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Abstract

Rights-based fisheries management programs allocate to fishermen a guaranteed portion of the annual TAC. Fishermen then have the incentive to optimize the value of this share, leading to more economically efficient behavior. Because less efficient operators will find it more profitable to sell or lease their shares, they will tend to leave the fishery and overcapacity in the fishery will decrease. However, this exodus of operators, and associated employment, can have negative socioeconomic impacts, especially on isolated communities with few employment alternatives. Managers seek to minimize these impacts by implementing restrictions on the ways in which shareholders can use their shares (categorizing allocations by vessel type or area, limiting transferability or tenure, etc.). These restrictions impede the ability of shareholders to optimize the value of their shares, and thus reduce the economic efficiency gains possible under unrestricted programs. In the following case study of the Alaskan halibut ITQ program, linear programming is applied to estimate the costs of restricting quota trading between vessel classes. Linear programming allows for estimating the highest rent possible under different trading scenarios. Quota trade restrictions are simulated as constraints in the models, with the maximized objective function representing the rent generation possible under these trading scenarios. Preliminary results show that rent could increase by 6 to 8% under these loosened trade restrictions.