

Financing of LMEs: Tools, Options, Ideas

**Thomas A. Grigalunas, Professor
Environmental Economics
University of Rhode Island
grig@uri.edu**

Financing

Any and all means which provide the resources for LME governance

Cost Recovery vs. Other Objectives

Financing Criteria

- **Provides ongoing support**
- **Promotes efficient resource use**
- **Administrative ease**
- **Cost effective**
- **Fair**
- **Political Feasibility**

Principles

- **User – Beneficiary Pays**
- **Polluter Pays**
- **“Get the Price Right”**

Types of Tools

- Donor Grants
- In-Kind Contribution
- User Fees ***
- Partnerships
- Penalties, Fees and Liability ***
- Revolving Funds

Tools...(cont'd)

- **Green Bonds**
- **Property Rights**

User Fees

- Entrance Fees
- Gasoline Tax and Road Tolls
- Hotel
- Harbor Maintenance Fees
- Impact Fees
- Licenses

Penalties and Liability

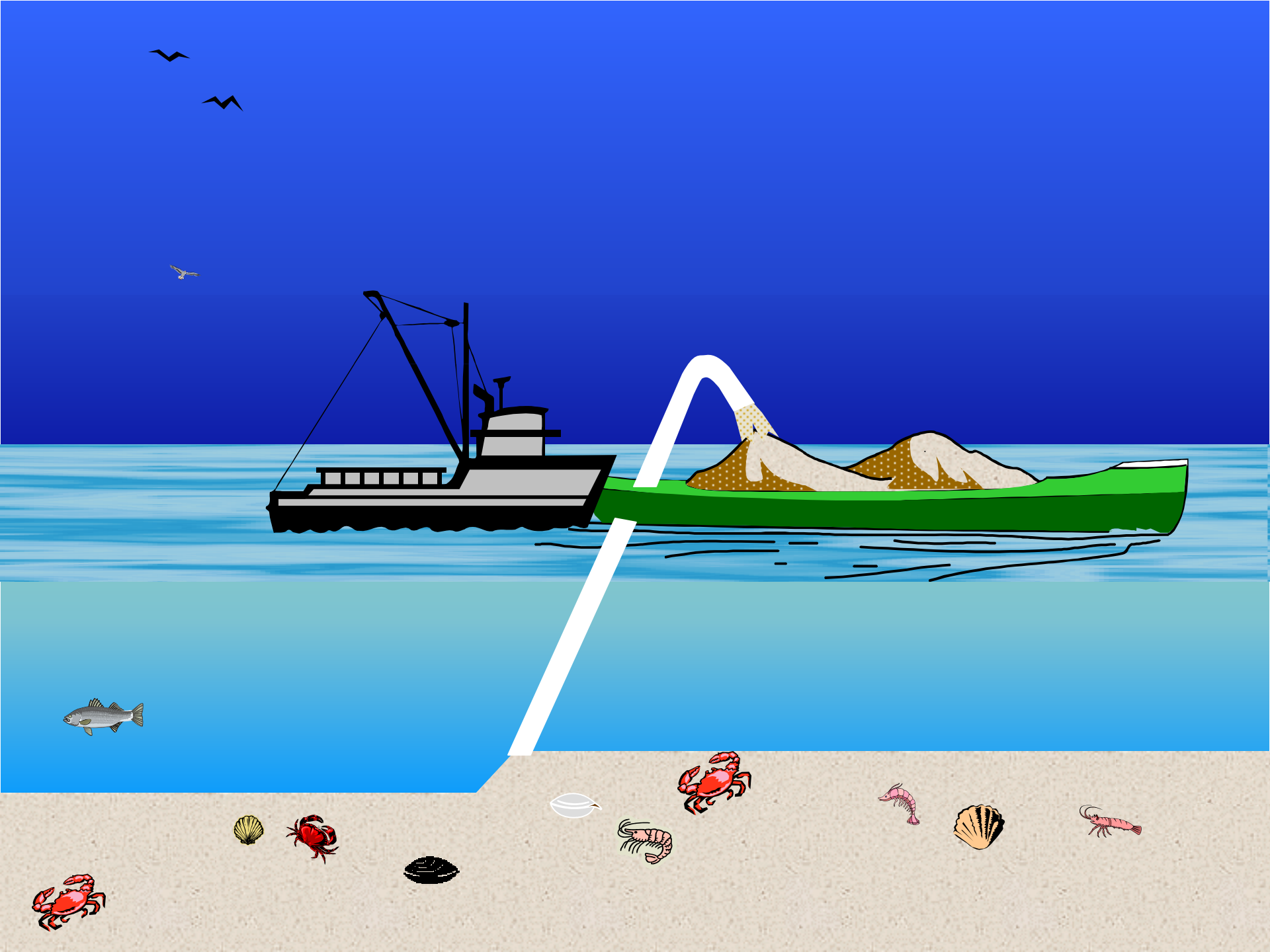
- On releases and oil spills
 - Fee/unit of discharge
 - Formula or model
- On marine mining
 - Example: Marine Sand and Gravel

Environmental Issues

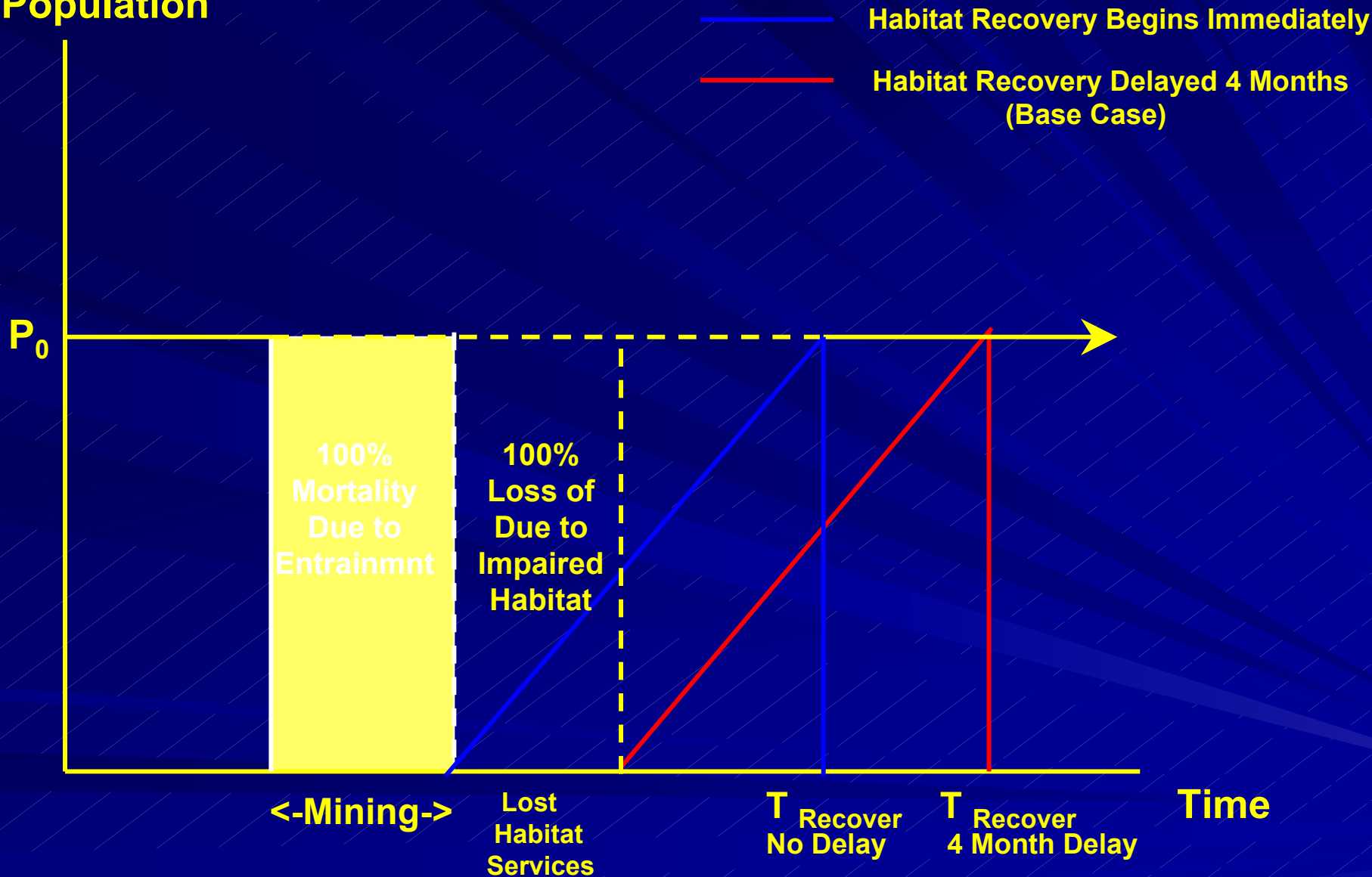
- **Marine Mining is Intrusive**
 - **Hydraulic dredge pumps sand/entrains fish**
 - **Resulting seafloor excavation harms habitat**
 - **Plume/mining may cause mortality to larvae**
 - **Shoreline erosion**

Economic Concepts

- **External Effects of Mining on Fisheries**
 - **Total Loss is the Compensation Required to Make Resource Owners Whole/Restoration**
-



Population



Preliminary Results

(in 2001 Dollars - 2.7% Discount Rate)

- **One year of Mining**
 - Single site: \$7,964
 - 41 Sites: \$ 326,510
- **Cumulative Effects**
 - Single site: 5 years \$30,177; 10 years \$46387
 - 41 Sites: 5 years: \$1.2 million
- **Marginal Damages: \$.13 - .40 per 100 m³**

Costs Sharing - Examples

- **Environmental Impact Statements**
 - Risk analyses
- **Mitigation**
- **Cost Impact Sharing**
- **Management Costs**