

# **Economic Impact of Riparian Buffers on Skagit Valley Potato Farms**

**23<sup>rd</sup> Annual Western WA  
Potato Workshop**

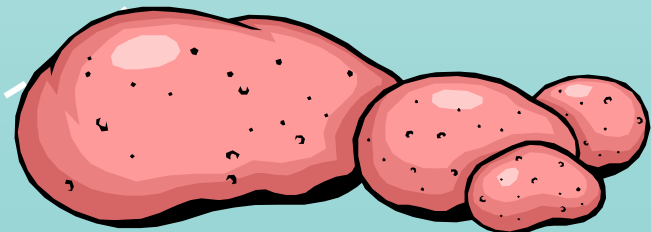
**February 25, 2005**

- **Project Objective**

- **Measure buffer impacts on net farm income for several case study farms**

- **Project Outputs**

- **Economic tools for use by land owners**
- **Farmer training workshops for tools**
- **Publication of project results**



# Methods: Economic Tools

- **Economic tools: 4 models written in MS Excel**
  - **Potato**
  - **Dairy**
  - **Raspberry**
  - **Blueberry**
- **Annual farm enterprise budgets**
  - **Revenues, variable & fixed costs**
  - **Capture annual impact on net revenues**



# How The Models Work

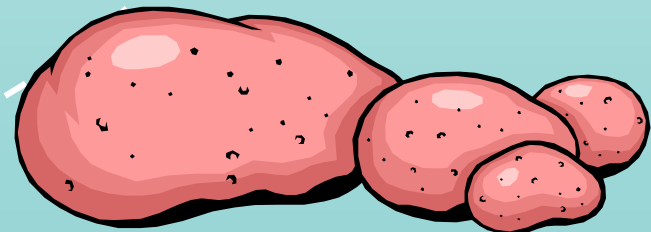
- **Producer inputs:**
  - **Farm data:** Crop yield or herd production, management, labor, capital & land investments, prices
  - **Buffer information:** Stream types and lengths, type of buffer, cost sharing information

# How The Models Work

- **Models produce enterprise budgets**
  - **Pre-buffer**
  - **Post-buffer**
- **Results are buffer impacts on net enterprise return**
- **All assumptions can be adjusted to run different buffer scenarios, and assess impacts and mitigation measures**

# Economic Analysis

- **Three to five case studies per farm sector**
- **12 buffer scenarios**
  - 35', 75', 180' widths
  - forested and forest/grass combination
  - with and without financial assistance



# Selection of Case Studies

- **Representative of commercial farming enterprises in the Skagit Valley**
- **Capture range of farm sizes**
- **Some degree of riparian exposure**



# Selection of Buffer Scenarios

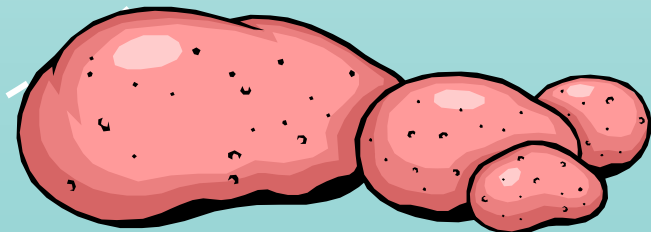
- Represent range of buffer sizes and types that may be recommended for agricultural lands in the future





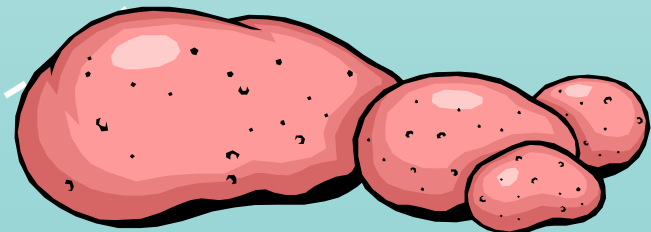
# Results: Assumptions & Disclaimers

- Assumes current price of potatoes
- No drainage effect from buffer
- Cost-sharing and rental payments are 100% and 200% respectively
- Results are specific to these case studies and buffer scenarios and should not be generalized.



# Skagit Potato Enterprise Results

- Average “Riparian Exposure” *per farm* totaled 9 miles of rivers, streams, sloughs and ditches
- The average acreage taken out of production due to buffer placement was:
  - 28 acres with a 35’ wide buffer
  - 69 acres with a 75’ wide buffer
  - 178 acres with a 180’ wide buffer



# Skagit Potato Enterprise Results: Average Cost Per Acre of Forested Buffer

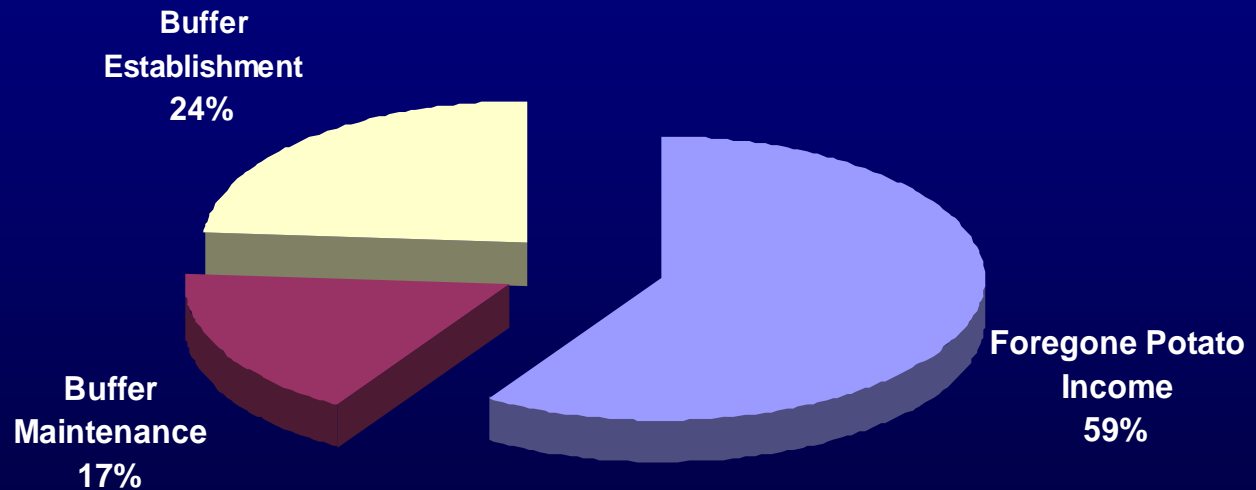
## No Cost Sharing or Rental Payments

<b>Net Present Value</b>	<b>- \$ 11,000.00</b>
<b>Annualized Cost (15 yrs.)</b>	<b>- \$ 990.00</b>

## With Full Cost Sharing and Rental Payments

<b>Net Present Value</b>	<b>- \$ 501.00</b>
<b>Annualized Cost (15 yrs.)</b>	<b>- \$ 45.00</b>

# Skagit Potato Enterprise Riparian Buffer Cost Breakdown

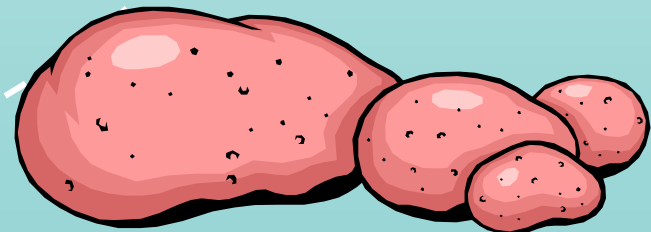


# Skagit Potato Enterprise Results: Percent Change In Net Enterprise Return After Installation of Forested Riparian Buffers

	<b>35' Buffer</b>	<b>75' Buffer</b>	<b>180' Buffer</b>
<b>Without Cost Share &amp; Rental Pmt</b>	<b>-5.8%</b>	<b>-13.5%</b>	<b>-33.8%</b>
<b>WITH Cost Share &amp; Rental Pmt</b>	<b>-0.5%</b>	<b>-2.2%</b>	<b>-6.6%</b>

# Field Drainage and Riparian Buffers

- **Without a drainage system, the Skagit Valley could not be farmed.**
- **Riparian “no-touch” buffers fundamentally impair the current drainage system by blocking drain tile and v-ditch outlets and inhibiting ditch cleaning and maintenance.**
- **This goes beyond economics; it is directly at odds with current farm drainage management practices.**



# Project Status

- **Potato enterprise preliminary results complete; looking for two more case studies**
- **Raspberry and blueberry models in field test stage; looking for case studies**
- **Dairy models need case study farms**
- **Workshops this Fall and Winter**



# Thank You

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