

The Expansion of Fishery Jurisdiction: Fishery Interests and Congressional Voting

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Abstract The Magnuson Fishery Conservation and Management Act of 1976 greatly broadened the scope of U.S. fishery regulation. While the act contained a variety of features, its primary and certainly most controversial provision expanded the regulated fishing zone from 12 to 200 miles. This paper identifies the primary gainers and losers from the act and assesses their roles in influencing the legislative outcome. The voting behavior of congressional representatives is analyzed by multivariate probit analysis in order to quantify the influences of the major lobbying groups.

Introduction

The Magnuson Fishery Conservation and Management Act of 1976 (FCMA) greatly broadened the scope of U.S. fishery regulation. While the act contained a variety of features, its primary and

Marine Resource Economics, Volume 2, Number 2
0738-1360/85/040143-00\$02.00/0
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certainly most controversial provision expanded the regulated fishing zone from 12 to 200 miles.¹ Within the new zone, the U.S. claimed exclusive rights to all fish except highly migratory species such as tuna. Beyond the zone, exclusive rights were also claimed for anadromous species (e.g., salmon) that spawned in U.S. waters. The act prohibited foreign vessels from fishing in the zone unless they carried a valid permit, allocated at the discretion of the secretary of state and issued by the secretary of commerce.

This rather dramatic change in operating rights in fishing was preceded by a considerable amount of congressional debate. Proponents argued that excessive fishing within the 200-mile zone had endangered many species. Opponents noted that unilateral action by the U.S. risked international discord and that a multilateral agreement reached by negotiation at, for example, the Law of the Sea Conference, would be preferable. It also became quite evident that the costs and benefits of the act were not uniformly dispersed among U.S. fishing interests. Major segments of the U.S. fisheries industry opposed the legislation.

This paper seeks to identify the primary gainers and losers from FCMA and to assess their roles in influencing the legislative outcome. First, the major interest groups are identified and their respective positions of FCMA are reviewed. Next, the voting behavior of congressional representatives is subjected to a multivariate probit analysis to test hypotheses concerning the factors that govern the political influence of special interest groups.

Prospective Gainers and Losers

For U.S. fishing interests whose activities are concentrated within the 200-mile zone and the anadromous species harvesters, FCMA was perceived much like a cash subsidy. To the extent that foreign fishing would be reduced in the zone, the existing fish stocks available for U.S. harvesters would, at least temporarily, be increased. Catch per unit of effort would be expected to increase and, consequently, average cost (per fish) would decrease.

However, some U.S. fishing interests cast their nets beyond the 200-mile zone and were potential losers from the legislation. Firms involved in distant shrimping or tuna fishing feared retaliatory re-

strictions by foreign nations. The division within the U.S. fishing industry did not escape notice by Congress. Representative Patsy Mink of Hawaii recounted the opposition to the legislation from her state's largest processing firm, Bumble Bee Seafoods: "While it [Bumble Bee] stood to gain some in the area of salmon fishing, it stood to lose a great deal in its shrimp and tuna operation" (U.S. Congress, 1975).

Recreational fishing interests also had a stake in the legislation. If the law curbed aggregate (foreign plus domestic) commercial fishing in the U.S. zone, recreational fishing would likely improve. Consumers could be expected to be affected by the legislation also. If expanding the fishing zones did indeed reduce the aggregate harvest, world prices would rise in the short run (*ceteris paribus*). However, if this ensured larger stocks for future harvests, fish prices would be lower over the longer run. The net desirability to consumers of higher short-run but lower long-run prices depends upon the magnitude of the price changes and consumer discount rates. In any event, the interests of the consumers were conspicuously absent from congressional debate, with discussion focusing on the "unfair" harvesting practices of modern foreign fleets and the sad plight of the U.S. fishing industry.

Congressional Voting Behavior

The Model

This section of the paper investigates the voting behavior of senators and representatives on FCMA in order to assess the political influence of the various special interest groups. The economic theory of representative voting assumes that legislators are vote maximizers who seek optimal trade-offs in apportioning political support between groups (or individuals) in society.² Support given to any one group provides costs and benefits to the legislator. The favored group can be expected to provide votes, contributions, and donated labor services. The group that is disfavored by the legislator is likely to transfer support to an opposing candidate.

The existence of transactions and information costs and the free-rider problem apparently give relatively small but intensely interested groups a comparative advantage in the marketplace for

political influence. This has led Stigler (1971, p. 3) to argue that "as a rule, regulation is acquired by the industry and is designed and operated for its benefit." It follows that large and casually interested groups would tend to be the victims of regulation.

FCMA posed a dilemma for many legislators. As noted earlier, tuna and shrimp interests opposed the legislation while coastal and salmon interests favored the bill. Many legislators from coastal states found both of these opposing groups located in their own states. Thus the primary competitors over the legislation were equally well-organized industries. Economic voting theory would predict that legislators would perform a rational calculation (or act as if they did) to decide which group's loyalty had the highest net worth. Larger and less well-organized groups such as recreational fishermen would be expected to have a smaller influence upon the legislator's voting decision.

For the empirical analysis the final roll call votes on HR 200 and S961 were subjected to a multivariate probit analysis. The model that was estimated took the following form:

$$\text{SFCMA}_i = f(\text{party}_i, \text{ADA}_i, \text{tuna}_i, \text{shrimp}_i, \text{salmon}_i, \text{coastal}_i, \text{PCPI}_i)$$

where

$\text{SFCMA}_i \equiv$ legislator i 's position on FCMA

(1 = support, 0 = opposition); data from
Congressional Quarterly Almanac (1977);

$\text{party}_i \equiv$ the party affiliation of legislator i

(1 = Democrat, 0 = Republican); data from
Congressional Quarterly Almanac (1977);

$\text{ADA}_i \equiv$ the rating given to legislator i by the Americans
for Democratic Action; data from *ADA Newsletter*
(1977);

$\text{tuna}_i \equiv$ the dollar amount of tuna landed in legislator i 's
state divided by state i 's total personal income; data for
tuna, shrimp, salmon, and coastal are from U.S.
Department of Commerce (1978) and U.S. Bureau of
the Census (1977);

$\text{shrimp}_i \equiv$ the dollar amount of shrimp landed in legislator
 i 's state, divided by state i 's total personal income;

- salmon_{*i*} ≡ the dollar amount of salmon landed in legislator *i*'s state divided by state *i*'s total personal income;
- coastal_{*i*} ≡ the dollar amount of coastal fish and shellfish landed in legislator *i*'s state divided by state *i*'s total personal income;
- PCPI_{*i*} ≡ state *i*'s personal income per capita; data from U.S. Bureau of the Census (1977).

The executive branch and the secretary of state opposed FCMA because they favored a multilateral solution and were concerned that freedom of the high seas would be undermined. The party variable was designed to capture the effects of voting out of party loyalty to these administration views. The variable ADA identifies each legislator's prior voting record as conservative or liberal, ranging between zero (most conservative) and 100 (most liberal). If ideology played a role or logrolling along ideological lines occurred, the variable ADA should capture this effect.

The primary focus of attention for the empirical work centered on the role that the four major fishing interest groups played in influencing legislative voting. The four groups were the coastal, salmon, tuna, and shrimp industries. The variables were constructed by dividing the dollar value of that fish type landed in the legislator's state by the state's total personal income (both in 1975 dollars). These variables give the relative economic importance of the various fish types to the state's economy. Other things equal, the larger the relative importance of the group, the greater is the likelihood that the legislator would support the group's position. Based on prior theorizing, it was expected that the coastal and salmon variables would exert positive influences while the tuna and shrimp variables would have negative effects on legislator support for FCMA.

The state's per capita personal income was used as a control for a variety of factors that may have affected the legislator's voting position. For example, voter information and consumption levels are undoubtedly related to income. These factors may, in turn, influence legislator voting.

Several additional variables were also entered into the analysis, but because they were consistently insignificant and had no effect on the other coefficient estimates they are not reported. These vari-

ables included controls for the relative importance of other major food groups (i.e., grains and meats) and other demographic characteristics.³

Empirical Findings

Tables 1 and 2 present the empirical findings for the probit models of legislator voting. Table 1 provides coefficient estimates for two

Table 1
Maximum Likelihood Estimates of Coefficients^a

Variable	House		Senate	
	Model I	Model II	Model I	Model II
Constant	1.9269 (2.16) ^b	0.7189 (4.48) ^c	4.9325 (2.90) ^c	0.9896 (3.25) ^c
Coastal	0.0080 (3.83) ^c	—	0.0031 (1.00)	—
Shrimp	-0.0075 (2.90) ^c	—	-0.0070 (1.24)	—
Tuna	-0.0241 (1.65)	—	-0.0077 (0.83)	—
Salmon	0.2714 (1.42)	—	-0.0022 (0.53)	—
Coastal and salmon	—	0.0087 (4.36) ^c	—	0.0002 (0.48)
Shrimp and tuna	—	-0.0068 (-2.95) ^c	—	-0.0062 (-1.39)
Party	-0.1481 (0.62)	-0.0622 (-0.28)	-0.0488 (0.12)	0.3080 (0.87)
ADA	-0.0054 (1.43)	-0.0070 (-2.20) ^b	0.0013 (0.20)	-0.0046 (-0.80)
PCPI	-0.0002 (1.37)	—	-0.0006 (2.40) ^c	—
N	309	309	95	95
-2 times log likelihood ratio	42.57	37.19	11.59	2.58

^a Parentheses contain value of maximum likelihood estimate divided by the standard errors of the coefficients. Vote in House: 209 for, 100 against. Vote in Senate: 76 for, 19 against.

^b Significant at the 5% level.

^c Significant at the 1% level.

Table 2
Partial Derivatives

Variable	House		Senate	
	Model I	Model II	Model I	Model II
Coastal	0.0001	—	0.0008	—
Shrimp	-0.0001	—	-0.0017	—
Tuna	-0.0002	—	-0.0019	—
Salmon	0.0027	—	-0.0005	—
Coastal and salmon	—	0.0028	—	0.00005
Shrimp and tuna	—	-0.0022	—	-0.0017
Party	-0.0015	-0.0199	-0.0118	0.0846
ADA	-0.0001	-0.0023	0.0003	-0.0013
PCPI	0.1866 E-05	—	-0.0002	—

models applied to House and Senate votes on FCMA. Table 2 gives the estimated partial derivatives for the effect of the independent variables upon the likelihood of legislator support. Model I uses separate variables for each of the four major fishing interests. Model II combines the coastal and salmon variables (i.e., the pro-FCMA lobbies) and the shrimp and tuna variables (i.e., the anti-FCMA lobbies) and omits per capita personal income.

Party affiliation proved to be statistically insignificant in all of the models. Ideology—as proxied by the legislators' ADA ratings—was usually insignificant. The House estimates indicated a tendency for liberals (high ADA rating) to be less likely to support FCMA; the variable *ADA* proved statistically significant only in the House's Model II.

The fishing interests affected votes in the House as expected: coastal and salmon catch exerted a positive influence on support for FCMA, while shrimp and tuna catch had a negative effect. In the Model I estimates for the House, the coastal and shrimp variables were significant at the 1% level or better. While the tuna and salmon variables proved to be insignificant at conventional levels, they exhibited the expected signs.

When the fishing groups are aggregated along lobbying lines (Model II), the aggregated variables are significant at the 1% level

or better. Based on the partial derivative estimates (Table 2), a \$1 increase in coastal or salmon catch (per million dollars in the state's personal income) increased the probability that the representative supported FCMA by 0.28%; a \$1 increase in shrimp or tuna catch (per million dollars in a state's personal income) decreased the probability that the representative supported FCMA by 0.22%. This result indicates that on a dollar-for-dollar basis, the opposing fishing groups exerted roughly equal but opposite influences (at the mean).

The fairly robust influence of the fishing groups that was found for the House was absent in the Senate. While the signs of the variables were broadly as expected, none of the fishing variables was significant. This somewhat paradoxical division in the voting behavior of senators and representatives may perhaps be explained by a hypothesis advanced by Amacher and Boyes (1978). Amacher and Boyes support the view that the longer the period between elections, the more independently representatives will behave relative to the desires of their state's polity. Hence, it should be expected that the voting behavior by senators would be less predictable (on average) than voting behavior in the House of Representatives.

The only explanatory variable that proved statistically significant for the Senate was per-capita personal income. High-income states had senators who were less likely to support FCMA. Since per-capita income was being used to proxy a number of potential demographic and other factors, interpreting this result is difficult.

Summary and Conclusions

The expansion of the regulated fishing zone from 12 to 200 miles constituted a major change in institutional arrangement. This paper has argued that on prior theoretic grounds, coastal and salmon interests were expected to benefit while shrimp and tuna interests were anticipated to lose.

The major fishing interests appear to have influenced legislators' voting as expected in the House. Shrimp and tuna interests opposed the legislation and were successful (statistically) in dissuading representatives. Coastal and salmon interests exerted a positive and statistically significant influence on legislator support. However,

the state-level economic strength of the fishing interests demonstrated no significance in affecting senatorial voting. Perhaps senators are just more sensitive to national-level pressures than representatives—or are more independent, as the Amacher-Boyes (1978) hypothesis suggests.

Although the expansion of the fishing zone may have adversely affected some types of fish groups, aggregate data on pounds harvested reveal a substantial increase in total catch following FCMA. On balance, then, FCMA was likely to have been beneficial for the U.S. fishing industry. Since the fishing industry was the dominant participant in the lobbying activity over the legislation, it is not surprising that the legislation passed once the objections of the tuna and shrimp interests were overcome.

Acknowledgments

The author gratefully acknowledges support for this paper under grant SES-8308968 from the National Science Foundation. Helpful comments were received from Lee G. Anderson, Dwight R. Lee, and two anonymous referees of this journal. Jeffrey J. Leggett and Mary Gorton provided valuable research assistance. All opinions expressed and any remaining errors are the sole responsibility of the author.

Notes

1. The regulated zone had been extended from 3 miles to 12 miles in 1966.
2. See, e.g., Downs (1957), Olson (1965), Stigler (1971), Peltzman (1976), Abrams (1977), Silberman and Durden (1976), and Chappell, Jr. (1982).
3. These included the percent of the population aged 65 or older and the percent of population who were Black.

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