

# Overview of Tonight's Lecture

- Issues I want to work on & my approach
  - Political Science: Power
  - Economics: Efficiency
- Basic Framework for Natural Resources
- Maximum Sustainable Yield
- Boldt Decision
- Fisheries Economics

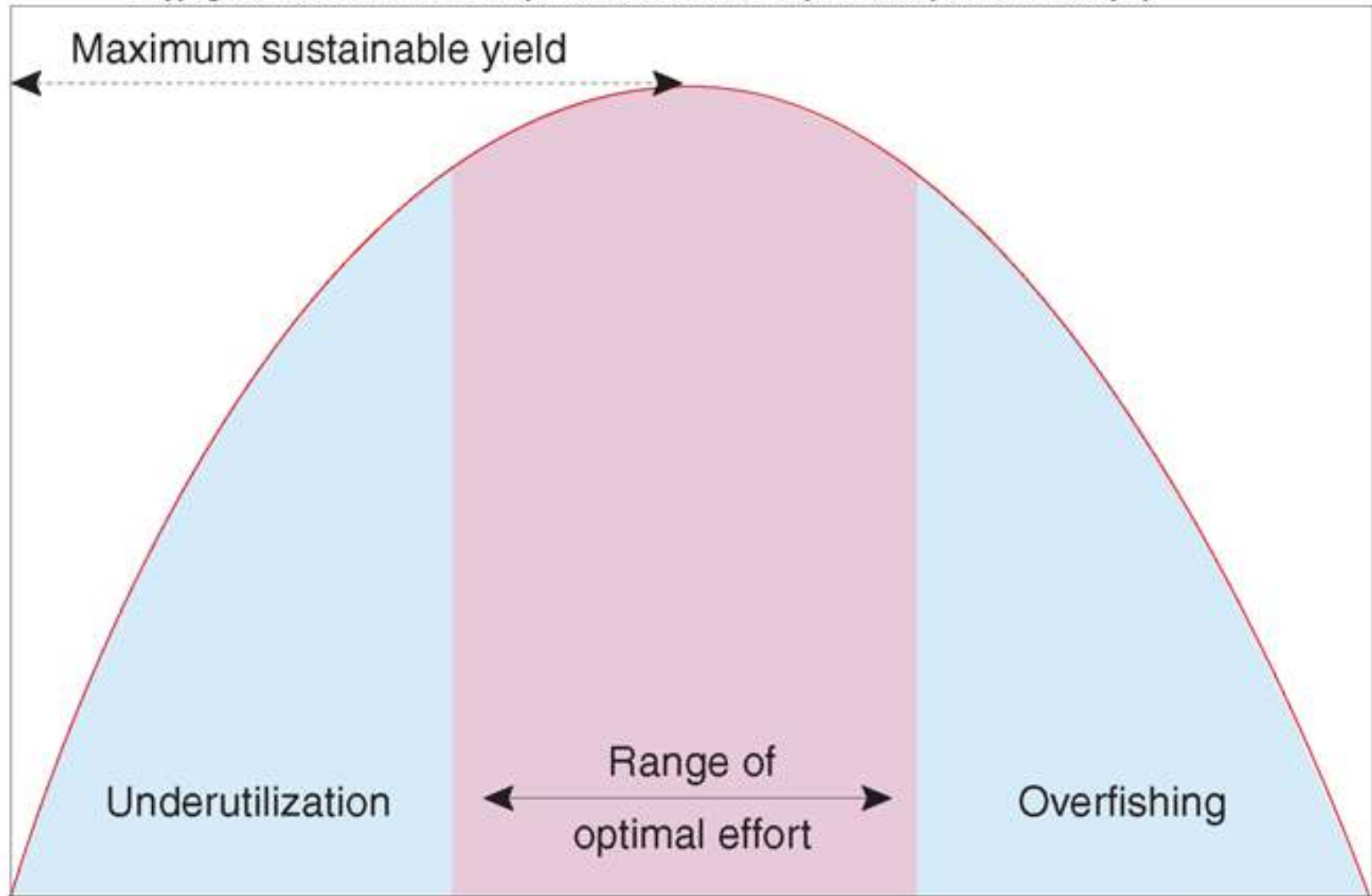
# Natural Resources

- Nature vs Natural Resource
- Malthusian Scarcity/Economic Allocation
- Renewable and Non Renewable
- Management Goals for Each
- Market Failures: 6 kinds
- Buffalo Syndrome
- Public Policy and Adaptive Management
- Due Diligence Standard

# Maximum Sustainable Yield MSY

- Historical Origins: Conservation Era
  - Greatest Good to the Greatest Number for the longest period of time
- Scientific Management:
  - Biological Populations/ Human Harvest
- Why MSY isn't Achieved
- MSY, OY, EY
- Why not the Precautionary Principle

Sustainable catch (tons/yr)



**Fishing effort**

(number of boats, days spent fishing, etc.)

**Population size**

Large

Medium

Small

# MSY and Fishing Cost

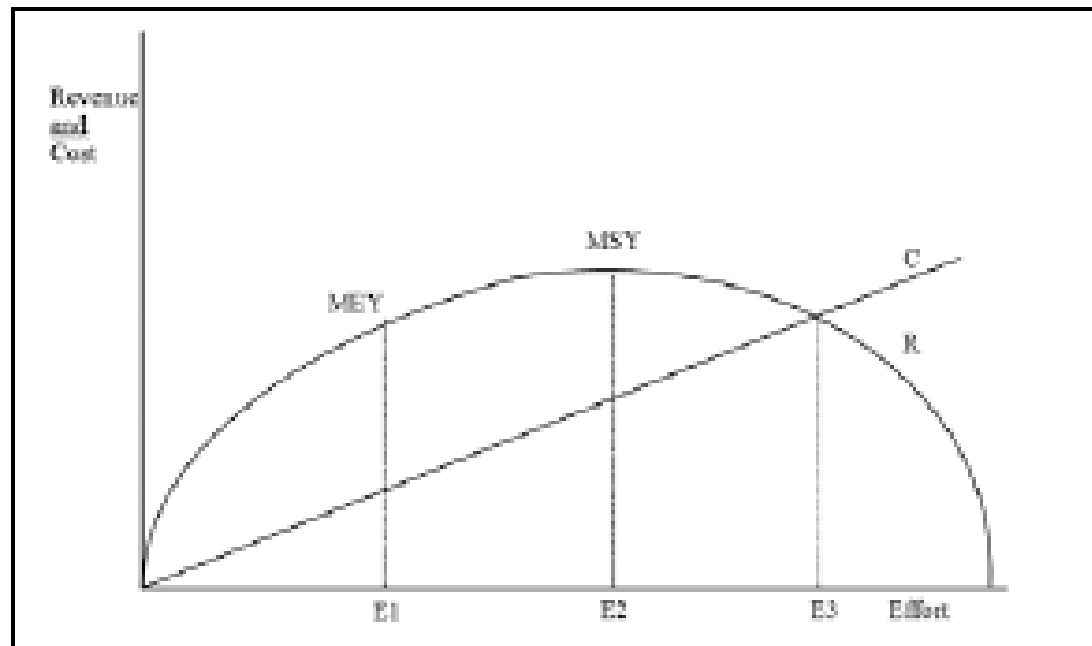


Figure 1. Fishing effort vs. revenue and cost.

# Fisheries Economics

- Fisheries Population Dynamics Models
  - $Pop = R + G - M$  natural - M human - M exogenous
  - Why MSY isn't Achieved from Market Forces
    - Common Property Resource Incentives
    - Why Overcapitalization Persists
    - Failure of Gear Restrictions & Season Closures
    - The Maximum Death Regulatory Approach
- Ground Fishery vs Mobile Species
- Exogenous Factors
- Pacific Salmon: Intergovernmental and International Management

# Pacific Salmon

- Chinook or King Salmon: Endangered
- Coho or Silver Salmon: Endangered
- Sockeye Salmon: Depressed Stocks
- Chum or Dog Salmon: Healthy Stocks
- Pink or Humpie Salmon: Healthy Stocks
- Steelhead Trout: Threatened
- Sea Run Cutthroat Trout: Recovering

# West Coast Salmon Runs

- California, Oregon, Washington, British Columbia, Alaska
  - Washington Rivers are Industrialized: Columbia, Frasier, Copper
  - BC and Alaska Rivers were maintained as habitats
  - Salmon from different rivers co mingle with one another
  - Salmon lifecycle exposes them to multiple years of harvest
  - Game theory tactics in salmon management
- Washington Spawn Fish
  - Survive in stream with degraded habitat and dams
  - Survive in Puget Sound outmigration
  - Survive in the Ocean of WA, BC and Alaska Coasts
  - Survive multiple seasons harvest effort: commercial, recreational
  - Return to spawn to river system: ocean, sound, river harvest



# Salmon Decline

## Conventional Wisdom

- Paradigm: Have fish to harvest
- Four H's
  - Hatcheries
  - Hydroelectric
  - Harvest
  - Habitat
- In stream flows and water rights
- Wild fish, Hatchery Fish, Aquaculture Fish

# Salmon as Threatened or Endangered

- Columbia/Snake Puget Sound Runs
  - Endangered Species Act
  - Once listed. States develop a recovery plan
  - Federal oversight determines the adequacy of the plan
  - If Feds find plan is inadequate, they take over the recovery plan/efforts
  - State and stakeholders want to avoid federal takeover of recover plans

# Political Context of Boldt Decision

- American Government
  - Checks and Balances
  - Federal Authority, State Authority
- Congressional Authority to Make Treaties
- State Resource Agencies
- Supreme Court Determines what is Constitutional: Marbury vs. Madison

# Boldt Decision Political Context

## ■ Background

- Intergovernmental Relations
- Federalism, Federal, State, Tribal Governments
- Unique status of Treaty Tribes-Sovereign Nation status but under the Federal Authority
- Treaties were made between individual tribes and the Federal Government. Congress authorizes treaties
- Civil War Settles Federal/State sovereignty tension in Constitution
- Treaties were designed to transfer land from tribes to the government

# Boldt Decision

## ■ Legal Context

- Federal Court: US Government brings case against Washington State concerning violation of Treaty Rights
  - Federal District Court
  - Circuit Court of Appeals
  - U. S Supreme Court
- State's rights to manage and regulate resources within its borders limited because of Treaty Status of named Tribes

# **Boldt Decision Key Issues and Findings**

- Treaty language understood from context of the time of signing
- Treaties Address Fishing
  - On Reservation Lands
  - Off Reservation Lands-Usual and Accustomed Places
- The right to fish at usual and accustomed places was expansive and covered the geography normally used by tribes

# Boldt Decision Key Findings

- At time of Treaty, Tribal Harvest consisted of subsistence, ceremonial and commercial harvest activities
- A wide variety of gear and harvest methods were used
- Treaty rights moved forward with changes in tribal culture and economic context and changes in fishing technology and purpose

# **Boldt Decision Key Findings**

## **Washington State Resource Agencies: Fisheries and Game**

- Assumed the right to regulate, set seasons and catch for tribal fishers off reservation lands
- Used enforcement powers or seizure of boats and equipment with legal authority or legal process
- Employed catch restrictions that were not tied to conservation rather reallocate the catch



# Bold Decision

## Keys to the Case

- *In Common With* meant 50/50 sharing of the resource off reservation lands
- *Usual and Accustomed Places* is flexible to reflect changes in where fish are
- Puyallup I established a limit to tribal rights to fish. *No right to pursue and catch the last fish.*

# Boldt Decision Keys to the Case

Puyallup II Regulatory Authority is defined differently when fishing is:

- A privilege-non tribal fisher
- A right-tribal fisher
- Must be based on conservation
- *Reasonable and Necessary* limitation
  - Establishes the test for state actions with minimum discretion and choice
  - Regulations must minimize restrictions / limitations to treaty right to fish

# Outcomes of Boldt Decision

- Public Outrage:
  - Why less than 1% gets 50% of resource
  - Treaties are outdated and irrelevant
  - Hostility to Tribal fishing methods in rivers
  - Racism
  - Property Rights Fears over access
  - Bounded irrationality...overfishing

# Outcomes of Boldt Decision

- Washington State Response
  - Appeal Decision through all federal courts to Supreme Court
  - Administrative refusal to comply with the case
    - Department of Fisheries
    - Department of Game
  - Attempt to exempt hatchery fish from treaty right
  - Conflict between Tribes, the State, Court
  - State ignores Boldt Decision
  - Court enforcement limited

# Subsequent Boldt Decision Rulings Boldt I, II, III

## ■ Boldt II

- 50% had to be of something.
- Hatchery fish and wild fish are both part of the treaty right

## ■ Boldt III

- Extended the principles of the Boldt Decision to shell fish

# Timber Fish and Wildlife (TFW)

- TFW marked an integrated approach to resource management
  - Treaty tribes ascend to co-manager status on salmon resources
  - Northwest Indian Fisheries Commission-research
  - Consolidation of Game and Fisheries to eventually become the Department of Fish and Wildlife
  - Tribes such as the Nisqually become leaders in the restoration and recovery efforts for Salmon

# TFW: An Integrated Approach

- TFW linked Forests, Streams and Salmon
- Transition from Hatchery to Wild Salmon
  - Wild Salmon emphasis on river/stream habitat
    - Riparian buffers/setbacks
    - Shade, logs in rivers, gravel, slow moving waters
    - Recognition of logging road impacts/runoff
    - Culvert replacement for fish passage
  - New initiatives: Restoration of Estuaries
    - Nisqually Tribe, Nisqually Wildlife Refuge