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Tradable permit programs: What are the lessons for the new Alaska halibut catch sharing plan?

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ABSTRACT

To address long-standing allocation conflicts between the Pacific halibut commercial fishing sector and recreational charter (for-hire) sector in Alaska, an Alaska halibut catch sharing plan (CSP) is being implemented in 2014 that has a provision allowing the leasing of commercial individual fishing quota to recreational charter businesses. This one-way inter-sectoral trading allows for the charter sector to increase its share of the total allowable catch while compensating commercial fishermen. This type of catch shares program is novel in fisheries. In this paper, the literature on non-fisheries tradable permit programs (TPPs) that have similarities to the Alaska halibut CSP program is examined. Several successful TPPs are discussed, including ones from emissions trading programs, water quality trading programs, water markets, and transferable development rights programs. They are then evaluated in terms of their similarities and differences to the Alaska CSP program. Characteristics not part of the current CSP that other TPPs have used and that may increase the likelihood for the CSP to be effective in achieving its primary goals (if they are implemented) are identified, such as allowing more flexible transfers (e.g., internal transfers), intertemporal banking, cooperative structures, and multi-year leasing.

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1. Introduction

Pacific halibut fishing in Alaska is dominated by two user groups: commercial fishers and guided anglers using charter boats. The large commercial sector operates within an individual transferable quota (ITQ) system that allocates revocable, but otherwise perpetual, access to a fixed share of the annual total allowable catch (TAC) across participants. Meanwhile, the recreational fishery includes a small, and until recently, growing charter sector which serves guided anglers targeting the same stock. The growth in the recreational charter sector in recent years has led to tensions with the commercial sector since there was an absence of a hard allocation between the recreational and commercial sectors before now. Over the past decade the recreational fishery has been regulated primarily by periodically-updated limits on the size and quantity of fish each angler may retain, not by explicit catch limits for the sector. Because the charter sector's harvest levels have represented a relatively small share of the TAC over the past two decades,¹ there was little need for the formality of a market-based

allocation system like ITQs in that sector [45], at least prior to the recent growth that has led to an increasing share of the TAC being harvested by the recreational charter sector. To address the resulting tension between the sectors, starting in the 2014 season a catch sharing plan went into effect with two primary features: first, it explicitly allocates the annual TAC across both sectors; and second, it allows charter operators to lease quota from commercial fishers and offer them to anglers fishing from their boats.² Commercial fishers, who are only rarely permitted to lease quota to each other, will now be able to lease to charter sector participants, thereby gaining flexibility to manage their harvests within each year. For charter businesses willing to lease quota, this will allow them to offer their clients the opportunity to potentially catch and keep more halibut or ones that are not subject to size

(footnote continued)

of total removals, relative to the commercial sector's share of 69.0–80.1%, between 1996 and 2012. (Note that other removals include unguided sport fishing, wastage, and by catch.) These statistics were computed using data from ADF&G [1] and NPFMC [40] for Area 2C; NOAA [37] and NPFMC [41] for Area 3A; and Stewart [51] for both areas.

² Each season, commercial fishers may lease quota, denominated in pounds, to charter halibut permit holders (those charter boat operators that have a permit to have clients fish for halibut). Upon lease of the pounds, the pounds are no longer available to the commercial fishers during that fishing season (subject to conditions discussed later).

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E-mail addresses: ilcall@ucdavis.edu (I.L. Call), dan.lew@noaa.gov (D.K. Lew).¹ In the two International Pacific Halibut Commission management areas covered by the new CSP, charter catch has represented between 7.4% and 13.3%

restrictions that may be placed on charter boat harvests. This unique system of one-way inter-sectoral transfers provides a means of coordination between user groups with fundamental differences in scale and objectives.

This paper reviews examples of non-fisheries tradable permit programs (TPPs) and identifies lessons for the ITQ leasing provisions of the Alaska halibut catch sharing plan (hereafter denoted “the CSP”). Given the nascent nature of the CSP and the novelty of many of its features relative to other fisheries management programs, the experiences of non-fisheries TPP programs may be just as instructive as other fisheries programs in outlining potential instruments and features that may arise as it evolves.³ The focus here is on programs in which multiple asymmetric groups engage in unidirectional trades, attempting to identify those in which established trading programs evolve to incorporate resource users previously excused or excluded from relevant regulations. The work is germane to a growing fisheries literature on the application of catch share programs to new settings [12], as well as the quest for more participatory regimes that combine the advantages of standard ITQ approaches and fisheries cooperatives [18,10,3].

Established TPPs can provide useful insights for newer programs, like the CSP. Jardine and Sanchirico [20] suggest that many fishery ITQ programs in developing countries are a part of a second wave of ITQs in new communities and settings that offer smaller, but potentially significant, economic benefits. The CSP can be viewed as part of this wave of new programs, correcting the “inadequate consideration” given to recreational fisheries in the first wave of ITQ program establishment ([48]; 152) and able to benefit from the experience and regulatory structure of the commercial sector’s established ITQ program. Meanwhile, in non-fisheries settings, the lessons from emissions trading systems (ETSs) are being modified for water quality trading (WQT) programs [13,46], which are slowly gaining traction after years of research. Unlike many ETSs, but like some fisheries management settings, WQT programs must directly address the spatial specificity of an externality-generating activity. A similar type of TPP used in land use planning is transferable development rights (TDRs). TDRs are particularly relevant to the CSP because trading is typically limited to unidirectional transfers from “sending” to “receiving” zones, just as trades under the CSP flow only from the commercial sector to the charter sector. This unidirectionality is also a common characteristic in western water markets (WMs), where growing urban water demand is being met by increasing flows of water from the agricultural sector.

The next section presents an overview of key features of the CSP. This is followed by discussions of ETSs, WQT programs, WMs, and TDR programs, with general program characteristics as well as details on several applications. The paper concludes with a summary and synthesis of key lessons for the CSP.

2. The Alaska halibut catch sharing plan

The CSP [38] replaces the previous system for allocating halibut between the commercial and charter sectors and introduces a new system for transferring catch from the commercial to the charter sector. Under the previous system, projected charter catch (along with other non-commercial removals and projected commercial wastage) was subtracted from Total Constant Exploitation Yield (Total CEY) to establish the commercial sector’s allocation each year [37]. This allocation is divided among members of the

commercial sector as “quota pounds,” based on the number of “quota shares” they hold that designate the portion of each year’s total allocation they can harvest. Within a given year, quota share holders may engage in a very limited amount of leasing of quota pounds.⁴ If they fail to exhaust their quota pounds, they may save a small percentage for use in the following year as *underage*; similarly *overage* provisions allow them to overfish by a small amount that is deducted from their quota pounds the following year (along with a penalty).⁵ The charter sector, meanwhile (as noted earlier), has been constrained solely by specific management requirements, such as daily limits on the number and size of fish that can be caught, which were designed to limit total charter catch to guideline harvest levels (GHLs) set by the North Pacific Fishery Management Council to approximate area-specific historical catch levels. GHLs served as benchmarks rather than direct restrictions and were exceeded every year from 2004 to 2010 in International Pacific Halibut Commission Management Area 2C, which spans waters off southeast Alaska.⁶ Although limited fish stocks resulted in lowering of both the GHL and commercial catch limits over recent years, the *percentage* of total catch taken by the charter sector increased. Given the status of the stocks and historical shares, “it [was] not possible for any allocation under the proposed [catch share] to make participants in both fisheries whole economically” [37], p. 39130).

The need to address allocation-related conflicts between the two sectors was clear as early as the initial implementation of the IFQ program, but disagreement precluded the establishment of a charter IFQ program or the integration of the charter sector into the commercial IFQ program. It took more than a decade for the new CSP, ratified for the implementation in the 2014 season, to emerge as a viable compromise. Under the program, regulators decide how much of the Total CEY goes to each sector at the same point in the regulatory process each year, according to a specific formula. Both sectors receive higher allocations when biological conditions result in a higher combined catch limit. To provide stability to the charter sector, its relative share is higher when the combined catch limit is lower, but lower when the combined limit is higher, meaning that it receives a smaller negative shock in bad years and less of the windfall in the good years than the commercial sector. This can be justified by the supposition of declining marginal utility of recreational fishing [7].

What makes the CSP a tradable permit program is the leasing provision by which commercial fishers are authorized to lease their annual allocations to charter operators. During the transaction, the specified amount of the commercial fisher’s current-year quota allocation (i.e., their quota pounds) is converted from pound-units to fish units, called guided angler fish (GAF) using an average weight of a GAF halibut for the previous year [37].⁷ While still subject to catch regulations, such as daily bag limits and

⁴ Leases in the commercial sector are allowed only within one of four vessel classes or for extenuating circumstances, with the intention of maintaining an owner-operated fleet [36] out of concern for the “linkages between fisheries and social and economic life in fishery dependent communities” [42]. Leases accounted for a little over 11% of the volume of transfers between 2004 and 2013 in both Area 2C and Area 3A [35].

⁵ Note that the Total CEY is computed conservatively accounting for the abundance, size composition, and lifespan of halibut so that small overages do not incur the risk of stock collapse.

⁶ The CSP covers two International Pacific Halibut Commission management areas of the Alaska halibut fishery, Area 2C in the southeast Gulf of Alaska and Area 3A in the south central Gulf of Alaska.

⁷ The rules for conversion of pounds into GAF account for the difference between the weight of charter-caught and commercial-caught fish, but not any potential price effects of GAF that will encourage charter anglers to retain larger fish than those caught the previous year. If this is a problem, it is most likely to occur in the first year when average net weight of *all* charter halibut in the prior year (before the launch of the CSP) is used instead.

³ A general examination of similarities and differences between fishery ITQ programs and non-fishery TPP programs can be found in National Research Council [32].

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