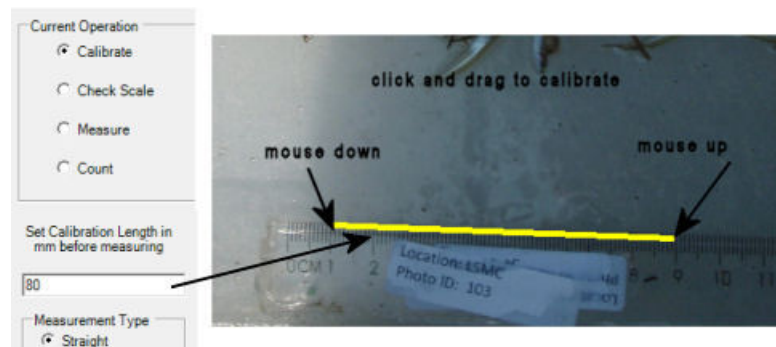


Using the SINE Measuring/Counting Computer Application

Allows data to be processed from field seining photos; requires MS Windows with .Net framework

Instructions for processing data from images collected during seining. Ideally, all individuals collected at each site have been separated by species, identified, and photographed in a container with an embedded scale and a photo ID label.

- If the application is not already on your computer, download and install it. If the .NET Framework is not installed on your computer, you will be prompted to install it from the Microsoft web site
- Create a new folder and name it using the location date where the images were taken i.e. LSMC_9Jul08
- Transfer digital images from your camera to a folder. It helps to rename the images that will be used for measuring with the image photoID
- Open the Application
- From the toolbar, select Image – Load, browse to the folder containing the images and open the image you plan to process. If you want a larger image, Zoom in, but be certain the ruler in the photo is visible. (If you change the zoom, you'll need to recalibrate the image before making measurements.)
- Enter the Seine date in the text box. The Location and site number may be entered in the text box or selected from the dropdown menu
- *Before making any measurements, the image must be calibrated using the embedded scale.*
 - In the Current Operation box, click the Calibrate radio button.
 - Locate a distance on the embedded ruler that is clearly visible and enter the distance in mm in the Calibration Length textbox.
 - Click and drag over the ruler a distance equal to the value you enter in the Calibration Length text box.
 - You should notice a yellow line whose length on the ruler equals the number you enter as your calibration length. The program makes an additional line each time you click and drag, however, it defaults to the last calibration when making actual measurements in the photo.



- If you wish, you may check your calibration by checking the Check Scale radio button in the Current Operation box.
 - Drag over a known distance on the ruler in the image. You should notice a blue line. If you've made a proper calibration, the distance that appears under the View Species Summary button will equal the distance you've dragged over on the ruler.
 - Recalibrate as necessary.

- To make measurements of fish that are straight or nearly straight.
 - Check the Measure radio button in the Current Operation box, and chose the species from the dropdown list. Only bony fishes are in the list, you can choose other for crustaceans.
 - Check the Straight radio button in the Measurement box.
 - Click and drag over the image of each fish. You should notice a red line between the mouse down and mouse up points.
- To delete a measurement.
 - Highlight the value you wish to delete in the list box. Chose Edit in the tool bar and Delete selected measurement. Note: the line over the fish will not be removed; you'll have to re measure over the original line.
 - *Note: All lines on the image will be removed whenever the form loses focus, however all values remain stored.*
- To count without measuring.
 - Check the Measure radio button in the Current Operation box, and chose the species from the dropdown list.
 - Check the Count radio button in the Current Operation box.
 - Click on the fish to be counted. A red dot will appear. You may delete counted data in the same manner as deleting measured items. Dots will not be removed from image when the item is deleted from memory.
- To measure fish that are not straight.
 - Check the Measure radio button in the Current Operation box, and chose the species from the dropdown list.
 - Check the segmented radio button in the Measurement Type box.
 - A curved fish is measured by drawing a series of connected straight lines over the body of the fish. Double click at the end of the fish to add the segment lengths and move the value to the summary list box. An aqua curved line will appear.
- To view the statistics of the fishes counted or measured.
 - In the species dropdown box, highlight the species of interest.
 - Click the View Species Summary button. A list box will give a tally of the number counted plus the minimum, maximum, and average lengths. Only the individuals that were measured are used in calculating the average lengths. These values will not be saved with the original data.
- Data may be saved in a csv text file and re opened in Exel for graphing.
 - As you load new images, the data set will be appended. To save, chose File from the toolbar and click on save, browse to an appropriate folder and give the file a location date filename.
 - In Excel, chose Open file. Under file types select "all types" or "txt"
 - In the text import Wizard:
 - File type = Delimited
 - Delimiters = Comma
 - Use the normal Excel tools to present your data in a graphical format