Potato Budgets and Riparian Buffers: User Instructions

Overview

This Excel workbook takes a standard annual potato enterprise budget and looks at the annual cost and income effects of installing and maintaining riparian buffers along watercourses located on the farm property. The intended target audiences for this workbook are potato producers and other agriculture professionals interested in the impacts of riparian buffers. A basic understanding of potato enterprise budgets and a basic competence level in Excel are required to use this workbook.

This workbook is designed to work like a standard Pacific Northwest red potato enterprise budget with additional worksheets added to calculate buffer economic effects. The basic operational structure and enterprise budget on which this workbook is based are information from Skagit Valley potato producers and a potato production budget in "*1995 Estimated Red Potato Production Costs For Fresh Market in Northwest Washington*" by Richard W. Carkner and Dyvon M. Havens, and published by Washington State University Cooperative Extension, publication EB1801. The default numbers that appear in the worksheets do not represent a particular farm. Rather, they represent specific assumptions, prices and resulting costs and returns used for this budget. The exercise will only have meaning if farm operators enter their own information.

The user provides preliminary information specific to his enterprise and buffer situation, and the workbook produces a budget BEFORE and AFTER the buffers are installed. The user can then compare these two budgets. The initial input of farm and buffer information takes approximately 45 minutes. Once the basic farm information is input, then a number of buffer scenarios can be evaluated. The workbook has a Title Sheet and 9 worksheets:

1. **Economic Impact Summary**: Text describing the assumptions about the farm and buffer, and a table showing key economic indicators pre- and post- buffer installation.

2. **Farm and Buffer Assumptions**: Assumptions regarding crop management, capital and land involved in the crop production, and economic and management assumptions about the buffers.

3. **Buffer Input Prices**: Prices of buffer inputs.

4. **Input Quantities & Prices**: Quantities of farm inputs used and their prices.

5. **Equipment and Investment**: Details the economic and performance data for your farm machinery and equipment.

6. **Buffer Builder**: Designation of buffer design and size, and resulting income and costs.

7. **Budget Summaries**: Outlines the revenue and variable and fixed expenses of the enterprise before and after buffer installation.

8. **Buffer Budgets**: Calculates the *per-acre* buffer income and costs for seven different buffer types. This worksheet is built from information you have provided in previous worksheets. This revenue and cost information is used to design the buffers in the Buffer Builder worksheet. **NOTE**: This worksheet should not be altered. It is not meant to be manipulated by the user.

9. **Buffer Harvest Schedule**: With input from the user, this sheet calculates potential net income from selective timber harvest of a portion of the buffer.

Definitions and help pop-ups

Throughout the worksheets, explanations, descriptions and instructions have been entered into “pop-up” windows. Cells that have pop-ups associated with them have a red flag on their upper right corner. When you move the cursor over these cells, the pop-up will appear. Users are encouraged to read these as you go along.

Entering data directly

Any cells that contain a blue background and blue text represent places where you can enter numbers or text directly. Left click the cursor on the cell where the data should go and type in the text or numbers.

Workbook protection

The workbook is protected to ensure that the formulas are not accidentally modified. To unprotect the workbook go to Tools menu and select Protection and Unprotect Workbook. There is no password. Before doing any formula modification, save the file under another name in order to retain an original copy of the workbook. <u>It is strongly recommended that you do not alter any equations in this workbook, as it may introduce errors and invalid results</u>.

Entering data step by step

Step 1: Put the CD Rom in the drive and click on the file to open. A text box will appear with a message about macros. Click the button that says “Enable Macros”. Save the Excel file to your hard drive or CD ROM under another name. This protects the original file from being corrupted accidentally.

Step 2: Fill in the blue column of the Farm and Buffer Assumptions worksheet. These numbers should accurately reflect your enterprise. If a given assumption does not apply to your operation, place a “0” in the blue column for that item. **Special note**: Be sure to designate a period of 10, 15, 25 or 50 years in the last row of the Buffer Assumptions section of this worksheet (cell D36). See the pop-up in this cell for further explanation of this assumption.

Step 3: Fill in the blue column of the Buffer Input Prices worksheet. If you do not know a price, leave it at the default setting. See pop-up windows on specific cells for detailed explanations.

Step 4: Verify that inputs and their quantities used in your enterprise are listed on the Input Quantities & Prices worksheet. Inputs are grouped into three categories: those that vary by acreage, those that vary by ton harvested, and those that are fixed. New inputs can be added by following the directions at the top of the worksheet.

Fill in the blue columns and make sure that the numbers reflect prices you pay for inputs and quantities used. If you do not know a price, leave it at the default setting. Inputs that appear on this worksheet that are not used in your enterprise can be deleted at your option by following the directions at the top of the worksheet. Inputs that are not used in a particular year, but may be used in the future should not be deleted from the Input Quantities and Prices sheet.

Step 5: Review the Equipment and Investment worksheet. In the Capital Investment table make sure that the equipment compliment accurately reflects your operation. Add machinery in rows that are marked “Other:” Delete rows that contain equipment that you do not own. Numbers that appear in light blue columns can be directly changed by the user. Change these numbers if they do not accurately reflect your estimates of machine purchase price, salvage value and useful life. Similarly, check to see that the Total Annual Use column accurately reflects your equipment usage estimates.

In the Equipment Operating Costs table (yellow headers all the way to the right) check to make sure the blue numbers in the Repairs column accurately reflect your repair costs. Check pop-ups on column headings for equations used. Most of the data for this worksheet came from Smathers, Robert. “The cost of Owning and Operating Farm Machinery in the Pacific Northwest: 2000” PNW346. University of Idaho. It is assumed that all machinery and equipment are owned by the producing farm (not leased).

Step 6: Go to the Budget Summaries worksheet and fill in the blue boxes in the Pre-Buffer column. The black numbers on this worksheet are automatically calculated based on numbers you’ve entered in the Farm Assumptions, Buffer Prices, Input Prices and Quantities, and Equipment and Investment worksheets. You should not alter any black numbers directly on this worksheet. If you do need to change a particular black number, click on that cell to see the sheet and cell reference. Go to that sheet and cell and change the number there. The bottom line on this budget in the Pre-Buffer column should look familiar: it is your current net return. See pop-ups in the workbook for specific line item details. **IMPORTANT NOTE:** The numbers in the Post-Buffer column will not be valid until you complete Steps 7-10 below.

Step 7: Fill in the blue boxes in the Buffer Builder Worksheet, following the steps numbered 1 through 8 on the worksheet. The user should enter the number of lineal feet for each stream type

on all the land he has in production (both owned and leased). This may involve some on-the-ground measurements with a distance wheel, if you do not already know these numbers. Stream type maps can be obtained from Skagit County Planning and Permit Center. See the first pop-up on this worksheet for definitions of stream types.

In steps 3-8 in this worksheet, you can design different kinds of buffers for different watercourses on your farm. Examples are given in pop-ups. Leave a 0 in the width column for buffer types you do not wish to use. The total buffer width and acreage of the buffer are calculated automatically by the worksheet.

Still in the Buffer Builder worksheet, scroll down to the Buffer Acreage Summary table and in the light blue box enter the number of buffer acres that will be installed on land that you *lease*. Only a rough estimate of this acreage is required. See additional information about this cell and other cells in the worksheet in their pop-up windows.

Step 8: While still in the Buffer Builder worksheet, scroll down to the Buffer **Budget Summary Table** and fill in blue boxes if you have buffer income or costs that are not already listed in this table. See pop-ups for instructions on foregone income from the buffer area.

Step 9: Return to the **Budget Summaries** worksheet. The Post-Buffer column shows the same original budget, modified to include average annual revenues and costs of the buffers you have designed. Fill in the light blue boxes in the Post-Buffer column to reflect changes in these values due to the placement of buffers. Please note that the annualized revenues and costs of the buffers shown in the last table at the bottom of this worksheet are **not** cash flow values, they represent the average annual effect of the buffer on the enterprise over a designated time period.

Step 10: Go to the Economic Impact Summary worksheet located after the title page and view the summary of the analysis. To the right of the table you can edit the description of the assumptions used in your analysis and the results. Users are encouraged to edit this text; if you return to this scenario after some time, you can look at this text and know immediately what you modeled. When you are done, save the Excel file to your computer using a name that describes the scenario, such as “100 foot buffer with cost share.”

END OF WRITTEN INSTRUCTIONS

For questions and comments please contact:

Carolyn Henri
Resource Consulting Service, LLC
7925 300th St. NW
Stanwood, WA 98292
Phone: 360-629-6587
E-Mail: Carolyn@ResourceConsulting.us