

Attenuating Durable Use Rights to Public Resources

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Common-Pool Resources

Common-pool resources are goods or services that are available to more than one person (**nonexclusive**) and subject to degradation or depletion as a result of use (**rivalrous**).



Common-Pool Resource Dilemma

Common-Pool Externality: One person's appropriation of a common-pool resource reduces the amount available for others to appropriate.

Common-pool resources can be congested, overharvested, degraded, or exhausted.

Free-Rider Problem: Free riders avoid sharing in the cost of providing or managing the common-pool resources they appropriate.

Societies underinvest in activities and ecosystem services that supply and manage common-pool resources.

Societies Allot Common-Pool Resources

Societies define **what** is being allotted and determine **how** it will be allotted



Resource Allotment Systems

- **Prior appropriation**—right of first possession, first-come-first-serve—race, derby
- **Administrative fiat**
 - **Patronage**—who you know
 - **Deservedness**—how high you score on criteria
 - **Queues**—how long you are willing to wait
 - **Lotteries**—chance
- **Markets**—voluntary exchanges

Introduction

In the 19th and early 20th centuries, the US and state governments sought to divest vast land holdings through, **fee-simple title**, through homestead and other land grant programs.

While vestiges of those programs persist, it is now more common for the US and state governments to allot temporary or durable **conditional use rights** to natural resource assets and ecosystem services pertaining to the lands and waters they administer.



Conditional Use Rights (Permits)

Examples of conditional use rights to natural resources include grazing rights, commercial fishing permits, logging permits, mineral rights, offshore oil leases, alternative energy leases, water rights, guiding permits and other visitor service concessions, and recreation permits (fishing, hunting, camping, hiking, rafting, etc.).



Conditional Use Rights

Laws and regulations that authorize the issuance of conditional use permits typically stipulate that permit holders are not entitled to compensation when those use rights are “taken”—attenuated, not renewed, or extinguished.

Nevertheless, governments often facilitate public or private compensation when conditional use rights are attenuated.

That is, conditional use rights are often accorded legal protections historically reserved for real property.



Conditional Use Rights

Informal recognition of comprehensive property rights invites rent-seeking and litigation which reduce net social benefits.

These costs could be avoided through issuing vested rights.



Conditional Use Right—Dimensions

- **Allocation mechanism:** prior appropriation, market (auction), or administrative fiat
- **Durability:** one-time, fixed term, indefinite term, renewable
- **Eligibility:** users only, non-users also
- **Beneficial Use:** use required, non-use allowed
- **Transferability:** non-transferable, transferable
- **Security:** usable (or not) as collateral, subject to (or not) attachment in bankruptcy, divorce or child support decisions



Attenuation of Conditional Use Rights

Conditional use rights can be attenuated along many margins, including allocation mechanisms, durability, permit holder eligibility, permitted uses, transferability, and use as collateral.

Attenuation of conditional use rights in fisheries may entail changes in permissible gear types, fishing seasons, novel restrictions on vessel design and operations, changes in landings requirements, changes to the entitlements and obligations associated with limited access permits, individual quotas, etc., or reallocation between commercial sectors, between commercial and sport fisheries, or between use and non-use benefits, etc.

Rights-based Management

Stewardship of an open-access common-pool resource merely invites increased utilization.

When property rights are comprehensive and secure, owners internalize private costs of resource degradation.

Comprehensive property rights do not eliminate externalities or encourage the provision of public goods, but stewardship by rights holders is invariably superior to that of open access brigands.



Rights-based Management

Vesting property rights to public resources might limit government authority to attenuate those rights.

However, even fully vested property can be purchased by government or taken through eminent domain.

If compensation is paid for the cancellation or attenuation of conditional use permits, permit holders will behave like resource owners. However, legal, budgetary, or political considerations may bar resource management agencies from directly compensating permittees when use rights are canceled or attenuated.



Commercial Fishing Permits

Well-managed fisheries stint access to or withdrawals from the common-pool resource through exclusive durable entitlements granted to groups or individuals.

Examples include limited entry permits, territorial use rights, trap/pot certificates, individual vessel quotas, individual fishing quotas, community quotas, and enterprise or sector allocations.



The SE Alaska Salmon Purse Seine (S01A) Fishery

- 419 LEPs initially issued in this fishery.
- 58' vessel length limit:
 - in 1978, less than 5% of the vessels in the fishery were 58'; by 2008, over 50% of the vessels were 58'



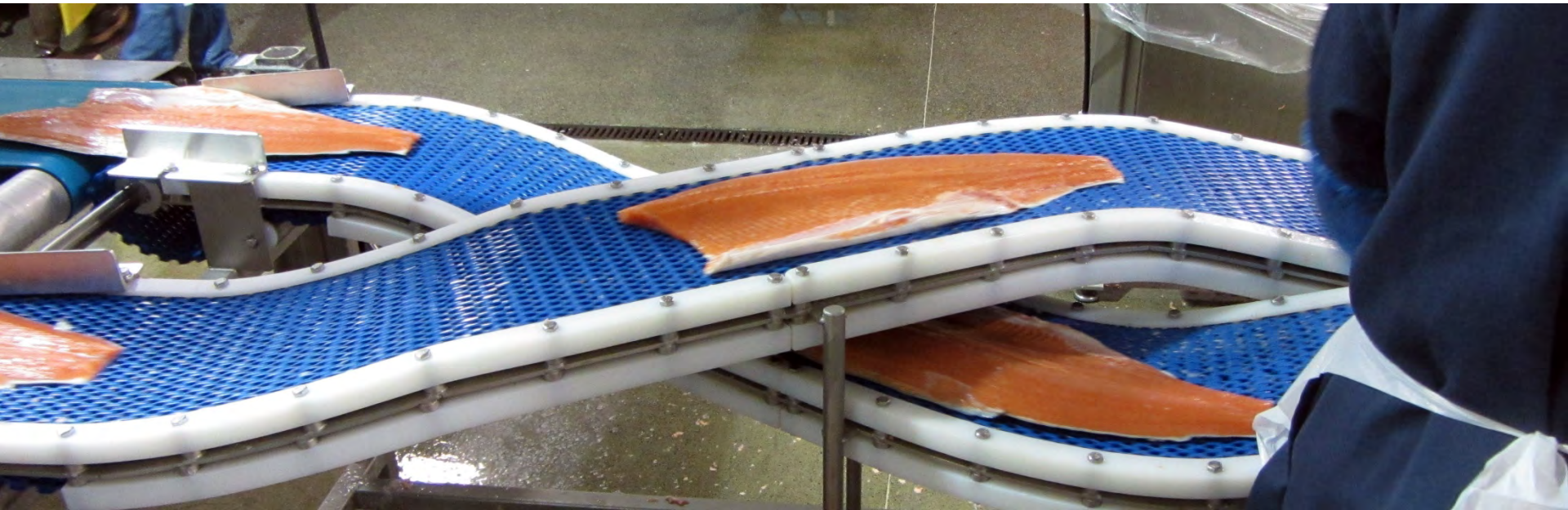
LEP Buyback in the S01A Fishery

- In response to an exvessel price collapse, fishermen, policy makers, and processors explored ways to improve markets, increase quality, and restructure the fisheries.
- The Southeast Alaska Revitalization Association (salmon purse seine LEP holders) worked with state and federal officials to change the state law to allow a private buyback of S01A LEPs.
- SRA secured a federal grant (\$3 million) and a federally backed loan (\$25 million) to finance buybacks.



Goals of S01A Buyback Programs

1. Reduce fishing capacity by retiring permits.
2. Promote economic efficiency.
3. Improve flexibility in the conservation and management of the fishery.
4. Obtain the maximum reduction in permits at the least cost.



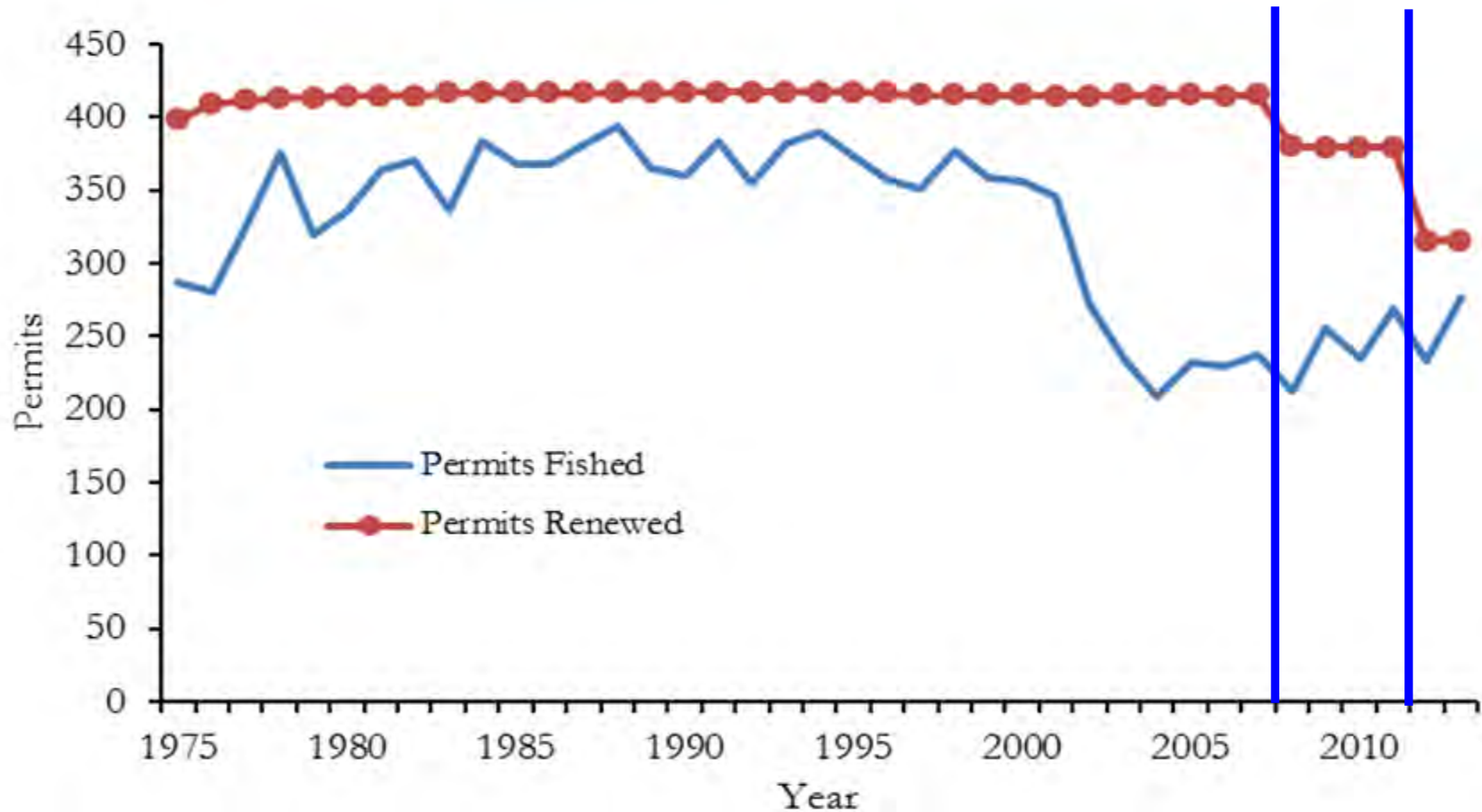
2008 Buyback Auction

- The SRA used the \$3 million federal grant to finance a reverse auction to purchase and retire 35 LEPs (8.5% of permits).
- Bids were not binding.
- 82 bids were received, greatly exceeding the available grant funds.
- Bids ranged from \$44,000 to \$700,000.
- CFEC estimated permit value of \$65,600 at time of bidding.
- **Over 80% of the LEPs retired during this buyback auction were latent** (no landings in the five years prior to the buyback).

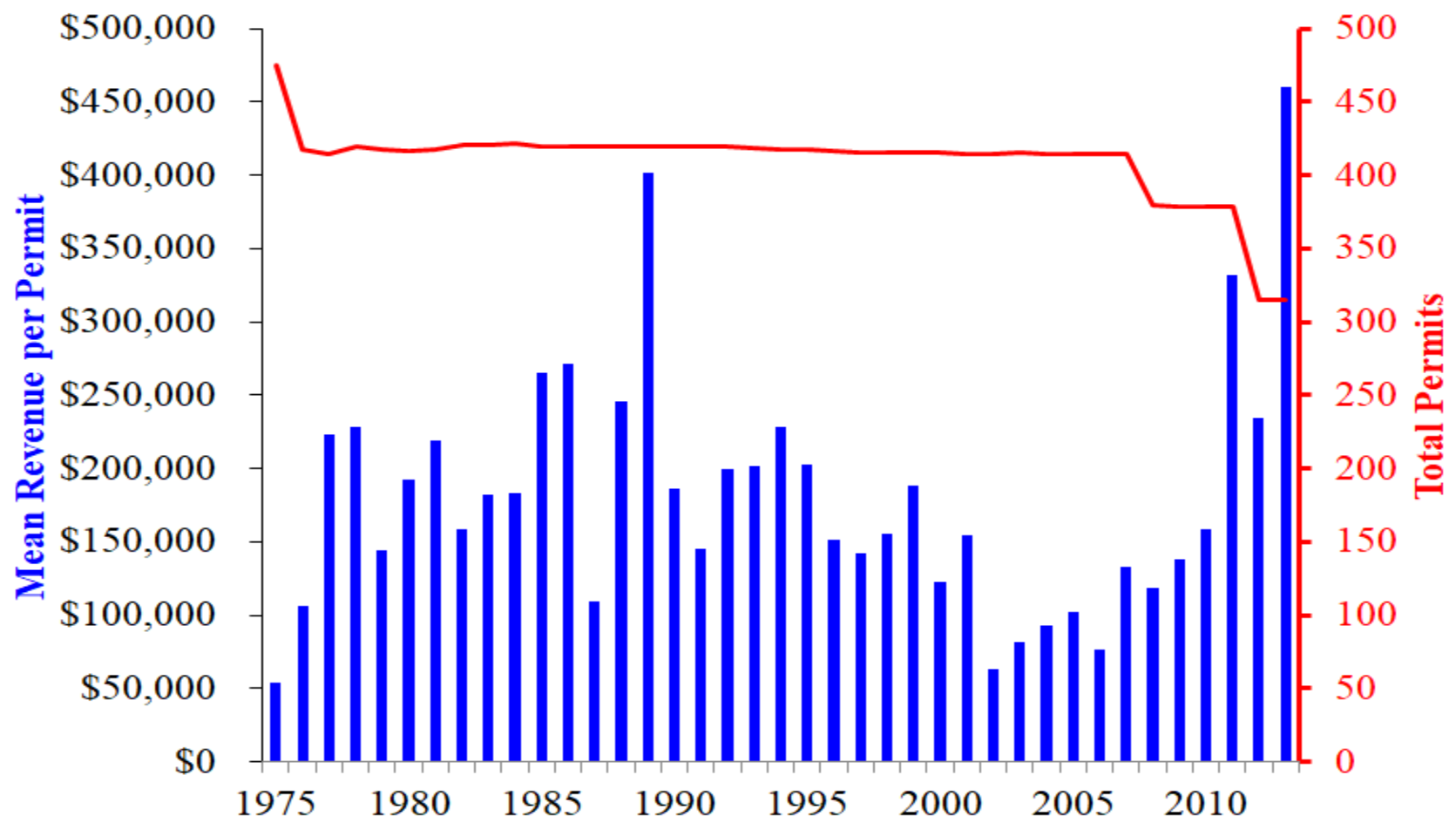
2012 Buyback Auction

- Congressional loan authorization.
- November 2011, bid packets sent.
- Bids were irrevocable.
- Voluntary reverse auction that had to be approved by NMFS and a majority of the permit holders.
- 74 bids received, 64 accepted for a total of \$13.1 million.
- Accepted bids ranged from \$175,000 to \$240,000.
- Non-accepted bids ranged from \$248,000 to \$350,000.
- **Over 70% of the LEPs acquired during this auction were latent** (no landings in the five years prior to the buyback).

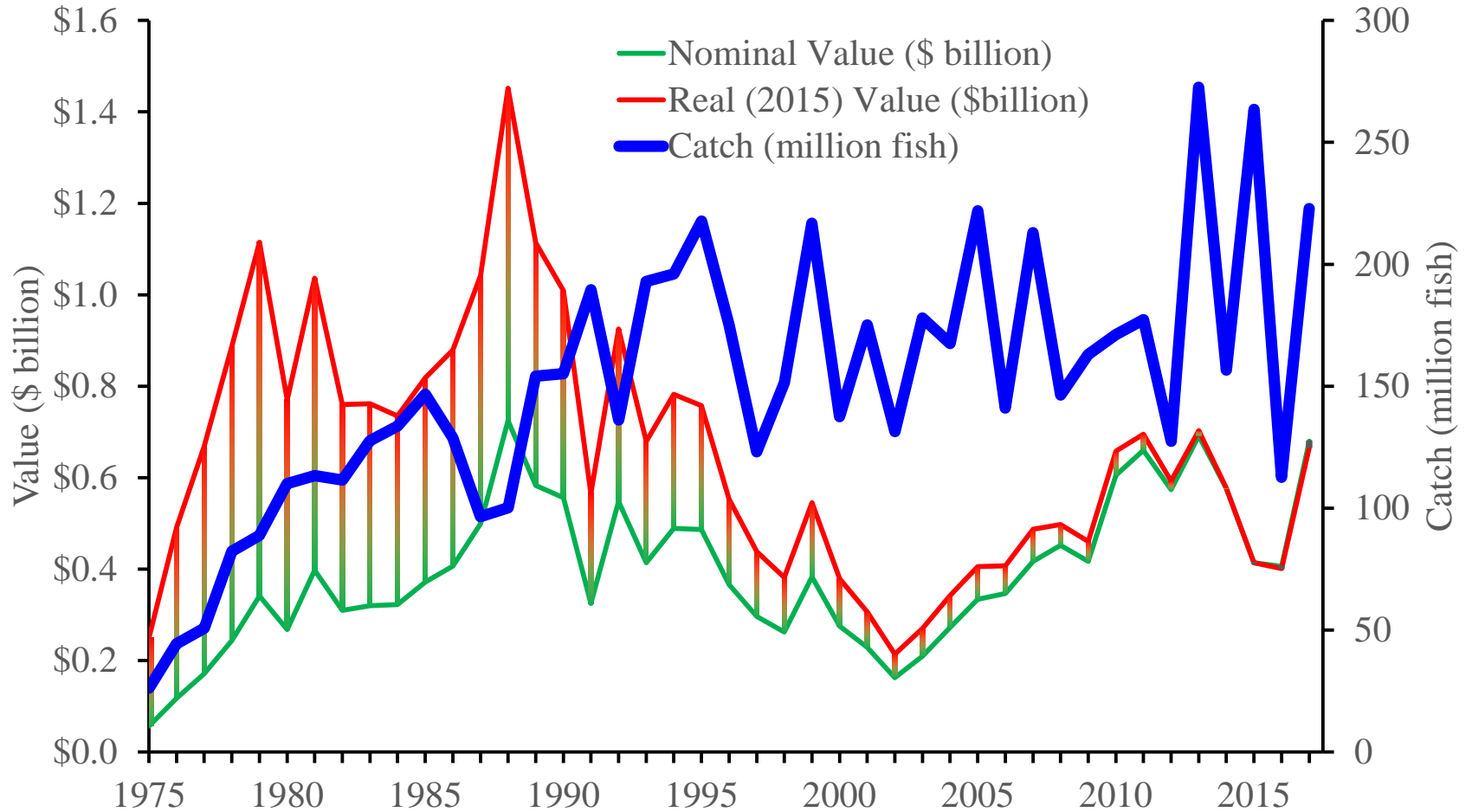
Permits Renewed and Fished in the S01A Fishery, 1975 – 2013



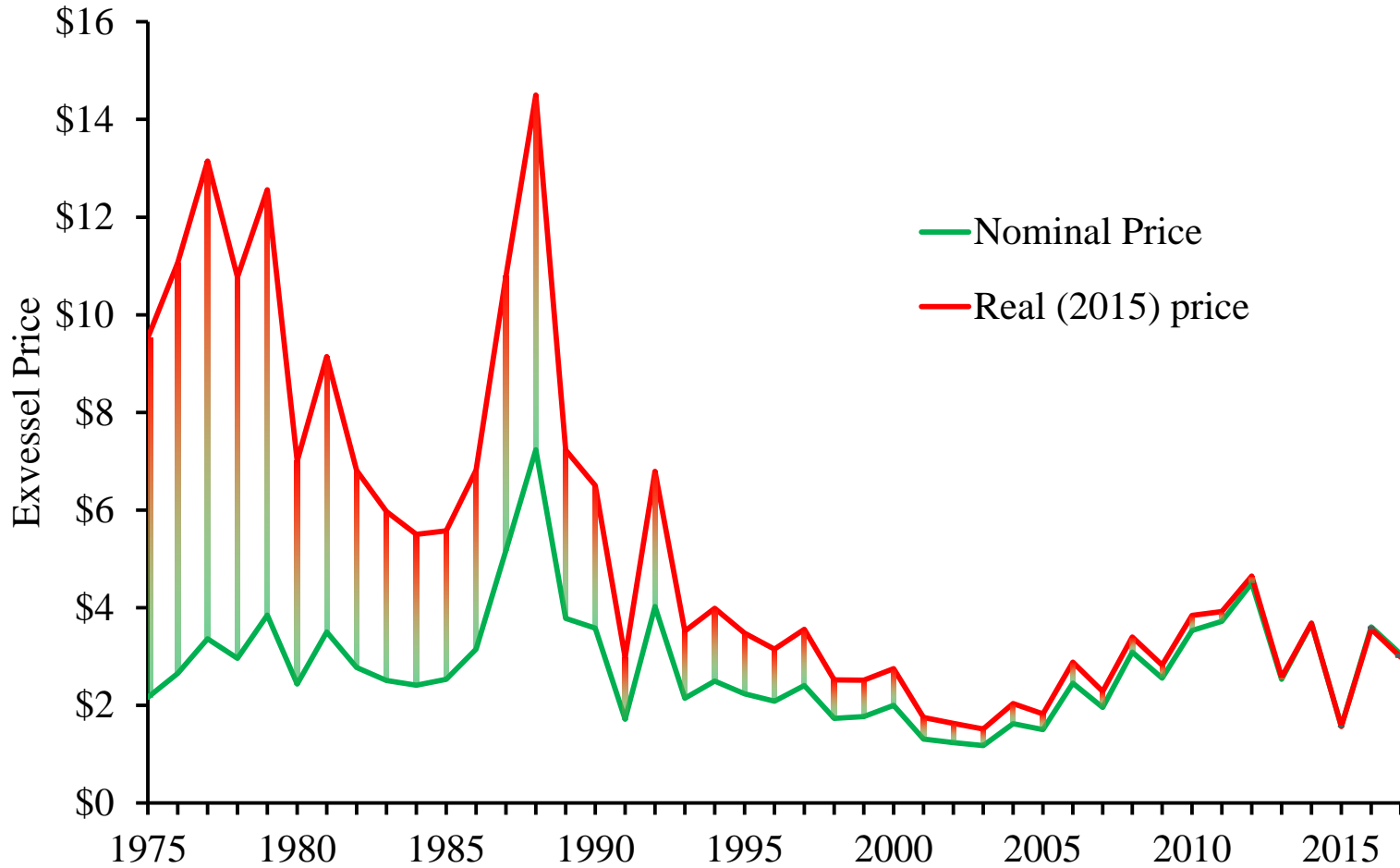
Mean Real Gross Earnings Per Permit



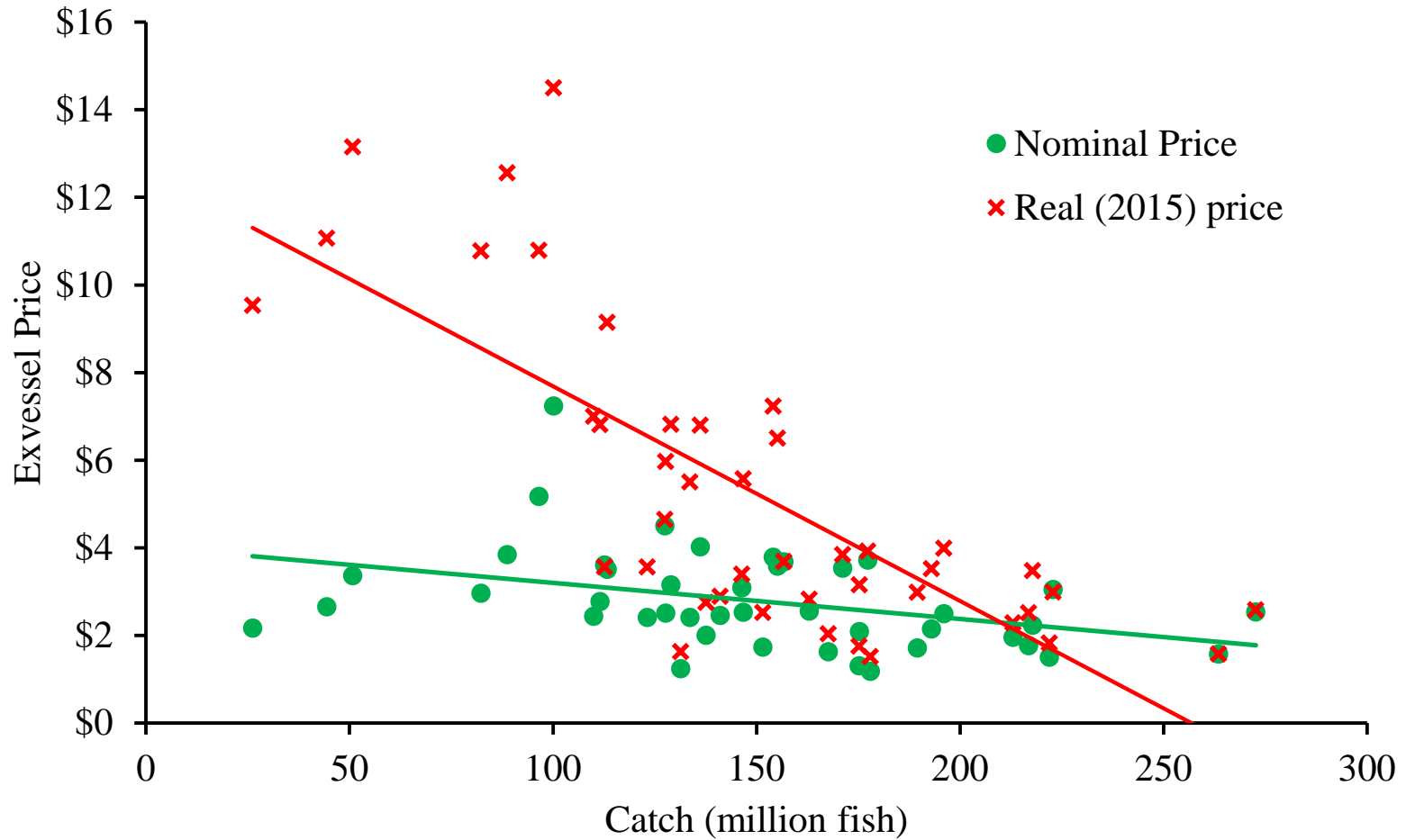
Salmon Catch and Value



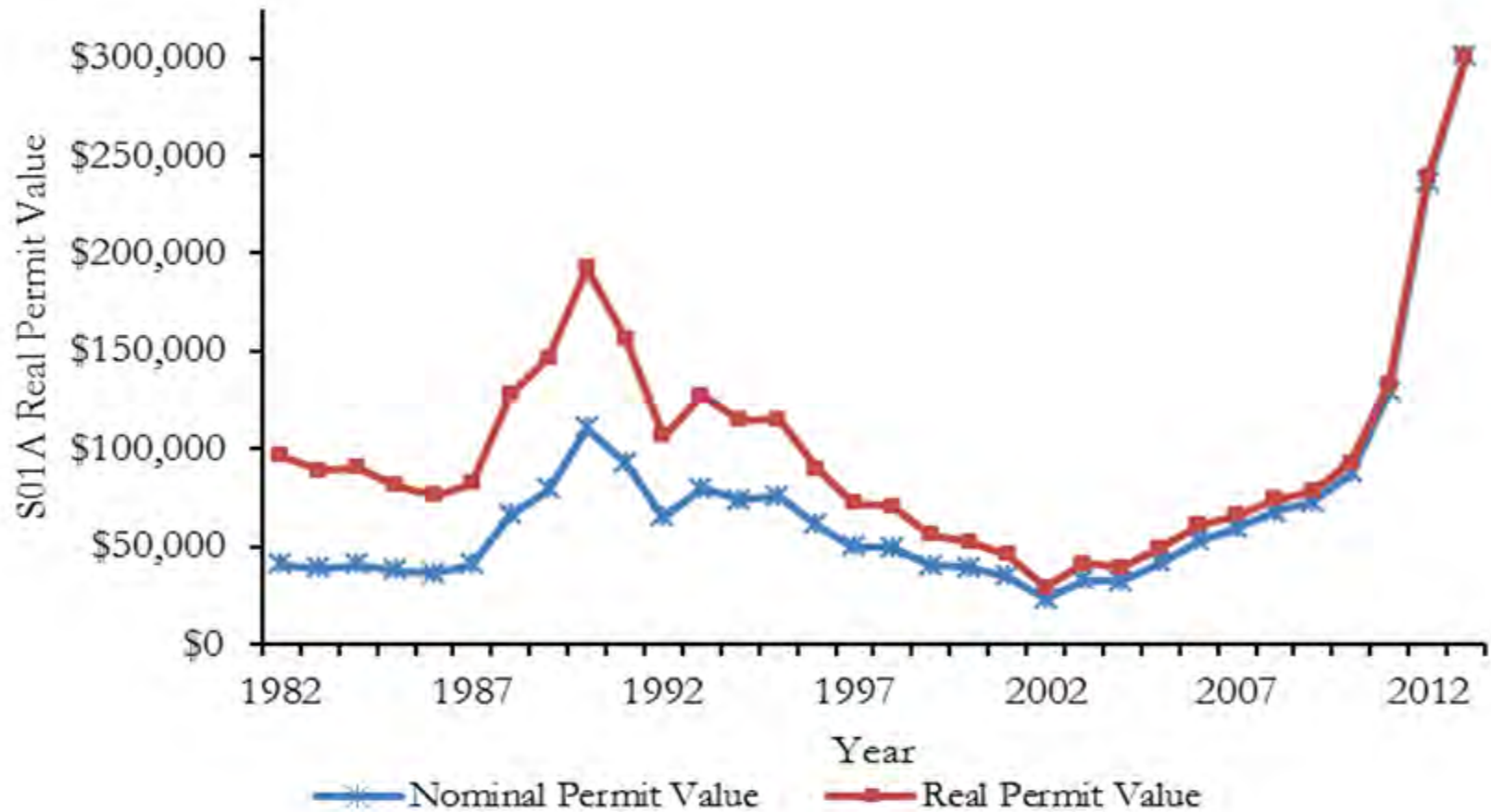
Salmon Exvessel Price



Salmon Exvessel Price



Real and nominal value S01A LEPs

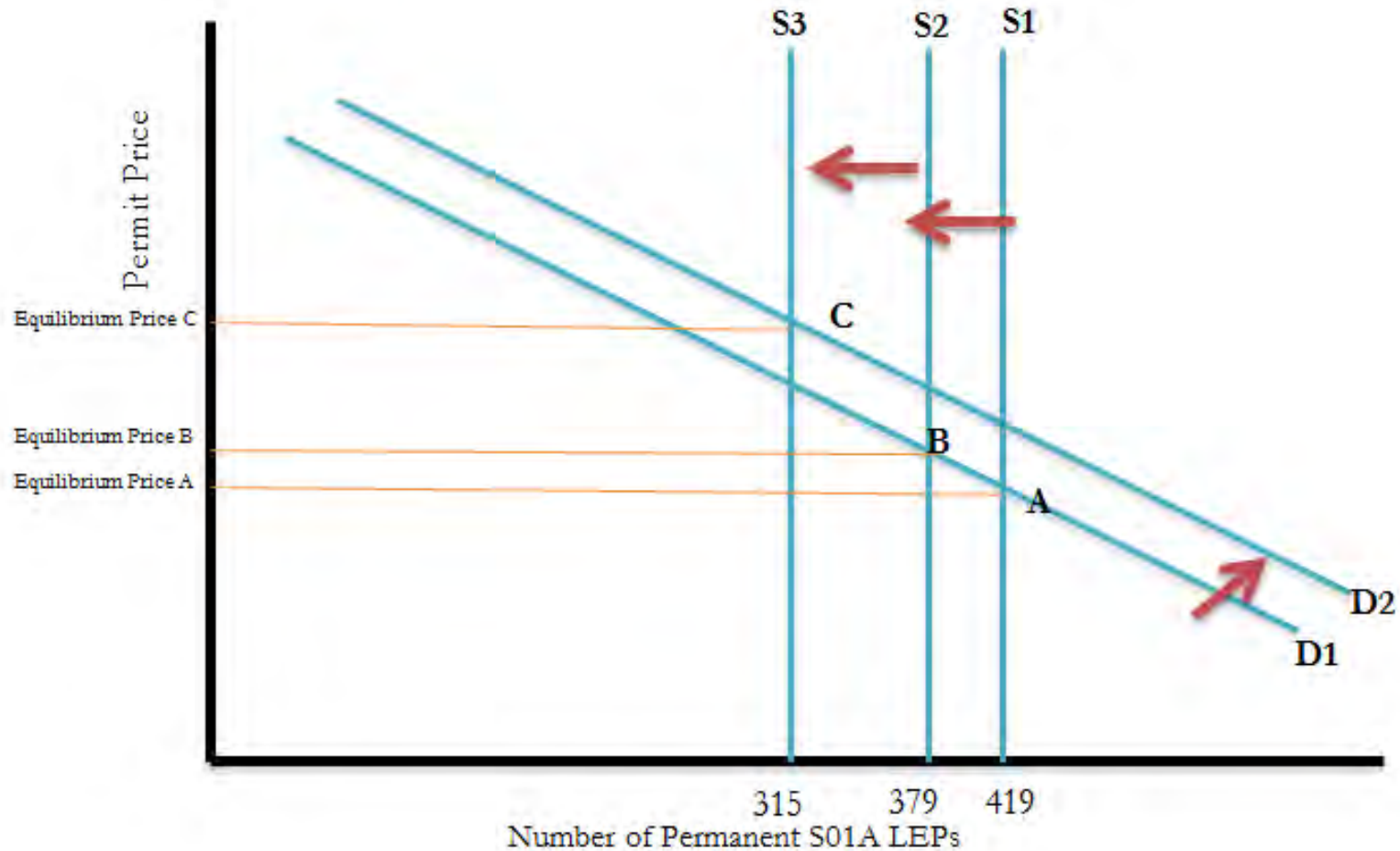


Permit Value

The background image shows a fish processing facility. In the foreground, several large fish, likely salmon, are laid out on a white surface. In the background, workers wearing blue hard hats and safety vests are visible, working with equipment. The scene is brightly lit, and the overall atmosphere is industrial.

- Information on LEP prices is readily available.
- LEP prices are determined in the open market through willing exchanges between individuals.
- Asset value of LEPs reflects the discounted net present value of expected earnings in perpetuity.
- Expected earnings are informed by past earnings.
- Sales prices of LEPs can be used as a measure of changes in LEP holder expectations about future earnings.

Changes in LEP price due to increased demand (D1 to D2) and reduced supply due to two buybacks (S1 to S2 to S3).



Models of SR Impact of the 2008 S01A LEP Buyback

Model 1

$$PP_t = \beta_0 + \beta_1 (PP_{t-1}) + \beta_2 D_t + \beta_3 (AvgRev_{t-1}) + u_t$$

Model 2

$$\ln(PP_t) = \beta_0 + \beta_1 \ln(PP_{t-1}) + \beta_2 D_t + \beta_3 \ln(AvgRev_{t-1}) + u_t$$

Where PP_t is the mean (real) value of an S01A LEP in year t , D_t is a binary variable that takes a value of 1 for years 2008-present, and $AvgRev_{t-1}$ is the annual mean of (real) gross earnings per permit fished.

Short-run Influence of the 2008 S01A LEP Buyback on Permit Price

	Model 1	Model 2
Intercept	-31,968	-0.846
Lag of Real Permit Price	0.857	0.861
Buyback Dummy Variable	29,779	0.241
Lag of Mean Real Earnings	0.204	0.197
AICc	801.8	826.0
R ²	0.87	0.88

Model 1 suggests that the 2008 buyback increased the mean value of S01A LEPs by \$29,779. Model 2 suggests that the 2008 buyback increased mean value of S01A LEPs by 24.1%.

Cost and Benefit of 2008 Buyback

	Permit numbers	Value per Permit	Total Value
Before buyback	415	\$70,979	\$29.4M
After buyback (Model 1)	380	\$100,758	\$38.3M
After buyback (Model 2)	380	\$88,085	\$33.5M
Premium to remaining fishermen (Model 1)		\$29,779	\$8.8M
Premium to remaining fishermen (Model 2)		\$17,106	\$4.0M
Program cost			\$2.9M
Net Benefits (Model 1)			\$6.0M
Net Benefits (Model 2)			\$1.1M

Ruminations

Because buybacks fail to resolve the individually sensible but collectively irrational race-for-catch, they often intensify unconstrained margins, thereby dissipating rents and precipitating requests for additional buybacks.

When there is latent capacity (unfished or inefficiently fished permits), buyback programs may not diminish effective capacity or the intensity of the race-for-catch.

Nevertheless, for the S01A the short-run gains to fishermen who remained in the fishery exceed program cost.





Thank you for your attention