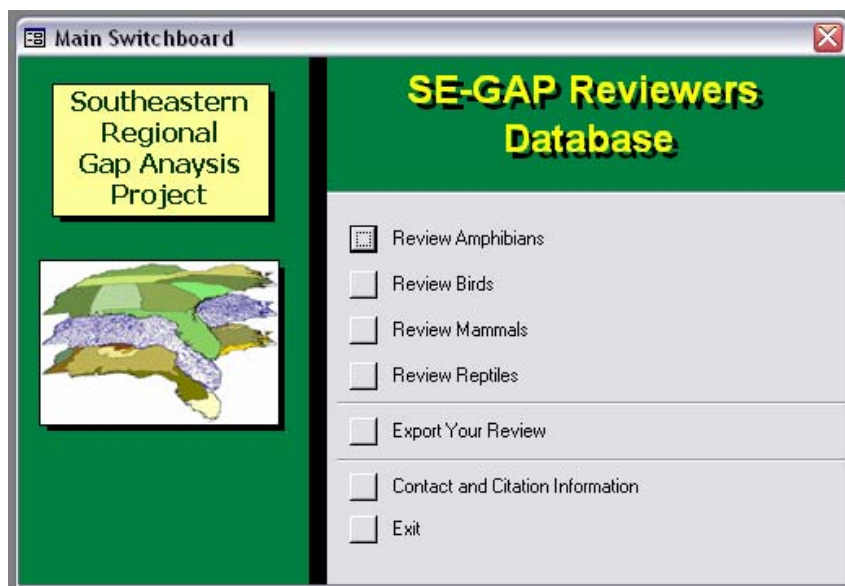
Georgia     South Carolina

Comments:

6. Once you have selected rankings for all 6 questions and made model comments, click the **Close** button. If you responded to all questions and given ranks greater than 0, the form will close and a check will appear next to that species on the species list form (see page 4). If you have not completed the review, a message box will open asking if you would like to continue reviewing the model for this species. Clicking **Yes** will bring you back to the evaluation form, clicking **No** will simply close the form.



7. Once you have completed reviews for all species you wish to evaluate, you can export the review to an Excel spreadsheet. Go back to the main switchboard and click **Export Review**. A window will open asking if you are ready to export. Click **Export** and message box will open letting you know the name and location of the exported Excel file. Simply e-mail the file to the BaSIC lab.



8. **Any questions, comments, problems, suggestions, etc... can be directed to  
Matt Rubino  
Biodiversity & Spatial Information Center  
Department of Biology  
North Carolina State University  
Campus Box 7617  
matt\_rubino@ncsu.edu**

## **REFERENCES**

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## **CONTACT US:**

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