

ALLOCATING COMMERCIAL-RECREATIONAL HARVEST RIGHTS THROUGH MARKET MECHANISMS

Economic Implications of the CATCH Proposal for Alaska Halibut

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Highlights of the Talk

- ▶ Describe the CATCH Proposal
- ▶ Provide brief relevant history of the halibut recreational fishery
- ▶ Describe our role and approach
- ▶ Findings and Key Recommendations
- ▶ Next steps -- future economic analysis

What is "CATCH"

Alaska Charter Association
South East Alaska Guides Organization

- ▶ **"Catch Accountability Through Compensated Halibut"**
- ▶ **Goal:** "provide stability in guided angler regulations"
 - ▶ Area 2C:
 - ▶ one halibut low abundance any size
 - ▶ two halibut any size high abundance
 - ▶ Area 3A:
 - ▶ maintain two halibut any size
- ▶ Use markets to acquire catch quotas
- ▶ Manage quota through "common pool"
- ▶ Precedent in the commercial sector for common pool purchases and holdings (CQE's)

CELEBRATING THE RODGERS FAMILY'S 101ST YEAR SPORTFISHING LEGACY

Many of you have been asking about the new halibut regulations that were recently announced by the DFO. The 2013 regulations allow for the retention of 1 Halibut a day and 2 in possession which is the same as in 2012. The big change for 2013 is that they have now imposed a slot limit on the size of the halibut that you are allowed to retain. One halibut has to be under 83cm which is about a 15 pound fish and the other halibut has to be under 126 cm which is about a 60 pound fish. We feel that these new regulations will not only be confusing to our guests, but, will also be difficult for us to administer. As you can well imagine, this is a very controversial and unpopular decision on the part of the DFO.

On a more positive note, DFO has also established a new program, which is now available to the Sports Fishing Industry whereby Sports Fishing Lodges like ourselves, can purchase extra commercial halibut quota for this coming season. We have decided that it is in our best interest and the best interest of our many customers to take advantage of this opportunity. By buying commercial quota, we feel that this decision will greatly simplify this component of our fishery. For this reason, we have decided to purchase enough commercial halibut quota to satisfy our needs for this coming season. In short, what this will mean to our customers is that, although the possession limit will still be 2 halibut per angler, our customers will now have the option of either retaining or releasing any oversized halibut that they catch when fishing at Rodgers.

We have been looking at several different ways of trying to make this program work. After giving this issue a great deal of thought, we have decided that the best and fairest approach is to give our customers the option of keeping or releasing an oversized halibut on a pay as you go basis. In other words, if a customer chooses to retain any halibut over the legal allowable size, then the on the spot cost of the halibut will be based on the rate of \$5.00 a pound. This is the price that we are going to be paying per pound to the commercial sector in order to purchase this extra quota. This extra cost of \$5.00 a pound for an oversized halibut can be shared by one or more members of the party. The rate of \$5.00 per pound will be based on the dressed weight, cleaned and head off of the halibut and not the round weight. The formula the DFO uses is that the dressed weight is 75% of the round weight. For example, an 80 pound halibut becomes a 60 pound halibut when cleaned and dressed. The cost of this halibut would be \$5.00 X 60 pounds = \$300.00

I doubt if many other fishing lodges in B.C. will be offering this program and I feel fortunate that we have been given this opportunity. Our 2013 season is scheduled to open May 1st and according to the DFO forecasts, we are anticipating having another excellent year. The DFO forecasts are calling for an abundance of Coho/Silvers and a high return of 4 and 5 year old Chinooks/Kings. If you would like more information or if you would like to make reservations...

Give us a call at 1-800-429-5288 or email us at
rodgersfishinglodge@yahoo.com
and check out our new home page at
<http://www.rodgersfishinglodge.com/>

RODGERS FISHING FROLICS



History of efforts to by the charter halibut fishery to acquire IFQ's

- ▶ Council consideration 2005
- ▶ Purchase of IFQ by individual charter firms—a **“first best solution”**
- ▶ Gains in efficiency but loss in commercial IFQ social objectives
- ▶ Concept initially adopted for analysis but then rescinded

Drivers of CATCH Proposal

- ▶ **GHL (2003-2013) constantly exceeded** by recreational sector
- ▶ **2014 Catch Sharing Plan (CSP)**
 - ▶ Fixed quota percentage (14-18% depending on combined catch and area)
 - ▶ Ability to lease quota from Commercial sector
- ▶ **Uncertainties** about regulation to meet CSP requirements
 - ▶ Uncertain Input Controls
 - ▶ Different regulations between guided harvest sectors
- ▶ **Impacts of National Economy**
- ▶ **50% decrease in exploitable biomass**, reduced harvest limits, smaller fish (lower size at age)
 - ▶ Only one fish per angler in 2C and below 38 inches

Perceived Limitations of “Guided Angler Fish” (GAF) Leasing Program

- ▶ Leasing decisions by **individual charter operators**
 - ▶ Highly heterogeneous operations
- ▶ Risk/uncertainty of lease price
- ▶ Risk/uncertainty of charter demand
- ▶ Risk/uncertainty of input regulations
- ▶ **A complex decision each year**
 - ▶ **Easier for some holding a “portfolio” of businesses or greater access to capital?**

Complex Issues for CATCH Proposal

“A More Permanent and Certain Solution”

- ▶ **Relatively unprecedented proposal**
- ▶ **How to purchase and at what prices??**
 - ▶ Unprecedented purchase levels
 - ▶ Expected quota price?
 - ▶ Future resource abundance?
 - ▶ Future recreational demand?
 - ▶ Attracting effort into the charter industry (excess permits)?
- ▶ **Financing the Purchase**
 - ▶ Type of Funds?
 - ▶ Mechanisms for financing?
 - ▶ Who pays?
- ▶ **Mechanism for funding: (ex: angler stamp vs vessel tax)**
- ▶ **Managing the Pool**
 - ▶ Organization framework?
 - ▶ Managing quota?
- ▶ **Accountability procedures**

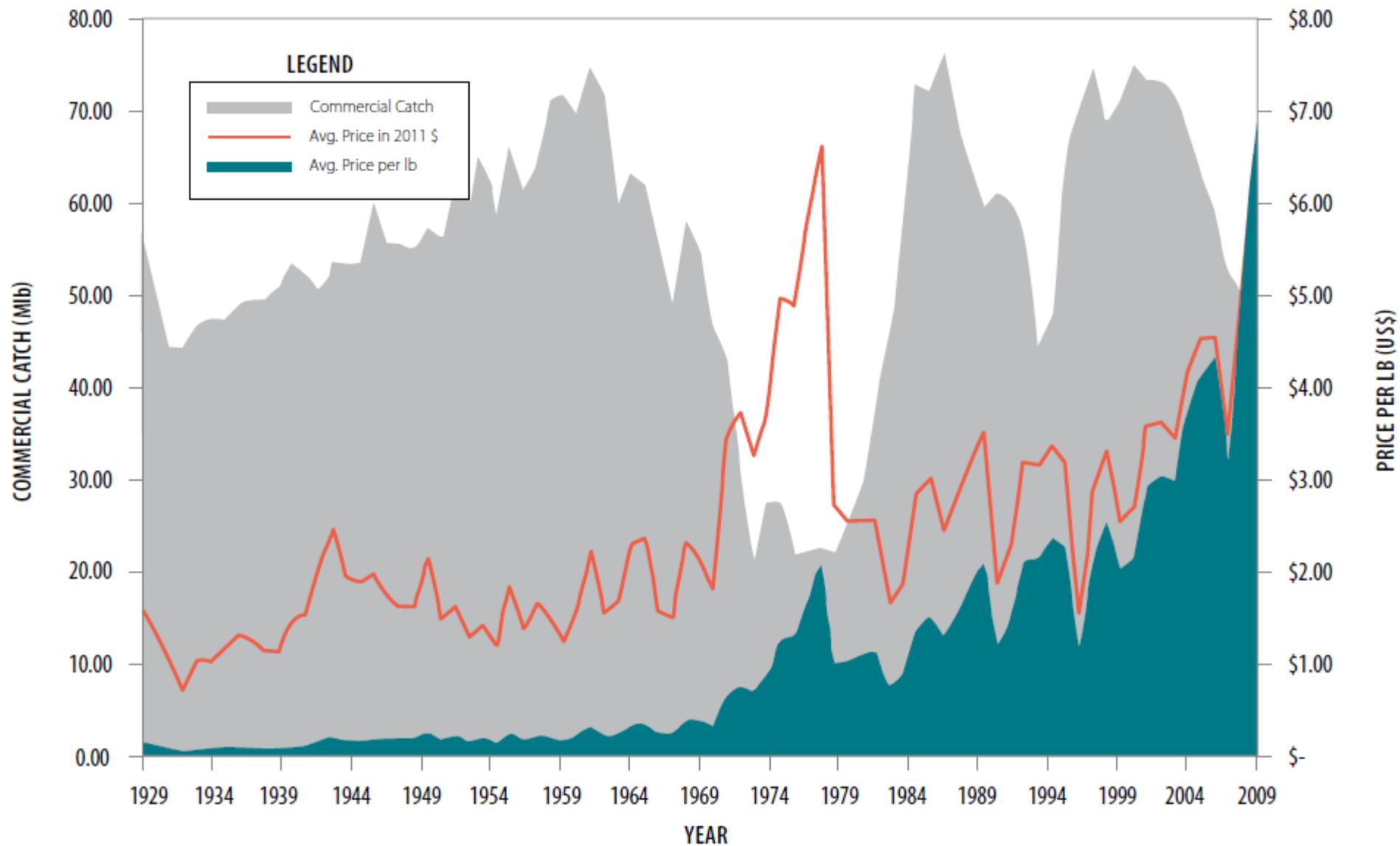
Working relationship

- ▶ Two separate reports
- ▶ They reference our work
- ▶ Help CATCH with economic insights on core elements
- ▶ **Help CATCH predict (or bound):**
 - ▶ Financial feasibility of schemes
 - ▶ Commercial selling price of quota assets
 - ▶ Guided anglers response to different fees/stamps prices

Our Financial and Economic Analysis --Approach

- ▶ Economic Background of Halibut Fisheries
- ▶ Highlight issues/qualitative analysis of key elements of CATCH
- ▶ Conduct quantitative analysis -- commercial and recreational:
 - ▶ NEV and REI
 - ▶ Marginal values
 - ▶ Predict prices and WTP
- ▶ Scenarios
- ▶ Recommendations

FIGURE 7: Halibut Price and Catch 1929–2011



Commercial Fishery Overview

Complex IFQ System-1995—many rules/constraints to achieve social goals

- ▶ **Longline fishery**
- ▶ 48% consolidation since 1995
- ▶ Approximately 1000 vessels
- ▶ 20.5 Million Pounds Harvest 2012
- ▶ \$5.80/pound exvessel price 2012
- ▶ Traded Quota Shares in 2013 approximately 2.5%
 - ▶ 60,000lb 2C @ \$35-\$39
 - ▶ 360,000 lbs 3A @ \$32



Commercial Fishery Overview

(continued)

- ▶ Revenue \$148 million statewide
- ▶ Revenue: \$15.8 million Area 2C
- ▶ Revenue \$67.9 million Area 3A
- ▶ Personal Income for 2C and 3A \$113 million

Recreational Fishery Overview

- ▶ Area 2C: 287 active permits (Total 578)
- ▶ Area 3A: 419 active permits (Total 449)
- ▶ **Area 2C: desire for one fish, no size limit**
 - ▶ Need 500,000 lbs of additional quota (21% of 3C 2013) commercial quota
- ▶ Number of Halibut Guided Angler Days:
 - ▶ Area 2C -- 82,000
 - ▶ Area 3A – 127,000
- ▶ Personal Income all saltwater Alaska angling
 - ▶ \$182.4 Million per year



Core Issues and Qualitative Analysis

- ▶ **Designing Quota Purchase Strategy**
 - ▶ Constrained Supply of Commercial Quota
 - ▶ 5% Traded per year
 - ▶ Many rules constraining trades
 - ▶ Uncertain Price
- ▶ **Estimating Recreational Demand** Response to Higher Catch/Higher Costs
- ▶ **Funding the Pool Purchase**
- ▶ **Managing the Pool**
- ▶ **Latent Charter Permits**
- ▶ **Factors Affecting QS Price**

Quantitative Approach

Use Existing Data/Studies

- ▶ **Commercial NEV** (Waters and TRG 2012) (TRG 2007)
 - ▶ Budgets for “representative longliner”
 - ▶ Budgets for processors
 - ▶ \$42K per vessel Net Income
 - ▶ **QS Price 2012** \$35-39 Area 2C and \$32 Area 3A
 - ▶ Rule of Thumb Quota Price (7X Ex vessel price = \$38.20)
 - ▶ NPV Asset value based on today's prices and volume = \$17.90/lb
 - ▶ NPV Asset value based on 1995-2005 prices/volumes = \$35.78/lb
- ▶ **Halibut Charter Permit Asset Value** (based on assumptions)
 - ▶ Area 2C -- per active vessel = \$68,000
 - ▶ Area 3A – per active vessel = \$72,000



Quantitative Approach

Use Existing Data/Studies (continued)

▶ **Recreational Demand (WTP)**

- ▶ Criddle et al (2003) – Values per day (updated)
 - ▶ \$25 then 9.7% decrease in participation
- ▶ Lew and Larson (2012)
 - ▶ Additional Fish \$132 (\$13/lb)

▶ **Regional Economic Impact (Household income) FEAM Model (Waters and TRG 2012)**

- ▶ Lew and Seung (2010)
 - ▶ 1.25% increase participation rate = 3319 additional angler days = \$11.4M additional expenditures
- ▶ For every pound of commercial halibut 2012 REI was:
 - ▶ \$2.76 Alaska
 - ▶ \$5.90 Washington/Oregon
 - ▶ **\$11.14 Total U.S.**

Example of Quantitative Analysis: Economic Results from Shifting Pounds from Commercial to Recreational Charter Sector

Area	Pounds	Com. Revenue	REI (Millions)			NB (Millions)		
			<u>C</u>	<u>R</u>	<u>Net</u>	<u>C</u>	<u>R</u>	<u>Net</u>
2C	600,000	-\$3.2M	-1.7	10.7	9.0	-0.8	6.0	5.2
3A	800,000	-\$5.1M	-2.2	13.1	10.9	-1.0	3.7	2.7

Scenarios for Buying Quota for Guided Sector Area 2C: Financing Costs vs Revenue — Examples

Financing Costs (Quota Acquisition Costs plus interest rate and adm costs-20 years)

1. 300,000 pounds \$35/lb Annual Costs **\$1.17M**
2. 300,000 pounds \$50/lb Annual Costs **\$1.67M**

3. 700,000 pounds \$35/lb Annual Costs **\$2.72M**
4. 700,000 pounds \$50/lb Annual Costs **\$3.89M**

Net Revenue

1. 81,698 angler days Fee \$10 Annual Revenue **\$0.82M**
2. 81,698 angler days Fee \$20 Annual Revenue **\$1.63M**
3. 81,698 angler days Fee \$30 Annual Revenue **\$2.45M**

4. 89,868 angler days Fee \$10 Annual Revenue **\$0.90M**
5. **89,868 angler days Fee \$20 Annual Revenue \$1.80M**
6. 89,868 angler days Fee \$30 Annual Revenue **\$2.70M**

Our Core Findings

- ▶ \$20 stamp would generate roughly enough revenue to purchase 500,000 lbs at market trading prices
- ▶ 500,000 lb loss to commercial industry would not significantly impact ex-vessel price (qualitative assessment)
- ▶ Significant NEV and REI gains by transferring 500,000 lbs to recreational sector

Qualitative Findings and Recommendations

- ▶ **Predicting Quota Share Price:** depends on many factors.....
 - ▶ Structure of purchasing schemes
 - ▶ Quantity purchased
 - ▶ Certainty and efficiency of financing, management, regulatory structure
 - ▶ Increase above observed prices?... decrease?
- ▶ **Purchasing quota:** one time reverse auction with relaxed constraints
- ▶ **Design and management of common pool:** dynamic “asset strategies”
- ▶ **Latent permits:** design creative incentives/sticks
- ▶ **Pilot project:** given complexities and uncertainties

CATCH Final Proposal

- ▶ **Purchasing quota**: one time reverse auction with relaxed constraints
- ▶ **Funding**:
 - ▶ **Area 2C**: $\$25\text{-}\$50/\text{lb} \times 587,000\text{lbs} = \$14.6\text{Million to } \$29.4\text{ Million}$
 - ▶ Area 2C: For a \$20 stamp annualized revenue equals \$1.32 million
 - ▶ **Area 3A**: $\$25\text{-}\$50/\text{lb} \times 785,000\text{lbs} = \$19.6\text{ Million to } \39.3 Million
- ▶ **Design and management of common pool via a COE**:
 - ▶ Dynamic “asset strategies” (*but recognize political limitations*)
 - ▶ Portfolio of funding sources
 - ▶ Develop a State Halibut Tax (modeled after Chinook stamp),

or

CATCH Final Proposal

- ▶ **Form a RNPA and self tax**
 - ▶ All firms must charge clients
 - ▶ Dissuade non active charters
- ▶ **Accountability:**
 - ▶ Electronic logbooks-real time electronic reporting
 - ▶ Harvest tickets per fish
 - ▶ Conservation buffers
- ▶ ~~**Pilot project:** given complexities and uncertainties~~



Next Steps

- ▶ If Council willing to consider the proposal
 - ▶ NEV analysis?
 - ▶ REI analysis?
- ▶ Consideration of other social and cultural objectives
 - ▶ **'fair and equitable" for both sectors**
- ▶ Alternative options and design elements
- ▶ Our work is a "back of the envelope" start

Needed Research

- ▶ **Forecasting “willingness to sell”**
 - ▶ under different auction schemes and
 - ▶ supply constraints
- ▶ **Forecasting recreational halibut demand**
 - ▶ under different “fee” structures” and prices
- ▶ **Analyzing “optimal” management of the IFQ Guided Pool**
 - ▶ under alternative scenarios
- ▶ **Evaluating approaches to reduce impacts to commercial sector**
 - ▶ social and community goals while increasing overall benefits
- ▶ **Evaluating community impacts and tradeoffs**
 - ▶ for helping Council determining “fair and equitable” under alternative schemes for purchasing, financing and managing
- ▶ **Reducing charter vessels**

Reports

<http://www.catchalaska.org/>

Yamada, Richard and Sherry Flumerfelt. 2014. *Integrating a recreational fishery into a catch share program: Case study of Alaska's guided halibut sport fishery*. Report prepared for the Catch Accountability Through Compensated Halibut (CATCH) Project.

<http://hdl.handle.net/1957/52301>

Davis, Shannon, Gilbert Sylvia, and Chris Cusack. *Economic Implications of a Strategy to Purchase Alaska Halibut Fishery Commercial Fishing Sector Quota Shares to Create a Recreational Guided Angler Sector Harvest Common Pool*. Prepared by The Research Group, LLC, Corvallis, Oregon for the CATCH Project, Auke Bay, Alaska. August 2013.

