

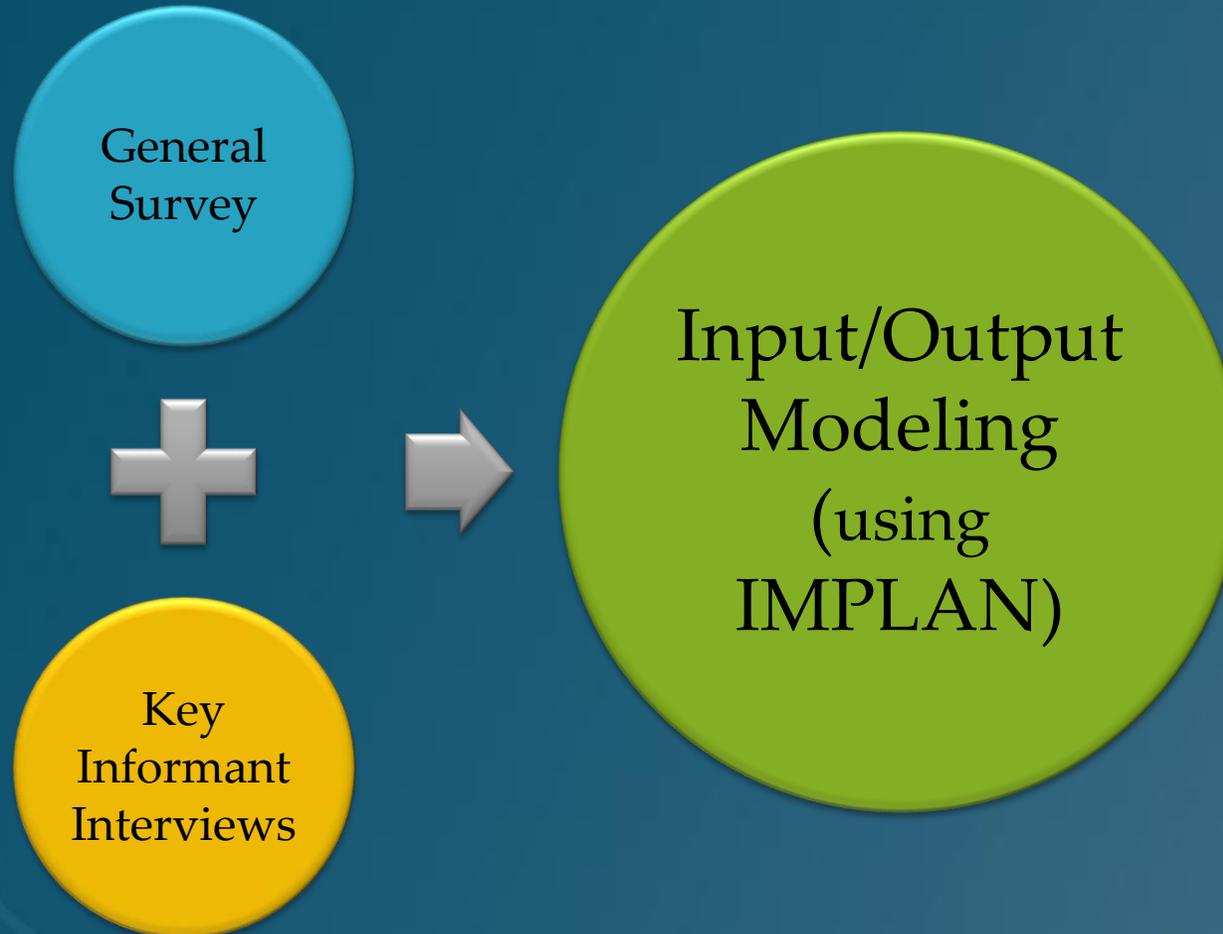


## **Aquaculture on the Washington Coast**

# Shellfish Aquaculture: Review of the Literature

- Review Pacific Shellfish Institute and NEI 2010 survey data on Washington State aquaculture revenues and expenditures
- Review early Willapa Burrowing Shrimp Management Plan (1996): data collected from growers
- Review other relevant reports or publications (e.g., NRDA-funded analysis of shellfish aquaculture production and revenues for Washington State)
- Revise 2010 survey and implement as necessary

# Methodology

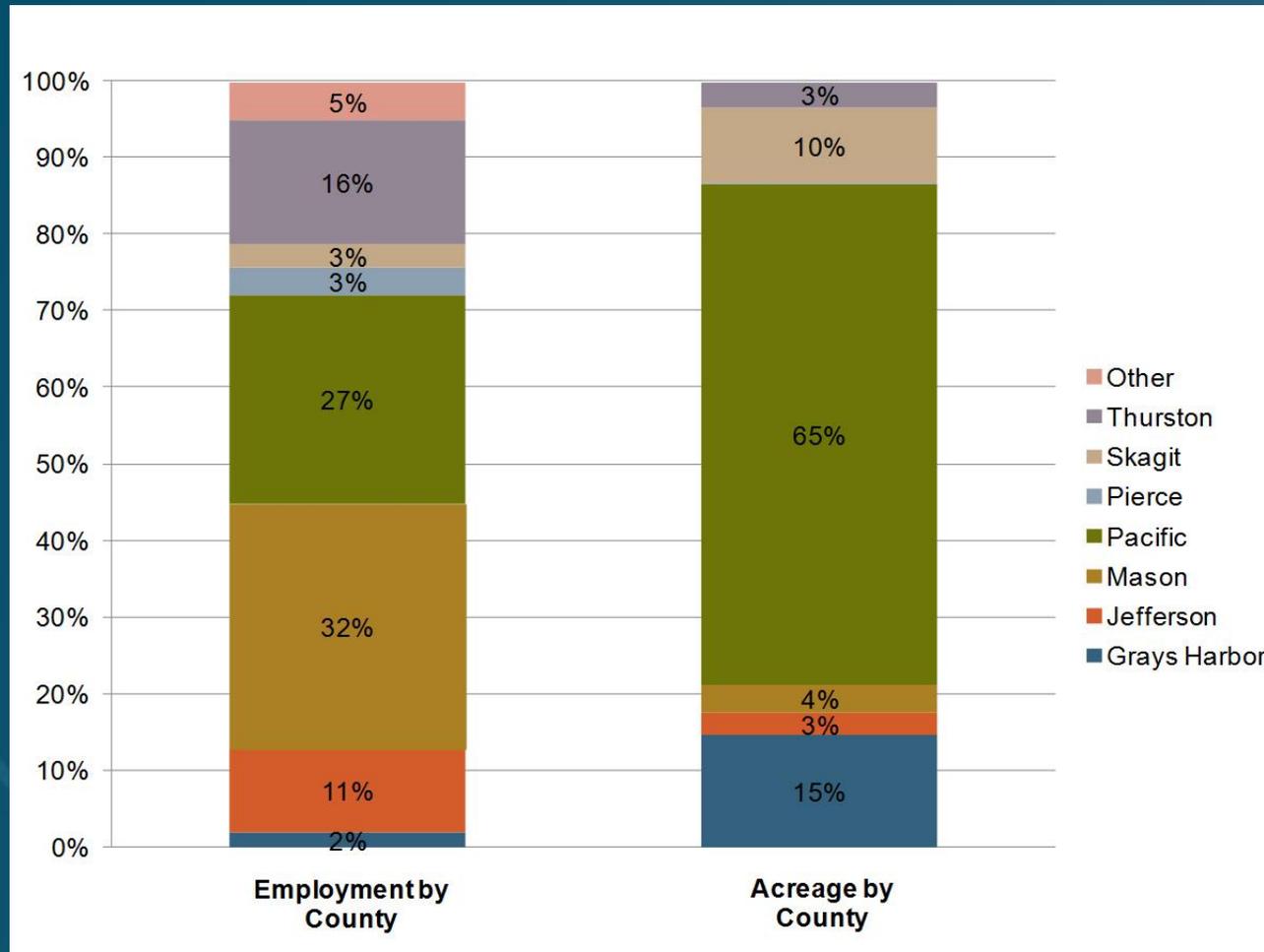


# Estimated Aquaculture Activity by Washington Counties

County	Total Acreage	Survey Acreage
Grays Harbor	2,288	3,278
Island	87	55
Jefferson	1,155	666
Kitsap	485	25
Mason	4,079	814
Pacific	17,288	14,681
Pierce	138	39
Skagit	3,018	2,233
Thurston	1,037	710
Other	86	-
<b>Total</b>	<b>29,663</b>	<b>22,502</b>

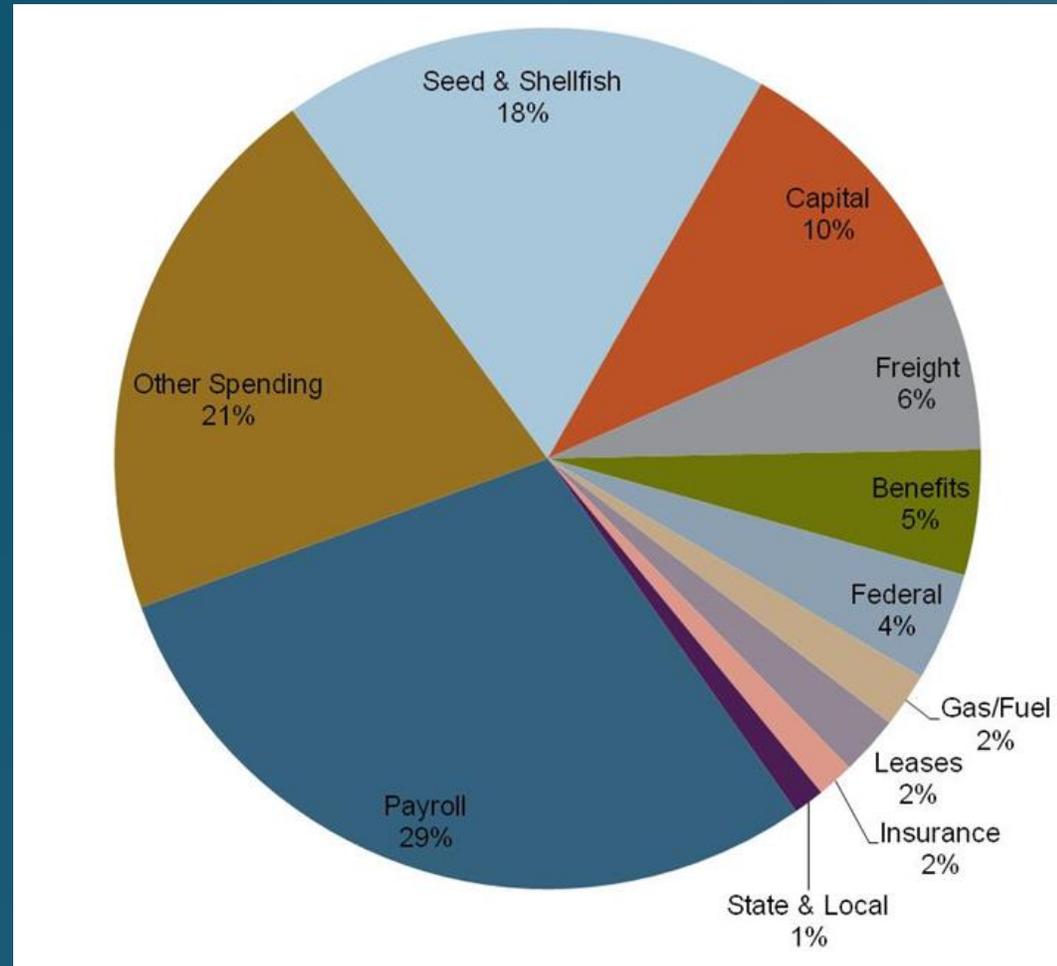
*Excerpted from Figure 6 in Northern Economics, Inc.: The Economic Impact of Shellfish Aquaculture in Washington, Oregon, and California*

# Employment and Acreage by Washington County



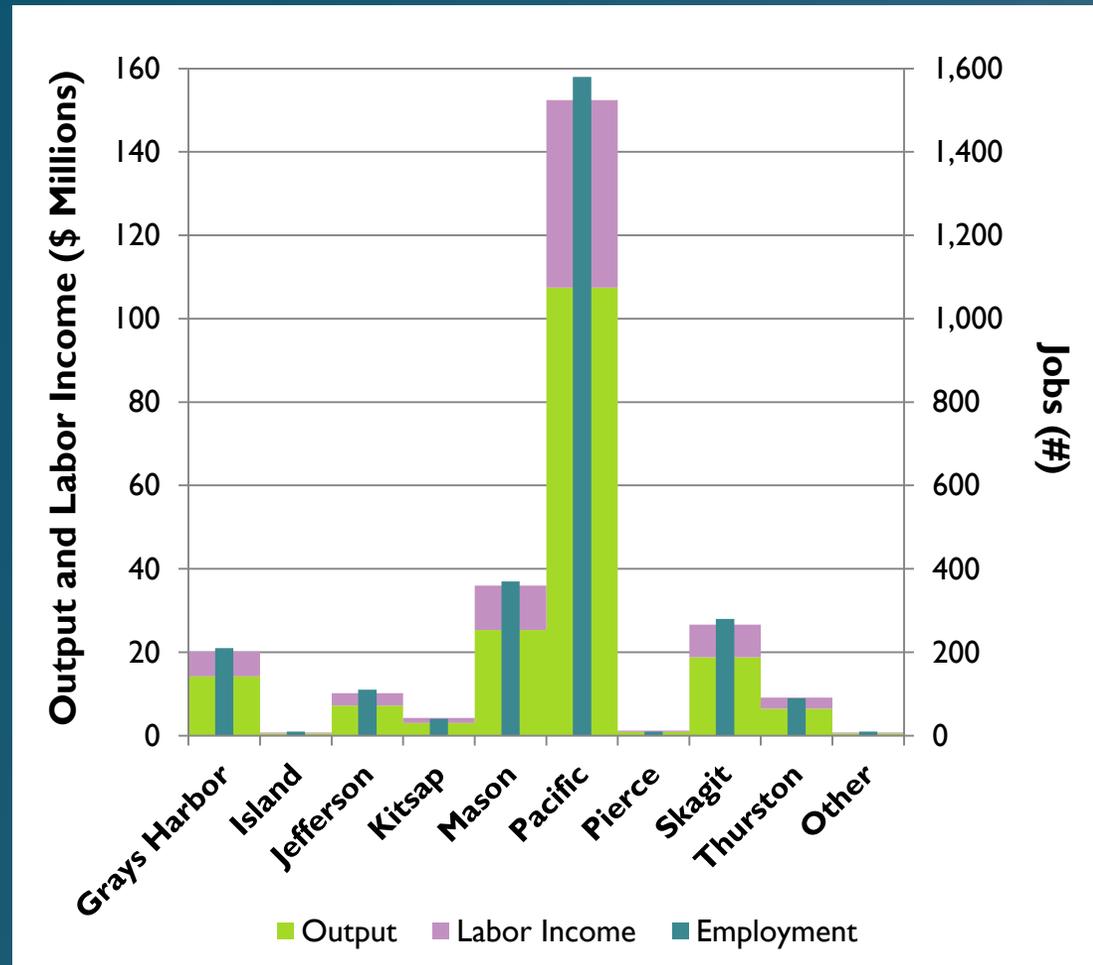
# Washington General Expenditure Pattern

Total Expenditures:  
\$69.8 million  
reported by 32  
firms



# NEI 2010 Data

Output, Labor  
Income, and  
Employment by  
Washington County



# WA Economic Impact and Multipliers

## Economic Impact of Shellfish Aquaculture in Washington, 2010

Multipliers per dollar	Output	Employment	Labor Income
Direct	101,418,100	1,900	37,290,600
Indirect	38,319,900	390	21,281,600
Induced	44,802,000	420	18,664,700
<b>Total</b>	<b>184,540,000</b>	<b>2,710</b>	<b>77,236,900</b>

## Washington Shellfish Aquaculture Multipliers

	Output (per \$)	Employment (per \$ Million)	LI (per \$)
Multiplier	1.82	26.72	0.76

# Shellfish Aquaculture: Update NEI 2010

- Survey coastal shellfish growers and wholesale and retail operations on production, sales, revenue, expenditures, and employment
- Using relevant data, run IMPLAN for Washington coastal counties
- Analyze the economic impacts (direct, indirect, induced, and employment) of shellfish aquaculture and sales
- Assess uncertain ecological risks and uncertainties that could affect the industry (e.g., ocean acidification)

# Shellfish Aquaculture Impacts: Challenges

- Survey participants unwilling to complete all aspects of the survey
- Confidentiality issues with PacFin data
- County-level data are probably the lowest resolution possible
- Other