



FEDERAL ACTIONS



Department of the Interior

FISH AND WILDLIFE SERVICE

BUREAU OF COMMERCIAL FISHERIES

BREADED FISH PORTIONS AND COD FILLETS VOLUNTARY GRADE STANDARDS ISSUED:

Voluntary grade standards for the production of good quality frozen raw breaded fish portions and cod fillets have been approved. The grade standards were published in the Federal Register of February 27, 1960, and became effective 30 days from that date. Notice of intention to establish standards for frozen cod fillets was carried in the Federal Register on November 21, 1959, and for frozen raw breaded fish portions in the Federal Register of December 5, 1959.

The standards were developed by the U. S. Bureau of Commercial Fisheries, after months of research. Well-advertised public meetings in Boston, Chicago, and Seattle, were attended by interested industry groups and by consumer representatives. Suggestions made were given full consideration and in many instances adopted. Acceptance on the part of in-

dividual firms is entirely voluntary. Those who use the USDI continuous inspection service will have the right to mark individual packages to convey this fact to the buyer.

The proposed regulations include product and grade description; factors of quality, including evaluation of flavor, odor, appearance, size, absence of defects, and character; definitions and methods of analysis; lot certification tolerances; and score sheets.

Standards have already been established for frozen fish sticks, fish blocks, breaded shrimp, haddock fillets, and halibut steaks. It is anticipated that grade standards will be established by mid-summer for the production of raw headless shrimp and ocean perch fillets.

In 1959, 29 processing firms produced about 95 million pounds of fishery products. These firms have the right to use the Department of the Interior shields of quality showing "continuous inspection" and additional firms have availed themselves of the lot-sampling service and have had their products certified as being part of a lot which was officially sampled by Bureau inspectors.

Title 50—WILDLIFE

Chapter I—Fish and Wildlife Service, Department of the Interior

SUBCHAPTER K—PROCESSED FISHERY PRODUCTS, PROCESSED PRODUCTS THEREOF, AND CERTAIN OTHER PROCESSED FOOD PRODUCTS

PART 176—UNITED STATES STANDARDS FOR GRADES OF FROZEN RAW BREADED FISH PORTIONS¹

On page 9787 of the FEDERAL REGISTER of December 5, 1959, there was published

¹ Compliance with the provisions of these standards shall not excuse failure to comply with the provisions of the Federal Food, Drug, and Cosmetic Act.

a notice of a proposed new part 176 of Title 50, Code of Federal Regulations. The purpose of the part is to issue United States Standards for Grades of Frozen Raw Breaded Fish Portions under the authority transferred to the Department of the Interior by section 6(a) of the Fish and Wildlife Act of August 8, 1956 (16 U.S.C. 742e).

Interested persons were given 30 days within which to submit written comments, suggestions or objections with respect to the proposed new part. Comments were received and considered and the proposed new part is hereby adopted without change and is set forth below. This amendment shall become effective at the beginning of the 30th calendar

day following the date of this publication in the FEDERAL REGISTER.

Dated: February 23, 1960.

ELMER F. BENNETT,
Acting Secretary of the Interior.

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AUTHORITY: §§ 176.1 to 176.13 issued under sec. 6(a), Fish and Wildlife Act of August 8, 1956; 16 U.S.C. 742e.

PRODUCT DESCRIPTION AND GRADES

§ 176.1 Product description.

Frozen raw breaded fish portions are clean, wholesome, uniformly shaped unglazed masses of cohering pieces (not ground) of raw fish flesh coated with suitable, wholesome batter and breading. They are packaged and frozen in accordance with good commercial practice and are maintained at temperatures necessary for the preservation of the product. The frozen raw breaded fish portions are at least $\frac{3}{8}$ -inch thick and contain the minimum fish flesh content specified in § 176.21(a). The portions in an individual package are prepared from the flesh of only one species of fish.

§ 176.2 Grades of frozen raw breaded fish portions

(a) "U.S. Grade A" is the quality of frozen raw breaded fish portions that possess good flavor and odor; and for those factors of quality which are rated in accordance with the scoring system outlined in this part the total score is not less than 90 points.

(b) "U.S. Grade E" is the quality of frozen raw breaded fish portions that possess at least reasonably good flavor and odor; and for those factors of quality which are rated in accordance with the scoring system outlined in this part the total score is not less than 70 points.

(c) "Substandard" is the quality of frozen raw breaded fish portions that fail to meet the requirements of U.S. Grade B.

FACTORS OF QUALITY

§ 176.11 Ascertaining the grade.

(a) The grade of frozen raw breaded fish portions is ascertained from the evaluation of a sample unit consisting of ten frozen raw breaded portions selected at random from one or more packages as necessary. The evaluation of the quality factors is made from the examination of the product in the frozen state and after it has been cooked in a suitable manner. The following factors are evaluated in ascertaining the grade of the product: Flavor and odor, appearance, uniformity, absence of defects, and character. These factors are rated in the following manner:

(1) *Flavor and odor.* These factors are rated directly by organoleptic examination. Score points are not assessed (see § 176.12).

(2) *Appearance, uniformity, absence of defects, and character.* The relative importance of these factors is expressed numerically on the scale of 100. The

maximum number of points that may be given each of the factors are:

Factors	Points
Appearance	25
Uniformity	20
Absence of defects	40
Character	15

Total possible score 100

§ 176.12 Evaluation of the unscored factor of flavor and odor.

(a) *Good flavor and odor.* "Good flavor and odor" (essential requirements for a Grade A product) means that the product has good flavor and odor characteristic of the indicated species of fish and of the type of coating used; and is free from staleness, and off-flavors and off-odors of any kind.

(b) *Reasonably good flavor and odor.* "Reasonably good flavor and odor" (minimum requirement of a Grade B product) means that the product may be somewhat lacking in good flavor and odor; and is free from objectionable off-flavors and off-odors of any kind.

§ 176.13 Evaluation and rating of the scored factors: Appearance, uniformity, absence of defects, and character.

The essential variations in quality within each factor which is scored are so described that the value may be ascertained for each factor and expressed numerically. Point deductions are allotted for each degree or amount of variation within each factor. The net score for each factor is the maximum points for that factor less the sum of the deduction-points within the factor. The total score for the product is the sum of the net scores for the four scored factors.

§ 176.14 Appearance.

(a) The factor of appearance refers to the amount of loose breading and frost in the packaged product, and lack of continuity of the coating of the frozen product.

(1) *Loose breading and frost.* "Loose breading" refers to that amount of breading material (crumbs) found free in the package. "Frost" refers to the frozen moisture which is deposited on the product as a white crystalline coating, and which accumulation is objectionable and can be readily removed.

(2) *Continuity.* "Continuity" refers to the coverage of the fish flesh by the coating. Lack of continuity in the frozen state is exemplified by breaks (bare spots, or sections of thin coating through which the fish flesh is slightly visible), ridges (excess breading which projects at the edges of the frozen portion), lumps (objectionable outcropping of the breading on the surface of the frozen portion), and/or depressions (objectionable visible voids or shallow areas in the surface of the portion which are lightly covered by breading). Each $\frac{1}{8}$ -square-inch area of any break, ridge, lump, or depression is considered an instance of "lack of continuity". Individual breaks, ridges, lumps, or depressions measuring less than $\frac{1}{8}$ square inch are not considered.

(b) For the purpose of rating the factor of appearance, the schedule of deduction-points in Table I apply. Frozen

raw breaded fish portions which receive 25 deduction points for the factor of appearance shall not be graded above Substandard regardless of the total score for the product. This is a limiting rule.

TABLE I—SCHEDULE OF POINT-DEDUCTIONS FOR VARIATIONS IN APPEARANCE

Appearance subfactors	Method of determining subfactor score (percent of net weight)		Deduction points		
	Over	Not over			
Loose breading and frost.	0.....	35	0		
	$\frac{1}{4}$	1	1		
	1.....	2	3		
	2.....	5	5		
	5.....	10	10		
Continuity.....	Lack of continuity	Number of portions affected			
			(a) Slight (8 to 16 instances per portion).	1 2 or 3 4 or 5 6 or 7 8 to 10	35 1 2 3 5
			(b) Moderate (17 to 20 instances per portion).	1 2 or 3 4 or 5 6 or 7 8 to 10	1 3 5 7 10
			(c) Severe (over 20 instances per portion).	1 2 or 3 4 or 5 6 or 7 8 to 10	2 6 10 15 25

§ 176.15 Uniformity.

(a) The factor of uniformity refers to the degree of conformance of the length, width, and weight of each individual frozen portion to the average length, width, and weight of the portions within a sample unit.

(b) For the purpose of rating the factor of uniformity, the schedule of deduction-points in Table II apply. Frozen raw breaded fish portions which receive 20 deduction-points for the factor of uniformity shall not be graded above Substandard regardless of the total score for the product. This is a limiting rule.

TABLE II—SCHEDULE OF POINT-DEDUCTIONS FOR VARIATIONS IN UNIFORMITY

Method of determining subfactor score	Number of portions affected	Deduction points	
<i>Lack of uniformity</i>			
	(a) Slight—Portions deviating ± 10.1 to 15 percent from average sample weight, or $\pm \frac{1}{8}$ to $\frac{3}{16}$ inch from average sample length, or $\pm \frac{1}{8}$ to $\frac{3}{16}$ inch from average sample width.	1 2 or 3 4 or 5 6 or 7 8 to 10	0 1 3 5 7
	(b) Moderate—Portions deviating ± 15.1 to 20 percent from average sample weight, or more than $\pm \frac{3}{16}$ inch and up to $\frac{1}{2}$ inch from average sample length, or more than $\pm \frac{3}{16}$ inch and up to $\frac{1}{2}$ inch from average sample width.	1 2 or 3 4 or 5 6 or 7 8 to 10	1 3 5 7 10
	(c) Severe—Portions deviating over 20 percent of average sample weight, or more than $\pm \frac{1}{2}$ inch from average sample length, or more than $\pm \frac{1}{2}$ inch from average sample width.	1 2 or 3 4 or 5 6 or 7 8 to 10	2 5 9 15 20

§ 176.16 Absence of defects.

(a) The factor of "absence of defects" refers to the degree of freedom from broken portions, damaged portions, lack of adherence, blemishes, and bones. Evaluation of the defects of broken and damaged portions are made on the frozen product. Evaluation of the de-

fects of adherence, blemishes, and bones are made after the product has been cooked in a suitable manner.

(1) *Broken portion.* "Broken portion" means a portion with a break or cut greater than 1/2 the width or length of the portion.

(2) *Damaged portion.* "Damaged portion" means a portion which has been injured, mashed, or mutilated to the extent that its appearance is materially

TABLE III—SCHEDULE OF POINT-DEDUCTIONS FOR ABSENCE OF DEFECTS

Defect sub-factors	Method of determining subfactor score	Number of portions affected	Deduction points
Broken portions.	Break or cut greater than 1/2 the width or length of the portion.	0	0
		1	1
		2	3
		3	12
	<i>Degree of damage</i>	4 to 10	40
Damaged portions.	(a) Slight—Affecting over 5 but less than 25 percent of the surface area of the individual portion.	1 or 2	2
		3 to 5	5
		6 to 10	10
	(b) Moderate—Affecting over 25 but less than 50 percent of the surface area of the individual portion.	1 or 2	4
		3 to 5	10
		6 to 10	20
	(c) Severe—Affecting 50 percent or more of the surface area of the individual portion.	1 or 2	8
		3 to 5	20
		6 to 10	40
Adherence....	<i>Lack of adherence</i>	1	1
		2 or 3	3
		4 or 5	5
		6 or 7	7
	(a) Slight (1 instance per portion).	8 to 10	10
		1	3
	(b) Moderate (2 or 3 instances per portion).	2 or 3	7
		4 or 5	12
		6 or 7	18
		8 to 10	30
	(c) Severe (4 or more instances per portion).	1	5
		2 or 3	10
		4 or 5	18
		6 or 7	30
		8 to 10	40
Blemishes....	<i>Number of instances per sample unit (not over 10 instances are recorded per portion)</i>	1 or 2	1
		3 or 4	3
		5 or 6	4
		7 or 8	6
		9 or 10	8
		11 or 12	11
		13 or 14	15
		15 or 16	20
		17 or 18	25
		19 or 20	32
		21	40
Bones.....	<i>Number of instances per sample unit</i>	1	1
		2	3
		3	8
		4	15
		5	22
		6	30
		7	40

(4) *Blemish.* "Blemish" means a piece of skin, a fin, a blood spot, a bruise, an excessively dark fat layer, curd spot, scales, or extraneous material. One "instance of skin" means one or more pieces of skin covering an accumulative area up to 1 square inch; except that individual skin pieces less than 1/8 square inch in area are not considered. One "instance of fin" means one identifiable fin or parts of any fin covering an aggregate area up to 1/2 square inch; except that any fin over 1/2 square inch in area is considered as 2 instances. One "instance of curd" means one curd spot or a group of curd spots covering an aggregate area up to one square inch; except that no individual curd spot less than 1/16 square inch in area is considered. One "instance of scales" means one scale or group of scales covering an aggregate area up to 1/2 square inch. One "blood spot", "bruise", or "excessively dark fat layer" (which is yellow, rusting, or extremely dark for the species of fish used) means a blood spot, bruise, or excessively dark fat layer which measures at least 1/8 square inch in area and which is objectionable.

(5) *Bones.* One "instance of bones" means one bone or part of any bone or one group of bones occupying or contacting a circular area up to 1 square inch.

(b) For the purpose of rating the factor of "absence of defects", the schedule of deduction-points in Table III apply.

§ 176.17 Character.

(a) The factor of character refers to the ease of separation of the portions, and the texture of the fish flesh and of the coating.

(1) *Ease of separation.* "Ease of separation" refers to the difficulty of separating one frozen portion from the other.

(2) *Texture.* "Texture" refers to the firmness, tenderness, and moistness of the cooked fish flesh, and to the crispness and tenderness of the coating of the cooked product. The texture of the cooked fish flesh may be classified as a degree of mushiness, tenderness, toughness, or fibrousness. The texture of the coating in the cooked state may be classified as a degree of pastiness, toughness, dryness, or mushiness.

(b) For the purpose of rating the factor of character, the schedule of deduction-points in Table IV apply. Frozen raw breaded fish portions which receive 15 deduction points for the factor of character shall not be graded above Substandard regardless of the total score for the product. This is a limiting rule.

DEFINITIONS AND METHODS OF ANALYSIS

§ 176.21 Definitions and methods of analysis.

(a) *Minimum fish flesh content.* "Minimum fish flesh content" refers to the minimum percent, by weight, of fish flesh allowed for portions of various surface areas as specified in Table V.

The minimum fish flesh content for frozen raw breaded fish portions is determined by the following method:

- (1) *Equipment and material.* (i) Water bath (3 to 4 liter beaker).
- (ii) Balance accurate to 0.1 gram.

TABLE IV—SCHEDULE OF POINT-DEDUCTIONS FOR VARIATIONS IN CHARACTER

Character subfactors	Method of determining subfactor score	Degree of ease of separation	Number of portions affected	Deduction points
Ease of separation.	(a) Slight—Portions separated by hand with slight effort.	(b) Moderate—Portions separated by hand with difficulty.	1 to 10....	0
			1 or 2....	1
			3 or 4....	2
			5 or 6....	3
	(c) Severe—Portions separated only by use of knife or other instrument.		7 to 10....	5
			1 or 2....	2
			3 or 4....	4
			5 or 6....	6
			7 to 10....	10
Texture.....	<i>Texture of coating is—</i>			
	(a) Firm or crisp, but not tough, pasty, or mushy.			0
	(b) Slightly tough, pasty, or mushy.			1
	(c) Moderately tough, pasty, or mushy.			5
	(d) Excessively tough, pasty, or mushy.			10
	<i>Texture of fish flesh is—</i>			
	(a) Firm, slightly resilient but not tough or rubbery; moist but not mushy.			0
	(b) Moderately firm, only slightly tough or rubbery; does not form a fibrous mass in the mouth; moist but not mushy.			1
	(c) Moderately tough or rubbery; has noticeable tendency to form a fibrous mass in the mouth; or is dry; or is mushy.			5
	(d) Excessively tough or rubbery; has marked tendency to form a fibrous mass in the mouth; or is very dry; or is very mushy.			15

TABLE V—MINIMUM FISH FLESH CONTENT ESTABLISHED FOR FROZEN RAW BREADED FISH PORTIONS

Surface area of portions (square inches)		Minimum fish flesh content
Over—	Up to—	
0	15	72
15	21	75
21		78

(iii) Clip tongs of wire, plastic, or glass.

(iv) Stop-watch or regular watch with second hand.

(v) Paper towels.

(vi) Spatula, 4-inch blade with rounded tip.

(vii) Nut picker.

(viii) Thermometer (immersion type) accurate to ± 2° F.

(ix) Copper sulfate crystals (500 grams).

(2) *Procedure.* (1) Obtain the weight of each portion in the sample while it is still in a hard frozen condition.

(ii) Place each portion individually in the water bath maintained at 63° to 86° F. and allow to remain until such

NOTE: Several dry runs are necessary to determine the exact dip time required for "de-breading" the portions in a lot sample. For dry runs only, a saturated solution of copper sulfate (500 grams of Cu SO₄·5H₂O in 2 liters of tap water) is necessary. The correct dip time is the minimum time required to dip the portions in the (copper sulfate) solution so that the breading can easily be scraped off; provided that (1) the "de-breaded" portion is still solidly frozen, and (2) only a slight trace of blue color is visible on the surface of the "de-breaded" fish portion.

affected. The amount of damage to a portion is measured by the percentage of the portion affected.

(3) *Adherence.* "Adherence" refers to the adhesion of the coating material (batter and breading) to the fish flesh of the cooked product. Lack of adherence is characterized by a swelling and subsequent bursting of the coating of the cooked product, resulting in exposure of the fish flesh. The degree of non-adherence is measured by the size of the break in the cooked coating. Each 1/4 square inch break in the coating showing exposed fish flesh is considered an instance of "lack of adherence".

time as the breading becomes soft and can easily be removed from the still frozen fish flesh (between 10 to 80 seconds for portions held in storage at 0° F.).

(iii) Remove the portion from the bath; blot lightly with double thickness paper toweling; and scrape off or pick out coating from the fish flesh with the spatula or nut picker.

(iv) Weigh the "debreaded" fish flesh of the portion.

(v) Calculate the percent of fish flesh in the sample by the following formula:

$$\text{Percent fish flesh} = \frac{\text{Weight of fish flesh (iv)}}{\text{Weight of raw breaded fish portion (i)}} \times (100)$$

(b) *Loose breading and frost.* "Loose breading and frost" refers to the percent, by weight, of "loose crumbs and frost" found in the sample package(s). "Loose breading and frost" is determined by use of a balance (accurate to 0.1 gram) in accordance with the following method:

(1) *Procedure.* (i) Remove the overwrap.

(ii) Weigh carton(s) and all contents.

(iii) Remove breaded fish portions.

(iv) Weigh carton(s) less breaded portions, but including crumbs, frost, and separators (if used).

(v) Remove crumbs and frost from the package(s).

(vi) Weigh cleaned carton(s) and separators.

(vii) Calculate percent loose breading and frost:

Percent loose breading and frost =

$$\frac{(\text{Weight carton(s) less breaded portions, but including crumbs, frost, and separators (iv)}) - (\text{Weight cleaned carton(s) and separators (vi)})}{\text{Weight of cartons(s) and all contents (ii)} - (\text{Weight cleaned carton(s) and separators (vi)})} \times 100$$

(c) *Cooking in a suitable manner.* "Cooking in a suitable manner" means cooking in accordance with the frying instructions accompanying the product. However, if specific instructions for frying are lacking, the product for inspection is cooked as follows:

(1) *Equipment and material.* (i) Deep fat fryer (thermostatically controlled).

(ii) Wire mesh deep fry basket.

(iii) Sufficient fat to cover portions.

(iv) Paper towels.

(2) *Procedure.* (i) While still in the frozen state, place the sample to be cooked in a wire-mesh deep-fry basket sufficiently large to hold the portions in a single layer without touching each other.

(ii) Lower basket and its contents into suitable liquid oil or hydrogenated oil heated to 350-375 degrees Fahrenheit. Maintain these temperatures throughout the cooking operation. Fry for three to five minutes, or until the portions attain a pleasing golden brown color.

(iii) Remove basket from oil and allow to drain for fifteen seconds. Place the cooked portions on a paper napkin or towel to absorb excess oil.

LOT CERTIFICATION TOLERANCES

§ 176.25 Tolerances for certification of officially drawn samples.

The sample rate and grades of specific lots shall be certified in accordance with Part 170, of this chapter (Regulations Governing Processed Fishery Products, 23 F.R. 5064, July 3, 1958).

SCORE SHEET

§ 176.31 Score sheet for frozen raw breaded fish portions.

Label: _____
 Size and kind of container: _____
 Container mark or identification: _____
 Size of lot: _____
 Number of packages per master carton: _____
 Size of sample: _____
 Type of overwrap (if any): _____
 Actual net weight: _____ (lb.) _____ (kg.)

Factor	Maximum score points	Deduction points
Appearance	25	
Uniformity	20	
Absence of defects	40	
Character	15	
Total	100	
Flavor and odor		
Final grade		

PART 177—UNITED STATES STANDARDS FOR GRADES OF FROZEN COD FILLETS¹

On page 9399 of the FEDERAL REGISTER of November 21, 1959, there was published a notice and text of a proposed new part 177 of Title 50, Code of Federal Regulations. The purpose of the new part is to issue United States Standards for Grades of Frozen Cod Fillets under the authority transferred to the Department of the Interior by section 6(a) of the Fish and Wildlife Act of August 8, 1956 (16 U.S.C. 742e).

Interested persons were given until December 18, 1959, to submit written comments, suggestions or objections with respect to the proposed new part. No comments, suggestions or objections have been received, and the proposed new part is hereby adopted without change and is set forth below. This amendment shall become effective at the beginning of the 30th calendar day following the date of this publication in the FEDERAL REGISTER.

Dated: February 23, 1960.

ELMER F. BENNETT,
 Acting Secretary of the Interior.

¹ Compliance with the provisions of these standards shall not excuse failure to comply with the provisions of the Federal Food, Drug, and Cosmetic Act.

PRODUCT DESCRIPTION AND GRADES

- Sec.
- 177.1 Product description.
- 177.2 Grades of frozen cod fillets.
- WEIGHTS AND DIMENSIONS
- 177.6 Recommended weights and dimensions.
- FACTORS OF QUALITY
- 177.11 Ascertaining the grade.
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DEFINITIONS AND METHODS OF ANALYSIS

- 177.21 Definitions and methods of analysis.

LOT CERTIFICATION TOLERANCES

- 177.25 Tolerances for certification of officially drawn samples.

SCORE SHEET

- 177.31 Score sheet for frozen cod fillets.

AUTHORITY: §§ 177.1 to 177.31 issued under sec. 6(a), Fish and Wildlife Act of August 8, 1956; 16 U.S.C. 742e.

PRODUCT DESCRIPTION AND GRADES

§ 177.1 Product description.

The product described in this part consists of clean, whole, wholesome fillets or primarily large pieces of clean, whole, wholesome fillets, cut away from either side of cod, *Gadus morhua* or *Gadus macrocephalus*; the fillets may be either skinless or with skin on. They are packaged and frozen in accordance with good commercial practice and are maintained at temperatures necessary for the preservation of the product. (This part does not provide for the grading of pieces of fish flesh cut away from previously frozen fish blocks, slabs, or similar products.)

§ 177.2 Grades of frozen cod fillets.

(a) "U.S. Grade A" is the quality of frozen cod fillets that possess good flavor and odor; and for those factors of quality which are rated in accordance with the scoring system outlined in this part the total score is not less than 85 points.

(b) "U.S. Grade B" is the quality of frozen cod fillets that possess at least reasonably good flavor and odor; and for those factors of quality which are rated in accordance with the scoring system outlined in this part the total score is not less than 70 points.

(c) "Substandard" is the quality of frozen cod fillets that fail to meet the requirements of U.S. Grade B.

WEIGHTS AND DIMENSIONS

§ 177.6 Recommended weights and dimensions.

(a) The recommendations as to net weights and dimensions of packaged frozen cod fillets are not incorporated in the grades of the finished product since net weights and dimensions, as such, are not factors of quality for the purpose of these grades.

(b) It is recommended that the net weights of the packaged frozen cod fillets be not less than 12 ounces and not over 10 pounds.

FACTORS OF QUALITY

§ 177.11 Ascertaining the grade.

The grade of frozen cod fillets is ascertained by examining the product in the frozen, thawed, and cooked states. The following factors of quality are evaluated in ascertaining the grade of the product: Flavor and odor, appearance, size, absence of defects, and character. These factors are rated in the following manner:

(1) *Flavor and odor.* This factor is rated directly by organoleptic evaluation. Score points are not assessed (see § 177.12).

(2) *Appearance, size, absence of defects, and character.* The relative importance of these factors is expressed numerically on the scale of 100. The maximum number of points that may be given each of these factors are:

Factors	Points
Appearance.....	25
Size.....	20
Absence of defects.....	40
Character.....	15
Total possible score.....	100

§ 177.12 Evaluation of the unscored factor of flavor and odor.

(a) *Good flavor and odor.* "Good flavor and odor" (essential requirement for a Grade A product) means that the fish flesh has good flavor and odor characteristic of cod (*Gadus morhua* or *Gadus macrocephalus*) and is free from staleness, and off-flavors and off-odors of any kind.

(b) *Reasonably good flavor and odor.* "Reasonably good flavor and odor" (minimum requirement of a Grade B product) means that the fish flesh may be somewhat lacking in good flavor and odor; and is free from objectionable off-flavors and off-odors of any kind.

§ 177.13 Evaluation and rating of the scored factors; appearance, size, absence of defects, and character.

The essential variations in quality within each factor which is scored are so described that the value may be ascertained for each factor and expressed numerically. Point deductions are allotted for each degree or amount of variation within each factor. The net score for each factor is the maximum points for that factor less the sum of the deduction-points within the factor. The total score for the product is the sum of the net scores for the four scored factors.

§ 177.14 Appearance.

(a) The factor of appearance refers to the normal color of the species of frozen fish flesh, and to the degree and amount of surface dehydration of the frozen product.

(b) For the purpose of rating the factor of appearance the schedule of deduction-points in Tables I and II apply. Frozen cod fillets which receive 25 deduction points for the factor of appearance shall not be graded above Substandard regardless of the total score for the product. This is a limiting rule.

TABLE I—SCORE DEDUCTIONS FOR DISCOLORATION

Color of frozen product	Deduction points	
	"Light" colored portion comprising main portion of fillet	"Dark" colored portion occurring under skin mainly along lateral line
No discoloration.....	0	0
Slight yellowing.....	1	1
Moderate yellowing.....	4	2
Excessive yellowing and/or any rusting.....	13	12

TABLE II—SCORE DEDUCTIONS FOR DEHYDRATION

Degree of dehydration of frozen product	Surface area affected (percent)		Deduction points
	Over—	Not over—	
Slight—Shallow and not color masking.....	0	1	0
	1	50	2
Moderate—Deep but just deep enough to easily scrape off with fingernail.....	50	100	5
	1	25	5
	25	50	8
Excessive—Deep dehydration not easily scraped off.....	50	100	16
	1	25	12
	25	100	25

§ 177.15 Size.

(a) The factor of size refers to the degree of freedom from undesirably small fillet pieces. Any fillet piece weighing less than 2 ounces is classed as being undesirably small.

(b) For the purpose of rating the factor of size the schedule of deduction-points in Table III apply. Cod fillets which receive 20 deduction points for this factor shall not be graded above Substandard regardless of the total score for the product. This is a limiting rule.

TABLE III—SCORE DEDUCTIONS FOR SIZE OF FILLET PIECES

Number of fillet pieces less than 2 ounces per pound	Deduction points	
	Over—	Not over—
0.....	0	0
1.....	1	1
2.....	2	10
3.....	3	15
4.....	4	20

§ 177.16 Absence of defects.

(a) The factor of "absence of defects" refers to the degree of freedom from improper packing, cutting and trimming imperfections, blemishes, and bones. Evaluation for the defect of improper packing is made on the frozen product. Evaluation of the defects of cutting and trimming, blemishes, and bones are made on the thawed product.

(1) *Improper packing.* "Improper packing" means poor arrangement of fillets, presence of voids, depressions, frost, and the imbedding of packaging material into the frozen fish flesh.

(2) *Cutting and trimming imperfections.* "Cutting and trimming imperfections" means that the thawed fillets have ragged edges, tears, holes, or are otherwise improperly cut or trimmed.

(3) *Blemish.* "Blemish" means an instance of skin (except for skin-on

fillets), scales, blood-spot, bruise, black-belly lining, fin, or extraneous material. One "instance of skin" consists of one piece of skin not less than 1/2 square inch and not more than 1 1/2 square inches in area; each additional 1/2 square inch area of individual skin pieces greater than 1 1/2 square inches is considered as an additional instance. One "instance of blood spot" is one of such size and prominence as to be considered objectionable. One "instance of black-belly lining" is any piece of black-belly lining not less than 1/2 inch and not more than 1 inch in length; each additional 1/2 inch length of individual pieces of black-belly lining longer than 1 inch is considered as an instance. Each aggregate area of identifiable fin or parts of any fin up to 1 square inch is considered as one "instance of fin". Each aggregate area up to 1 square inch per fillet of one scale or group of scales is considered as one "instance of scales". An "instance of bruise" consists of a bruise not less than 1/2 square inch and not more than 1 1/2 square inches in area; each bruise larger than 1 1/2 square inches is considered as two instances of bruise.

(4) *Bones.* One "instance of bone" means one bone or one group of bones occupying or contacting a circular area up to 1 square inch.

(b) For the purpose of rating the factor of "absence of defects" the schedule of deduction-points in Table IV apply.

TABLE IV—SCORE DEDUCTIONS FOR ABSENCE OF DEFECTS

Defects subfactors	Method of determining subfactor score	Deduction points
Improper packing.	Moderate defects, noticeably affecting the product's appearance.	2
	Excessive defects, seriously affecting product's appearance.	4
Blemishes.....	Number of blemishes per 1 lb. of fish flesh:	
	Over 0 not over 1.....	1
	Over 1 not over 2.....	3
	Over 2 not over 3.....	5
	Over 3 not over 4.....	8
	Over 4 not over 5.....	12
	Over 5 not over 6.....	16
	Over 6 not over 7.....	30
Bones.....	Number of instances per 1 lb. of fish flesh:	
	Over 0 not over 1.....	0
	Over 1 not over 2.....	2
	Over 2 not over 3.....	4
	Over 3 not over 4.....	6
	Over 4 not over 5.....	8
	Over 5 not over 6.....	14
	Over 6 not over 7.....	30
Cutting and trimming.	Slight defects, scarcely noticeable.	0
	Moderate defects, noticeable but not affecting the usability of any fillets.	4
	Excessive defects impairing:	
	(a) the usability of up to 1/4 of the total number of fillets.	8
(b) the usability of over 1/4 but not more than 1/2 of the total number of fillets.	16	
(c) the usability of over 1/2 of the total number of fillets.	40	

§ 177.17 Character.

(a) The factor of character refers to the amount of free drip in the thawed fillets, and to the tenderness and moistness of the cooked fish flesh.

(b) For the purpose of rating the factor of character, the schedule of deduction-points in Table V apply. Cod fillets which receive 15 deduction-points

for the factor of character shall not be graded above Substandard regardless of the total score for the product. This is a limiting rule.

TABLE V—SCORE DEDUCTIONS FOR CHARACTER

Character subfactors	Method of determining sub-factor score	Deduction points
Texture.....	Texture of the cooked fish: (a) Firm, slightly resilient but not tough or rubbery; moist but not mushy. (b) Moderately firm; only slightly tough or rubbery; does not form a fibrous mass in the mouth; moist but not mushy. (c) Moderately tough or rubbery; has noticeable tendency to form a fibrous mass in the mouth; or is dry; or is mushy. (d) Excessively tough or rubbery; has marked tendency to form a fibrous mass in the mouth; or is very dry; or is very mushy.	0 4 8 15
Drip.....	Percent of drip: Over 0 not over 5..... Over 5 not over 6..... Over 6 not over 8..... Over 8 not over 10..... Over 10 not over 12..... Over 12 not over 14..... Over 14 not over 16..... Over 16.....	0 1 2 4 6 9 12 15

DEFINITIONS AND METHODS OF ANALYSIS

§ 177.21 Definitions and methods of analysis.

(a) *Percent of drip.* "Percent of drip" means the percent by weight of "free drip" (the fluid which is not reabsorbed by the fish tissue when the frozen fish thaws, and which separates freely without the aid of any external forces except gravity) in an individual package as determined by the following method:

- (1) *Apparatus and materials.* (i) Water bath.
- (ii) Balance, accurate to 0.1 gm; or 0.01 ounce.
- (iii) Pliable and impermeable bag (cryovac, ploifilm, etc.).
- (iv) Corrosion resistant metal rod weight (preferably stainless steel or

monel metal), measuring 3 1/2 inches in length and approximately 1/4-1/2 inch in diameter.

- (v) U.S. Standard No. 8 mesh circular sieve (both 8 and 12 inch diameters).
- (vi) Stirring motor.
- (vii) Identification tags.

(2) *Procedure.* (i) Place metal rod weight into an empty pliable bag.

(ii) Weigh the bag and the metal weight.

(iii) Remove the frozen fish material from the container (container consists of the carton and the inner and outer wrapping).

(iv) Place the frozen product, plus scraps of any material remaining in the container, into the pliable bag.

(v) Weigh the bag and its contents and subtract tare (empty bag and metal weight) to determine the net weight of the product.

(vi) Suspend the bag and contents in an agitated water bath maintained at 68° F. plus or minus 2° F. The bag should be suspended in the water so that the fish flesh is below the water line.

(vii) Allow the bag and its contents to remain immersed until the product is defrosted (a "test run", in advance, is necessary to determine time required for each product and quantity of product).¹

(viii) Remove bag and contents from bath and gently dry outside of bag.

(ix) Weigh dry U.S. Standard No. 8 mesh circular sieve.

(x) Open bag and empty contents onto U.S. Standard No. 8 circular sieve so as to distribute the product evenly, inclining the sieve slightly to facilitate drainage, and allowing to drain for two minutes.

(xi) Weigh sieve and its contents and

¹ The purpose of the "test run" is to determine the time necessary to thaw the product. The complete thawing of the product is determined by frequent but gentle squeezing of the bag until no hard core or ice crystals are felt. This package which has been squeezed can not be used for drained weight calculations.

calculate drained weight. The drained weight is the weight of sieve and fillets less the weight of the dry sieve.

(xii) Calculate percent drip:

$$\frac{\text{Net weight (v)} - \text{drained weight (xi)} \times (100)}{\text{Net weight (v)}} = \text{Percent of drip.}$$

(b) *Cooking in a suitable manner.* "Cooking in a suitable manner" shall mean that the product is cooked as follows: Place the thawed unseasoned product into a boilable film-type pouch; fold the open end of the pouch over the suspension bar and clamp in place to provide a loose seal. Immerse the pouch and its contents in boiling water and cook until the internal temperature of the fillets reaches 160° F. (about 20 minutes).

LOT CERTIFICATION TOLERANCES

§ 177.25 Tolerances for certification of officially drawn samples.

The sample rate and grades of specific lots shall be certified in accordance with Part 170 of this chapter (Regulations Governing Processed Fishery Products, 23 F.R. 5064, July 3, 1958).

§ 177.31 Score sheet for frozen cod fillets.

SCORE SHEET

Label: -----
 Size and kind of container: -----
 Container mark or identification: -----
 Size of lot: -----
 Number of packages per master carton: -----
 Size of sample: -----
 Type of overwrap: -----
 Actual net weight: ----- (lb.) ----- (kg.)

Factor	Score points	Sample score
Appearance -----	25	-----
Size -----	20	-----
Absence of defects -----	40	-----
Character -----	15	-----
Total -----	100	-----
Flavor and Odor -----		-----
Final Grade -----		-----

Note: Also see *Commercial Fisheries Review*, February 1960, p. 101; January 1960, p. 94.

* * * * *

FROZEN SALMON STEAKS VOLUNTARY GRADE STANDARDS PROPOSED:

Frozen salmon steaks voluntary grade standards are proposed by the U. S. Bureau of Commercial Fisheries. The regulations are proposed for adoption in accordance with the authority contained in Title II of the Agricultural Marketing Act of August 14, 1946, as amended. Functions under that Act pertaining to fish, shellfish, and any products thereof were transferred to the Department of the Interior by section 6(a) of the Fish and Wildlife Act of August 8, 1956.

The proposed standards, if recommended to the Secretary of the Interior for adoption and made effective, will be the first issued by the Department prescribing voluntary grade standards for frozen salmon steaks.

The proposed standards include product description, styles and grades, factors of quality and grade, including ascertaining the grade; definitions; lot certification tolerances; and score sheets.

The frozen salmon steaks are described as clean, wholesome units of frozen raw fish meat with normally associated skin and bone and are 2.5 ozs. or more in weight. Each steak has two parallel surfaces and is derived from whole or subdivided salmon slices of uniform thickness which result from sawing or cutting dressed salmon perpendicularly to the axial length, or backbone. Steaks are prepared from either frozen or unfrozen salmon (*Oncorhynchus* sp.) and are processed, frozen, and packaged. The species of salmon covered are silver or coho; chum or keta; king, chinook or spring; red or sockeye; and pink.



Tariff Commission

SHRIMP INVESTIGATION ANNOUNCED:

In response to a resolution of the Committee on Ways and Means of the House of Representatives, adopted February 9, 1960, the U. S. Tariff Commission has instituted an investigation with regard to shrimp under the authority of section 332 of the Tariff Act of 1930 (19 U.S.C. 1332).

The resolution directs the Commission, pursuant to section 332 of the Tariff Act of 1930, "to make an investigation to determine whether shrimp, as a result of the existing customs treatment thereof as provided for by paragraph 1761 of such Act, are being imported into the United States in such increased quantities, either actual or relative to domestic production, as to cause or threaten serious injury to the domestic shrimp industry, and to report the results of such investigation to the Committee on Ways and Means of the House of Representatives not later than three months after the date of the adoption of this resolution. If such determination is in the affirmative the Commission shall specify in its report the rate or rates of duty (not in excess of 50 per centum ad valorem) which it determines to be necessary to remedy or prevent such serious injury. In the course of its investigation the Commission shall hold a hearing at which interested parties shall be given reasonable opportunity to be present and be heard; and in making its determinations under this resolution the Commission shall take into consideration the factors set forth in section 7(b) of the Trade Agreements Extension Act of 1951."

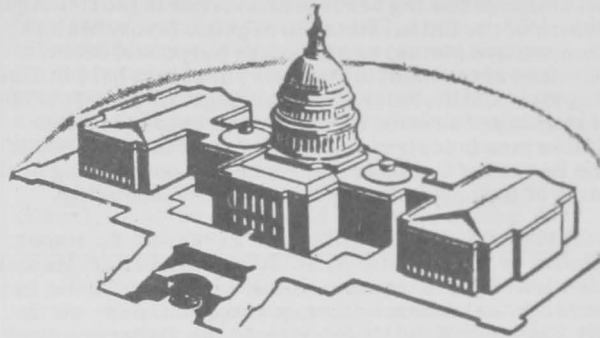
A public hearing was held on March 16, 1960, in Washington, D. C.



Eighty-Sixth Congress

(Second Session)

Public bills and resolutions which may directly or indirectly affect fisheries and allied industries are reported. Introduction, referral to Committees,



pertinent legislative actions, hearings, and other actions by the House and Senate, as well as signature into law or other final disposition are covered.

ALASKA FISHERIES REHABILITATION: The Alaska State Legislature submitted its House Joint Memorial 33 to the United States Senate on February 23, 1960. The memorial urged that the State of Alaska be provided funds by Congress in the amount of \$30 million over a period of 15 years to rehabilitate the fisheries of the State of Alaska through a program embracing research, development, conservation, and processing aspects of fishing.

COLOR ADDITIVES IN FOOD: The House Committee on Interstate and Foreign Commerce heard testimony on March 11, 1960, of representatives of the Department of Agriculture with respect to color additives legislation (H. R. 7624 and S. 2197).

FISHERIES ASSISTANCE ACT: In a joint committee meeting, conferees in executive session agreed to file a conference report on the differences between the Senate- and House-passed versions of H. R. 5421 (MacDonald), to provide a program of assistance in the construction of fishing vessels. On March 1, 1960, the Senate and House conferees agreed to the bill, in principle, but a compromise on the amount of money involved was made. The House bill provided \$1,000,000 per annum while the Senate bill provided \$5,000,000 per annum. A compromise was reached on a figure of \$2,500,000 per annum for three years. The House provision limiting assistance to those fisheries denied relief under "escape clause" action was modified somewhat, making certain vessel owners eligible for assistance where no duties are involved and therefore not subject to the jurisdiction of the Tariff Commission.

FISHERY LEGISLATION: Fishery and Wildlife Legislation (Hearings, August 4, 5, and 6, 1959, before the Merchant Marine and Fisheries Subcommittee of the Committee on Interstate and Foreign Commerce, United States Senate, 86th Congress, 1st Session, on S. 1262, S. 1374, S. 1391, S. 1575, S. 1576, S. 1781, S. 2053, S. 2338, S. 2342, S. 2481, S. 2578, H. R. 5854, and H. R. 2398, bills pertaining to fishery and wildlife legislation), 280 pp., printed. Contains texts of the several legislative bills; testimony presented by Government and private industry representatives; and various reports and statements submitted for the record. Hearings on S. 2338 (a bill to

provide a program to correct inequities in the construction of fishing vessels and to enable the fishing industry of the United States to regain a favorable and competitive status, and for other purposes) include portions of the tuna fish industry hearings held in Los Angeles, Calif., before Senator Engle on June 1, 1959; testimony of several representatives of the United States tuna industry; and testimony of the Director of the Bureau of Commercial Fisheries concerning problems of the tuna industry in southern California.

FISHERY EXTENSION SERVICE: H. R. 10846 (Coffin of Maine) and H. R. 10864 (Oliver of Maine). Identical bills to authorize the Secretary of the Interior to establish a fishery extension service in the Fish and Wildlife Service of the Department of the Interior for the purposes of carrying out cooperative fishery extension work with the States, territories, and possessions; to the Committee on Merchant Marine and Fisheries; introduced in House March 2, 1960.

HAWAII OMNIBUS ACT: S. 3054 (Murray et al), a bill to amend certain laws of the United States in light of the admission of the State of Hawaii into the Union, and for other purposes; to the Committee on Interior and Insular Affairs; introduced in Senate February 17, 1960. The bill is designated to make changes in Federal laws which have become necessary and desirable because of the change in Hawaii's status from Territory to a State. Section 13 of the bill contains perfecting amendments to the statute which authorizes the Secretary of Interior to undertake exploration, investigation, development, and maintenance projects for fishery resources in the Pacific, by deleting inappropriate references to "Territory" and "Hawaiian Islands."

HYDROFOIL VESSEL: S. 3126 (Bartlett), a bill to authorize the construction of an ocean-going hydrofoil vessel in order to demonstrate the commercial application of hydrofoil seacraft; to the committee on Interstate and Foreign Commerce; introduced in Senate March 1, 1960.

INTERIOR APPROPRIATIONS: The House on February 16, 1960, passed by a voice vote H. R. 10401 (Kirwan), a bill making appropriations for the Department of Interior and related agencies for fiscal year 1961, and for other purposes. Included in the bill is an increase of \$4,090,800 for the Fish and Wildlife Service, primarily to replace permanent appropriations from receipts, including duck stamp funds, which will no longer be available for operations, enforcement, or research.

Senator Kuchel on the floor of the Senate on March 2, 1960, made a statement urging the incorporation in the 1961 Interior appropriation bill of \$400,000 for studies of oceanography and biology of tunas. The appropriation bill is in the Senate Appropriations Committee.

LAW OF THE SEA: The State of Alaska Senate in its Senate Memorial 9 submitted to the United States Senate on February 22, 1960, urged that the Senate of the United States advise and consent to ratification of four conventions and a protocol formulated at the United Nations Conference on Law of the Sea, held at Geneva February 24 to April 27, 1958. In the case of the Convention on Fishing and Conservation of the Living Resources of the High Seas, ratification was urged to the pro-

posed understanding as regards the conservation procedure known as "abstention."

OCEANOGRAPHIC SURVEYS: H. R. 10546 (Oliver), a bill to establish a public policy with respect to oceanographic surveys, and to provide for coordination of the efforts of Federal agencies with respect to oceanographic surveys; to the Committee on Merchant Marine and Fisheries; introduced in House February 18, 1960. Identical to H. R. 10412 (G. P. Miller), introduced February 15, 1960; and H. R. 10581 (Pelly), introduced in House February 22, 1960.

Representative Oliver, a member of the special Subcommittee on Oceanography of the House Merchant Marine and Fisheries Committee, introduced into the Congressional Record of February 18, 1960, his recommendations in favor of H. R. 10412 (G. P. Miller) and his own bill, H. R. 10546. His report discusses the need for more oceanographic research, especially in view of Russian advances in that field. The article covers Soviet oceanic expansion, fishing in distant waters, and interest in world oceans. Representative Oliver recommends an increase of \$18 million in the 1961 fiscal year budget over the \$37.7 million fiscal year 1960 appropriations for all oceanographic activities by the Federal Government.

PUBLIC HEALTH SERVICE CARE FOR FISHING VESSEL OWNERS: H. R. 9926 (Mr. Clem Miller), a bill to amend section 322 of the Public Health Service Act to permit certain owners of fishing vessels to receive medical care and hospitalization without charge at hospitals of the Public Health Service; referred to the Committee on Interstate and Foreign Commerce; introduced in House January 26, 1960. The amendment would provide Public Health Service care to persons who own vessels registered, enrolled, or licensed under the maritime laws of the United States, who are engaged in commercial fishing operations, and who accompany such vessels on such fishing operations and a substantial part of whose services in connection with such fishing operations are comparable to services performed by seamen employed on such vessels or on vessels engaged in similar operations.

SALMON FISHING IN NORTH PACIFIC: On February 27, 1960, the Legislature of the State of Alaska, in its House Joint Memorial 32 to the United States Senate, urged that the Congress and the executive branch proceed with deliberate speed to provide for immediate stoppage of all salmon fishing by nets on the high seas of the North Pacific and Bering Sea.

SECOND SUPPLEMENTAL APPROPRIATIONS: H. R. 10743 (Thomas), a bill making supplemental appropriations for the fiscal year ending June 30, 1960, and for other purposes; introduced February 26, 1960 (H. Rept. 1292); to the Committee of the Whole House on the State of the Union. Includes for the Fish and Wildlife Service, Bureau of Commercial Fisheries, an increase of \$55,000 to modify and improve docking facilities at the technological laboratory, Pascagoula, Miss.

Second Supplemental Appropriation Bill, 1960 (Hearings before the Subcommittee of the Committee on Appropriations, House of Representatives, 86th Congress, 2nd Session) 395 pp., printed. In-

cludes statement of purpose and need for supplemental funds of \$55,000 for the Bureau of Commercial Fisheries to modify and improve docking facilities of the technological laboratory, Pascagoula, Miss.

SHRIMP IMPORT DUTIES: H. R. 10608 (Rivers of Alaska), a bill to amend the Tariff Act of 1930 to provide for the establishment of country-by-country quotas for the importation of shrimp and shrimp products, to impose a duty on all unprocessed shrimp imported in excess of the applicable quota, and to impose duty on processed shrimp and prohibit its importation in excess of the applicable quota; to the Committee on Ways and Means; introduced in House February 23, 1960. Identical to several bills introduced during the first session of the 86th Congress.

Similar to H. R. 10961 (Herlong), a bill to amend the Tariff Act of 1930 to provide for the establishment of country-by-country quotas for the importation of shrimp and shrimp products, to impose a duty on all shrimp imported in excess of the applicable quota; to the Committee on Ways and Means; introduced in House March 8, 1960. Similar in purpose to about 29 bills introduced during the first and second sessions of the 86th Congress. H. R. 10961 omits part of the language of H. R. 8769 (Herlong) which was introduced on August 24, 1959, during the first session of the 86th Congress. The major change in this new version is that quantities up to the amount of the quota on both un-

processed and processed shrimp will enter duty free. Everything above quota, for both unprocessed and processed would be dutiable at 50 percent. The old bill would have allowed all unprocessed shrimp up to the quota to be duty-free; over quota, 50 percent. All processed shrimp up to the quota would have been dutiable at 25 percent, and none would have been allowed over quota.

TARIFF NEGOTIATIONS: H. Con. Res. 592 (Knox), concurrent resolution expressing the sense of Congress that the United States should not grant further tariff reductions in the forthcoming tariff negotiations under the provisions of the Trade Agreements Extension Act of 1958, and for other purposes; identical to H. Con. Res. 593 (Gray); both referred to the Committee on Ways and Means; introduced in House February 17, 1960. Also identical to H. Con. Res. 594 (Flynt), introduced February 22, 1960; H. Con. Res. 610 (Bray), introduced March 7, 1960; and 19 other concurrent resolutions previously reported.

TRANSPORTATION: S. 3048 (Magnuson), a bill to amend the Interstate Commerce Act with respect to reasonable differentials in favor of joint rates for through transportation by rail and water, and for other purposes; to the Committee on Interstate and Foreign Commerce; introduced in Senate February 16, 1960.



HERRING SPAWN DRIFT STUDIED

Studies by the U. S. Bureau of Commercial Fisheries of the non-tidal circulation in the Gulf of Maine-Georges Bank area and its effect upon the distribution and survival of larval herring are being made. Indications are that an intrusion of warm Slope and Gulf Stream water over the southern part of Georges Bank in the fall of the year occurs more frequently than previously expected. Drift bottle and transponding radio buoy studies indicate that the surface waters in the area of herring spawning on Georges Bank move in a southwesterly direction and that herring larvae in these surface waters would be carried off the southern edge of the bank into the slope water zone and lost to the fishery.

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