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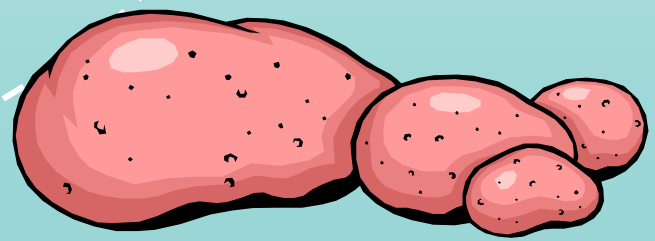
Economic Impact of Riparian Buffers on Skagit Valley Potato Farms

23rd 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**



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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**

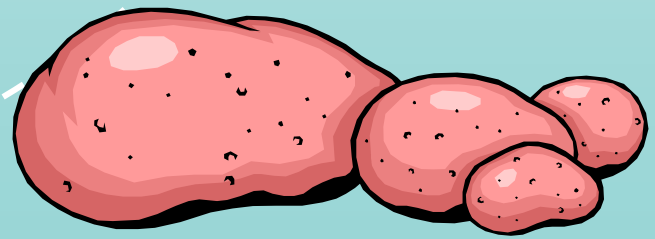
How The Models Work

- 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**



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Selection of Case Studies

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

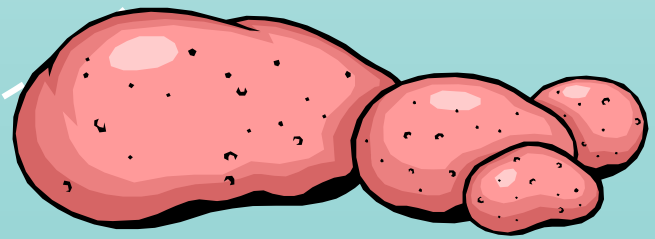
Selection of Buffer Scenarios

- **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.



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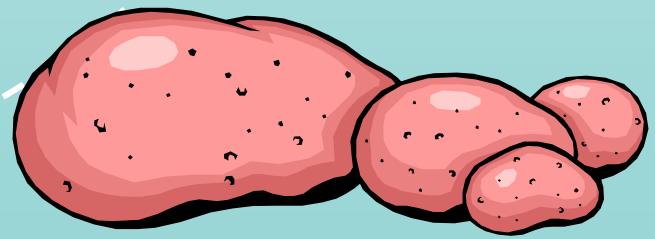
Skagit Potato Enterprise Results

- **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**



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

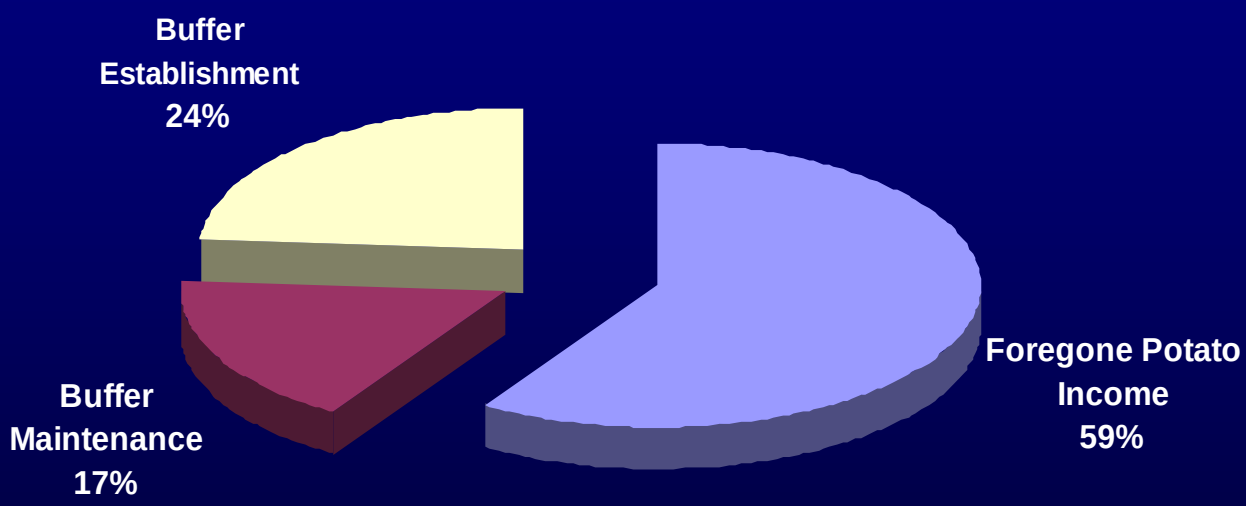
No Cost Sharing or Rental Payments

Net Present Value	- $ 11,000.00
Annualized Cost (15 yrs.)	- $ 990.00

With Full Cost Sharing and Rental Payments

Net Present Value	- $ 501.00
Annualized Cost (15 yrs.)	- $ 45.00

Skagit Potato Enterprise Riparian Buffer Cost Breakdown



Skagit Potato Enterprise Results:

Percent Change In Net Enterprise Return After Installation of Forested Riparian Buffers

	35' Buffer	75' Buffer	180' Buffer
Without Cost Share & Rental Pmt	-5.8%	-13.5%	-33.8%
WITH Cost Share & Rental Pmt	-0.5%	-2.2%	-6.6%

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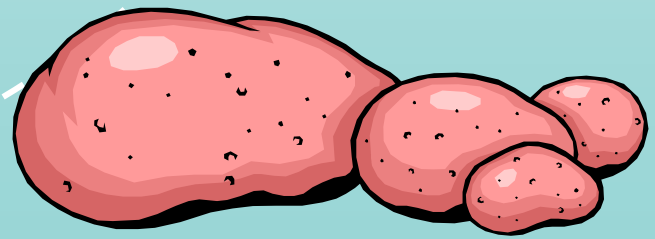
Field Drainage and Riparian Buffers

- **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

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Thank You

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