

Using draw.io to Make and Format Ecosystem Service Logic Models

<http://bit.ly/NI-ESCM>

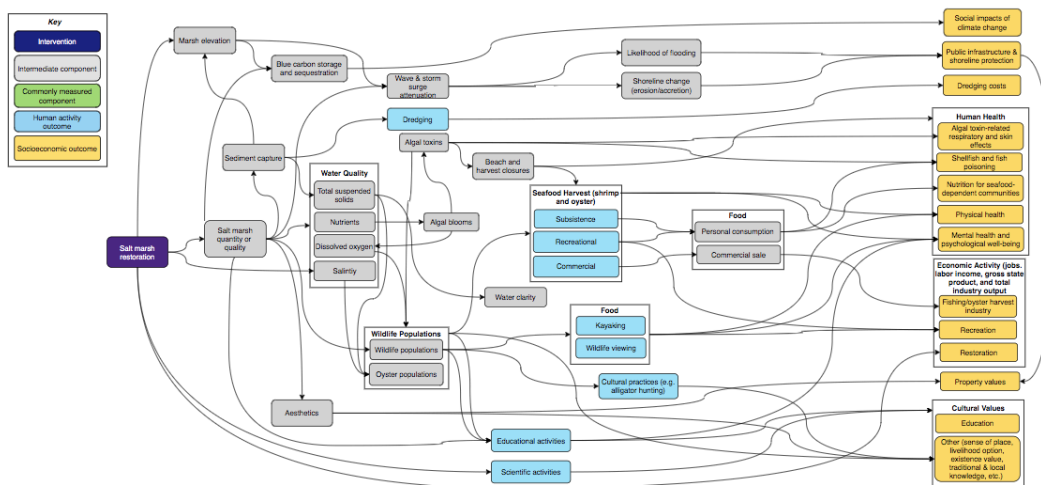
This document lays out the steps for how to use the draw.io program to create or modify logic model diagrams. At the Nicholas Institute, these models are called either Ecosystem Service Logic Models or Ecosystem Service Conceptual Models. These models illustrate how a management intervention, such as a restoration project, cascades through an ecological system and results in ecosystem services and other human welfare impacts. These models have been created as a systematic and replicable framework to help identify socioeconomic outcomes of restoration projects. draw.io is an open source software that allows for the creation and sharing of our models as well as other kinds of flow charts. You may want to edit one of our general models so that it is adapted to your specific project.

Opening and Editing in draw.io

Open our general models from the Nicholas Institute models page: <https://nicholasinstitute.duke.edu/project/ecosystem-services-toolkit-for-natural-resource-management/coastal/conceptual-model-collection>. Select a model from the menu and open the editable version.

Model Version	Geographic Context	Model Context Document	Model View and Download
Ecosystem Service Logic Model (ESLM) for Salt Marsh Restoration	Gulf of Mexico	Download	Static version Editable version 

When you click on the editable version of the model, it will open up a new window with the model in draw.io. Once you have opened the draw.io version of the salt marsh model, select the pencil icon on the bottom right panel of options. This will open a new window with an editable version of this model.

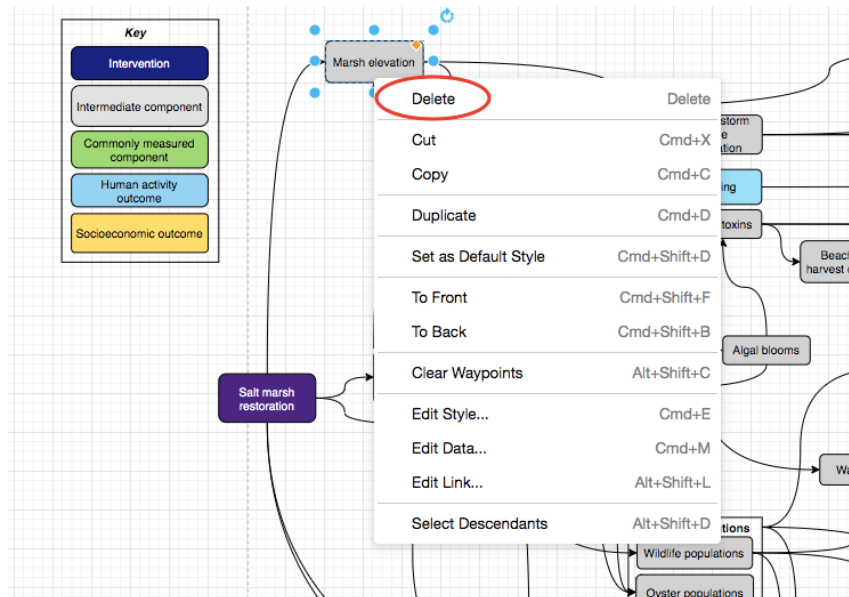


Modified from a GEMS project ecosystem service logic model. For more information, visit nicholasinstitute.duke.edu/gems.



Deleting Boxes

Click on the box itself and hit the delete button on your keyboard. Alternately, right click on the box, and use the **Delete** button in the dropdown menu.

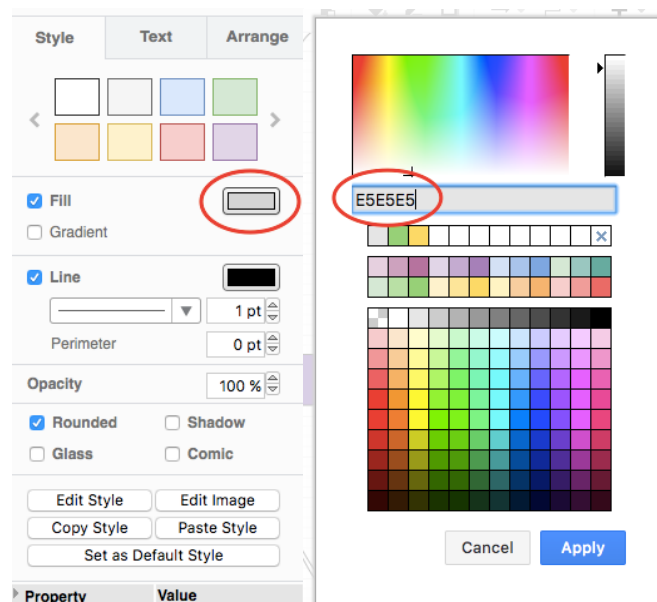


Changing the Text

To edit the text in a box, double-click on the box to highlight the text, and then type in the new text.

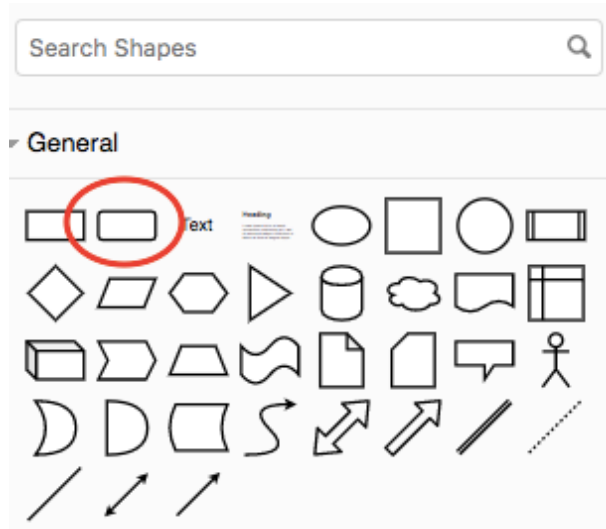
Changing the Color of a Box

To change the color of a box, click on the box, and in the right-hand window, click the **Color** button. This will open the color window, where you can choose any color. The HEX codes for the colors we use in our models are at the end of this document.



Adding a New Box

To add boxes to the model, click on the second option from the left on the **General** drop down menu on the left-hand side of the window, in the **Format Panel**. This is the **Rounded Rectangle** shape that we use in all of our models.

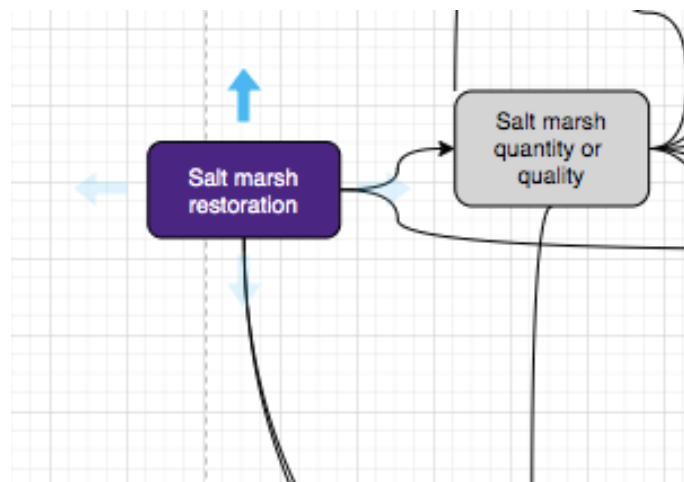


Formatting Boxes

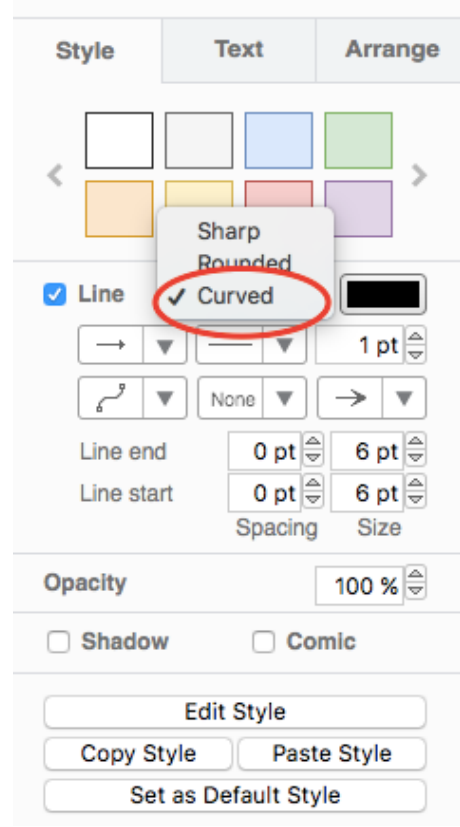
To reformat the box, click on it. You can make it bigger or smaller by dragging the edges.

Arrows

To add an arrow to connect boxes, hover over the initial box. When the arrows appear, click the one closest to the direction of the next box. Then drag the arrow to the next box until they are connected.



To format arrows, click on them. Using the right-hand window, you can change the color or look of the arrow. The GEMS project uses Curved arrows rather than Rounded or Sharp.

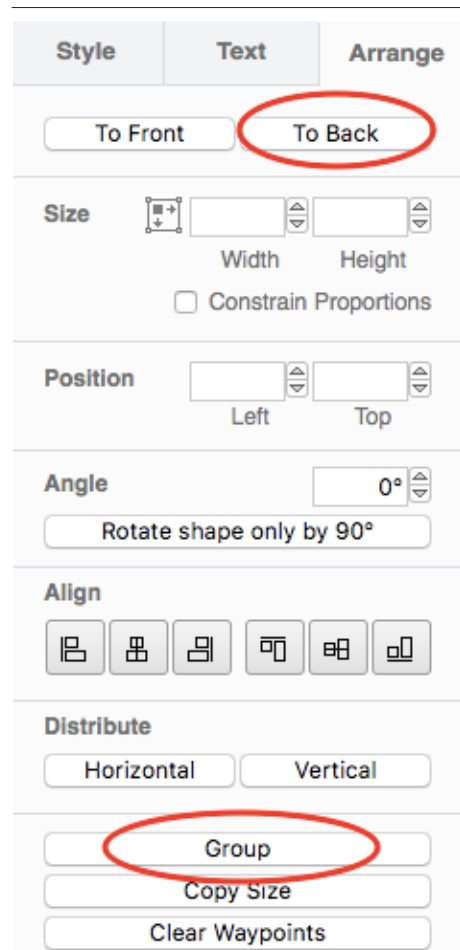


Arranging and Grouping Boxes

If you would like to place boxes within one category, stack them on top of one another with a little bit of space between them. Then create a new, empty white box and reformat it so that it is slightly bigger than the group of boxes you wish to place together. Place the empty box on top of your group of boxes. Use the **Arrange** tab on the right-hand window to bring the white box behind all of the other boxes using the **To Back** button.

To group boxes that you have stacked on top of each other, click on all of the associated boxes with your mouse while using the Shift key. Use the **Group** button under the **Arrange** tab to group the boxes. You can now move all the boxes together by just clicking and dragging on the whole unit.

Ungroup the boxes by clicking the **Ungroup** button, which will replace the Group button in the right-hand window.

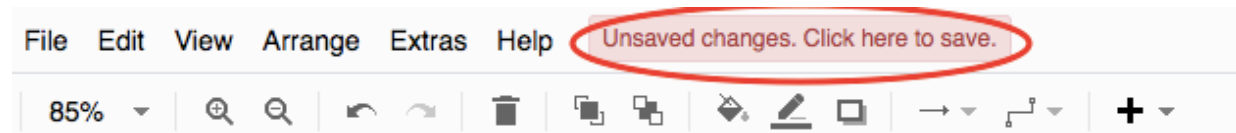


Alignment

You can align boxes using the snapping lines that appear when you click and drag a box. This will make your model more organized.

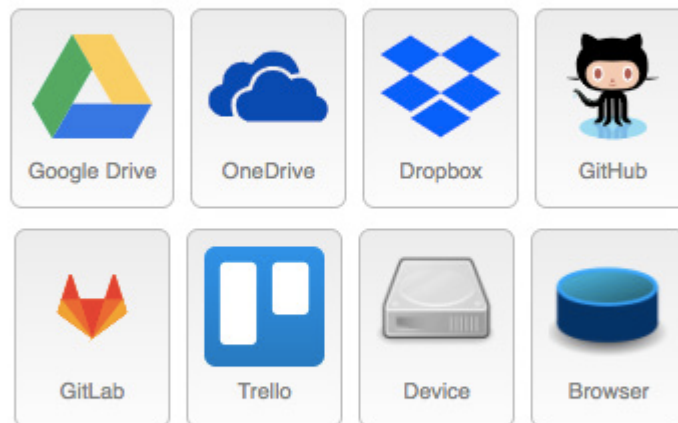
Saving and Exporting Your Model

To save your version of the model, click the box on the top toolbar that says **Unsaved changes**. Name your model something you will remember, and save it to one of the places suggested in the pop-up window. You may have to authorize draw.io to save files to your folders or drives.



Save as

Filename: XML File ?

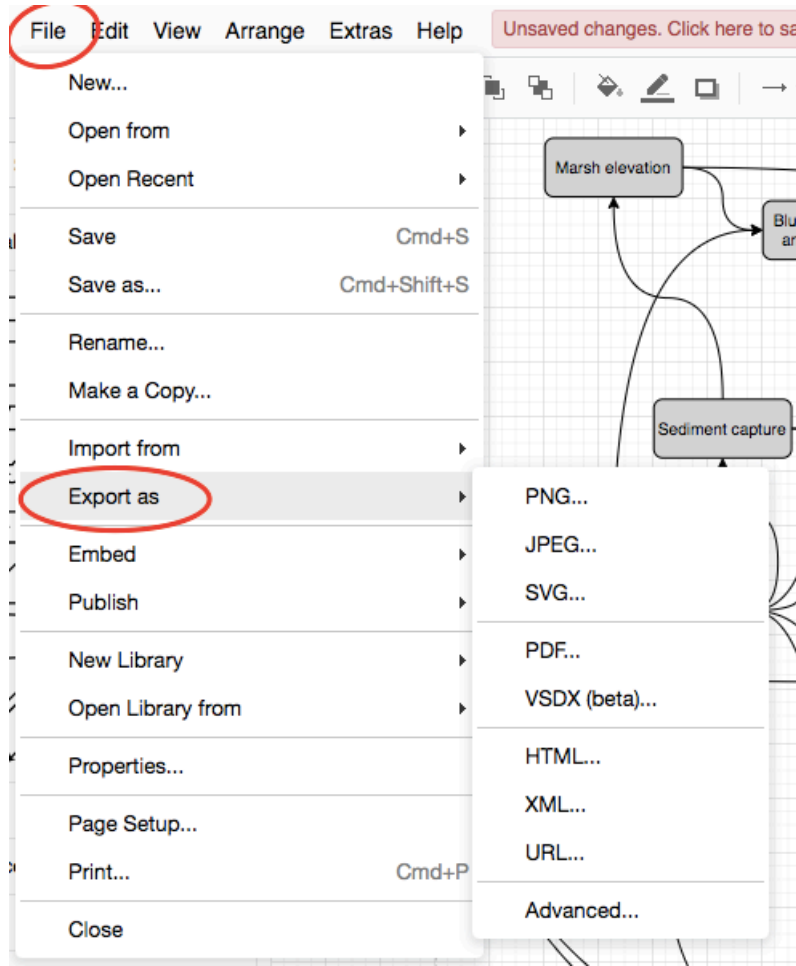


Cancel

Open in New Window

Download

To export the model as a JPEG or PDF, click the **File** button on the top toolbar. Click **Export As** and then choose how you want to save your model. Again, a pop-up window will allow you to name your image and then save it somewhere on your computer.



If you have any questions while creating your own model, please feel free to reach out to the [Ecosystem Services team at the Nicholas Institute](#).

Fill Colors Used

Yellow – FFD966

Dark Blue – 470382

Gray – D4D4D4

Light Blue – 9CDFF7

Green – 97D077