### Village Income, Jobs, & Mineral Exploration: A case study of the Pebble Exploration Project

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## Acknowledgements & Caveats

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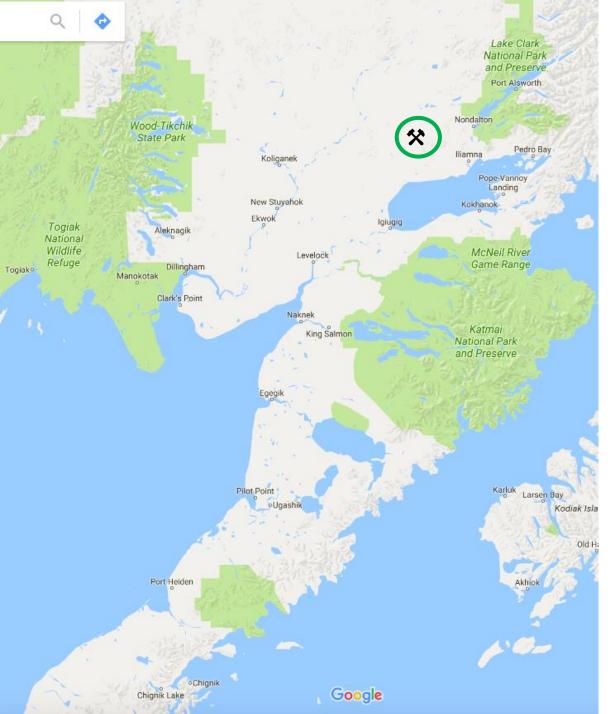
Assistant Professor of Natural Resources Management



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#### This Talk

- 1. Project
- 2. Villages
- 3. Workforce
- 4. Village Effects
- 5. Aftermath



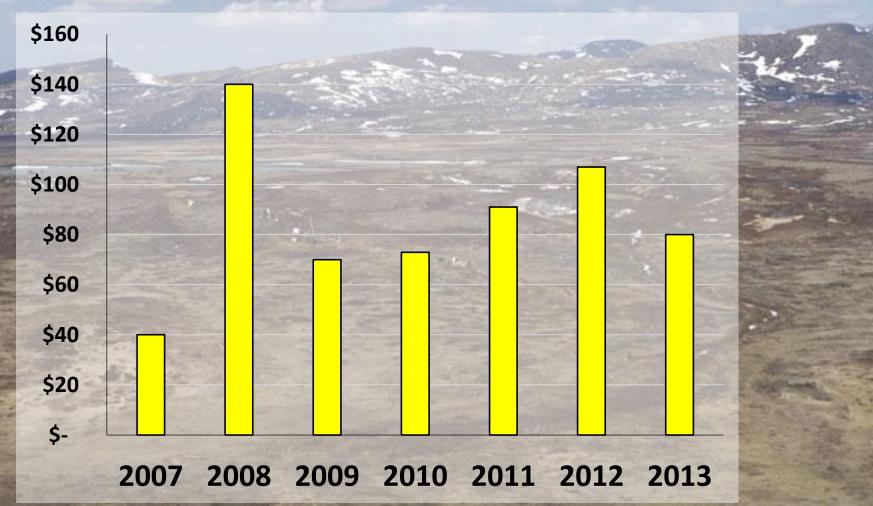




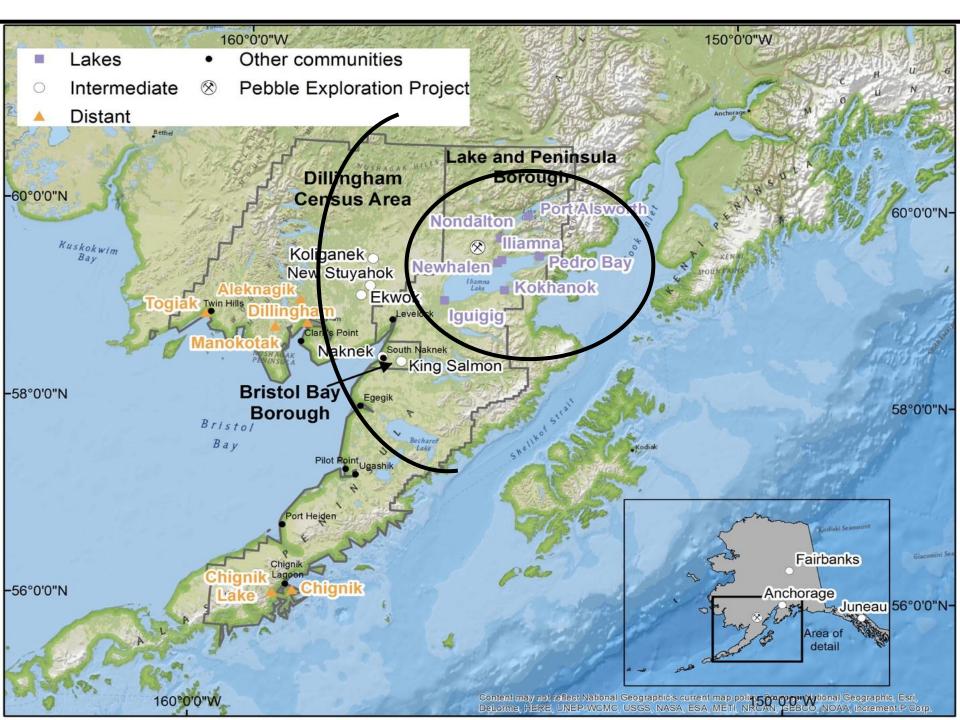
Photos courtesy of Northern Dynasty Minerals, Ltd website

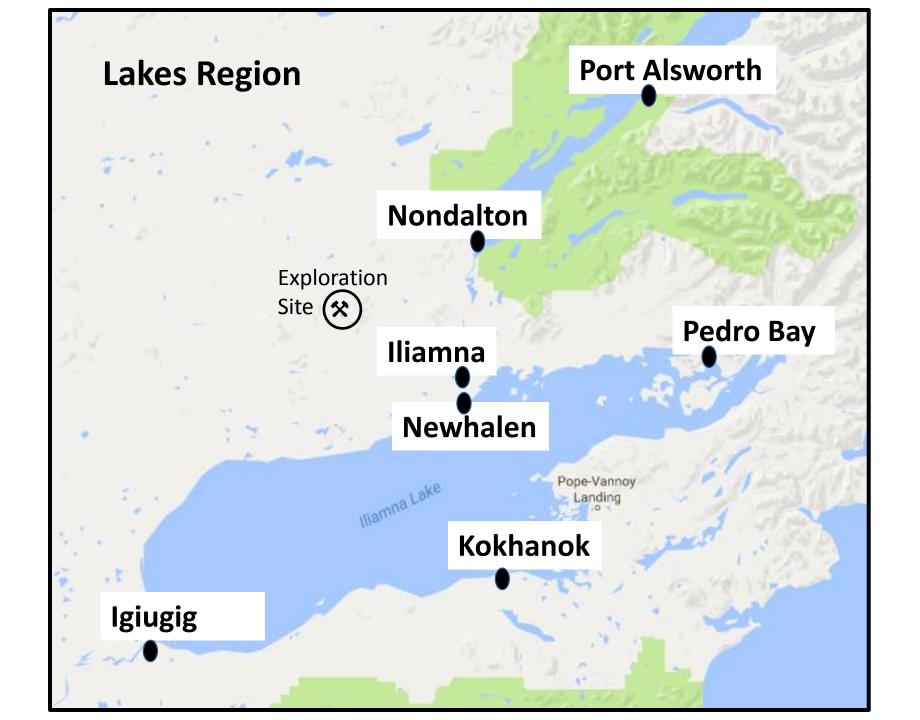
# Annual Pebble Exploration, Engineering, and Environmental Expenditures

(Amount in Million \$)

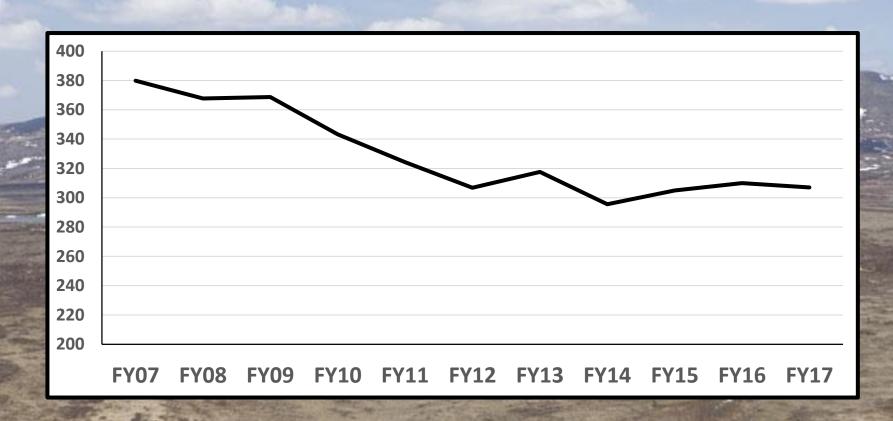




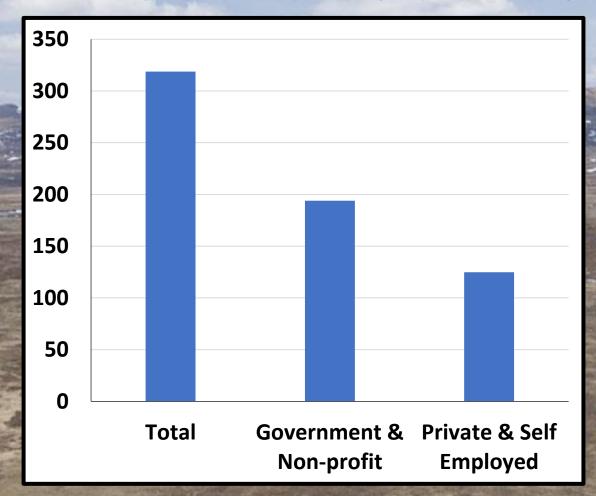


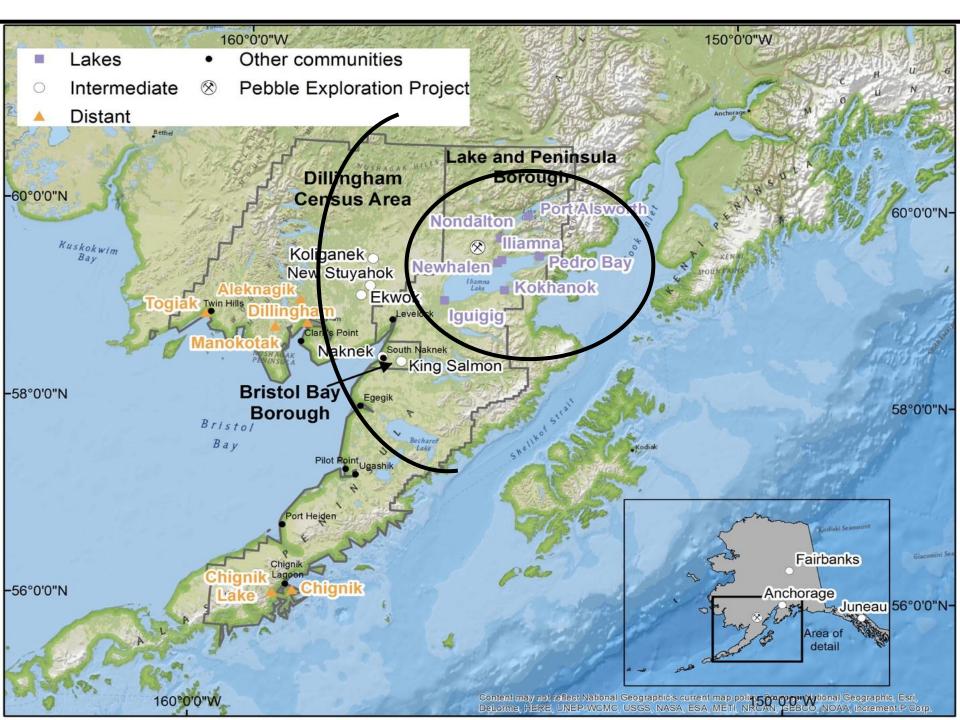


# School Enrollment Lake and Peninsula School District

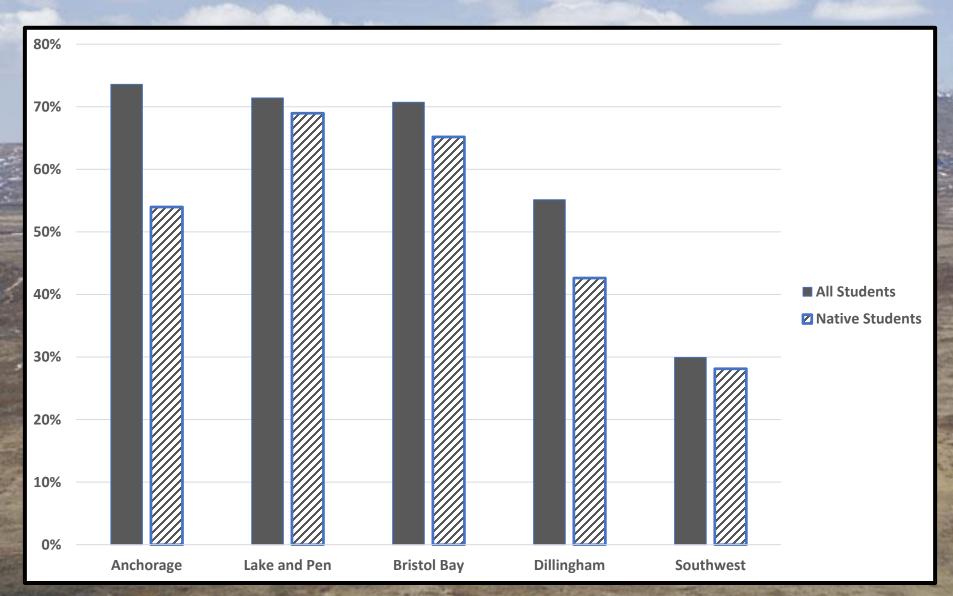


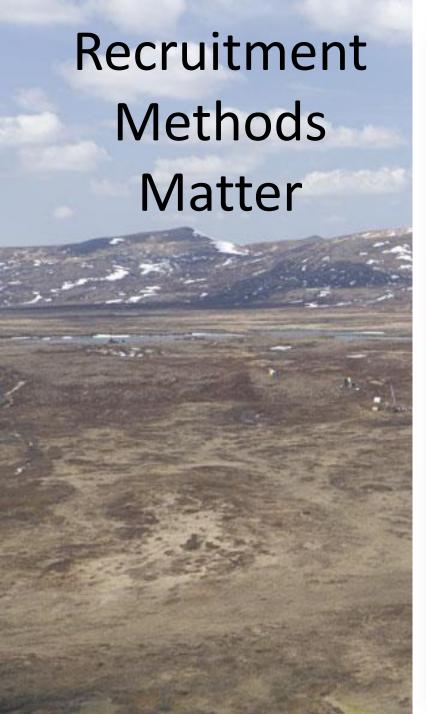
## The Government and the Private Economy Annual Employment by Category, Lakes Region

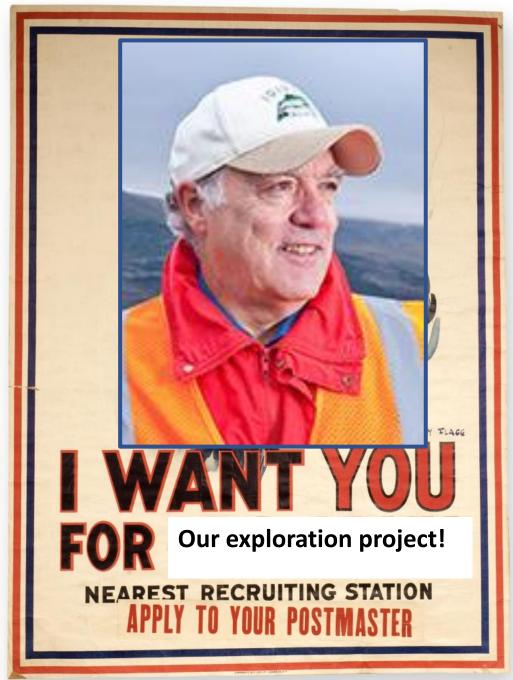




## Percent of Students Proficient at Grade Level: K-12 Average of Reading, Writing, Math, and Science 2013-2014

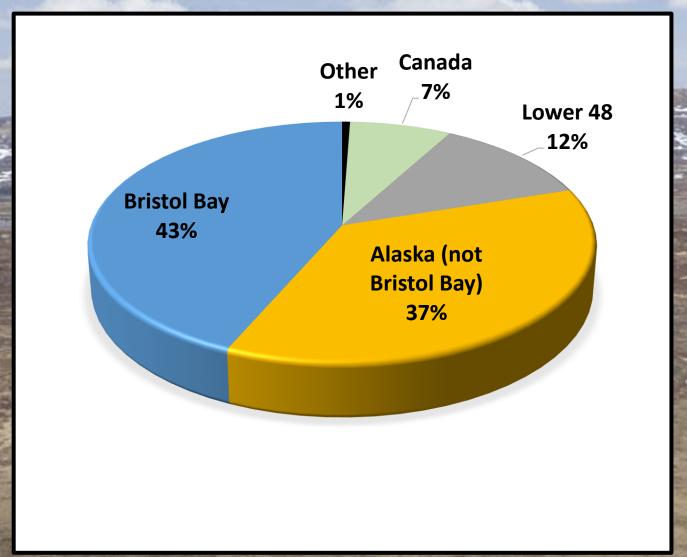






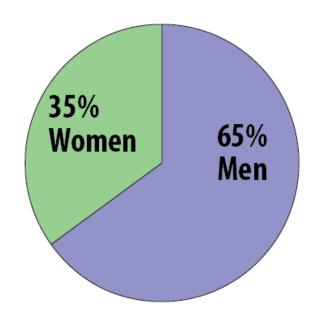
### **Employee Home Location**

2009-2012

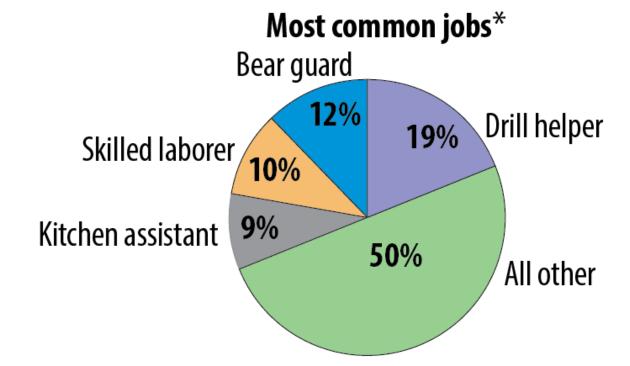


# Bristol Bay Workers Total 301 Workers, 2009-2012

Gender of workers:
 Two-thirds men

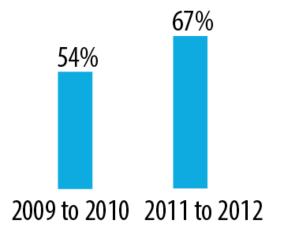


• Total kinds of jobs held: 56



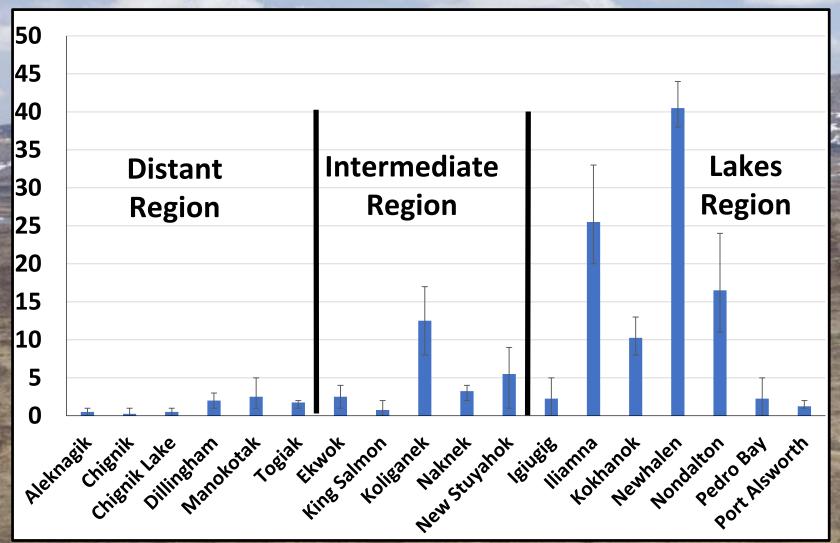
### **Wages and Retention Rates**

- Almost all jobs seasonal (May-October/November)
- Average hourly wage: \$19.15
- Average annual income: \$15,415
- Year-to-year employee retention:
   Increasing from one half to two-thirds

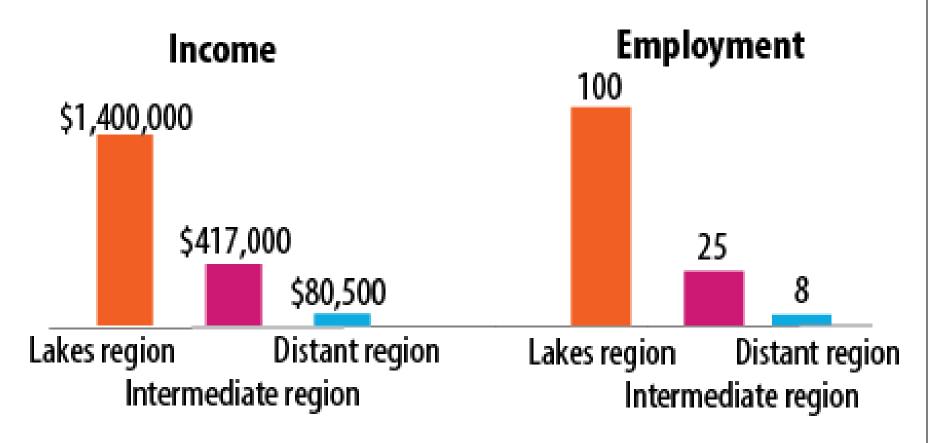


### **Average Annual Employment by Village**

2009-2012



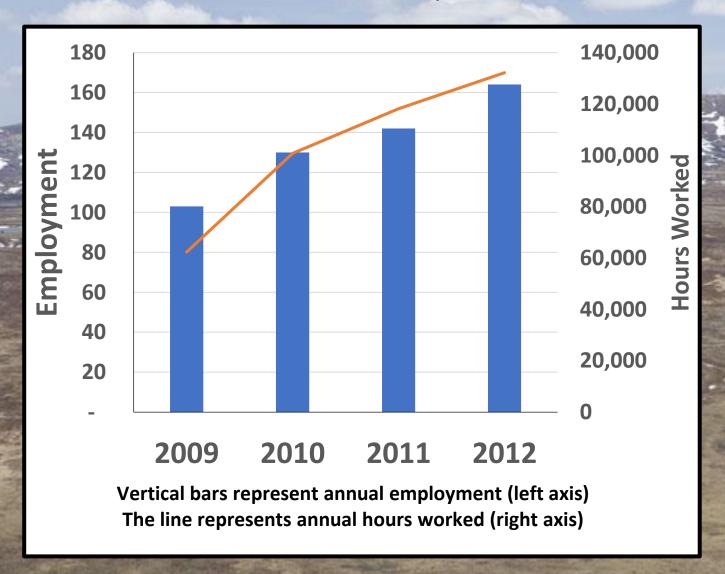
# Average Annual Income and Employment, by Bristol Bay Community Region, 2009-2012



Source: PLP exploration-site database and authors' calculations

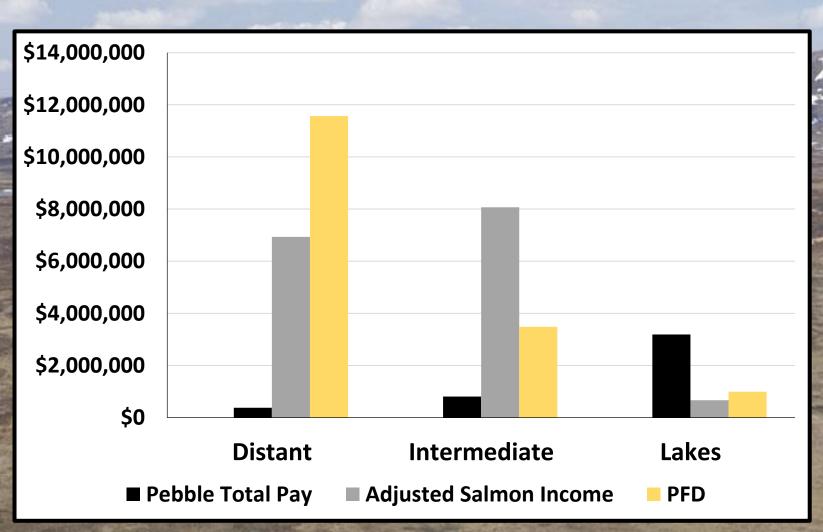
#### **Annual Changes: Employment & Hours Worked**

Workers from Bristol Bay, 2009-2012



# Regional Comparison: Income from Commercial Salmon Fishing; PFD; & Pebble Exploration

2009-2012



### **The Aftermath**



#### Lessons



- 1. Strong Local & Alaskan Hire
- 2. Employment and Income Drop Sharply with distance from the project.
- 3. A large employment and income effect on the Lakes Region.
- 4. Benefits increased significantly over the 4 year period