Harbor Economic Impact Model User's Manual

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Prepared for the

Alaska Department of Transportation and Public Facilities

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Introduction

The Harbor Economic Impact Model (HEIM) is an economic and financial model for quantifying the benefits of harbor activities. The Model provides a standard measure of economic and financial impacts that allow decision-makers to evaluate projects more efficiently and effectively. It is a tool to help project proponents generate reports showing the value of harbor investments on the financial position of the harbor, the fiscal effects on the community and regional government, and the economic effects on the community, regional entity, and the state. This information may be used to support local funding decisions and requests for state and federal matching funds, as well as provide information to local residents on the value of the harbor to their economy.

Who should use this Model?

The Model has been developed for use by harbormasters, staff at public agencies, and anyone who wishes to determine the economic impact of harbor facilities.

System Recommendations

The Model should run on most computer systems that are capable of running Microsoft Excel 2000. The model and interface were designed on a Pentium 4 with over 256MB of RAM. However, it has been tested on Pentium 3 machines with less RAM, without adverse effects. The model should be saved to a hard disk drive or other fast, writeable media, for best performance. With these basic requirements, the model should function well on most computers.

Note

Screen resolution should be set to at least 1024 by 768, or else some of the larger input screens will not fit onto the user's screen.

Data Sources

The model relies on data from several published sources, as well as from surveys conducted in the summer and fall of 2003. These surveys were sent to harbormasters around the state and users of their harbors. With the exception of a few surveys, most of the data were collected from harbors located in Southcentral Alaska. The Model may be used for harbors outside of Southcentral Alaska, but the underlying assumptions may not be true for other areas; therefore, the results may not be reliable.

About this Manual

This User's Manual provides instructions on using the model, from inputting data, to performing an impact assessment, to updating model data.

Icons

This User's Manual contains call-out boxes to help draw attention to impotant and useful information. These boxes are identified by icons that indicate the nature of the content.

Source

Indicates where the user can find information needed to enter into the Model's fields.

Caution

Warns the user about potential mistakes or pitfalls in using the Model.

Note

Provides useful information, tips, etc. that make running the model go more smoothly.

Where was that again?

Refers the user back to the place where information is covered in the manual

Abbreviations

DOT&PF	Alaska Department of Transportation & Public Facilities
HEIM	Harbor Economic Impact Model
VBA	Visual Basic for Applications

References

Minnesota IMPLAN Group, Inc., IMPLAN System (data and software), 1725 Tower Drive West, Suite 140, Stillwater, MN 55082 www.implan.com

Olson, Doug and Scott Lindall, "IMPLAN Professional Software, Analysis, and Data Guide"; Minnesota IMPLAN Group, Inc., 1725 Tower Drive West, Suite 140, Stillwater, MN 55082, www.implan.com

Smith, Harvey, PE. State Coastal Engineer, Alaska Department of Transportation and Public Facilities. Inner Harbor Cost and Benefit Model. 2003.

Before You Begin: Preparing to use the Model

Step One: Save Model Files to Hard Drive

There are two files needed to run the Model: "Load Harbor Impact Model.xls" and "HEIM.xls". Both files need to be located in the same folder on your disk, and it is recommended that they be located on a hard disk for speed.

Step Two: Gather Data

Before you get started, you will need:

- Information about the local population and economy
- Information about the local fleet, including sizes and types of vessels
- Information about harbor finances
- Information about the current harbor, including capacity and services, as well as any planned expansions

Step Three: Enable Macros

If macros are not enabled on your computer, "Load Harbor Impact Model.xls" will not be able to load the model file. To verify the macro security settings, go to Tools/Macros/Security in Microsoft Excel's menu. Make sure the security level is set to medium. This setting will prompt the user to enable macros each time a document containing them is loaded, rather than disabling them without notification.

Step Four: Open the Model

To start the model, open the file called "Load Harbor Impact Model.xls". This loader program will ensure that macros are enabled, then it will load HEIM.xls. Note that if you attempt to open the larger HEIM.xls file you will recieve a "Password Required" Screen (Figure 1). Hit Cancel to exit, and open "Load HarborModel.xls.

(Modifying the HEIM.xls file is an advanced feature, discussed on page 23.)

Figure 1

Password Required Screen for opening HEIM.xls

Caution

Be sure to close all open Excel files before starting the Model. Files open when the model starts will not be saved, and when the model exits it will close Microsoft Excel entirely.

Starting the Model

The Main Menu

Once the model has loaded properly, the main menu will appear. The elements of the Main Menu are labeled and described below.

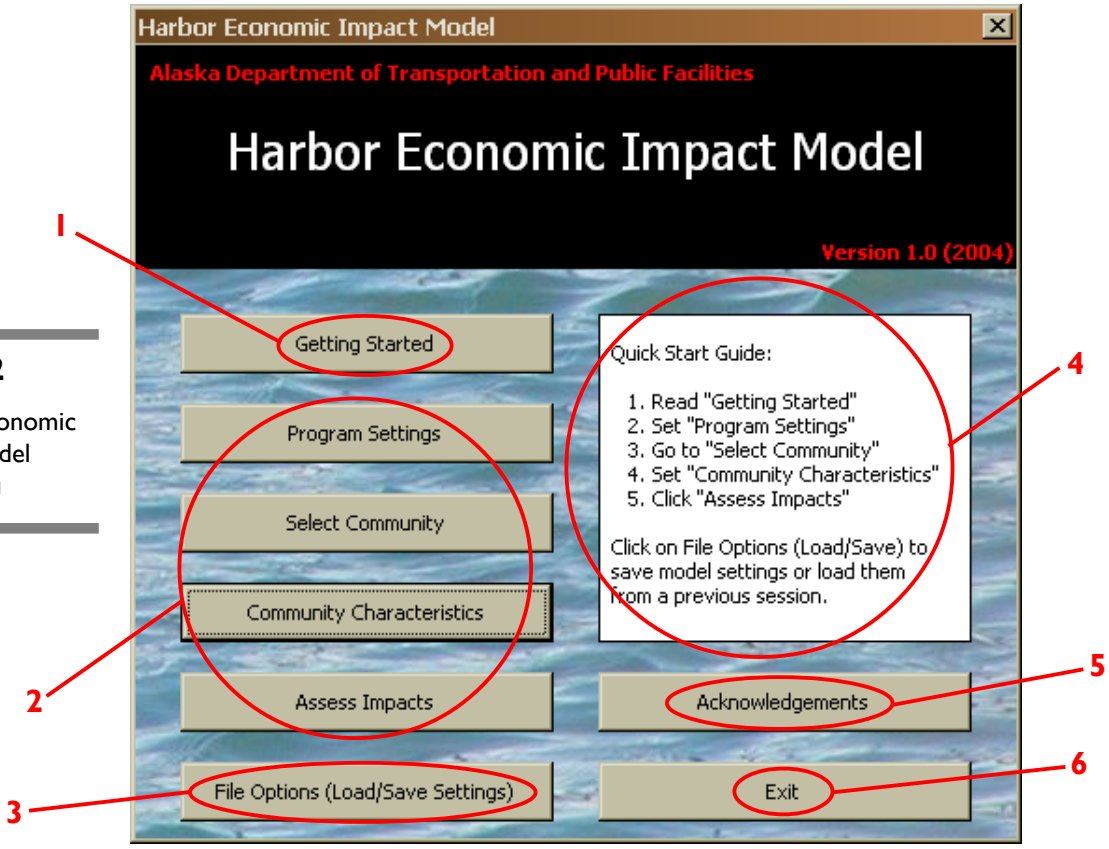


Figure 2

Harbor Economic Impact Model Main Menu

Elements of the Main Menu

1. **Getting Started.** Gives a brief overview of how to use the model; may be printed as a quick reference.
2. **Program Settings; Select Community; Community Characteristics; Assess Impacts.** The steps to using the model. Each is discussed in detail in the following sub-sections.
3. **File Options.** Allows the user to save and reload data.
4. **Quick Start Guide.** A very brief overview of the assessment process.
5. **Acknowledgements.** Goes to a credits and references screen.
6. **Exit.** Closes the model and exits Microsoft Excel.

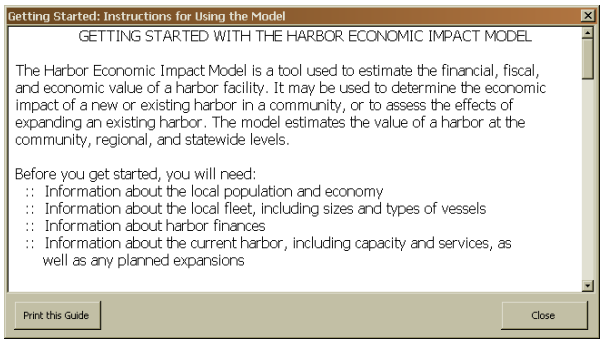


Figure 3

The Getting Started Guide

Program Settings

Before operating the model for the first time, the user should go through the options screens to make sure the model is set up properly. Clicking on the "Program Settings" button in the main menu will bring up the options screen. The bottom half of the menu, "Changing Model Data" is discussed in the section "Advanced Topics" on page 23.

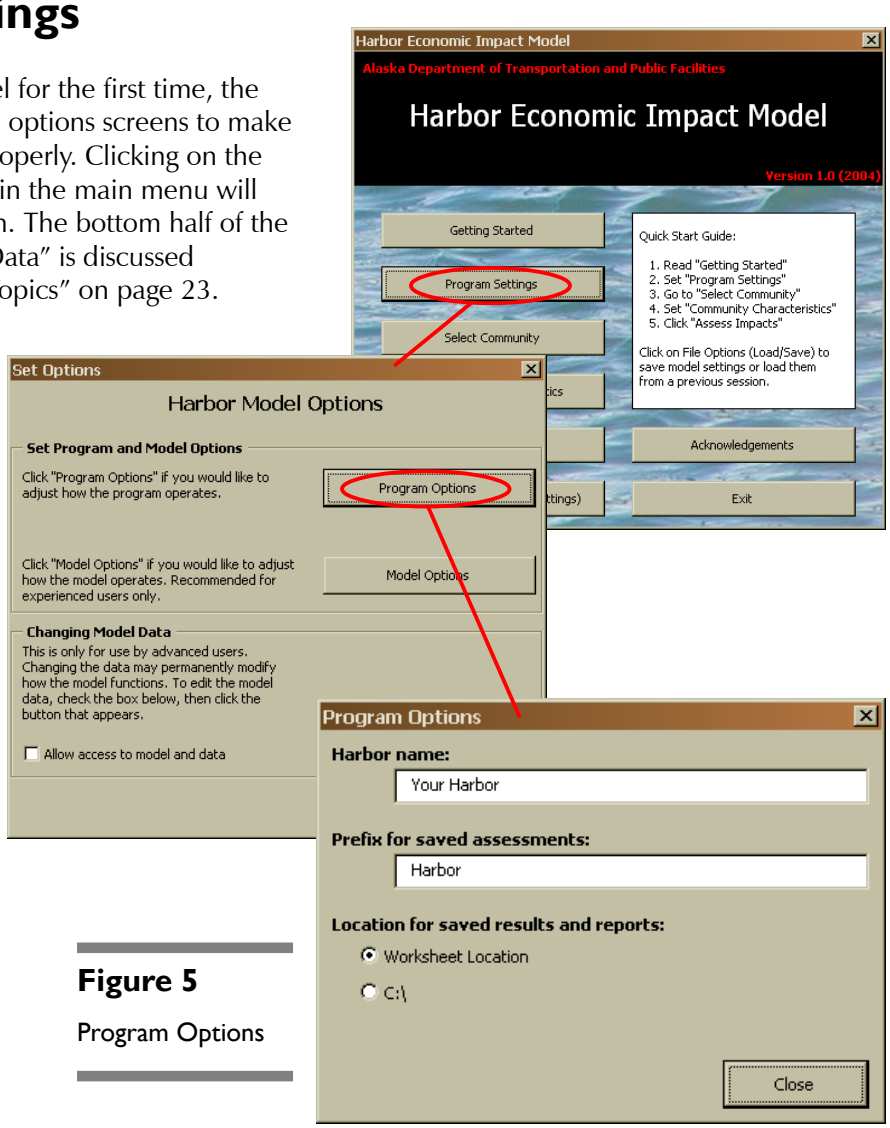


Figure 4

Set Harbor Model Options

Figure 5

Program Options

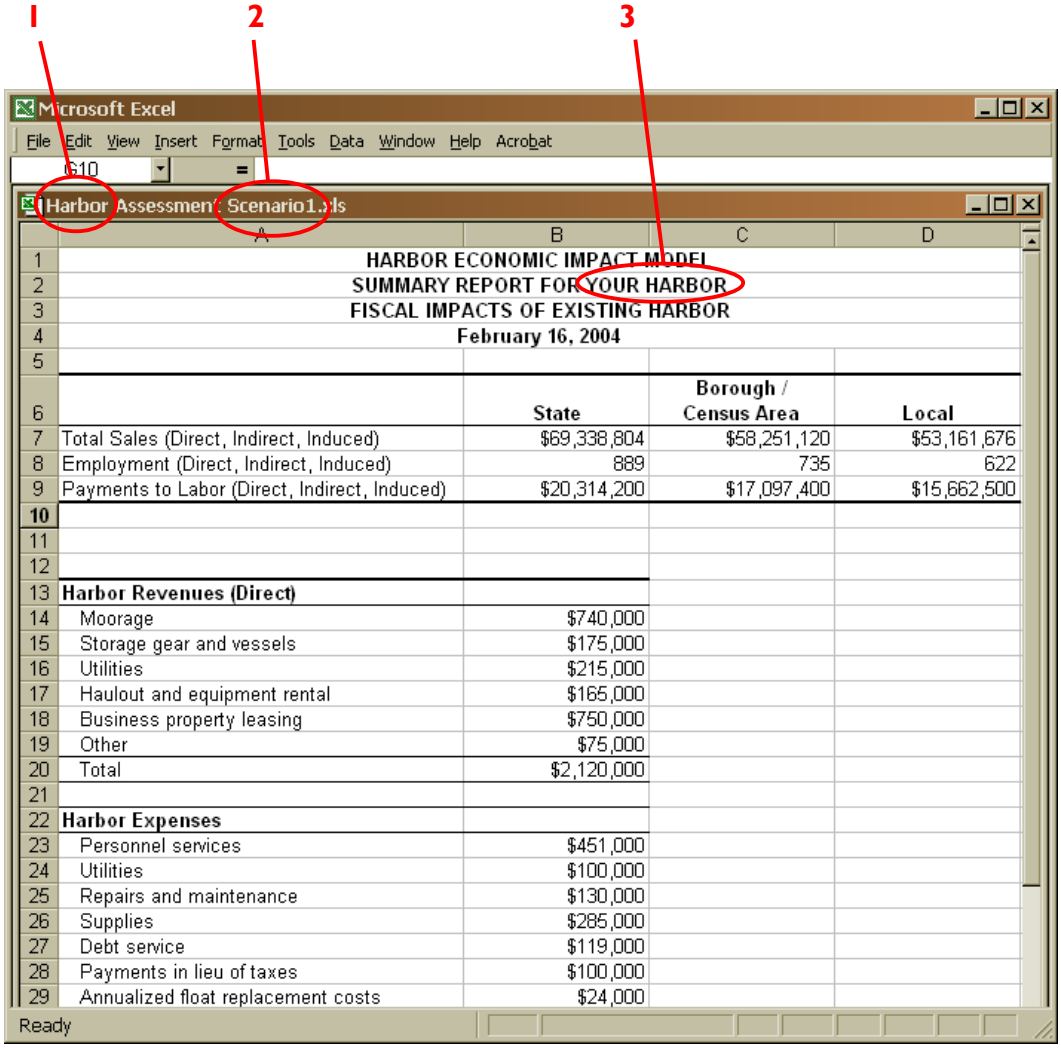
Program options

The screen of primary importance for starting up is "Program Options,"shown in **Figure 5.** The user should enter information about the harbor name, the file name for saving assessment results, and the save location. The save location is limited to the root directory of the C: drive or the model's worksheet location. The harbor name will appear on the summary page of the assessment report, while the Prefix for saved assessments will be how the file name of the saved assessment will start. The save location applies to both saved assessments and data files. (For more detail on saving assessments, see "Saving the Model Data" on page 17.)

See **Figure 6** on the following page for an example of how these names are used in the reports generated by the model.

Putting the Options Together

The following figure is an example of an assessment report generated by the Model. It is included here to illustrate the purpose of the names chosen on the Program Options screen as well as those for File Options (see page 17) and the Assessment Scenario (see page 19).



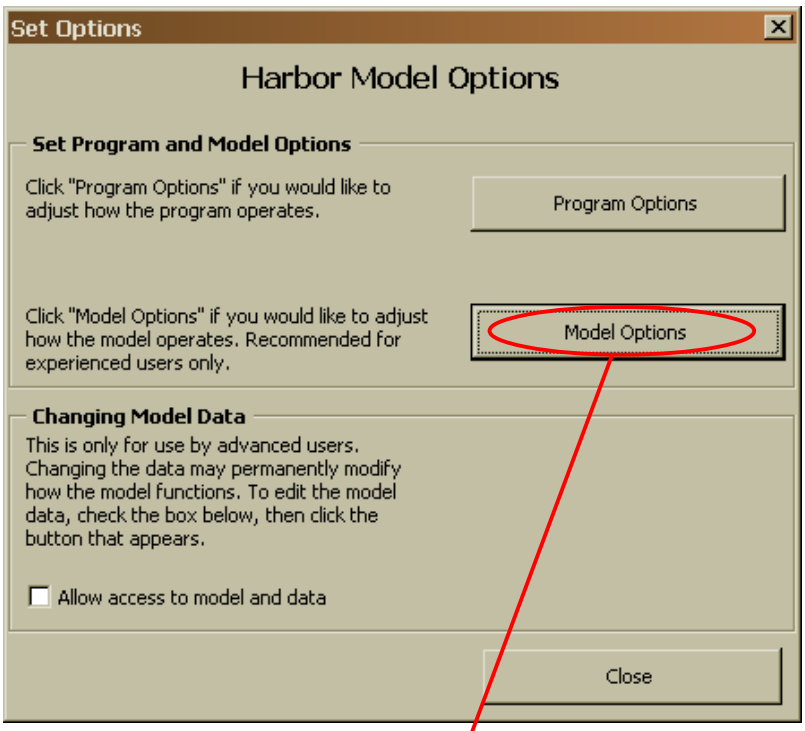
	State	Borough / Census Area	Local
Total Sales (Direct, Indirect, Induced)	$69,338,804	$58,251,120	$53,161,676
Employment (Direct, Indirect, Induced)	889	735	622
Payments to Labor (Direct, Indirect, Induced)	$20,314,200	$17,097,400	$15,662,500
Harbor Revenues (Direct)			
Moorage	$740,000		
Storage gear and vessels	$175,000		
Utilities	$215,000		
Haulout and equipment rental	$165,000		
Business property leasing	$750,000		
Other	$75,000		
Total	$2,120,000		
Harbor Expenses			
Personnel services	$451,000		
Utilities	$100,000		
Repairs and maintenance	$130,000		
Supplies	$285,000		
Debt service	$119,000		
Payments in lieu of taxes	$100,000		
Annualized float replacement costs	$24,000		

Figure 6

Sample assessment report

Elements of the assessment file name

1. **From the Program Options Screen: "Prefix for saved assessments" (page 5)**
2. **From the "Name Scenario" screen (page 19)**
3. **From the Program Options Screen: "Harbor Name" (page 5)**



Reset Model Values

Figure 7 shows the "Reset Model Values" screen. On this screen, the user may reset the model data to default values by clicking on the box to allow a reset, then clicking on "Reset Values." When the process is complete, a message will indicate that the model has been reset. Click "OK" to return to the main options menu.

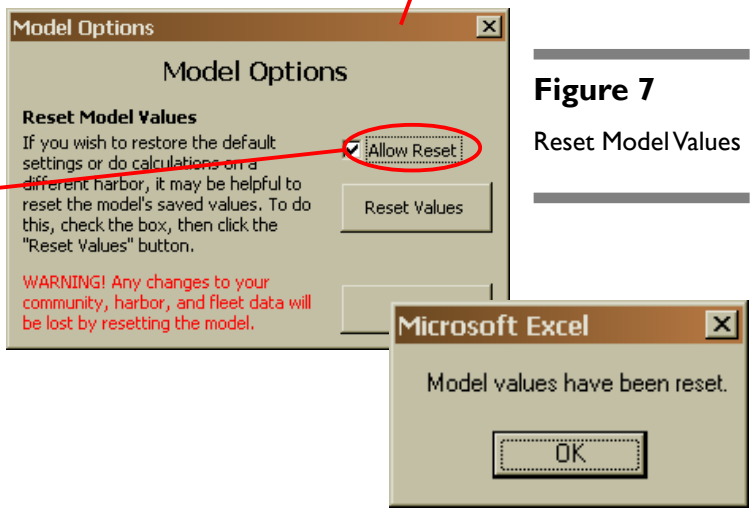


Figure 7
Reset Model Values

Caution

Any changes made to community, harbor and fleet data will be lost by resetting the model. If you want to retain information you've already entered, be sure to save your input using the File Options button from the main menu. (See page 16.)

Entering Community and Harbor Data

Selecting a Community

Once program options have been set according to your needs, the assessment process may begin. The first step in assessing harbor impacts is to select the community in which the harbor is or will be located. To do this, click "Select Community" in the main menu. The Community Selection screen will appear. On this screen, click on a community to select it. The "Select Community" button will be enabled once a selection is made. Clicking this button will proceed to the "Verify Community Information" screen (**Figure 9**), where the user may change any of the default community tax rates.

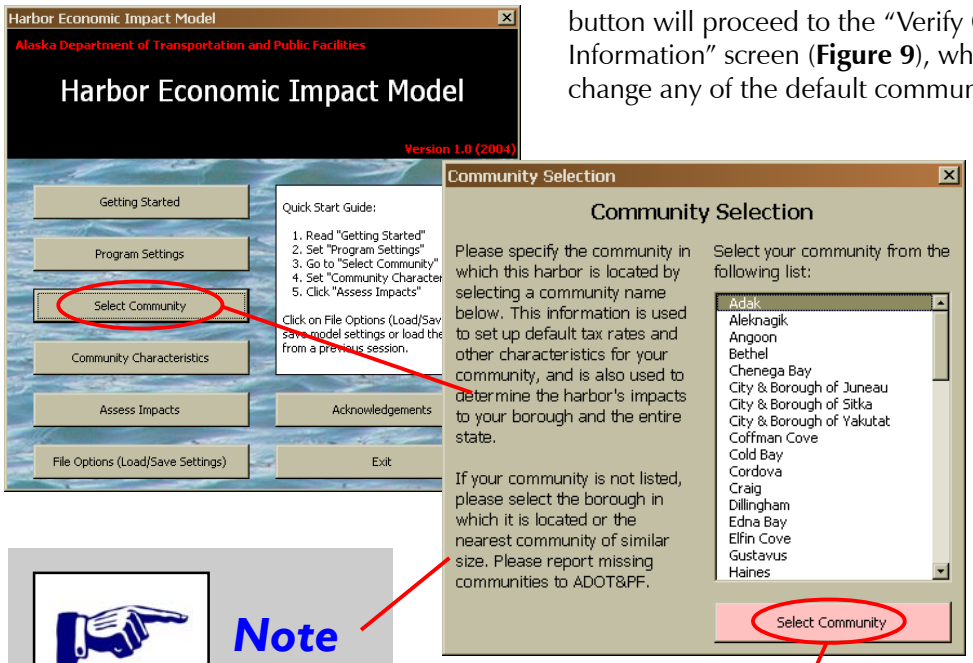


Figure 8

Community Selection Form

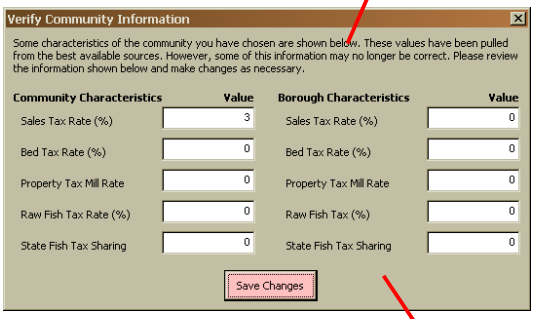


Figure 9

Verify Community Information

Note

What if my community isn't listed? Note that some communities are listed as "*City of*" or "*Municipality of*." If your community is not on the pick list, contact DOT&PF.

Source

Your community's finance director should have the latest values for your community.

Entering Community Characteristics

After the user has selected a community and, if necessary, changed the default tax rates, the model will return to the main menu. From here, click "Community Characteristics" to enter information about the community and harbor. You will be taken through a series of 11 data entry forms on which you will need to confirm and/or enter community data. You will be asked for information on:

1. **Population**
2. **Harbor Fees**
3. **Harbor Description (slips and space)**
4. **Harbor Expenses**
5. **Non-Capital Operating Expenses**
6. **Harbor Utilization**
7. **Harbor Activity**
8. **Capital Replacement Expenses**
9. **Float Replacement Expenses**
10. **Local Fiscal Impacts**
11. **Borough Fiscal Impacts**

Information for communities has been gathered from several sources—including the DCED Community website, the Alaska Deparetment of Labor, and harbormaster surveys—and put into place on forms **1, 10,** and **11**. For these forms, the user will need to confirm that the information is still current. For forms **2** through **9**, the data currently in place are only placeholders, necessary to the proper functioning of the model, but not specific to any community. These data need to be replaced with the information specific to your community. **Figure 10** shows the first screen in this process, which provides some information on how to enter data. After reviewing the instructions, click "Next" to begin entering data.

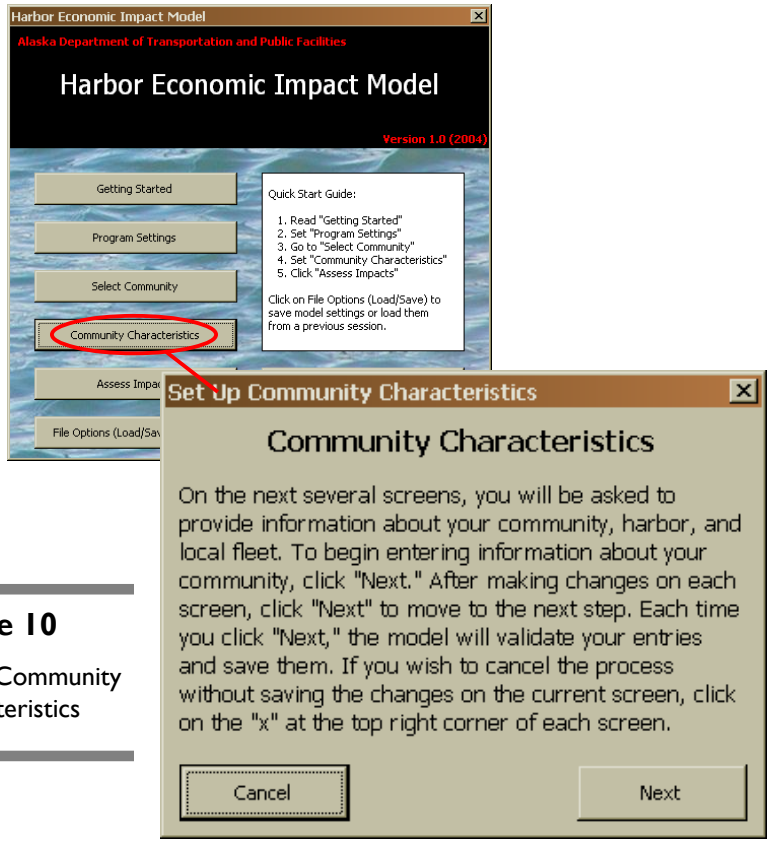


Figure 10

Set up Community Characteristics

Note

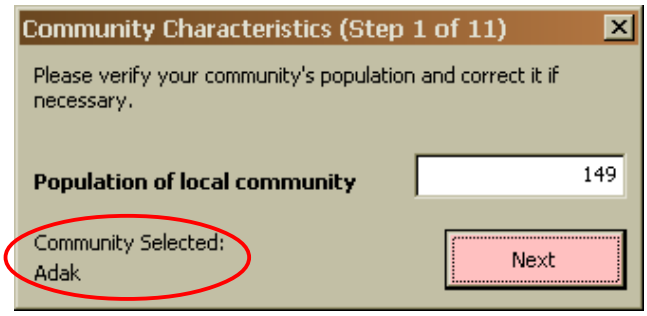
Double Check your numbers. The Model does basic error checking to ensure that the user has not entered text into number fields, or entered negative or zero values for entries that require positive entries. However, no error checking is done for logical errors that may contain valid numbers but where the numbers do not make sense. For example, a harbor might report a local fleet that is completely different from the actual fleet. While the user might recognize that this is an invalid entry, the model will not catch it. The user must ensure that entries are correct or else the model will provide unusable information.

Step 1: Verify Community Population

The first step is to verify the population of the community chosen, shown in **Figure 11**. If the population shown is not correct, enter the correct number. The selected community is shown on the screen. If this community is incorrect, click on the ✕ and select a new community. For information on making changes to Population, tax rates, and other information, see "Changing the Model Data," on page 23.

Figure 11

Population of local community



Source

Your community's current population should be available on the Alaska Department of Labor's website.

Step 2: Harbor Fees

The second data entry step is to provide information on harbor fees (**Figure 12**). The values are read from the model. If this is the first time the model has run, the values will be the default amounts. If the model has been run previously, the numbers should reflect the last values entered. These values will be used to calculate estimates of revenues generated by harbor operations.

Source

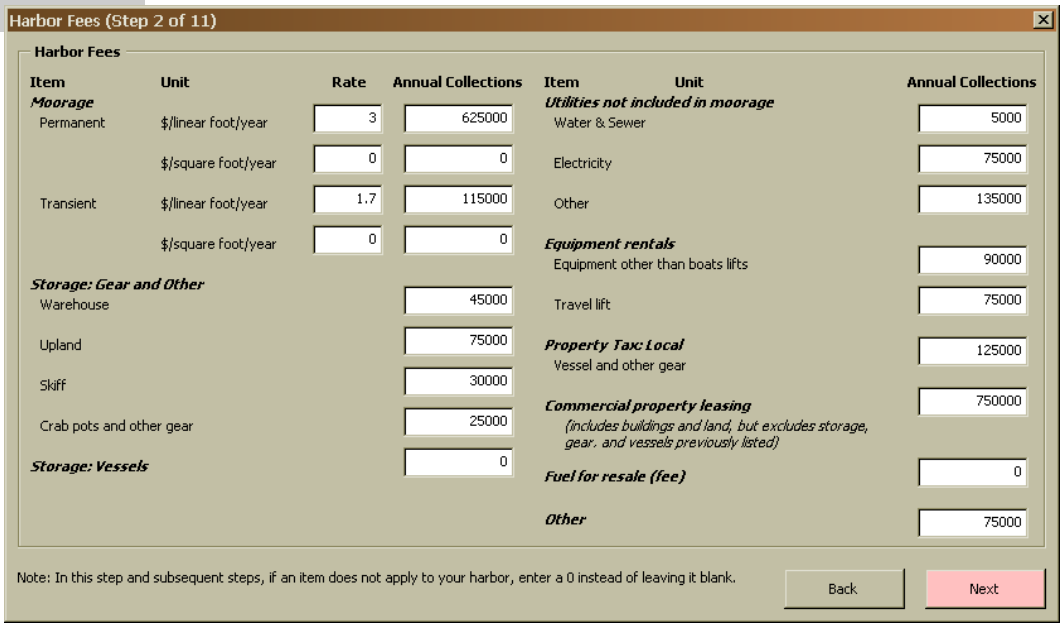
Current values for your harbor or community should be available from your harbor financial reports or your community's finance director.

Note

Average per unit values—$/linear foot/year, $/square foot/year, etc—are assumed to be constant when calculating revenues.

Figure 12

Harbor Fees



Step 3: Harbor Description

The third step in the data entry is to describe the harbor in terms of slips and space. This screen is shown in **Figure 13**. The values shown on this screen can reflect either current harbor conditions or future harbor conditions. These values will be used to calculate estimates of both revenues and harbor operating costs.

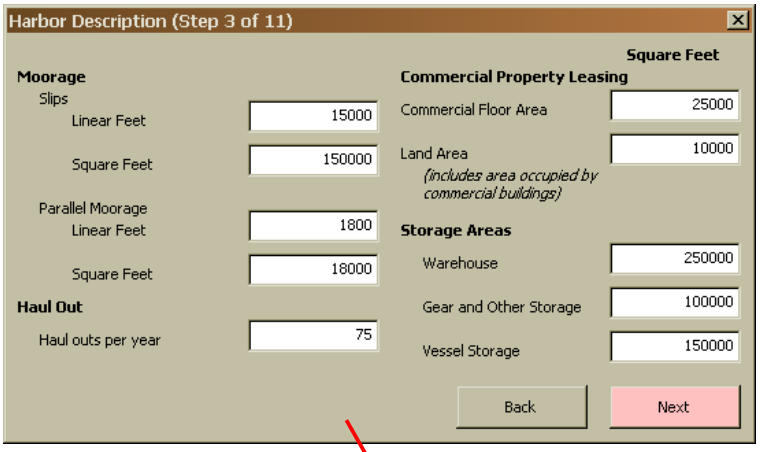


Figure 13

Harbor Description

Step 4: Harbor Expenses

Step four of the data entry process asks for harbor expenses, as shown in **Figure 14.** The values shown on this screen can reflect either current harbor annual operating expenses or future harbor expenses. If your harbor's operating expenses are not reported separately—that is, they are part of a combined financial statement—enter the combined values. The next screen will allow you to roughly calculate the values for just the harbor operations. These values along with the physical characteristics of the harbor entered on previous screens will be used to calculate estimates of harbor operating costs.

Source

Current values for your harbor should be available from the harbor's financial reports or the community's finance director.

Source

Current values for a harbor should be available from the harbor office, values used to estimate the impacts of new construction or expansions may come from a variety of sources—DOT&PF, engineering firm, etc.

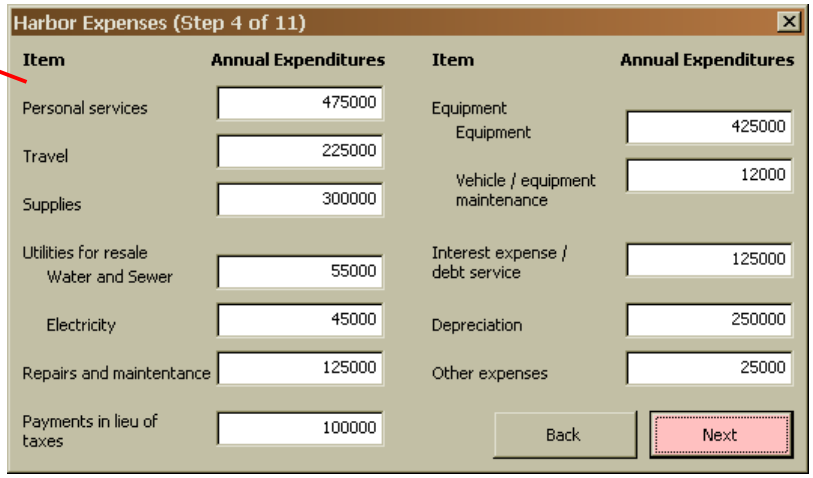


Figure 14

Harbor Expenses

Step 5: Operating Expenses

The fifth step in setting community characteristics is to enter how non-capital operating expenses are allocated to the harbor and other area-based harbor activities, as shown in **Figure 15**. The purpose of this form is to help in allocating the harbor's operating costs, which are reported in a consolidated financial report. If your financial report reflects only harbor operations, enter 100 for all the values in the "Harbor" column. If your harbor budget includes revenues from other harbor activities—rental of commercial property, sales of fuel—enter the percentage of costs associated with these activities under "Other area-based harbor activities." These values along with the physical characteristics of the harbor entered and harbor expenses entered on previous screens will be used to calculate estimates of harbor operating costs. ***Again, average per unit values—$/linear foot/year, $/square foot/year, etc.—are assumed to be constant when calculating revenues.***

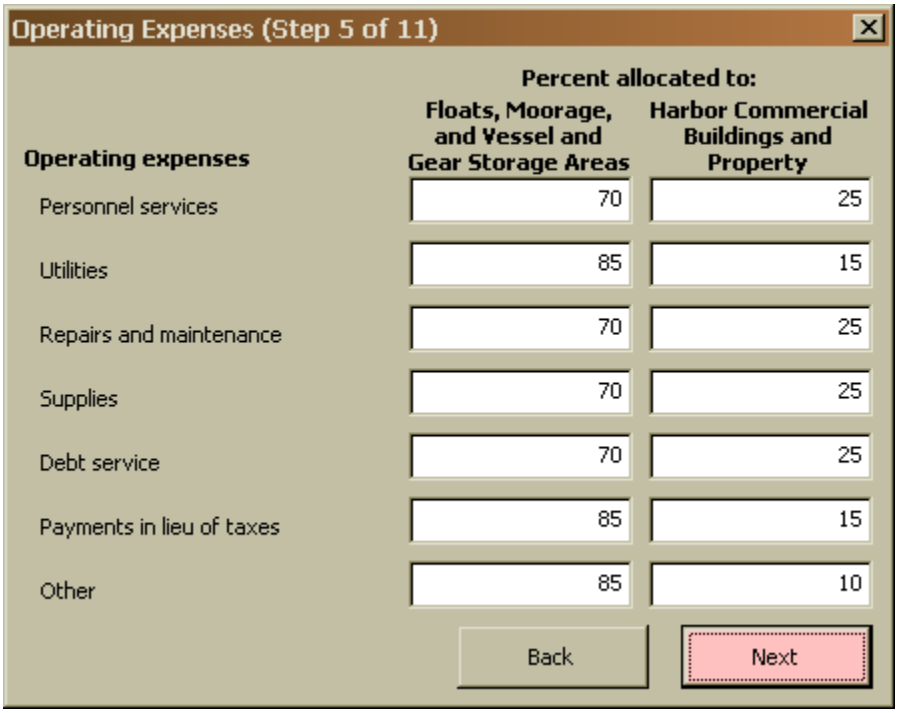


Figure 15

Operating Expenses

Note

If your consolidated budget includes other non-harbor related activities—public safety, power production and distribution—the sum of the "Harbor" and "Other area based harbor activities" columns will be less than 100 percent. The difference, not shown, is the cost of providing these non-harbor enterprises.

Source

Your community's finance director, in cooperation with the harbormaster, will be the best source of these estimates.

Step 6: Harbor Utilization

Harbor utilization is entered in the sixth step, shown in Figure 16. This form requests information on the local fleet. Remember that the default information (already in the model as a place-holder) is not tailored to any particular community, and the user must enter information to ensure that the fleet matches the current users of a harbor. The values shown on this screen can reflect either the current fleet served by the harbor or a future fleet. The values in **Figure 16** are used to calculate the economic impact of harbor users. Average local sales and employment, based on local averages from survey data, are calculated to estimate the harbor's impact on local sales, employment, and income.

Note

Due to the limited number of surveys received during this project, survey values are only available for Southcentral Alaska harbors.

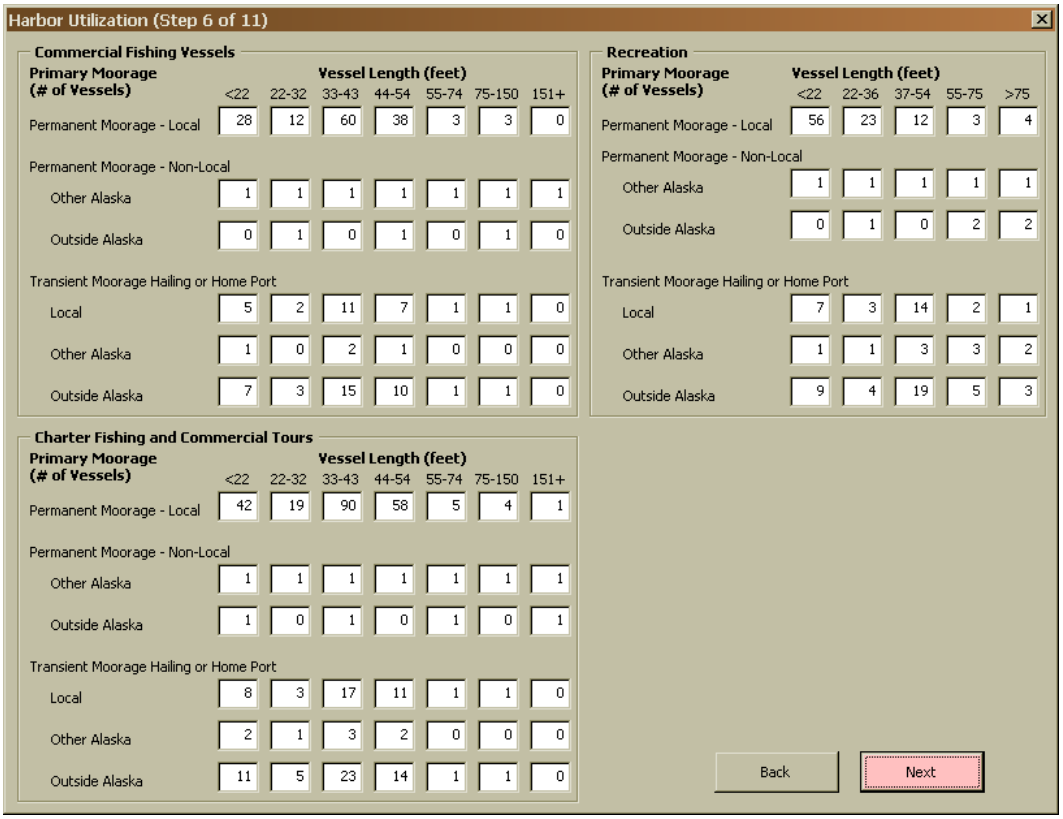


Figure 16

Harbor Utilization

Source

Your harbor office will be the best source for this information.

Step 7: Harbor Activity

The seventh step in the process is to enter harbor activity information. **Figure 17** shows this form, which requests the average number of days each vessel class is active each year, and the breakdown of how much of that activity takes place in the local harbor. The purpose of this screen is to allocate annual expenditures for transient vessels that use the port. The assumption is made that the proportion of a vessel's expenses spent in a community is determined by the proportion of its time in or operating out of a specific harbor.

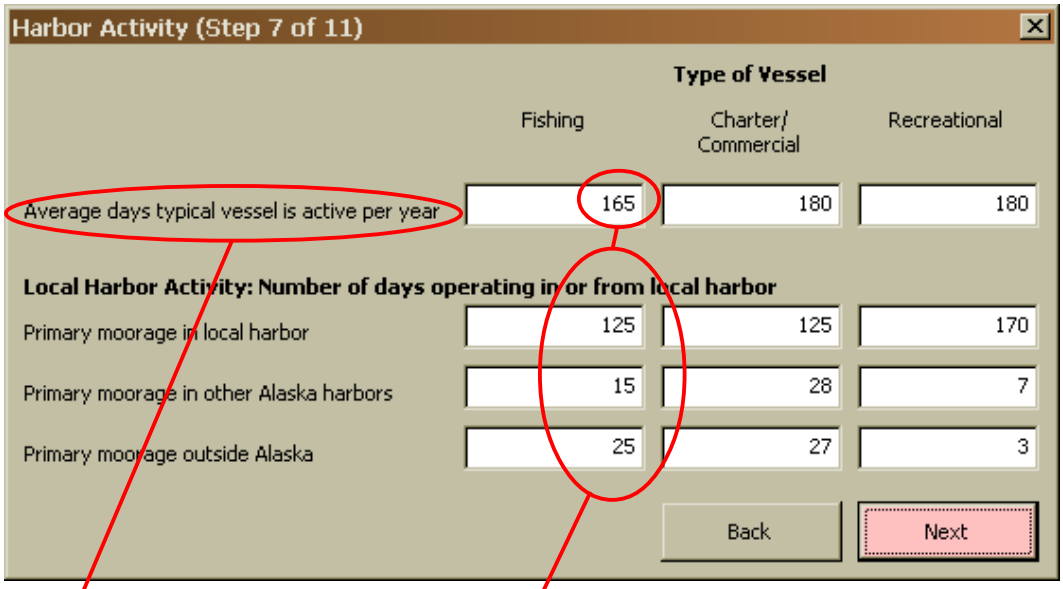


Figure 17
Harbor Activity

Note

Active days, defined. For fishing vessels, "active days" means the average annual days a typical vessel is engaged in harvesting and does not include days the vessel is in port preparing for or recovering from the season. For commercial charter vessels, "active days" means the average annual days a typical vessel is actively engaged in the charter. For recreational vessels, "active days" means average annual days the vessel is in operation outside the harbor.

Note

The sum of the three rows must equal the annual days of activity

Source

The harbor office will be the best source for this information.

Step 8: Capital Replacement Expenses

Capital replacement expenses are entered during the eighth step, as shown in **Figure 18**. The screen prompts for the replacement cost and useful life of buildings, facilities, vehicles, and miscellaneous capital items. The purpose of this form is to help you allocate harbor capital costs that are reported in a consolidated financial report. If your financial report reflects only harbor operations, enter 100 for all the values in the "Harbor" column. If your harbor budget includes revenues from other than harbor activities—such as rental of property or sales of fuel—enter the percentage of costs associated with these activities under "Other area-based harbor activities."

These values along with the physical characteristics of the harbor entered and harbor expenses entered on previous screens will be used to calculate estimates of harbor operating costs.

Remember: Average per unit values—$/linear foot/year, $/square foot/year, etc—are assumed to be constant when calculating revenues.

Note

If your consolidated budget includes other non-harbor related activities—public safety, power production and distribution—the sum of the "Harbor" and "Other area based harbor activities" columns will be less than 100 percent. The difference, not shown, is the cost of providing these non-harbor enterprises.

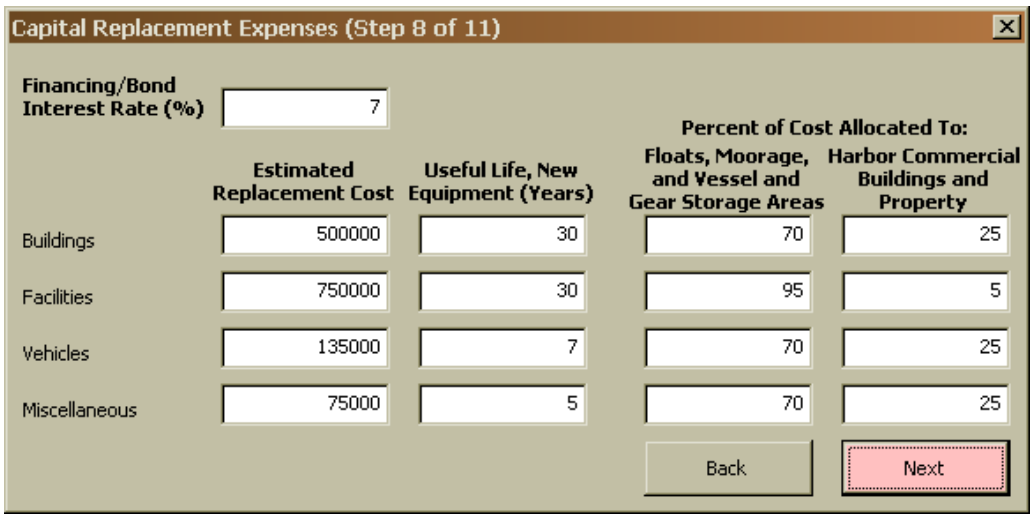


Figure 18

Capital Replacement Expenses

Source

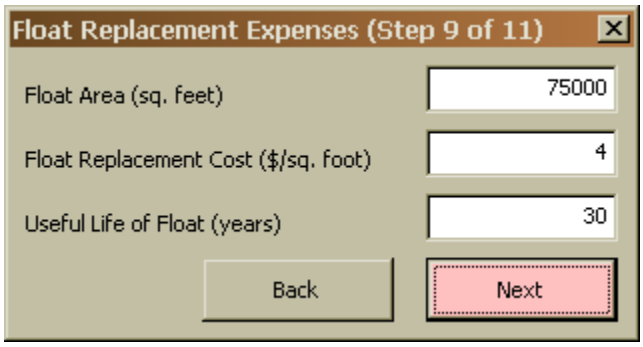
Your community's finance director in cooperation with the harbormaster will be the best source for these estimates.

Step 9: Float Replacement Expenses

The ninth data entry form records information about float replacement expenses.

Figure 19

Float Replacement Expenses

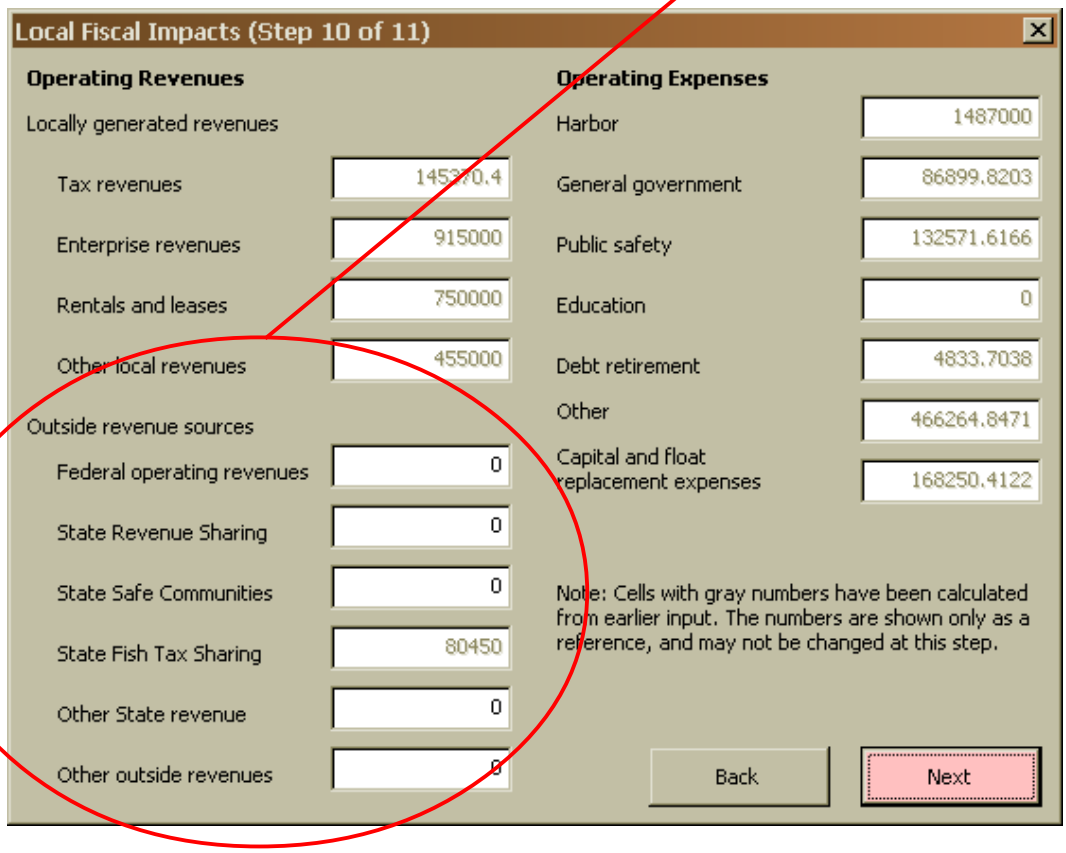


Step 10: Local Fiscal Impacts

Local fiscal impacts are covered in the tenth step. Note that only a few of the values may be edited by the user. Locally generated revenues and operating expenses (shown as greyed out text) are calculated or carried over from prior sheets. The user must enter most of the outside revenue sources, except for the State Fish Tax Sharing.

Figure 20

Local Fiscal Impacts



Step 11: Borough Fiscal Impacts

The final data entry step is to enter borough fiscal impacts, if your community is located in a borough. If your community is not in a borough, enter zeros. Locally generated tax revenues and operating expenses (greyed out text) are calculated from earlier steps.

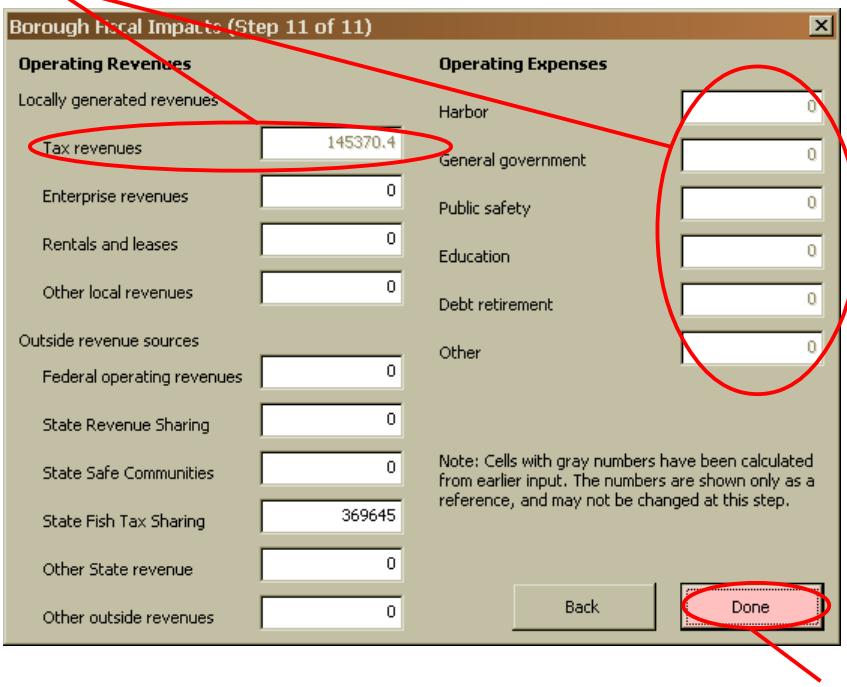


Figure 21

Local Fiscal Impacts

Once the information for each of the eleven steps has been entered, click the "Done" button on the final form to return to the main menu.

Saving the Model Data

The Model has a feature that allows the user to save data entered in the eleven-step process under "Community Characteristics." The save and load features are found on the File Options form, accessible from the main menu. **Figure 22** shows the File Options. Data files for the Model use the extension: *.hm*. To save a file, enter the preferred name (without the file extension) and click on the button immediately below, "Save Model Data." To load a saved data file, select the file from the list on the right and click "Load Model Data." A message will appear once the saving or loading process is complete.

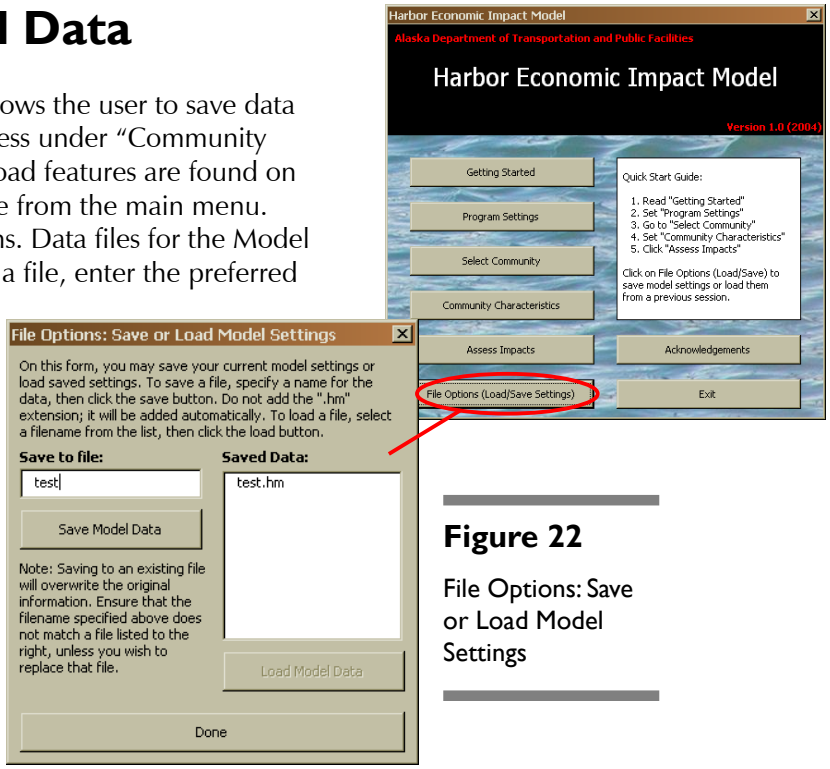


Figure 22

File Options: Save or Load Model Settings

Assessing Impacts

Once the user has set up community and harbor characteristics, the model has all the information it needs to assess the harbor's impacts.

To assess the impacts of the harbor the user has modeled, select "Assess Impacts" from the main menu. The screen shown in **Figure 23** will appear to ask what sort of assessment is desired. The three options are to assess the impacts of an existing harbor, a new harbor, or an expansion to an existing harbor. An existing harbor assessment will provide an estimate of the economic activity associated with operating the harbor. A new harbor assessment will estimate the construction cost for the new harbor as well as the annual operational impacts once the harbor is available for use.

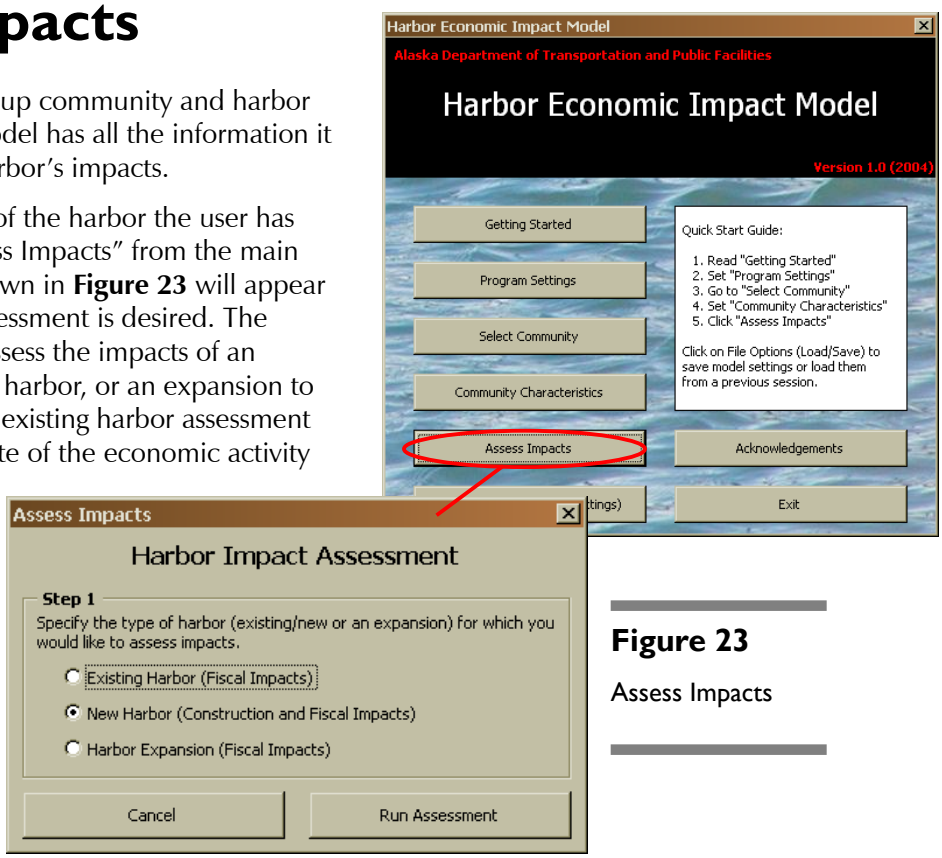


Figure 23

Assess Impacts

A harbor expansion requires some additional information (**Figure 24**), after which the assessment will provide an estimate of the operational impacts from the additional facilities.

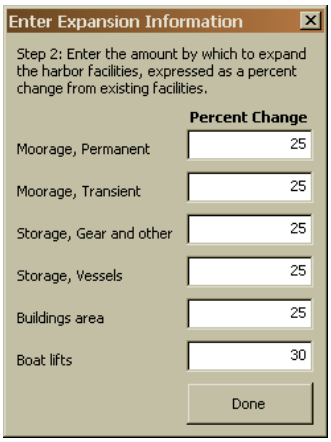


Figure 24

Enter Expansion Information

Saving the Assessment

After the assessment is run, a screen will appear to ask you to save it. Clicking Save Assessment will open the "Name Scenario" window **(Figure 25).** The scenario name is included in the saved file name.

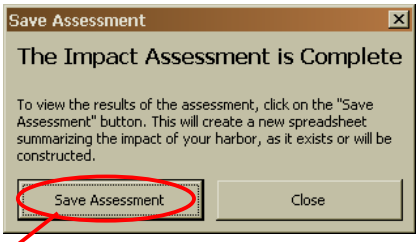


Figure 25

Name Scenario

Assessments are saved as Excel workbooks containing six sheets. One sheet contains a summary of impacts, and the other five sheets provide the input data. The saved file name will consist of the harbor name specified in the program options and the scenario name, and will be located in the worksheet location or at the root of the C: drive, according to which option is selected in the program options. ***(See page 6 for an example of an assessment summary report.)***

It is recommended that a descriptive name be given to the assessment to help identify it. Rather than accepting the default name of "Scenario1," the user should enter information to help identify the assessment later. Example information to include might be the type of harbor described (New South Harbor), the date (1-1-04), or some other identifying information. Once the scenario has been named, click "OK" to save the file.

Caution

Only limited error checking is done on the scenario name. Any illegal characters (for example : * / \ and |) will be stripped from the file name. Do not use the same name as a file that is currently open.

Scenarios generated by the Model will stay open in Microsoft Excel until the user exits the model. Saved assessments will be placed in the location specified in the options menu, discussed in Program Options on page 6. These files may not be viewed until the model stops running. This may be accomplished by exiting the model and reloading Microsoft Excel, or by stopping the model in the options menu (see "Changing the Model Data" on page 23.)

Interpreting the Assessment Information

The three assessment options provide information about the financial, fiscal and economic impacts of an existing or new harbor or expansion of an existing harbor on a community and the borough or census area where it is located.

Existing harbor impacts

The existing harbor assessment is used to evaluate the impacts of a harbor's operations for a typical year. The assessment provides estimates of an existing harbor's:

- **operating revenues and costs**—this provides a rough overview of the current and long term outlook for the profitability of the harbor enterprise.
- **impact on the local community's and borough's (census area's) revenues and costs**—this provides an estimate of the net impact on the community's and borough's (census area's) budget.
- **impact on the local community's and borough's (census area's) economy—**this provides estimates of total sales and the number of jobs affected by harbor activity.

New harbor impacts

The new harbor assessment is similar to the existing harbor impact assessment in that it can be used to evaluate the impacts of a proposed harbor's operations during a typical year. The major difference between the "new" and "existing" harbor assessments is that the new harbor assessment provides estimates of the construction costs of the new harbor construction. The new harbor assessment provides estimates of a proposed harbor's:

- **operating revenues and costs**—this provides a rough overview of the current and long term outlook for the profitability of the harbor enterprise.
- **impact on the local community's and borough's (census area's) revenues and costs**—this provides an indication on the net impact on the community's and borough's (census area's) budget.
- **impact on the local community's and borough's (census area's) economy during operation of the harbor—**this provides estimates of annual total sales and the number of jobs affected by harbor activity once it is becomes fully operational.
- **construction costs—**two estimates, one for the inner harbor only and another for the inner harbor plus all upland facilities, are provided. To obtain an estimate of harbor construction costs that is more tailored to local conditions, contact DOT&PF.
- **impact on the local community's and borough's (census area's) economy during construction of the harbor-**this provides estimates of total sales, local employment and local income affected by construction of the harbor activity.

Harbor expansion impacts

The expansion assessment can be used to evaluate the impacts of increasing a harbor's moorage area or upland storage capacity on harbor costs and revenues and on local and borough or census area budgets. Output from the harbor expansion assessment also includes estimates of the existing harbor's current finances, fiscal impacts on the community and borough or census area. It does not include the harbor expansion's economic impacts; however, a discussion of how these can be calculated is found in the next section: Assessing the Impacts of Expanding a Harbor. The harbor expansion assessment provides estimates of a harbor's:

- **operating revenues and costs**—this section provides a rough overview of the current and long term outlook for the profitability of the harbor enterprise and the impact of the planned expansion on harbor costs and revenues.
- **impact on the local community's and borough's (census area's) revenues and costs**—this section provides an estimate of the current harbor's impact on government budgets and the net impact of the planned expansion on the community's and borough's (census area's) budgets.

Assessing the Impacts of Expanding a Harbor

A harbormaster may want to assess the incremental impacts associated with expanding an existing harbor. This section discusses how to use the Model to assess expansion impacts.

To calculate the impacts of expanding an existing harbor:

1. Enter **existing** harbor and fleet information in the model
2. Save your harbor data using "load/save settings."
3. Select and run the "existing harbor" assessment option. This step is necessary to establish a "base case" to compare your proposed expansion against.
4. Save the results in a scenario spreadsheet file—e.g., Scenario.new1—this report will contain the impacts of the existing harbor.
5. Go back to the harbor utilization form and update these data to reflect the **new fleet** after the harbor expansion is completed.
6. Next, select "**harbor expansion**" assessment and enter the data requested in the "Expansion Information Screen" (Figure 24).
7. Run the model and save the results in a different scenario spreadsheet file—e.g., Scenario.new2
8. The impacts of the expansion on harbor and government revenues and costs are reported in the Scenario.new2 output. The economic impacts of the harbor expansion are estimated by comparing the results of the base case "existing harbor" assessment—Scenario.new1—with the results of the updated "harbor expansion" assessment— Scenario.new2.

Where was that again?

All the steps in this process are covered in earlier sections. Here is a handy page reference by step.

Step	Page
1	9-17
2	17
3	18
4	19
5	13
6	18
7	19

Identifying the Impact of Specific User Groups

A harbormaster may want to assess the impact of a portion of the local fleet, such as recreational or the commercial fishing fleet. This section discusses how to use the Model to isolate the impacts of a specific type of vessel.

To calculate the impacts of specific user groups:

- Run the model for the existing harbor and fleet, and save the assessment results.
- Run the model for the same harbor and vary the size and composition of the fleet and save the assessment results. (Note that the change in the fleet may include different vessel sizes, different classes of vessels, or a combination of both.)
- Calculate the differences of the two models to determine the economic impacts.

For example, suppose that the user wishes to estimate the full impact of the local recreational fleet. One way to do this would be to calculate the impacts of the entire fleet, followed by the entire fleet except for the recreational vessels. The difference in impacts would indicate the impact of the recreational fleet.

Another question the user might have is what impact results from specific types of spending by a portion of the fleet. (This is a slightly more advanced topic, and users wishing to consider this type of analysis are referred to Advanced Topics in Section 3. For example, if commercial fishing vessels purchase all of their supplies from a community, what is the impact of those expenditures compared to the alternative that they purchase supplies elsewhere and only moor or land their catch in the community? One way to determine this is to change the expenditure patterns for the target fleet, rather than the fleet composition, and compare the impacts with and without the changes.

How to Share Model Data

Users may wish to share input data with others in order to get feedback about how reasonable any assumptions might be. While the model is not set up to share data directly, this section provides an example of how users may check the input values provided by others.

Suppose a user, Jane, wants to verify the input values entered by another user, Joe, after looking at the assessment results. After Joe has finished entering his harbor's information, he can save the assessment and the input data, and send these files to Jane. Jane's first step would be to verify that she can duplicate Joe's assessment results. To do this, she would load Joe's input data and duplicate the assessment. If the results were different, then Jane and Joe would need to verify that the community information and other data used in the model, such as the assumptions about vessel expenditures or the economic multipliers, were the same for both users. (Accessing these data is an advanced topic. See "Advanced Topics, starting on page 23 for more information). Once Jane is able to duplicate Joe's results, she could then look at the input screens to confirm his entries.

Advanced Topics

This section covers advanced topics about how to modify the Model to suit individual needs. These topics are recommended only for those users who are familiar with advanced use of Microsoft Excel, how the Model works, input-output analysis, and Visual Basic for Applications (VBA) programming.

Caution

The changes discussed in this section can affect the functioning of the Model. Before making any changes, be sure to make a backup copy of both model files: "Harbor Impact Model.xls" and "HEIM.xls".

Changing the Model Data

This section discusses how to access the model data. Before making any changes to the data, it is strongly recommended that the user make a backup copy of the model. Only change the shaded cells as indicated in the spreadsheets. Do not change any cells in which a value is calculated by a formula.

In order to update community and other information, the Model menu system allows the user to exit the model interface and edit the worksheets directly in Microsoft Excel. **Figure 26** shows the button, labeled "Edit Model Data," that allows workbook access. To enable this button, the user first must check the box to allow access to the model and data.

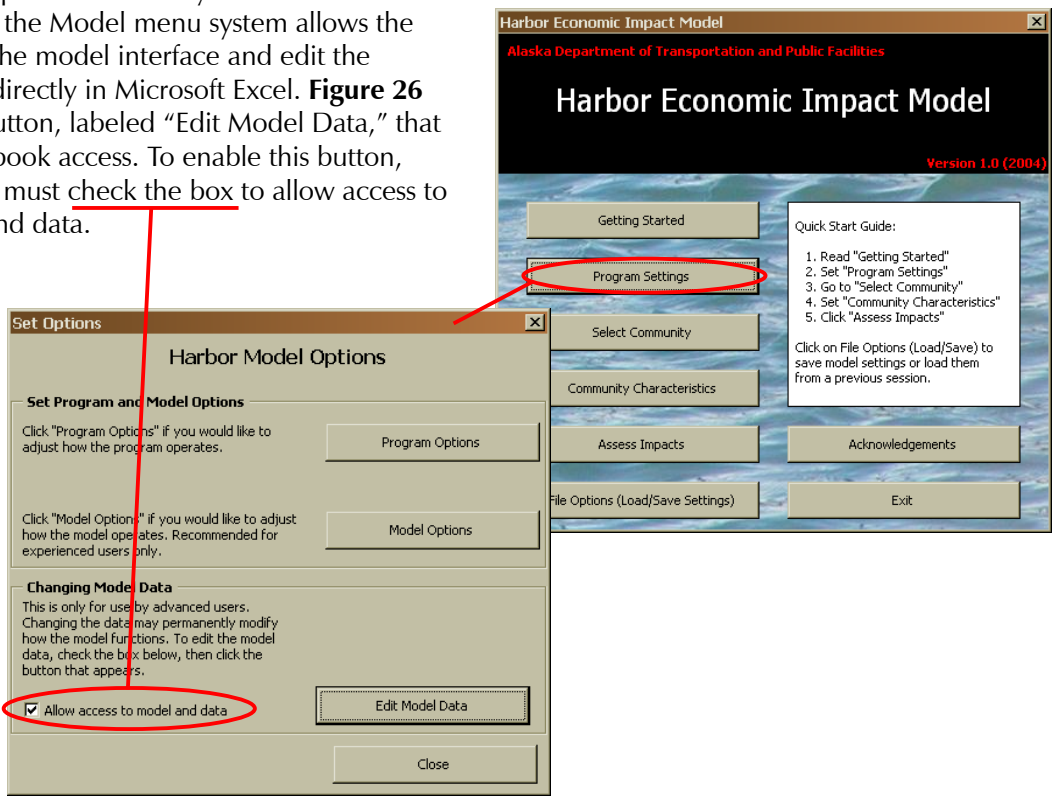


Figure 26

Harbor Model Options

Once access has been allowed, the message box shown in **Figure 27** will pop up. Once the user clicks "OK," the familiar Microsoft Excel interface will show, and the *Data - 1* sheet will be active.

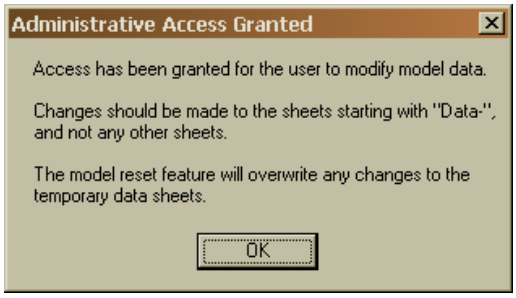
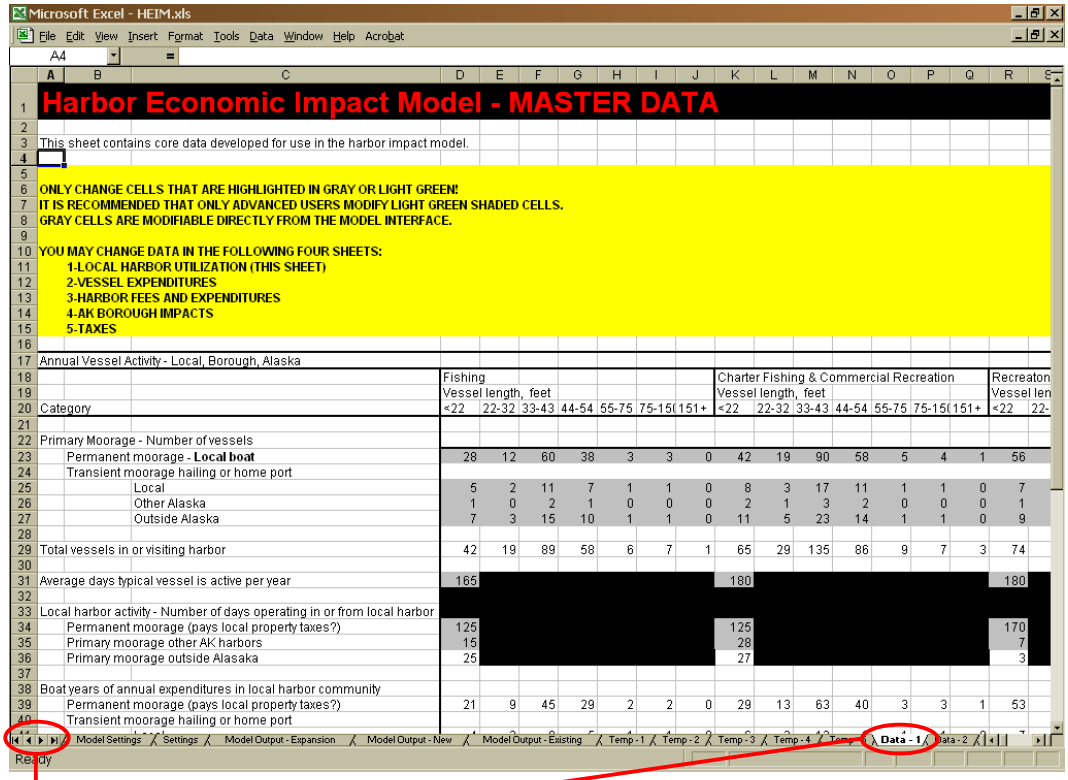


Figure 27

Harbor Model Options

Figure 28

Harbor Model Options



Note

You may have to scroll over to make the active sheet tab visible.

Changes to the model should be done in the sheets labeled *Data - 1* through *Data - 3* and *Data - 5*. These four sheets contain all of the general model data; advanced edits to *Data - 4* are covered in the following section. Many of the shaded cells in these sheets are values that the user may change in the interface. Changing these values will change the default value when the model is reset. Other values, such as the community information found in *Data - 5*, should be updated whenever newer information is available.

Caution

It is recommended that the user not make changes in the sheets labeled *Temp*, since those sheets are overwritten whenever the model is reset. The four *Temp* sheets correspond with the *Data* sheets, and are used to store the data entered from the interface.

Once changes are complete, the user should **save and close** the file, HEIM.xls, then restart the model or exit Microsoft Excel. To restart the model, click on the "Restart Model" button found in the file, Harbor Impact Model.xls. This will reload the file HEIM.xls contained on your disk. If you return to the file, Harbor Impact Model .xls without first closing HEIM.xls, a prompt will come up asking if a new version of HEIM.xls should be loaded on top of the current version. Be sure you have saved your changes, then click "Yes" and the model will restart.

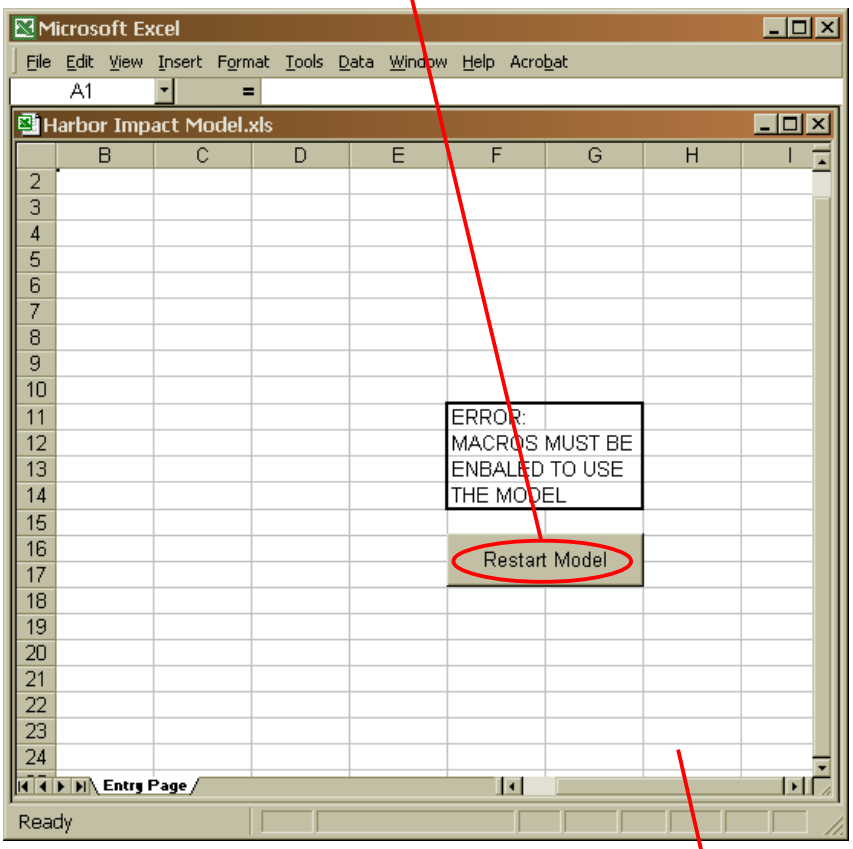


Figure 29

Harbor Impact Model Excel Sheet

Changing the Economic Multipliers

The Model allows the user to update the input-output multipliers the model uses to calculate local and regional impacts. This is recommended only for advanced users familiar with input-output analysis who understand how to generate multipliers.

As is discussed in the previous section, only shaded cells should be modified, as indicated at the top of each sheet. Changes to other cells, specifically those that contain formulas, should be avoided. ***Always make a backup copy of the Model before attempting to make any changes.***

Note

For the data changes to take effect, the user must reset the model. See page 7 for a refresher on the "Reset Model" command in the Model Options menu.

To access the multiplier data, access the model spreadsheet as discussed in "Changing the Model Data," on page 23, and select the *Data - 4* sheet. The multipliers included with the model were generated with the IMPLAN software package, which is listed in the references and on the Acknowledgements screen. The model uses multipliers based on 2000 data.

Once the multipliers have been changed, the user must reset the model for the changes to take effect. ***Remember: only changes to the* Data *sheets are permanent. Changes made to the* Temp *sheets will be lost when the model is reset.***

Changing the Interface

The Model interface consists of several User Forms and associated VBA code, accessible through the Visual Basic Editor. In order to access the interface components, the user must have the administrative password. For the password, contact DOT&PF.

The interface components are shown in **Figure 30**, as seen in the Visual Basic Editor. The Microsoft Excel Objects list shows all of the worksheets. As discussed in the prior two sections, the *Data - x* sheets contain default information that is loaded into the *Temp - x* sheets whenever the model is reset. The Forms list shows the 25 forms that make up the interface. Finally, Module 1 contains global code that is used to reset the model, verify that numeric entries are correct, and modify the Microsoft Excel interface while the model is running.

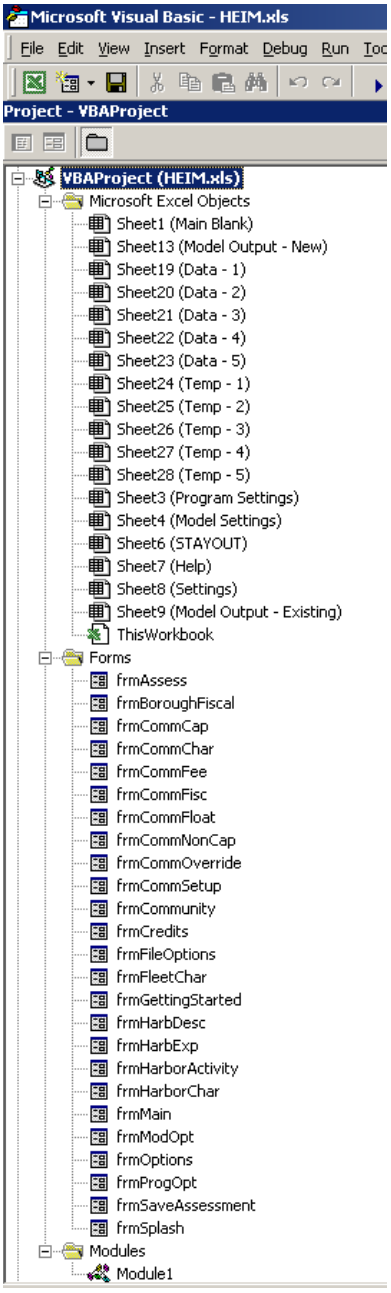


Figure 30

Visual Basic Editor, Harbor Economic Impact Model Components

Caution

Before making any changes, it is highly recommended that you:

1. Make a backup copy (or copies) of the model to prevent irrevocable mistakes.
2. Look through every form and its supporting VBA code to understand how the model works.
3. Read through Module 1 to understand the role of the global subroutines and functions in how the model operates.

Caution

The Getting Started Guide, accessible from the program's main menu, is stored in the *Help* sheet. When displayed, the formatting does not show. However, any formatting done on the text will show up if the user elects to print a copy of the guide. **It is strongly recommended that no changes be made to this guide.**