

H B

5 4 3

STATE OF ALASKA
1992 LEGISLATIVE SESSION

BILL NO. CSHB 543 (Rev)

Revision Date: April 22, 1992 Department Affected: Environmental Conservation
 Title: An Act relating to standards for grading finfish fisheries products. BRU: Environmental Health
 Component: Seafood Industry
 Sponsor: Representative Choquette
 Requestor: (H) Resources COMPONENT SERIAL NO. 0649

EXPENDITURES/REVENUES: (Thousands of Dollars)

| OPERATING | FY 93 | FY 94 | FY 95 | FY 96 | FY 97 | FY 98 |
|-------------------|-------|-------|-------|-------|-------|-------|
| PERSONAL SERVICES | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| TRAVEL | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| CONTRACTUAL | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| SUPPLIES | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| EQUIPMENT | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| LAND & STRUCTURES | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| GRANTS, CLAIMS | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| MISCELLANEOUS | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| TOTAL OPERATING | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

| | | | | | | |
|---------|-----|-----|-----|-----|-----|-----|
| CAPITAL | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
|---------|-----|-----|-----|-----|-----|-----|

| | | | | | | |
|-------------------------|-----|-----|-----|-----|-----|-----|
| REVENUE FUND SOURCE: | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
|-------------------------|-----|-----|-----|-----|-----|-----|

FUNDING: (Thousands of Dollars)

| | | | | | | |
|-----------------------|-----|-----|-----|-----|-----|-----|
| GENERAL FUND | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| FEDERAL FUNDS | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| OTHER FUND SOURCE: | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| TOTAL | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

POSITIONS:

| | | | | | | |
|-----------|-----|-----|-----|-----|-----|-----|
| FULL-TIME | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| PART-TIME | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| TEMPORARY | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

Estimate of current year impact: _____

ANALYSIS: (Attach a separate page if necessary.)

Prepared By: Kit Ballentine, Acting Director Phone: 465-5280
 Division: Environmental Health Date: _____
 Approved by Commissioner: James M. ...
 Agency: Environmental Conservation Date: 4/23/92

FISCAL NOTE

STATE OF ALASKA
1992 LEGISLATIVE SESSION

BILL NO. HB 543

Revision Date: 3/25/92

Department Affected: Fish and Game

Title: Relating to standards for grading
fisheries products

BRU: Commercial Fisheries

Component: Commercial Fisheries

Sponsor: Representative Choquette

Requestor: House Resources
Expenditures/Revenues: (Thousands of Dollars)

COMPONENT SERIAL NO.

| | | |
|---|---|---|
| 4 | 5 | 9 |
|---|---|---|

| OPERATING | FY 93 | FY 94 | FY 95 | FY 96 | FY 97 | FY 98 |
|-------------------|-------|-------|-------|-------|-------|-------|
| PERSONAL SERVICES | 0 | 0 | 0 | 0 | 0 | 0 |
| TRAVEL | 0 | 0 | 0 | 0 | 0 | 0 |
| CONTRACTUAL | 0 | 0 | 0 | 0 | 0 | 0 |
| SUPPLIES | 0 | 0 | 0 | 0 | 0 | 0 |
| EQUIPMENT | 0 | 0 | 0 | 0 | 0 | 0 |
| LAND & STRUCTURES | 0 | 0 | 0 | 0 | 0 | 0 |
| GRANTS, CLAIMS | 0 | 0 | 0 | 0 | 0 | 0 |
| MISCELLANEOUS | 0 | 0 | 0 | 0 | 0 | 0 |
| TOTAL OPERATING | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

| | | | | | | |
|---------|---|---|---|---|---|---|
| CAPITAL | 0 | 0 | 0 | 0 | 0 | 0 |
|---------|---|---|---|---|---|---|

| | | | | | | |
|----------------------|---|---|---|---|---|---|
| REVENUE FUND SOURCE: | 0 | 0 | 0 | 0 | 0 | 0 |
|----------------------|---|---|---|---|---|---|

FUNDING: (Thousands of Dollars) *

| | | | | | | |
|--------------------|-----|-----|-----|-----|-----|-----|
| GENERAL FUND | 0 | 0 | 0 | 0 | 0 | 0 |
| FEDERAL FUNDS | 0 | 0 | 0 | 0 | 0 | 0 |
| OTHER FUND SOURCE: | 0 | 0 | 0 | 0 | 0 | 0 |
| TOTAL | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

POSITIONS:

| | | | | | | |
|-----------|---|---|---|---|---|---|
| FULL-TIME | 0 | 0 | 0 | 0 | 0 | 0 |
| PART-TIME | 0 | 0 | 0 | 0 | 0 | 0 |
| TEMPORARY | 0 | 0 | 0 | 0 | 0 | 0 |

Estimate of current year impact: None

ANALYSIS: (Attach a separate page if necessary.)

Prepared By: Geron Bruce G.B.
Division: Commissioner's Office
Approved by Commissioner: [Signature]
Agency: Department of Fish and Game

Phone: 465-4100
Date: 3/24/92
Date: 3/25/92

Distribution (by preparer): Leg. Fin., Legislative Sponsor, Requestor, OGD/DBR, Gov. Legic. OSC., & Impacted Agency(ies).

FISCAL NOTE

STATE OF ALASKA
1992 LEGISLATIVE SESSION

BILL NO. HB543

Revision Date: _____ Department Affected: Environmental Conservation
 Title: An Act Relating to standards for grading finfish fisheries products. BRU: Environmental Health
 Component: Seafood Industry
 Sponsor: Repres. Choquette
 Requestor: _____ COMPONENT SERIAL NO.

| | | | |
|--|---|---|---|
| | / | 4 | 9 |
|--|---|---|---|

EXPENDITURES/REVENUES: (Thousands of Dollars)

| OPERATING | FY 93 | FY 94 | FY 95 | FY 96 | FY 97 | FY 98 |
|------------------------|------------|------------|------------|------------|------------|------------|
| PERSONAL SERVICES | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| TRAVEL | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| CONTRACTUAL | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| SUPPLIES | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| EQUIPMENT | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| LAND & STRUCTURES | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| GRANTS, CLAIMS | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| MISCELLANEOUS | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| TOTAL OPERATING | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

| | | | | | | |
|---------|-----|-----|-----|-----|-----|-----|
| CAPITAL | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
|---------|-----|-----|-----|-----|-----|-----|

| | | | | | | |
|-------------------------|-----|-----|-----|-----|-----|-----|
| REVENUE FUND SOURCE: | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
|-------------------------|-----|-----|-----|-----|-----|-----|

FUNDING: (Thousands of Dollars)

| | | | | | | |
|-----------------------|------------|------------|------------|------------|------------|------------|
| GENERAL FUND | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| FEDERAL FUNDS | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| OTHER FUND SOURCE: | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| TOTAL | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

POSITIONS:

| | | | | | | |
|-----------|-----|-----|-----|-----|-----|-----|
| FULL-TIME | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| PART-TIME | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| TEMPORARY | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

Estimate of current year impact: 0.0

ANALYSIS: (Attach a separate page if necessary.)
 Separate analysis attached.

Prepared By: Kit Ballentine, Acting Director Phone: 465-5280
 Division: Environmental Health Date: _____
 Approved by Commissioner: *[Signature]*
 Agency: *[Signature]* Date: 3/28/92

ANALYSIS OF BILL/PROGRAM EFFECTS
HB543
FINFISH GRADING STANDARDS

Development of minimum quality grading standards for Alaskan finfish products could afford a market advantage for these products. With the proposed amendments and recognition that inspectional services would be provided on a fee for service basis, the Department supports this legislation.

Multiple grading standards exist in the industry at the present time. Many of these are market driven and may vary substantially from any minimum quality standard which might be adopted. Due to this feature of the marketplace and industry, the Department would propose that minimum grading standard criteria be developed jointly with the industry, other agencies and DEC. Participation in the quality program would be on a voluntary, fee for service basis. If a processor chose to participate in the program, the facility's products could display the mark of inspection. Uninspected product would remain ungraded and could not bear a seal of inspection.

The Department would propose a phased in approach to implementation of grading standards. Phase I would consist of convening a task force composed of industry and governmental representatives whose goal would be to define the elements of a minimum quality grading program. Task force members would meet on a regular basis via teleconference. Phase II would consist of actual implementation of the standards through a fee for service inspection program.

The impact of such a program is difficult to assess until the level of processor interest is evaluated and defined. Costs to the program would be borne by the processor requesting certification under the grading program, resulting in no cost to the Department. However, additional staff would be required to conduct inspections without disruption to the existing seafood inspection program.

HB 543 Packet

Zero Fiscal Note, ADEC

Federal grading standards, regulations

Canadian grading standards for Canned, and for Frozen and Eviscerated

Alaska Seafood Marketing Institute Premium Quality Standards for
Net Caught and Troll Caught Salmon.

FISCAL NOTE

STATE OF ALASKA
1992 LEGISLATIVE SESSION

BILL NO. HB543

Revision Date: _____ Department Affected: Environmental Conservation
 Title: An Act Relating to standards for grading finfish fisheries products. BRU: Environmental Health
 Component: Seafood Industry
 Sponsor: Repres. Choquette
 Requestor: _____ COMPONENT SERIAL NO.

| | | |
|---|---|---|
| 6 | 4 | 9 |
|---|---|---|

EXPENDITURES/REVENUES: (Thousands of Dollars)

| OPERATING | FY 93 | FY 94 | FY 95 | FY 96 | FY 97 | FY 98 |
|------------------------|------------|------------|------------|------------|------------|------------|
| PERSONAL SERVICES | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| TRAVEL | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| CONTRACTUAL | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| SUPPLIES | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| EQUIPMENT | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| LAND & STRUCTURES | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| GRANTS, CLAIMS | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| MISCELLANEOUS | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| TOTAL OPERATING | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

| | | | | | | |
|---------|-----|-----|-----|-----|-----|-----|
| CAPITAL | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
|---------|-----|-----|-----|-----|-----|-----|

| | | | | | | |
|-------------------------|-----|-----|-----|-----|-----|-----|
| REVENUE FUND SOURCE: | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
|-------------------------|-----|-----|-----|-----|-----|-----|

FUNDING: (Thousands of Dollars)

| | | | | | | |
|-----------------------|------------|------------|------------|------------|------------|------------|
| GENERAL FUND | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| FEDERAL FUNDS | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| OTHER FUND SOURCE: | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| TOTAL | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

POSITIONS:

| | | | | | | |
|-----------|-----|-----|-----|-----|-----|-----|
| FULL-TIME | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| PART-TIME | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| TEMPORARY | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | | 0.0 | | | | |

Estimate of current year impact: _____

ANALYSIS: (Attach a separate page if necessary.)
 Separate analysis attached.

Prepared By: Kit Ballentine, Acting Director Phone: 465-5280
 Division: Environmental Health Date: _____
 Approved by Commissioner: [Signature]
 Agency: Environmental Health Date: 3/28/92

ANALYSIS OF BILL/PROGRAM EFFECTS
HB543
FINFISH GRADING STANDARDS

Development of minimum quality grading standards for Alaskan finfish products could afford a market advantage for these products. With the proposed amendments and recognition that inspectional services would be provided on a fee for service basis, the Department supports this legislation.

Multiple grading standards exist in the industry at the present time. Many of these are market driven and may vary substantially from any minimum quality standard which might be adopted. Due to this feature of the marketplace and industry, the Department would propose that minimum grading standard criteria be developed jointly with the industry, other agencies and DEC. Participation in the quality program would be on a voluntary, fee for service basis. If a processor chose to participate in the program, the facility's products could display the mark of inspection. Uninspected product would remain ungraded and could not bear a seal of inspection.

The Department would propose a phased in approach to implementation of grading standards. Phase I would consist of convening a task force composed of industry and governmental representatives whose goal would be to define the elements of a minimum quality grading program. Task force members would meet on a regular basis via teleconference. Phase II would consist of actual implementation of the standards through a fee for service inspection program.

The impact of such a program is difficult to assess until the level of processor interest is evaluated and defined. Costs to the program would be borne by the processor requesting certification under the grading program, resulting in no cost to the Department. However, additional staff would be required to conduct inspections without disruption to the existing seafood inspection program.

conspicuous manner with the word "RETAINED." Such lot(s) of product shall be held for reinspection or testing. Final disposition of the lot(s) shall be determined by NMFS and the removal of the "RETAINED" identification shall be performed by the inspector.

[36 FR 21041, Nov. 3, 1971]

§ 260.104 Personnel.

The establishment management shall be responsible for taking all precautions to assure the following:

(a) *Disease control.* No person affected by disease in a communicable form, or while a carrier of such disease, or while affected with boils, sores, infected wounds, or other abnormal sources of microbiological contamination, shall work in a food plant in any capacity in which there is a reasonable possibility of food ingredients becoming contaminated by such person, or of disease being transmitted by such person to other individuals.

(b) *Cleanliness.* All persons, while working in direct contact with food preparation, food ingredients, or surfaces coming into contact therewith shall:

(1) Wear clean outer garments, maintain a high degree of personal cleanliness, and conform to hygienic practices while on duty, to the extent necessary to prevent contamination of food products.

(2) Wash and sanitize their hands thoroughly to prevent contamination by undesirable microorganisms before starting work, after each absence from the work station, and at any other time when the hands may have become soiled or contaminated.

(3) Remove all insecure jewelry and, when food is being manipulated by hand, remove from hands any jewelry that cannot be adequately sanitized.

(4) If gloves are used in food handling, maintain them in an intact, clean, and sanitary condition. Such gloves shall be of an impermeable material except where their usage would be inappropriate or incompatible with the work involved.

(5) Wear hair nets, caps, masks, or other effective hair restraints. Other persons that may incidentally enter

the processing areas shall comply with this requirement.

(6) Not store clothing or other personal belongings, eat food, drink beverages, chew gum, or use tobacco in any form in areas where food or food ingredients are exposed or in areas used for washing equipment or utensils.

(7) Take any other necessary precautions to prevent contamination of foods with microorganisms or foreign substances including, but not limited to perspiration, hair, cosmetics, tobacco, chemicals, and medicants.

(c) *Education and training.* Personnel responsible for identifying sanitation failures or food contamination should have a background of education or experience, or a combination thereof, to provide a level of competency necessary for production of clean wholesome food. Food handlers and supervisors should receive appropriate training in proper food-handling techniques and food-protection principles and should be cognizant of the danger of poor personal hygiene and unsanitary practices, and other vectors of contamination.

[36 FR 21041, Nov. 3, 1971]

LABELING REQUIREMENTS

§§ 260.200—260.201 (Reserved)

PART 261—UNITED STATES STANDARDS FOR GRADES OF WHOLE OR DRESSED FISH

Subpart A—United States Standards for Grades of Whole or Dressed Fish

- Sec. 261.101 Scope and product description.
- 261.102 Product forms.
- 261.103 Grades—quality factors.
- 261.104 Determination of grade.
- 261.105 Hygiene.

Subpart B—United States Standards for Grades of Frozen Headless Dressed Whiting

- 261.151 Description of the product.
- 261.152 Grades of frozen headless dressed whiting.
- 261.161 Determination of the grade.
- 261.171 Definitions and methods of analysis.



§ 261.101

Sec. 261.175 Tolerances for certification of officially drawn samples.

Authority: 7 U.S.C. 1621-1630.

Source: 42 FR 52750, Sept. 30, 1977, unless otherwise noted.

Subpart A—United States Standards for Grades of Whole or Dressed Fish

§ 261.101 Scope and product description.

This standard shall apply to whole or dressed fish, whether fresh or frozen, of any species suitable for use as human food and processed and maintained in accordance with good manufacturing practices.

§ 261.102 Product forms.

- (a) Types. (1) Fresh. (2) Frozen solid packs; glazed or unglazed. (3) Frozen individually; glazed or unglazed. (b) Styles. (1) Whole. (2) Dressed-eviscerated. (3) Head-on or headless. (4) With or without fins. (5) Skin-on scaled or unscaled; semi-skinned (epidermis removed) or skinless. (6) Other (as specified).

§ 261.103 Grades—quality factors.

- (a) U.S. Grade A. Whole or dressed fish shall: (1) Possess good flavor and odor and; (2) Comply with the limits for defects for U.S. Grade A quality in accordance with § 261.104. (b) U.S. Grade B. Whole or dressed fish shall: (1) Possess reasonably good flavor and odor and; (2) Comply with the limits for defects for U.S. Grade B quality in accordance with § 261.104. (c) Substandard. Whole or dressed fish does not possess reasonably good flavor and odor and/or exceeds the limits for defects for U.S. Grade B quality in accordance with § 261.104.

§ 261.104 Determination of grade.

- (a) Procedures for grade determination. The grade shall be determined by sampling in accordance

with the sampling plan described in paragraph (b) of this section evaluating odor and flavor in accordance with paragraph (c) of this section examining for defects in accordance with paragraphs (d), (e) and (f) of this section and using the results to assign a grade as described in paragraph (g) of this section.

(b) Sampling. The sampling rate of specific lots for all inspections, other than for military procurement, shall be in accordance with the sampling plans contained in Part 660 of this chapter except that the sample unit is ten (10) fish for fish weighing up to 10 pounds. Fish weighing over ten (10) up to fifty (50) pounds—the sample unit shall be five (5) fish. For fish weighing over fifty (50) pounds, the sample unit shall be a minimum of three (3).

(c) Evaluation of flavor and odor. (1) Evaluation of the odor on each of the raw fish in the sample unit shall be carried out as follows:

(i) For the examination of small units, break the flesh or thawed sample either with the thumbs or by cutting with a knife in several places. Hold the cut or broken flesh close to the nose for evaluation.

(ii) For the examination of large units, a core may be used. Drill a hole into the hard frozen fish with a high-speed quarter inch drill. As soon as the drill is withdrawn, the hole and drillings are smelled.

(2) If the results of the raw odor evaluation indicate the existence of any off-odors, the sample shall be cooked by any of the methods set forth below to verify the flavor and odor.

(i) Boil in bag method. Insert the sample into a boilable film-type pouch; fold the open end of the pouch over a suspension bar and clamp in place to provide a loose seal after evacuating the air by immersing the pouch into boiling water. Cook the contents for 20 minutes (until the internal temperature of the product reaches 160 degrees F.).

(ii) Steam method. Wrap the sample in a single layer of aluminum foil, and place on a wire rack suspended over boiling water in a covered container. Steam the packaged product for 20 minutes.

(iii) Bake method. Package the product as previously described. Place the packaged product on a flat cookie sheet or shallow flat-bottom pan of sufficient size so that the packages can be evenly spread on the sheet or pan. Place the pan and frozen contents in a properly ventilated oven preheated to 400 degrees F. for 20 minutes.

(3) The amount of material to be cooked shall be based on the results of the raw odor evaluation. A minimum of 25 percent of the sample except that not less than 3 sample units shall be used.

(d) Examination for physical defects. Each of the fish in the sample will be examined for defects using the list of defect definitions, and the defects noted and categorized as minor, major, and serious in accordance with Table

(e) Definitions of defects in whole or dressed fish. (1) "Abnormal condition" means that the normal physical and/or chemical structure of the fish flesh has been sufficiently changed so that the usability and/or desirability of the fish is adversely affected. It includes, but is not limited to, the following examples:

(i) Jellied—refers to the abnormal condition wherein a fish is partly or wholly characterized by a gelatinous, glossy, translucent appearance.

(ii) Milky—refers to the abnormal condition wherein a fish is partly or wholly characterized by a milky-white, excessively mushy, pasty, or fluidized appearance.

(iii) Chalky—refers to an abnormal condition wherein a fish is partly or wholly characterized by a dry, chalky, granular appearance, and fibrous structure.

(A) Moderate—refers to a condition that is distinctly noticeable but does not seriously affect the appearance, desirability and/or the eating quality of the product.

(B) Excessive—refers to a condition which is both distinctly noticeable and seriously objectionable.

(2) "Appearance defects" shall refer to the overall general appearance of the fish (consistency of the flesh, odor, eyes, gills, and skin) and presence of excessive blood or drip and appearance of the package.

(iii) *Bake method.* Package the product as previously described. Place the packaged product on a flat cookie sheet or shallow flat-bottom pan of sufficient size so that the packages can be evenly spread on the sheet or pan. Place the pan and frozen contents in a properly ventilated oven preheated to 400 degrees F. for 20 minutes.

(3) The amount of material to be cooked shall be based on the results of the raw odor evaluation. A minimum of 25 percent of the sample except that not less than 3 sample units shall be used.

(d) *Examination for physical defects.* Each of the fish in the sample will be examined for defects using the list of defect definitions, and the defects noted and categorized as minor, major, and serious in accordance with Table

(e) *Definitions of defects in whole or dressed fish.* (1) "Abnormal condition" means that the normal physical and/or chemical structure of the fish flesh has been sufficiently changed so that the usability and/or desirability of the fish is adversely affected. It includes, but is not limited to, the following examples:

(i) *Jellied*—refers to the abnormal condition wherein a fish is partly or wholly characterized by a gelatinous, glossy, translucent appearance.

(ii) *Milky*—refers to the abnormal condition wherein a fish is partly or wholly characterized by a milky-white, excessively mushy, pasty, or fluidized appearance.

(iii) *Chalky*—refers to an abnormal condition wherein a fish is partly or wholly characterized by a dry, chalky, granular appearance, and fibrous structure.

(A) *Moderate*—refers to a condition that is distinctly noticeable but does not seriously affect the appearance, desirability and/or the eating quality of the product.

(B) *Excessive*—refers to a condition which is both distinctly noticeable and seriously objectionable.

(2) "Appearance defects" shall refer to the overall general appearance of the fish (consistency of the flesh, odor, eyes, gills, and skin) and presence of excessive blood or drip and appearance of the package.

(i) *Slight*—refers to an appearance defect that is slightly noticeable but does not seriously affect the appearance, desirability, and/or eating quality of the fish.

(ii) *Moderate*—refers to an appearance, defect that is conspicuously noticeable but does not seriously affect the appearance, desirability, and/or eating quality of the fish.

(iii) *Excessive*—refers to an appearance defect that is conspicuously noticeable and that does seriously affect the appearance, desirability, and/or eating quality of the fish.

(3) "Discoloration" refers to any color not characteristic of the species used.

(i) *Slight*—refers to the area affected by discoloration of significant intensity involving up to 10 percent of the total area.

(ii) *Moderate*—refers to the area affected by discoloration of significant intensity involving over 10 percent and up to 50 percent of the total area.

(iii) *Excessive*—refers to the area affected by discoloration of significant intensity involving 50 percent or more of the total area.

(4) "Dehydration" refers to loss of moisture from fish surfaces during frozen storage. For skin-on fish, dehydration shall be evaluated by degree of dullness and shrinkage.

(i) *Slight dehydration*—is surface color masking affecting more than 3 percent of the area which can be readily removed by scraping with a blunt instrument.

(ii) *Moderate dehydration*—is deep color masking penetrating the flesh, affecting less than 3 percent of the area, and requiring a knife or other sharp instrument to remove.

(iii) *Excessive dehydration*—is deep color masking penetrating the flesh, affecting more than 3 percent of the area, and requiring a knife or other sharp instrument to remove.

(5) "Surface defects" shall refer to the following where applicable:

(i) *Scales.* An occurrence of attached or loose scales in any sample unit (where applicable).

(ii) *Blood spot.* An accumulation of coagulated opaque, masses of blood on a fish.

Handwritten notes on a piece of paper taped to the right side of the page, including the word "Appearance" written vertically.

(iii) Fins or pieces of fin. An occurrence or absence of attached or loose fins or pieces of fin in any sample unit (where applicable). Dorsal spine shall be removed (where applicable).

(iv) Skin. The presence of the dark or light inner layers of skin for skinless. For semiskinned, reference is to the presence of the dark outside layers.

(v) Bruises. An accumulation of damaged portions of fish muscle, red and opaque in appearance (on a fish).

(vi) Damage to protective coating refers to voids in ice glaze or tears in covering membrane, also to breaks or splits in the skin which are readily discernible and not normally part of the processing.

(6) "Cutting and trimming defects" refers to the following:

(i) Body cavity cuts—refers to misplaced cuts made during evisceration.

(ii) Improper heading (as specified)—refers to the presence of pieces of gills, gill cover, pectoral fins (spine), or collarbone after the fish have been headed. No ragged cuts should be evident after heading.

(iii) Evisceration defects—refers to inadequate cleaning of the belly cavity of the fish. All viscera, kidney (where applicable), spawn, and blood should be removed.

(A) Slight degree of improper evisceration and improper heading refers to a condition that is scarcely noticeable but does not affect the appearance,

desirability, and/or eating quality of the fish.

(B) Moderate degree of improper evisceration and improper heading refers to a condition that is conspicuously noticeable but does not seriously affect the appearance, desirability, and/or eating quality of the fish.

(C) Excessive degree of improper evisceration refers to a condition that is conspicuously noticeable and that seriously affect the appearance, desirability, and/or eating quality of the fish.

(iv) Improper washing—inadequate removal of slime, blood, and bits of viscera from the surface of the fish and from the body cavity.

(v) Belly burn—an enzymatic action on the flesh causing a burned or discolored appearance.

(7) "Texture defects" texture of the cooked fish; not characteristic of the species.

(i) Slight—fairly firm, only slightly tough or rubbery, does not form a fibrous mass in the mouth, moist but not mushy.

(ii) Moderate—moderately tough or rubbery, has noticeable tendency to form a fibrous mass in the mouth, moist but not mushy.

(iii) Excessive—excessively tough or rubbery, has marked tendency to form a fibrous mass in the mouth, or is very dry or very mushy.

(f) Categorization of physical defects.

TABLE I

| Types | Physical defects | | Categories | | |
|------------------------------|--|--|------------|-------|---------|
| | Degree | | Minor | Major | Serious |
| Abnormal condition | Moderate | | | 201 | |
| | Excessive | | | | 301 |
| Appearance defects | Slight | | 102 | | |
| | Moderate | | | 202 | |
| Discoloration | Excessive | | | | 302 |
| | Slight | | 103 | | |
| Dehydration | Moderate | | | 203 | |
| | Excessive | | | | 303 |
| Surface defects | Slight—more than 3 percent area affected and easily removed | | 104 | | |
| | Moderate—less than 3 percent area affected but difficult to remove | | | 204 | |
| Cutting and trimming defects | Excessive—greater than 3 percent area affected | | | | 304 |
| | Slight—3 to 10 percent area affected | | 105 | | |
| Body cavity cuts | Moderate—greater than 10 percent area affected | | | 205 | |
| | Improper heading | | 106 | | |
| Belly burn | Slight | | | | 305 |
| | Moderate | | | | 306 |
| Texture defects | Slight | | | | 307 |
| | Moderate | | | | 308 |
| Damage to protective coating | Slight | | | | 309 |
| | Moderate | | | | 310 |

TABLE I-

| Types | Physical defects | |
|------------------------------|------------------|-------|
| | Minor | Major |
| Evisceration defects | Moderate | |
| | Excessive | |
| Improper washing | Slight | |
| | Moderate | |
| Belly burn | Slight | |
| | Moderate | |
| Texture defects | Slight | |
| | Moderate | |
| Damage to protective coating | Slight | |
| | Moderate | |

NOTE: The code numbers shown in the above table are keyed to the nature and severity of the defect. They are not

(g) Grade assignment. (1) Each fish in a sample unit will be assigned the grade into which it falls in accordance with the limits for defects, summarized as follows:

| Grade | Flavor and odor | Maximum number of physical defects permitted | | |
|---------|-----------------|--|-------|---------|
| | | Minor | Major | Serious |
| Grade A | Good | 3 | 0 | 0 |
| Grade B | Reasonably good | 5 | 1 | 0 |

(2) Upon determination of grade of each fish in each sample unit, the sample will be designated a grade as follows:

(i) Grade A.

| Number of subsample units (fish) | Min. No. grade A fish | Max. No. grade B fish | Max. No. substance a/c |
|----------------------------------|-----------------------|-----------------------|------------------------|
| 10 (up to 10 lb) | 8 | 2 | |
| 5 (10 to 50 lb) | 4 | 1 | |
| 3 (over 50 lb) | 3 | 0 | |

(ii) Grade B.

| Number of subsample units (fish) | Minimum number of grade B fish | Maximum number of substance a/c |
|----------------------------------|--------------------------------|---------------------------------|
| 10 (up to 10 lb) | 8 | |
| 5 (10 to 50 lb) | 4 | |
| 3 (over 50 lb) | 3 | |

(iii) Substandard. Any fish not meeting the minimum requirements for Grade B quality.

(3) Upon determination of the grade for each sample unit a lot of whole

Subpart B—United States Standards for Grades of Frozen Headless Dressed Whiting

§ 261.151 Description of the product.

The product described in this part consists of clean, wholesome whiting (silver hake) *Merluccius bilinearis*, *Merluccius albidus*; completely and cleanly headed and adequately eviscerated. The fish are packaged and frozen in accordance with good commercial practice and are maintained at temperatures necessary for the preservation of the product.

§ 261.152 Grades of frozen headless dressed whiting.

(a) "U.S. Grade A" is the quality of frozen headless dressed whiting that (1) possess a good flavor and odor and that (2) for those factors that are rated in accordance with scoring system outlined in this part, have a total score of 85 to 100 points.

(b) "U.S. Grade B" is the quality of frozen headless dressed whiting that (1) possess at least reasonably good flavor and odor and that (2) rate a total score of not less than 70 points for those factors of quality that are rated in accordance with the scoring system outlined in this part.

(c) "Substandard" or "Utility" is the quality of frozen headless dressed whiting that meet the requirements of § 261.151 but that otherwise fail to meet the requirements of "U.S. Grade B."

§ 261.161 Determination of the grade.

In a plant under USDC Contract Inspection the grade is determined by examining the product for factors 1 to 10 in the thawed state and factor 11 in the cooked state. For lot inspection, examination of the product for factors 1, 2 and 3 is carried out in the frozen state and 4 to 10 in the thawed state. Factor 11 is examined in the cooked state.

(a) *Factors rated by score points.* Points are deducted for variations in the quality of each factor in accordance with the schedule in Table 1. The total of points deducted is subtracted from 100 to obtain the score. The maximum score is 100 the minimum score is 0.

(b) *Factors not rated by score points.* The factor of "flavor and odor" is evaluated organoleptically by smelling and tasting after the product has been cooked in accordance with § 261.171.

(1) Good flavor and odor (essential requirements for a U.S. Grade A product) means that the cooked product has the typical flavor and odor of the species and is free from rancidity, bitterness, staleness, and off-flavors and off-odors of any kind.

(2) Reasonably good flavor and odor (minimum requirements of a U.S. Grade B product) means that the cooked product is lacking in good flavor and odor but is free from objectionable off-flavors and off-odors of any kind.

TABLE 1—SCHEDULE OF POINT DEDUCTIONS PER SAMPLE

(See footnotes at end of table.)

| Factors scored | Method of determining score | Deduct |
|---|---|--------|
| FROZEN STATE (LOT INSPECTION ONLY) | | |
| 1 Arrangement of product ¹ | Small degree: 10 percent of fish twisted or bellies and backs not facing the same direction. Large degree: More than 10 percent of fish twisted, void present or some fish cross packed. | 2 5 |
| 2 Condition of packaging (overall assessment) | Poor: Packaging material has been soaked, softened or deteriorated. | 2 |
| 3 Dehydration | Small degree: Slight dehydration of the exposed surfaces. Large degree: Deep dehydration of the exposed surfaces. | 2 5 |

TABLE 1—SCHEDULE OF POINT

(See foot)

| Factors scored | |
|--|---|
| 4 Maximum size: Fish 2 oz. or over are of acceptable size. | Number of fish: Over 0—not Over 0.5—not Over 1.0—not Over 2.0— |
| 5 Uniformity. Weight ratio of fish remaining. The 10 percent largest fish divided by the 10 percent smallest fish. | Weight ratio 10: Over 2.0—not Over 2.4—not Over 2.8—not Over 3.2—not Over 3.6— |
| 6 Heading ¹ | Small degree: 1 Moderate degree: |
| 7 Evisceration (overall assessment) | Small degree: 5 Moderate degree: Large degree: 1 |
| 8 Scaling ¹ | Small degree: 1 Large degree: C |
| 9 Color of the exposed surfaces (overall assessment) | Small degree: M Large degree: C |
| 10 ¹ Bruises and split or broken skin | Presence of bru: Over 0—not C Over 0.5—not Over 1.0—not Over 1.5—not Over 2.0— |
| 11 Texture (overall assessment) | Small degree: M Large degree: E |

¹ 10 percent of fish refers to 10 percent by count rounded

(42 FR 52750, Sept. 30, 1977, as amended at

§ 261.171 Definitions and methods of analysis.

(a) *Selection of the sample unit.* The sample unit consists of the primary container and its entire contents. The whiting are examined according to Table 1. Definitions of factors for point deductions are as follows:

(b) *Examination of sample, frozen state.* When this product is examined under USDC Contract Inspection, the samples are examined for factors 1, 2 and 3 in Table 1 in the thawed state. When the product is lot inspected, the samples are examined for factors 1, 2 and 3 in Table 1 in the frozen state.

(1) "Arrangement of product" refers to the packing of the product in a symmetrical manner, bellies or backs all facing in the same direction, fish neatly dovetailed.

bag and immersing in an agitated water bath held at 68° F., ±2° F. Allow the product to remain immersed until thawed. Alternatively when the facilities are lacking for water thawing, the sample may be thawed by slacking it out at a temperature between 30° to 40° F. on an aluminum tray from 2 hours for a 1½-pound sample to 8 hours for a 10-pound sample.

(1) "Minimum size" refers to the size of the individual fish in the sample. Fish 2 ounces or over are considered acceptable. Smaller fish cannot be cooked uniformly with acceptable size fish. Separate the fish of unacceptable size, divide their number by the weight of the sample in pounds, and apply to Table 1. Example—four fish of unacceptable size in a 5-pound package is $\frac{4}{5}=0.8$, a 10 point deduction.

(2) "Uniformity." From the fish remaining, select by count 10 percent (minimum of one fish) of the largest and 10 percent (minimum of one fish) of the smallest and divide the largest weight by the smallest weight to get a weight ratio.

(3) "Heading" refers to the condition of the fish after they have been headed. The fish should be cleanly headed behind the gills and pectoral fins. No gills, gill bones, or pectoral fins should remain after the fish have been headed.

(4) "Evisceration" refers to the cleaning of the belly cavities of the fish. All spawn, viscera, and belly strings should be removed.

(5) "Scaling" refers to the satisfactory removal of scales from the fish.

(6) "Color of the cut surfaces" refers to the color of the cut surfaces of the fish after heading and other processing.

(7) "Bruises and broken or split skin" refers to bruises over one-half square inch in area and splits or breaks in the skin more than one-half inch in length which are not part of the processing.

(d) Examination of sample, cooked state. Cooked state means the state of the sample after being cooked. Cooking the sample is best accomplished by inserting the sample into a film type bag and submerging it into boiling water for from 18-20 minutes. A mini-

mum of three fish per sample unit shall be cooked.

(1) "Texture defects" refers to the absence of normal textural properties of the cooked fish flesh, which are tenderness, firmness, and moistness without excess water. Texture defects are dryness, softness, toughness, and rubberyness.

(e) General definitions. (1) Small (overall assessment) refers to a condition that is noticeable but is only slightly objectionable.

(2) Moderate (overall assessment) refers to a condition that is distinctly noticeable but is not seriously objectionable.

(3) Large (overall assessment) refers to a condition which is both distinctly noticeable and seriously objectionable.

§ 261.175 Tolerances for certification of officially drawn samples.

The sample rate and grades of specific lots shall be certified in accordance with part 260 subpart A of this chapter. (Regulations Governing Processed Fishery Products).

PART 262—UNITED STATES STANDARDS FOR GRADES OF FISH STEAKS

Subpart A—[Reserved]

Subpart B—United States Standards for Grades of Frozen Halibut Steaks

- Sec.
- 262.151 Product description.
- 262.152 Styles of frozen halibut steaks.
- 262.153 Grades of frozen halibut steaks.
- 262.154 Recommended dimensions.
- 262.161 Ascertaining the grade.
- 262.171 Definitions and methods of analysis.
- 262.175 Tolerances for certification of officially drawn samples.

SCORE SHEET

- 262.181 Score sheet for frozen halibut steaks.

Subpart C—United States Standards for Grades of Frozen Salmon Steaks

- 262.201 Product description.
- 262.202 Styles.
- 262.203 Grades.
- 262.206 Recommended dimensions.

National Marine Fisheries Service

- 262.211 Ascertaining the grade.
- 262.221 Definitions.
- 262.225 Tolerances for certification of officially drawn samples.
- 262.231 Score sheet for frozen steaks.

AUTHORITY: 7 U.S.C. 1621-1630.

SOURCE: 42 FR 52753, Sept. 30 unless otherwise noted.

Subpart A—[Reserved]

Subpart B—United States Standards for Grades of Frozen Halibut Steaks

262.151 Product description.

Frozen halibut steaks are wholesome units of frozen raw flesh with normally associated bone and are 2 ounces or more weight. Each steak has two cut surfaces and is derived from whole subdivided halibut slices of uniform thickness which result from saw cutting perpendicular to the length, or backbone, of a whole but. The steaks are prepared either frozen or unfrozen halibut (*Poglossus* spp.) and are processed frozen in accordance with good commercial practice and are maintained at temperatures necessary for the preservation of the product.

262.152 Styles of frozen halibut steaks.

(a) Style I, random weight per individual steaks are of random weight and neither the weight nor the number of steaks are specified.

(b) Style II, uniform weight per pack. All steaks in the pack in the lot are of a specified weight range of weights.

262.153 Grades of frozen halibut steaks.

(a) "U.S. Grade A" is the quality of frozen halibut steaks which have good flavor and odor, and that those factors which are rated in accordance with the scoring system outlined in the following section, the total score is not less than 85 percent.

(b) "U.S. Grade B" is the quality of frozen halibut steaks which have at least reasonably good flavor and odor, and that for those factors which are rated in accordance with the

PREMIUM QUALITY NET-CAUGHT SALMON PILOT PROJECT

ALASKA SEAFOOD MARKETING INSTITUTE

PREMIUM QUALITY GRADING CRITERIA

FOR NET-CAUGHT KETA SALMON

The following conditions must be met in order for Pacific salmon of the species Orcorhynchus keta, (Keta salmon) to be considered for inclusion in the Alaska Seafood Marketing Institute's 1987 Net-Caught Premium Quality Pilot Project. The interrelationship of all quality factors listed must be considered when evaluating fish.

Characteristics

A. External Surface:

1. Skin color:

Typical of ocean-run fish. Split salmon or salmon sides may show darker skin color if the flesh color meets these grade standards. In no case can the skin color be darker than Keta salmon "D" on the ASMI Color Evaluation Guide for Pacific Salmon.

2. Net marks:

No indentation nor softening of the flesh and no skin perforation.

3. Cuts, seal bites, scars, bruises, punctures:

None permitted.

4. Scales:

Scale adherence reasonably uniform; No more than 5% scale loss permitted. No more than 10% missing in one area.

5. Ectoparasites:

Practically free from ectoparasites. (So called hydrogen bubbles noted on the exterior skin of the salmon).

B. Belly Cavity: (H/G salmon only).

1. Rib bones:

None protruding.

2. Belly burn:

None permitted.

3. Knife cuts:

None permitted.

PREMIUM QUALITY NET-CAUGHT SALMON PILOT PROJECT

PREMIUM QUALITY GRADING CRITERIA
FOR NET-CAUGHT KETA SALMON

- | | |
|-----------------|--|
| 4. Cleaning: | Thorough; Free of residual blood and viscera (Kidney, heart and gill removed). |
| 5. Bruises: | The split keta salmon will have no bruises larger than 3/8 of an inch in diameter. |
| 6. Flesh color: | Typical of ocean-run fish. |

C. Flesh Quality:

- | | |
|-------------|---|
| 1. Texture: | Resilient; No noticeable softness. |
| 2. Odor: | Sea-fresh; Characteristic of species; No abnormal odor. |

D. Frozen Characteristics:

- | | |
|-------------------------------------|---|
| 1. Glaze or protective membrane: | Complete. |
| 2. Dehydration or freezer burn: | None permitted. |
| 3. Body distortion: | Minimal. |
| 4. Caudal fin: (H/G salmon only) | Intact. |
| 5. Workmanship: | Poor head cuts, knife cuts in belly cavity not permitted. |

ASMI
guideline

ALASKA SEAFOOD MARKETING INSTITUTE
PREMIUM QUALITY PILOT TEST PROGRAM 1986

PREMIUM QUALITY GRADING CRITERIA FOR KING⁵ AND COHO SALMON

The following conditions must be met in order for Pacific salmon of the species Oncorhynchus tshawytscha and O. kisutch to be considered for inclusion in the Alaska Seafood Marketing Institute's 1986 Premium Quality Pilot Program. The interrelationship of all quality factors listed must be considered when evaluating fish.

CHARACTERISTICS

A. External Surface:

- 1. Skin color. Typical of ocean-run fish.
- 2. Net marks. None permitted.
- 3. Cuts, seal bites, scars, bruises, punctures. None permitted.
- 4. Scales. Scale adherence reasonably uniform; No more than 15% scale loss permitted.

B. Belly Cavity:

- 1. Rib bones. None protruding.
- 2. Belly burn. None permitted.
- 3. Knife cuts. None permitted.
- 4. Cleaning. Thorough; Free of residual blood and viscera (kidney, heart and gill removed).
- 5. Bruises. No visible internal bruises permitted.
- 6. Flesh color. Typical of ocean-run fish.⁵

⁵ White King salmon is not included in this test.

Premium Quality Grading Criteria.

C. Flesh Quality:

1. Texture.

Resilient; No noticeable softness.

2. Odor.

Sea-fresh; Characteristic of species; No abnormal odor.

D. Frozen Characteristics:

1. Glaze or protective membrane.

Complete.

2. Dehydration or freezer burn.

None permitted.

3. Body distortion.

Minimal.

4. Caudal fin.

Intact.

5. Workmanship.

Poor head cuts, knife cuts in belly cavity not permitted.

14
+

MARCH 24, 1986

CANNED PACIFIC SALMON
GRADE STANDARD

DEPARTMENT OF FISHERIES & OCEANS
INSPECTION DIVISION
PACIFIC REGION

TABLE OF CONTENTS

| | PAGE NO. |
|---|----------|
| 1.0 INTRODUCTION | 2 |
| 2.0 SCOPE | 3 |
| 3.0 SAMPLING | 4 |
| 4.0 SIZE OF SAMPLE UNIT | 4 |
| 5.0 EXAMINATION FOR DEFECTS | 4 |
| 6.0 SCORING | 12 |
| 7.0 GRADING OF A LOT | 18-20 |
| APPENDIX A DEFINITION OF DEFECTS | 5 |
| APPENDIX B MEASUREMENT OF TEXTURE | 9 |
| APPENDIX C SENSORY EVALUATION OF TEXTURE | 10 |
| APPENDIX D COLOUR DETERMINATION | 11 |
| APPENDIX E STEPS IN SCORING & GRADING OF CANNED PACIFIC SALMON | 12 |
| APPENDIX F RATING SCHEME FOR SALMON PACKED IN 4 LB CANS | 17 |
| APPENDIX G GRADING CRITERIA FOR CANNED PACIFIC SALMON | 18 |
| APPENDIX H SAMPLING PLAN 1 | 21 |
| APPENDIX I SAMPLING PLAN 2 | 22 |
| TABLE I SPECIES OF PACIFIC SALMON | 3 |
| TABLE II DEFECT | 6 |
| TABLE III TEXTURE READING OF INDIVIDUAL CANS & CORRESPONDING SCORE | 9 |
| TABLE IV COLOUR RATING OF INDIVIDUAL CANS & CORRESPONDING SCORE | 11 |
| TABLE V PRORATING OF OIL SCORES | 12 |
| TABLE VI VOLUME OF OIL IN ML FROM 6 POUNDS OF FISH & CORRESPONDING SCORE | 13 |
| TABLE VII PRORATING OF TEXTURE, COLOUR, APPEARANCE & ODOUR SCORES | 14 |
| TABLE VIII RATINGS & CORRESPONDING SCORE | 16 |
| TABLE IX SPECIES: SOCKEYE 1/2'S ACCEPTABLE GRADE | 19 |
| TABLE X SPECIES: SOCKEYE 1/2'S - GRADE B | 20 |

MARCH 24, 1986

1.0 INTRODUCTION

The Fish Inspection Regulations provide the authority for the grading of canned Pacific salmon. This document defines "Acceptable Grade" (other than "Grade B") and "Grade B" canned salmon and defines acceptability of canned salmon with respect to wholesomeness. In addition, the criteria and methods for determining the grade of canned Pacific salmon are explained.

MARCH 24, 1986

2.0 SCOPE

This standard shall identify canned and/or heat-processed Pacific salmon in hermetically sealed containers using current good manufacturing practices and prepared from the species shown in Table I.

TABLE I

SPECIES OF PACIFIC SALMON

| COLUMN I | COLUMN II |
|--|--|
| 1. <i>Oncorhynchus nerka</i> | Sockeye Salmon Red Sockeye Salmon Red Salmon |
| 2. <i>Oncorhynchus tshawytscha</i> | Spring Salmon King Salmon Chinook Salmon |
| 3. <i>Oncorhynchus kisutch</i> | Coho Salmon Medium Red Coho Salmon |
| 4. <i>Oncorhynchus gorbuscha</i> | Pink Salmon |
| 5. <i>Oncorhynchus keta</i> | Chum Salmon Keta Salmon |
| 6. <i>Salmo gairdnerii</i> | Steelhead Salmon Deep Sea Trout |
| 7. <i>Salmo salar</i> | Salmon Atlantic Salmon |

2.1 It is not the intention for the standard to cover integrity defects including rust and corrosion, chemical and microbiological contamination, the application of additives, underweight conditions or labelling requirements. Applicable legislation and administrative guidelines made under the Fish Inspection Regulations, the Food and Drug Regulations, the Consumer and Corporate Affairs Labelling and Weights and Measures Regulations will regulate these aspects of the product. Other codes of practice which are used for interpreting current good manufacturing practice include:

- (i) the International Code of Practice for Low Acid Canned Food, CAC/RCP 23-1979.
- (ii) Metal Container Defects Identification and Classification Manual: document prepared by the Department of Fisheries and Oceans, Canada.

MARCH 24, 1986

3.0 SAMPLING

Sampling of lots for examination of the product shall be in accordance with the FAO/WHO Codex Alimentarius Sampling Plans for pre-packaged foods (AQL 6.5) (CAC/RM42-1969). These sampling plans are outlined in Appendix H.

4.0 SIZE OF SAMPLE UNIT

The sample unit shall consist of a can or pouch of salmon and the contents thereof.

5.0 EXAMINATION FOR DEFECTS

The sample unit will be examined for defects described in Appendix A, B, C, D.

6.0 SCORING

The scoring mechanism as outlined in Appendix E shall be used to evaluate samples.

7.0 GRADING OF A LOT

The grading criteria outlined in Appendix G shall be used to determine the grade of a lot of canned Pacific salmon.

MARCH 24, 1986

APPENDIX A

DEFINITION OF DEFECTS

APPEARANCE

- 1.1 CURD - the heat induced coagulation of protein.
It is noted as a defect when the curd exceeds 15 mm in diameter.
- 1.2 BRUISING - discolouration caused by a knock or blow while the fish is alive.
- 1.3 CLEANING - parts of viscera and/or blood along the backbone.
- 1.4 CROSS PACK - a piece of the fish is packed horizontally in the can or loose skin appears on top of the contents of the can.
- 1.5 UNTRIMMED FINS - parts of head, tails or fins.
- 1.6 WATERMARKED - red, brown, orange, dull grey skin not characteristic of normal skin colour.
blanched flesh - abnormal, pale colour.
- 1.7 BELLY-BURN - reddened flesh, usually associated with sour odours of decomposition and normally found in the belly cavity.
- 1.8 GREY DISCOLOURATION - discolouration of the surface of the flesh associated with surface oxidation (normally associated with minced salmon).
- 1.9 PUGH MARK - a blood spot in the flesh arising from the use of a pugh.
- 1.10 HARD BONE - may be indicative of under-processing
- bone does not readily crush when placed between the thumb and index finger.
- 1.11 TOP APPEARANCE - (ragged, loose, cross-packing)
- the top appearance of the can after opening may exhibit an uneven or ragged appearance, may contain loose fish material or may exhibit cross-packing
- 1.12 MIXED COLOURS IN A SINGLE CAN - can consists of fish with two or more distinct pieces of flesh of different colour (usually associated with patch pieces used in the can).

MARCH 24, 1986

APPENDIX A COND'T

1.13 MIXED SPECIES IN A SINGLE CAN - can containing flesh of two or more species of fish.

1.14 RATING CLASSIFICATION OF APPEARANCE DEFECTS

TABLE II

| <u>Defect</u> | <u>Rating</u> | <u>Code</u> |
|---|---------------|-------------|
| 1. TOP APPEARANCE (Ragged, Loose, Cross-Packing) | 1 | A |
| 2. POOR CLEANING (Blood and/or Viscera on Backbone, Untrimmed Fins) | 1-3 | C |
| 3. BRUISING (Blood Spots, Pugh Marks) | 1-3 | B |
| 4. CURD | 1 | K |
| 5. WATERMARKING | 1 | H |
| 6. <u>BELLY-BURN</u> | 1-3 | Y |

MARCH 24, 1986

APPENDIX A COND'T

| 2.0 | <u>ODOUR DEFECTS</u> | Organoleptic Rating | Code |
|-----|--|------------------------|---------|
| 2.1 | <u>DECOMPOSED</u> - persistent distinct and uncharacteristic odours characterized by: | 1-9 | D |
| | 2.1.1 fruity (aldehyde odours similar to pineapple or other fruits); | | |
| | 2.1.2 vegetable odours - (e.g. turnip and cabbage-like but not associated with packing media); | | |
| | 2.1.3 sour, yeasty fermented odours; | | |
| | 2.1.4 ammonia odours, hydrogen sulphide odours; | | |
| | 2.1.5 other pungent odours such as putrid or faecal. | | |
| 2.2 | <u>RANCID</u> - odour characterized by the distinct or readily detectable persistent odour of oxidized oil. (This may be characterized by a pungent sensation in the nasal passage). | 1-6 | R |
| 2.3 | <u>LATE</u> - persistent, distinct and uncharacteristic odours of advanced sexual maturity (late-run fish). | 1-6 | L |
| 2.4 | <u>OVERHEATING</u> - distinct and persistent odours that are burnt or acrid, e.g. as associated with excess scorch, stackburn or reprocessing. | 1-3 | O |
| 2.5 | <u>NON-SPECIFIC UNIDENTIFIABLE ODOUR</u> - Non-characteristic odour. Not associated with decomposition, rancidity, late or overheating. | 1-3 | N |
| 2.6 | <u>CONTAMINATION</u> - odours resulting from contamination by solvents, soaps, fuel oil, grease etc. that are organoleptically detectable. | N/A | Remarks |
| 3.0 | <u>FLAVOUR DEFECTS</u> | | |
| 3.1 | <u>DECOMPOSITION</u> - persistent, distinct and uncharacteristic flavours characterized by: | 1-9 | D |
| | a. Sweet, fruity flavours | | |
| | b. Vegetable flavours | | |
| | c. Putrid, sour, or faecal flavours | | |
| 3.2 | <u>RANCID</u> - characterized by distinct flavours present individually or in combination as follows: | 1-6 | R |
| | a. Bitter, sour, metallic flavours (detected at the sides and back of the tongue leaving a lingering after taste). | | |

*NOTE: for 4 lb salmon pack, the organoleptic rating is 1 or 3

MARCH 24, 1986

APPENDIX A COND'T

| | Organoleptic Rating | Code |
|---|------------------------|---------|
| <u>FLAVOUR DEFECTS COND'T</u> | | |
| 3.3 | *1-3 | D |
| <u>ABNORMAL</u> - distinct and persistent flavours that are burnt or acrid, i.e. associated with excess scorching, stackburn or reprocessing. | | |
| 3.4 | 1-6 | L |
| <u>LATE</u> - persistent, distinct and uncharacteristic flavours of advanced sexual maturity (late-run fish). | | |
| 3.5 | N/A | Remarks |
| <u>CONTAMINATION</u> - flavours resulting from contamination by solvents, soaps, fuel oil, grease, etc. | | |
| 4.0 <u>MISCELLANEOUS DEFECTS</u> | | |
| 4.1 | N/A | Remarks |
| <u>FOREIGN MATERIAL</u> Assessed by AQL System Depending on Aesthetic/Health Hazard Classification | | |
| 4.2 | N/A | Remarks |
| <u>SULPHURING</u> - (Assessed by AQL System) - Light < 16 mm ² - moderate > 16 mm ² < 50 mm ² - excessive > 50 mm ² (and/or on product) - reject level | | |
| 4.3 | N/A | H |
| <u>MIXED COLOURS</u> - assessed by AQL System (Appendix H) | | |
| 4.4 | N/A | P |
| <u>MIXED SPECIES</u> - assessed by AQL System (Appendix H) | | |
| 4.5 | N/A | G |
| <u>GREY DISCOLOURATION</u> - assessed by AQL System (Appendix H) | | |
| 4.6 | N/A | Remarks |
| <u>HARD BONE</u> - as this may indicate a potential health hazard situation, other factors such as processing time and temperature data must be reviewed before a decision can be made with regard to the acceptability of the lot. | | |

NOTE: N/A = Not Applicable

*NOTE: for 4 lb salmon pack, the organoleptic rating is 1 or 3

MARCH 24, 1986

APPENDIX B

1.0 MEASUREMENT OF TEXTURE ("TEXTOMETER" METHOD)

1.1 The texture or firmness score of each sample can is related to the "Canned Salmon Textometer" reading of the can as shown in Table II. The "Canned Salmon Textometer", a six-pronged device, measures the texture or resilience of the fish flesh by averaging the maximum strain exerted on the prongs by the flesh during the test.

TABLE III

Texture Reading of Individual Cans and Corresponding Score

| Sockeye | Coho Blueback | Pink | Chum | Spring | Steelhead | Rating | Score |
|---------|------------------|-------|-------|--------|-----------|----------------------|-------|
| 22-23 | 21-22 | 19-20 | 22-23 | 17 | 19-20 | 1 - Slightly soft | 1 |
| 20-21 | 19-20 | 17-19 | 20-21 | 16 | 17-18 | 2 - | |
| 18-19 | 16-19 | 15-16 | 18-19 | 15 | 15-16 | 3 - Moderately soft | 2 |
| 15-17 | 13-15 | 12-14 | 15-17 | 14 | 12-14 | 4 - | |
| 12-14 | 10-12 | 9-11 | 12-14 | 13 | 9-11 | 5 - | |
| 9-11 | 7-9 | 6-8 | 9-11 | 12 | 6-8 | 6 - Excessively soft | 3 |
| 0-8 | 0-6 | 0-5 | 0-8 | 0-11 | 0-5 | 7 - | |

MARCH 24, 1986

APPENDIX B COND'T

| 1.2 | <u>SENSORY EVALUATION OF TEXTURE</u> | <u>Rating</u> |
|-------|---|---------------|
| 1.2.1 | Breakdown of muscle structure characterized by muscle fibres no longer being detectable resulting in the presence of small particles and/or a granular, gritty or pasty texture exceeding 5% of the drained content. | 1 |
| 1.2.2 | Breakdown of muscle structure characterized by muscle fibres no longer being detectable resulting in the presence of small particles and/or a granular, gritty or pasty texture exceeding 10% of the drained content. | 2 |
| 1.2.3 | Breakdown of muscle structure characterized by muscle fibres no longer being detectable resulting in the presence of small particles and/or a granular, gritty or pasty texture exceeding 20% of the drained content. | 3 |

APPENDIX C

2.0 MEASUREMENT OF OIL VOLUME

- 2.1 The drained liquid from a 12 can sample (3 cans for the 4 pound salmon can) is collected into a graduated cylinder and allowed to stand for five minutes. The volume of oil is then measured in milliliters (top layer).
- 2.2. The score is obtained by matching the volume of oil with the species of fish in Table VI, Appendix E.

MARCH 24, 1986

APPENDIX D

3.0 COLOUR DETERMINATION

3.1 The colour score for each sample can is obtained from its colour rating as indicated in Table IV. The colour rating of the salmon sample is a direct measure of its colour in comparison to porcelain standards.

TABLE IV

Colour Rating of Individual Cans and Corresponding Score:

| Chum | Score | Steelhead-Pink | Score | Coho | Score | Blueback | Score | Sockeye | Score |
|--------------|-------|----------------|-------|---------|-------|----------|----------|---------|----------|
| 7 | -1 | 7 | -1 | 7 | -1 | 7 6 | -2 -1 | 7 6 | -2 -1 |
| 6, 5 4, 3 | 0 | 6, 5 4, 3 | 0 | 6, 5, 4 | 0 | 5, 4 | 0 | 5, 4 | 0 |
| 2, 1 | 1 | 2 | 1 | 3 | 1 | 3 | 1 | 3 | 1 |
| | | | | 2 | 2 | 2 | 2 | 2 | 3 |
| | | 1 | 3 | | | | | | |
| | | | | 1 | 4 | 1 | 4 | 1 | 4 |

MARCH 24, 1986

APPENDIX E

1.0 STEPS IN SCORING AND GRADING OF CANNED PACIFIC SALMON

1.1 PRORATING OF OIL SCORES

This involves the adjusting of the oil score (ml of free oil) to correspond to six pounds of fish. As the oil score is always obtained by measuring the amount of free oil from 12 samples, (except for 4 lb can) it is necessary to adjust the oil score for the different size cans as per Table V.

NOTE: Sockeye salmon is used as an example, but table V applies to all species.

TABLE V. Prorating of Oil Scores

| <u>Species</u> | <u>Can Size</u> (lb) | <u>Free Oil</u> (ml) | <u>Factor</u> (C) | <u>Adjusted</u> <u>Free Oil</u> (ml) | <u>Score</u> | <u>Remarks</u> |
|----------------|-------------------------|-------------------------|----------------------|---|--------------|---|
| Sockeye | 1/4 | 20 | 2 | 40 | -2 | multiply given volume of oil (ml) by 2, then locate score on chart in Table VI. |
| Sockeye | 1/2 | 50 | 1 | 50 | -4 | no adjustment required. |
| Sockeye | 1 | 60 | 1/2 | 30 | 0 | multiply given volume of oil (ml) by 1/2, then locate score on chart in Table VI. |
| Sockeye | 4 | 40 | 1 | 40 | -2 | no adjustment required. |

MARCH 24, 1986

APPENDIX E COND'T

TABLE VI

Volume of oil in ml from 6 pounds of Fish and Corresponding Score:

| Steelhead & Spring | Score | Sockeye | Score | Coho (Blueback) Pink | Score | Chum | Score |
|-----------------------|-------|---------|-------|-------------------------|-------|------|-------|
| 95+ | -6 | 60+ | -6 | 35+ | -6 | 25+ | -6 |
| 90 | | | | | | | |
| 85 | -5 | 55 | -5 | | -5 | | -5 |
| 80 | | | | | | | |
| 75 | -4 | 50 | -4 | 30 | -4 | 20 | -4 |
| | | | | | | | |
| 70 | -3 | 45 | -3 | | -3 | | -3 |
| 65 | | | | | | | |
| 60 | -2 | 40 | -2 | 25 | -2 | 15 | -2 |
| 55 | -1 | 35 | -1 | | -1 | | -1 |
| 50 | | | | | | | |
| | | | | | | | |
| 45 | 0 | 30 | 0 | 20 | 0 | 10 | 0 |
| | | | | | | | |
| 40 | 1 | 25 | 1 | 15 | 1 | 8 | 1 |
| 35 | | | | | | | |
| 30 | 2 | 20 | 2 | 10 | 2 | 7 | 2 |
| 25 | 3 | 15 | 3 | | 3 | 5 | 3 |
| 20 | | | | | | | |
| 15 | 4 | 10 | 4 | 5 | 4 | 4 | 4 |
| | | | | | | | |
| 10 | 5 | 5 | 5 | | 5 | 2 | 5 |
| 5 | | | | | | | |
| 0 | 6 | 0 | 6 | 0 | 6 | 0 | 6 |

1.2 A negative score is given for a sample found to contain more than an average amount of oil. This is intended to compensate for the increase in score given samples whose softness is partly attributed to high oil content. A total score that corresponds to six pounds of sampled fish or that has been prorated or extrapolated to correspond to six pounds of fish is subtracted if negative, directly from the texture total, after it in turn has been prorated or extrapolated to twelve sampled cans.

1.3 "PRORATED" OIL SCORE - A positive total oil score is also adjusted for the purpose of grading by prorating or extrapolating to correspond to six pounds of fish.

APPENDIX E COND'T

2.0 TEXTURE READINGS ("TEXTOMETER METHOD)

"Prorated and Modified" Texture Score

For the purpose of grading, the total texture score of the cans examined must be prorated or extrapolated to correspond to twelve sample cans, diminished by the oil score corresponding to six pounds, providing this latter score is negative.

TABLE VII

Prorating of texture, colour, appearance and odour scores

| <u>No. Samples</u> <u>(A)</u> | <u>Total Score</u> <u>(D)</u> | <u>Factor</u> <u>(B)</u> | <u>Prorated 12 Can Total</u> <u>(B/A X D)</u> |
|----------------------------------|----------------------------------|-----------------------------|--|
| 6 | 10 | 12 | 20 |
| 12 | 22 | 12 | 22 |
| 18 | 24 | 12 | 16 |
| 20 | 15 | 12 | 9 |
| 24 | 40 | 12 | 20 |
| 36 | 31 | 12 | 10 |
| 48 | 45 | 12 | 11 |

NOTE: All total scores for these categories are adjusted to correspond to a 12 can sample.

3.0 MODIFIED SCORES

3.1. MODIFIED TEXTURE SCORE

In the scoring system used for the oil volume (ml), a sample may be given a negative score if it is found to contain more than an average amount of oil. This is intended to compensate for the increase in score given to samples whose softness is partly attributed to high oil content. The only time in which the oil score enters into the grading system is when it is negative. In this instance, the total texture score is decreased by the amount of the oil score.

Note: Scores are modified only after having prorated them to correspond to a 12 can sample.

MARCH 24, 1986

APPENDIX E COND'T

4.0 COLOUR RATINGS

4.1 A negative score is given for samples noticeably redder than average. As this improves the appearance of the salmon, the total appearance score is modified by subtracting the total colour score, if negative, after both have been prorated or extrapolated to correspond to a twelve can sample.

4.2 "PRORATED" SCORE

A positive total colour score is also adjusted for grading purposes by prorating or extrapolating it to correspond with a twelve can sample. (See Table VI). Note that Spring salmon is classified by colour as red, pink and white and has therefore not been included in the above table.

5.0 APPEARANCE RATINGS

5.1 Defects such as bruises, poor cleaning, grey discolouration, pugh marks, the presence of curd, cross packing, untrimmed fins, watermarked red skin, belly burned reddened flesh are rated 1, 2 or 3 according to their severity. A slight defect is rated 1, a readily noticeable defect is rated 2, and a marked defect is rated 3. Ratings of 1 are not scored against the product unless there are 2 or 3 such ratings for a can, in which case the score of 1 or 2, respectively is given.

5.2 "Prorated and Modified" Appearance Score

To obtain the modified appearance score required for grading, the score for all defects are totalled and prorated or extrapolated to correspond to a twelve can sample, (as per Table VI) then the total colour score, if negative, is subtracted after it has been prorated or extrapolated to also correspond to a twelve can sample.

6.0 ODOUR RATINGS

Cans with odour defects are rated and scored in accordance with the intensity of the odour on a scale of 1 to 9.

The rating of 1 is used where there is only a detectable trace of a particular odour identified. Ratings of 1 are not scored against the product unless 2 or 3 different trace odours are detected in combination for a can, in which case the score of 1 or 2 respectively is assigned.

MARCH 24, 1986

APPENDIX E COND'T

The rating of 9 is assigned where advanced prominent and pronounced decomposition is detected in a sample. A rating of 6 is assigned when a persistent and distinct odour of decomposition or tainted is detected in the sample.

6.1 It may be noted that there are 9 steps (and intermediate steps) from a score of 1 to a score of 256 inclusive. These steps or ratings are used to simplify the examination. Their relation to the score is shown in Table VIII.

TABLE VIII

RATINGS AND CORRESPONDING SCORE

| <u>RATING</u> | <u>SCORE</u> |
|---------------|--------------|
| 1 | 0 |
| (1+1) | 1 |
| (1+1+1) etc | 2 |
| 2 | 2 |
| 3 | 4 |
| 4 | 8 |
| 5 | 16 |
| 6 | 32 |
| 7 | 64 |
| 8 | 128 |
| 9 | 256 |

6.2 Scores must be prorated as per Table VI, Appendix E.

NOTE: Refer to Appendix F for rating of canned salmon packed in 4 pound cans.

MARCH 24, 1986

APPENDIX F

1.0 RATING SCHEME FOR SALMON PACKED IN 4 LB CANS

- 1.1 During routine inspection of salmon packed in 4 lb cans, a great deal of downgrading of the product results from appearance defects in combination with scorching.
- 1.2 Salmon packed in 4 lb cans exhibits inherent odours, flavours, and appearance associated with scorching of the product due to the long processing time involved (approximately three hours at 250 degrees F).
- 1.3 In instances where these defects are pronounced, the final grade of the product may be affected. This situation may be further aggravated by appearance defects such as bruising, curd, cleaning, top appearance, watermarking, and belly burn.

Rating for odour and flavour of salmon packed in 4 lb cans is limited to a score of 3 0 or 0 depending on the extent of the problem as defined below:

| <u>Rating</u> | <u>Rating</u> |
|---|---|
| <u>Highly</u> scorched product characterized by: | <u>Scorched</u> product characterized by: |
| 1. Distinct and persistent abnormal odours and/or flavours that are burnt or acrid | 1. Distinct and persistent odours and/or flavours that are burnt or acrid at a level normally associated with product processed for a long time but not including reprocessed product. |
| 2. Discolouration characterized by persistent orange colours in the flesh not normally associated with the species of fish. | 2. The orange discolouration may or may not be present, but if it is, it is at a level normally associated with product processed for a long time but not including reprocessed product |

MARCH 24, 1986

APPENDIX C

GRADING CRITERIA FOR CANNED PACIFIC SALMON

- 1.0 "Acceptable" grade may be assigned to canned salmon in the case of:
 - 1.1 regular pack canned salmon having a "prorated" score for colour of 44 or less, on condition that either:
 - 1.1.1 the total of the "prorated" score for odour and the "modified and prorated" scores for texture and for appearance when added together is 36 or less; or
 - 1.1.2 the "prorated and modified" score for texture is 24 or less and also the total of the "prorated" score for odour and the "prorated and modified" score for appearance when added together is 24 or less.
 - 1.2 minced canned salmon or salmon tips, providing that the "prorated and modified" total of appearance scores plus the "prorated" total of odour scores is 30 or less.
- 2.0 Grade "B" is to be assigned to canned salmon that does not comply with the requirements of the acceptable grade, providing that the "prorated" total of odour scores is 72 or less.
- 3.0 CONDITIONS FOR GRADE B (REGULAR PACK SALMON)
 - 3.1 COLOUR: when the total prorated score for colour alone is greater than 44 ("B" in Table IX).
 - 3.2 TEXTURE: when the total prorated score for texture alone is greater than 24 ("A" in Table IX). In this case, if the oil score is negative, ("X" in Table IX), the total texture score is decreased by the amount of the oil score.
 - 3.3 APPEARANCE AND ODOUR: when the total of the prorated scores for both appearance and odour added together is greater than 24 (C + D in Table IX).
 - 3.4 TEXTURE, APPEARANCE AND ODOUR: when the total of the prorated scores for texture, appearance and odour added together is greater than 36 (A + C + D in Table IX).
- 4.0 BELOW GRADE B CRITERIA
 - 4.1 This classification is assigned to canned salmon whose prorated total odour score alone is greater than 72. A lot falling into this category is of reject quality.

MARCH 24, 1986

APPENDIX G COND'T

TABLE X

Species: Sockeye 1/2's - Grade B - Scoring Example

| Can No. | OIL | | FIRMNESS | | COLOUR | | APPEARANCE | | ODOUR | |
|------------|-----|-------|----------|-------|--------|-------|------------|-------|--------|-------|
| | ml | Score | Reading | Score | Rating | Score | Rating | Score | Rating | Score |
| 1 | | | 22 | 1 | 1 | 4 | KC | 1 | 2L | 2 |
| 2 | | | 18 | 3 | 1 | 4 | 2C | 2 | L | - |
| 3 | | | 23 | 1 | 2 | 3 | K | - | 2L | 2 |
| 4 | | | 20 | 2 | 1 | 4 | K | - | 3L | 4 |
| 5 | | | 15 | 4 | 1 | 4 | BK | 1 | L | - |
| 6 | | | 20 | 2 | 1 | 4 | 2B | 2 | L | - |
| 7 | | | 21 | 2 | 1 | 4 | KCB | 2 | 3L | 4 |
| 8 | | | 23 | 1 | 1 | 4 | K | - | 3L | 4 |
| 9 | | | 18 | 3 | 1 | 4 | K | - | L | - |
| 10 | | | 19 | 3 | 1 | 4 | B | - | L | - |
| 11 | | | 20 | 2 | 2 | 3 | 2CB | 2 | L | - |
| 12 | 35 | -1 | 21 | 2 | 1 | 4 | KB | 1 | 2L | 2 |
| ----- | | | | | | | | | | |
| Total | | -1 | | 26 | | 46 | | 11 | | 18 |
| | | X | | A | | B | | C | | D |

APPENDIX H

(Inspection Level I, AQL = 6.5)

Sampling Plan 1

Net weight is equal to or less than 1 kg

| Lot Size (N) | Sample Size (n) | Acceptance No. (C)* |
|-------------------|-----------------|---------------------|
| 4,800 or less | 6 | 1 |
| 4,801 - 24,000 | 13 | 2 |
| 24,001 - 48,000 | 21 | 3 |
| 48,001 - 84,000 | 29 | 4 |
| 84,001 - 144,000 | 48 | 6 |
| 144,001 - 240,000 | 84 | 9 |
| more than 240,000 | 126 | 13 |

Net weight is greater than 1 kg but not more than 4.5 kg

| Lot Size (N) | Sample Size (n) | Acceptance No. (C)* |
|-------------------|-----------------|---------------------|
| 2,400 or less | 6 | 1 |
| 2,401 - 15,000 | 13 | 2 |
| 15,001 - 24,000 | 21 | 3 |
| 24,001 - 42,000 | 29 | 4 |
| 42,001 - 72,000 | 48 | 6 |
| 72,001 - 120,000 | 84 | 9 |
| more than 120,000 | 126 | 13 |

*NOTE: As canned Pacific salmon is assessed on the basis of a grade standard, the acceptance number (C) is used only to assess acceptance or rejection for defects such as foreign material, sulphiding, mixed colours, mixed species and grey discoloration.

MARCH 24, 1986

APPENDIX H COND'T

(Inspection Level II, AQL = 6.5)

Sampling Plan 2

Net weight is equal to or less than 1 kg

| Lot Size (N) | Sample Size (n) | Acceptance No. (C)* |
|-------------------|-----------------|---------------------|
| 4,800 or less | 13 | 2 |
| 4,801 - 24,000 | 21 | 3 |
| 24,001 - 48,000 | 29 | 4 |
| 48,001 - 84,000 | 48 | 6 |
| 84,001 - 144,000 | 84 | 9 |
| 144,001 - 240,000 | 126 | 13 |
| more than 240,000 | 200 | 19 |

Net weight is greater than 1 kg (2.2 lb) but not more than 4.5 kg

| Lot Size (N) | Sample Size (n) | Acceptance No. (C)* |
|-------------------|-----------------|---------------------|
| 2,400 or less | 13 | 2 |
| 2,401 - 15,000 | 21 | 3 |
| 15,001 - 24,000 | 29 | 4 |
| 24,001 - 42,000 | 48 | 6 |
| 42,001 - 72,000 | 84 | 9 |
| 72,001 - 120,000 | 126 | 13 |
| more than 120,000 | 200 | 19 |

*NOTE: As canned Pacific salmon is assessed on the basis of a grade standard, the acceptance number (C) is used only to assess acceptance or rejection for defects such as foreign material, sulphiding, mixed colours, mixed species and grey discoloration.

MARCH 24, 1986

APPENDIX I

GLOSSARY

- Distinct - capable of being readily perceived (by sight, smell, touch or taste) through a sharp clear unmistakable impression; not blurred, obscured or indefinite.
- Persistent - existing without significant change; not fleeting.
- Pungent - a sharp or stinging sensation of an odour such as that of aldehyde.
- Rating - the process of assigning a number to a defect in order to describe its intensity.
- Scoring - the process of assigning a number corresponding to a specific rating number.
- Prorated Score - the process of adjusting a score for a given number of samples to correspond to a twelve can sample.
- Modified Score - the process of adjusting the score for a particular characteristic (eg. appearance, texture). This is done by subtracting from the score of one characteristic score (only if it is a negative score) contributed by another characteristic. Thus a negative score for colour (redder than average) is subtracted from the appearance score as the bright colour tends to improve the appearance of the product.
- A negative score is given for a sample found to contain more than an average amount of oil. This is intended to compensate for the increase in score given to samples whose softness is partly attributed to high oil content.
- Grading - the process of assigning a grade to a lot of fish.

FEBRUARY 12, 1988

APPENDIX J

Canned Skinless and Boneless Salmon

1.0 SCOPE

This standard shall identify canned and heat-processed Pacific skinless and boneless salmon in hermetically sealed containers prepared from the species shown in Table I, page 3 using current good manufacturing practices.

2.0 FORM OF PRODUCT PRESENTATION

2.1 Skinless salmon shall consist of regular pack salmon from which the skin has been substantially removed.

2.2 Boneless salmon shall consist of regular pack salmon from which the vertebrae have been substantially removed. No significant or prominent presence of rib or pin bones.

2.3 Solid - fish cut into transverse segments to which no free fragments are added. In containers of 450 g (one pound) or less of net content, such segments are cut in lengths suitable for packing into one layer.

In containers of more than 450 g net content, such segments may be cut into lengths suitable for packing in one or more layers of equal thickness and no layer shall have a thickness less than 2.5 cm. Segments are placed in the can with the planes of their transverse cut ends parallel to the ends of the can. A piece of a segment may be added, if necessary, to fill a container.

2.4 Chunk or chunks - a mixture of fish most of which have dimensions of not less than 1.2 cm in each direction and in which the original muscle structure is retained.

2.5 Flake, flaked or flakes - a mixture of particles of fish in which the muscle structure of the flesh is retained.

3.0 TOLERANCES

3.1 Solid pack salmon shall contain not more than 18% chunks and/or flaked salmon.

3.2 Chunk pack salmon shall contain not more than 50% flaked salmon.

FEBRUARY 12, 1988

APPENDIX J (cont..)

- 3.3 Flaked salmon shall contain not more than 20% grated and/or shredded salmon.
- 3.4 A sample unit of skinless salmon in a 1/4 lb can exhibiting a piece of skin exceeding 25 sq mm or a combination of pieces exceeding 50 sq mm is a reject unit. (See Table XI)
- 3.5 Tolerances for 1/2 lb, 1 lb, and 4 lb containers are given in Table XI.
- 3.6 A sample unit of 1/4 lb, 1/2 lb, 1 lb or 4 lb can containing whole vertebrae or parts of vertebrae exceeding the acceptable numbers given in Table XI is considered a reject unit.
- 3.7 A sample unit shall show no significant or prominent presence of rib or pin bones.

3.8 TABLE XI

TOLERANCES FOR SKIN AND BONES BASED ON CONTAINER SIZE

| Container Size | Skin (sq mm) | | Bone |
|----------------|--------------|--------------------|---------|
| | Single Piece | Combination Pieces | Numbers |
| 1/4 lb | 25 | 50 | 1.0 |
| 1/2 lb | 50 | 100 | 1.0 |
| 1 lb | 100 | 200 | 2.0 |
| 4 lb | 200 | 400 | 4.0 |

4.0 Rejection of a lot is based on A.Q.L. 6.5 (Appendix H, pages 21 and 22).

GRADE STANDARD
FOR
FRESH OR FROZEN
EVISCERATED SALMON

DEPARTMENT OF FISHERIES AND OCEANS
INSPECTION SERVICES DIRECTORATE
OTTAWA, ONTARIO

MARCH 26, 1991

TABLE OF CONTENTS

GRADE STANDARD FOR FRESH OR FROZEN EVISCERATED SALMON

| <u>Section</u> | <u>Title</u> | <u>Page</u> |
|----------------|-------------------------------|-------------|
| 1.0 | Introduction | - |
| 2.0 | Scope | 1 |
| 3.0 | Forms of Product Presentation | 3 |
| 4.0 | Labelling Requirements | 3 |
| 5.0 | Grade Requirements | 4 |
| 6.0 | Sampling and Determination | 5 |
| 7.0 | Definition of Defective | 7 |
| 8.0 | Lot Acceptance | 8 |
| Annex A | Grading Criteria | 10 |
| Annex B | Sampling Tables | 15 |
| Annex C | Glossary of Terms | 17 |

1.0 INTRODUCTION

This standard applies to fresh or frozen salmon that have been eviscerated, washed and presented with or without the head, and quick frozen as applicable. Authority for the standard which defines three acceptable grades for "Grade A", "Standard" and "Utility" is made under the Fish Inspection Regulations. Methods for sampling and examination are also described to determine lot compliance to the designated grade.

2.0 SCOPE

This standard for fresh or frozen eviscerated fish of the Salmonidae family covers the following species:

| <u>Species</u> | <u>Common Name</u> | <u>Comments</u> |
|---------------------------------|--|---|
| <u>Oncorhynchus nerka</u> | Sockeye Salmon | For all grades |
| <u>Oncorhynchus tshawytscha</u> | Spring Salmon | For all grades |
| | King Salmon | " " " |
| | Chinook Salmon | " " " |
| <u>Oncorhynchus kisutch</u> | Coho Salmon | For all grades |
| | Silver Salmon | " " " |
| <u>Oncorhynchus gorbuscha</u> | Pink Salmon | For all grades |
| <u>Oncorhynchus keta</u> | Chum Salmon | For all grades |
| | Keta Salmon | " " " |
| | Silver Bright Chum | For Grade A only |
| | Bright Chum | " " " |
| | Semi-Bright Chum | For standard grade |
| | Dark Chum Steaking Grade Qualla Chum | For standard & Utility Grades " " |
| <u>Oncorhynchus mykiss</u> | Steelhead Salmon | For all grades |
| | Steelhead Trout | " " " |
| | Rainbow Trout | " " " |
| | Deep Sea Trout | " " " |
| | Steelhead | " " " |
| <u>Salmo salar</u> | Salmon | For all grades |
| | Atlantic Salmon | " " " |

The fish should be prepared using good manufacturing practices from sound wholesome raw material which is eviscerated to remove internal organs and viscera, washed to remove excess slime, blood, etc. and, where applicable, quick frozen and protected from oxidation and dehydration with a glaze ice coating or tightly wrapped membrane.

Codes of practice which are used for interpreting current good manufacturing practices include:

- (1) Recommended International Code of Practice - General Principles of Food Hygiene, CAC/RCP 1-1969 Rev. 1.
- (2) International Sampling Plans for Prepackaged Foods (1969) (AQL-6.5), CAC/RM 42-1969.
- (3) Recommended International Code of Practice for Fresh Fish CAC/RCP 9-1976.
- (4) Recommended International Code of Practice for Frozen Fish CAC/RCP 16-1978.
- (5) Recommended International Standard for Quick Frozen Guttled Pacific Salmon CAC/RS 36-1970.

3.0 Forms of Presentation

The product may be presented as fresh or frozen eviscerated fish, and may be:

- a) headless, or
- b) head-on

4.0 Labelling Requirements

Individual salmon or containers of salmon of the same species shall be labelled to indicate the:

- common name
- net weight
- name of packer or distributor
- date of production
- grade

When labelling containers, a descriptive term accurately identifying the method of harvest may precede the common name of the fish.

5.0 Grade Requirements

Eviscerated salmon or containers of eviscerated salmon designated with a grade must meet the appropriate grade description as follows:

- (a) "Grade A" if the salmon has a colour typical of the species of fish. It will be free from defects such as pugh holes, bites, cuts or disfiguring or open scars in the edible portion of the fish. The belly cavity and peritoneal lining must be intact. However, small, clean cuts or breaks in the lining or slight reddening (blushing) of the peritoneum may be permitted. The flesh must be firm and resilient with a colour typical of a prime fish of that species. Dressing must be thorough with no kidney tissue and no free blood left in the belly cavity. The odour shall be characteristic of the species, with no abnormal odours. Belly walls should be sound, indicating a healthy, well fed fish. Net marks that do not cut through the skin or bruise or soften the underlying flesh are permitted. There may be evidence of the onset of sexual maturity but predominant appearance will show dark above and silvery-white below, although some dulling may be apparent. Water marks (colour change caused by two fish resting against each other) and distinctive bars on chums may be evident but red, brown or green tints have not developed.

Pinks may start to show slight humping. Slight nooking of the nose may also be present in some salmon. Glaze or protective coating on frozen salmon shall be complete, with no dehydration or oxidation, minimal body distortion and no oil migration.

- (b) "Standard" grade if the salmon has lost the colour associated with fresh sea-run salmon of the species. The flesh may be softer so that an impression from finger pressure will be retained. The fish as a whole may be fairly limp. Small clean cuts, bites, pugh marks or gaff marks may be present. The flesh colour must be good to fair, characteristic of the species but may appear somewhat bleached. The belly cavity may have cuts, scrapes or some broken or cut ribs. Some ribs may be protruding as a result of belly burn and subsequent deterioration of the peritoneal lining. The belly lining may appear reddish (flushed) due to advancing belly burn.

There shall be no sour odour, but a late odour may be evident. Glaze or protective coating on frozen salmon shall be complete, with no dehydration or oxidation, moderate body distortion and no oil migration.

- (c) "Utility" grade if the salmon fails to meet the requirements for "Standard" but is not tainted, decomposed, or unwholesome.

6.0 Sampling and Examination

The sampling and examination procedures outlined in this section are used to determine the acceptability of the lot to the grade requirements.

6.1 Sampling

Sampling of lots of a specific species and grade for determination of the compliance to the designated grade shall be in accordance with the FAO/WHO Codex Alimentarius Sampling Plan (AQI, -6.5) (CAC/RM42-1969) except that the acceptance number for decomposition shall be reduced in accordance with the sampling plans contained in Annex B.

The tables in Annex B specify the minimum number of fish to be used for the following type of inspections:

- (a) Level I - the examination of all lots other than lots which are subject to reinspection.
- (b) Level II - the examination of all lots which are under reinspection.

For the purposes of the tables in Annex B, the average net weight of the fish of a specific species and grade must be known or determined prior to deciding the official sample size for inspection.

Example: A Level I inspection conducted on a lot consisting of 5000 kg of sockeye salmon, the average weight of which is determined to be 5 kg, requires an official sample size of 13 salmon, randomly collected from the lot.

6.2 Examination

Each fish will be individually examined for defects as described for the designated grade of the lot. In the case of frozen fish, the fish is examined in the frozen state for frozen state defects, defrosted, and subsequently examined for defects in the thawed or fresh state. Under the grade descriptions defined in Section 4.0, defects can be categorized into four types:

- (a) external appearance factors including frozen state defects;
- (b) internal appearance of the belly cavity factors;
- (c) flesh texture and colour factors; and
- (d) sexual maturity factors.

Annex "A" summarizes the Grade descriptions for each category of defects. The fish will be examined against each of the factors identified in the tables in Annex A. Annex C provides a list of definitions for the terms used in describing the defect factors.

7.0 Definition of Defective Fish

A fish shall be classified as defective when it fails to meet the designated grade of the lot.

8.0 Lot Acceptance

A lot will fail the requirements of the designated grade as follows:

Grade "A":

- (a) the number of defective fish exceeds the acceptance number of the appropriate plan; or
- (b) one or more utility or reject fish are encountered in the sample; or

"Standard":

- (a) the number of defective grade fish exceeds the acceptance number of the appropriate plan; or
- (b) one or more reject fish are encountered in the sample; or

"Utility"

- (a) the number of defective grade or reject fish exceed the acceptance number of the appropriate plan.

Lots not meeting the above lot acceptance criteria may be re-graded and offered for reinspection under Level II inspection.

Lots having any single instance of critical matters such as fuel oil or solvent contamination are not acceptable for any grade and cannot be offered for re-inspection.

ANNEX "A"

GRADE "A" GRADING CRITERIA

a) External Appearance Grading Criteria

1. No cuts or breaks in the covering skin of the edible portion of the fish. One well healed scar up to 6 sq. cm (1 sq. inch) will be permitted.
2. Good skin colour (as typical of the species), slight dulling or water-marking may be apparent on up to 50% of the dorsal surface.
3. No cherry belly (reddening of skin caused by broken blood vessels on ventral surface) except for very faint reddening near anal and pectoral fins.
4. Nil to slight scale loss (less than 20%).
5. Clear slime.
6. Net marks will not indent, perforate nor soften flesh.

FROZEN CHARACTERISTICS

Fish shall be protected by a complete glaze of ice or by a tightly wrapped membrane with no holes nor tears. There will be no evidence of dehydration or freezer burn on the external surface and gut cavity of the fish. Individually frozen fish will be minimally distorted. There will be no oil migration (rust) on the surface of the fish.

b) Internal Appearance of the Belly Cavity Grading Criteria

1. No belly burn; peritoneal lining intact (very slight blush may be permitted).
2. Small clean cuts or breaks in the belly cavity upto 2.4 cm. (1 inch) in total length. No protruding ribs.
3. Good flesh colour relative to sea-run species; not bleached looking.
4. Thorough cleaning (complete removal of blood, kidney, heart, gills, and esophagus). Reasonably free from residual blood.
5. No bruises nor dark blood discoloration are permitted.

c) Flesh Texture and Odour

Firm resilient flesh which does not leave impression when depressed. No flesh separation observed in belly cavity. The odour shall be fresh with no abnormal odours.

d) Sexual Maturity

Colour typical of the species (back may be somewhat faded, but predominant appearance will show dark above and silvery-white below). Water marks and distinctive bars on chums may be evident but red, brown or green tints have not developed. Pinks may start to show slight humping. Slight hooking of the nose may be present. Belly wall thickness will be consistent with the species.

"Standard" Grading Criteria

a) External Appearance Grading Criteria

1. Small clean cuts or breaks in skin, including pugh or gaff marks. One well healed scar permitted which may exceed 6 sq. cm. (1 square inch).
2. Dulling of skin colour (no longer characteristic of prime sea-run fish), dividing line between dark dorsal and light ventral less distinct.
3. Moderate cherry belly along lower ventral surface only.
4. Moderate to heavy scale loss (20% to 75%).
5. Dull slime; thickening, cloudy.
6. Net marks may indent and soften flesh.

Frozen Characteristics

Fish shall be protected by a complete glaze of ice or by a tightly wrapped membrane with no holes nor tears. Fish with slight freezer burn, less than 1 mm in depth, or slight oil migration must be reconditioned by trimming and/or washing to remove all traces. No traces of rancidity in the flesh will be permitted. Individually frozen fish may be moderately distorted.

b) Internal Appearance of the Belly Cavity Grading Criteria

1. Belly burn may be obvious (reddening of cavity with up to 25% of the peritoneal lining broken).
2. Cuts and breaks up to 5 cm (2 inches) in total length in belly cavity. Up to 10% of ribs may protrude, not more than 1 bruise up to 6 sq. cm (1 sq. inch) permitted.
3. Good to fair flesh colour (red and pink flesh may appear more bleached than in prime fish).
4. Cleaning should ensure that the gut cavity is reasonably free from blood, kidney, heart, gills and esophagus. Reasonably free from residual blood.

c) Flesh Texture and Odour

1. Flesh may have lost most of its resilience (impression remains when flesh is depressed, fish appears limp). No flesh separation observed in belly cavity.
2. No sour rancid nor abnormal odours.

d) Sexual Maturity

Moderate sexual development may be present, such as the loss of the distinct dividing line between the dark of the top and white bottom as the dorsal colour fades and the ventral surface darkens. Colour or colours may begin to show on the skin and prominent barring may be present in chums. The nose may be characteristically hooked along with other physical changes such as development of a distinct hump as in pink salmon. Belly walls may be thin.

"Utility" Grade Criteria

a) External Appearance Grading Criteria

1. Clean cuts or breaks in skin from any source.
2. Dull skin colour (or change in colour).
3. Extreme cherry belly may be evident.
4. Heavy to extreme scale loss (up to 100%).
5. Slime may be very thick, dull and in copious amounts.
6. Net marks may indent, perforate and soften flesh.

Frozen Characteristics

Fish showing dehydration, glaze damage. Moderate rust or freezer burn is present. Fish may be miss-shaped or distorted. Moderate "rust" or oil migration may be evidenced by several yellow spots penetrating the glaze.

b) Internal Appearance of the Belly Cavity Grading Criteria

1. Moderate to extreme belly burn (breakdown of muscle tissue in extreme cases which results in protruding ribs).
2. Clean cuts or tears in skin and belly cavity.
3. Noticeable loss of flesh colours (obvious bleached appearance).
4. Bruises permitted.
5. Cleaning should ensure that the gut cavity is reasonably free from blood, kidney, heart, gills and esophagus.

c) Flesh Texture and Odour

1. Fish may appear very soft (limp). Flesh separation may be obvious in belly cavity.
2. Slight abnormal odours.
3. There may be considerable odour associated with "late" fish.

d) Sexual Maturity

Moderate to advanced sexual maturity which may be evidenced by:

1. The predominate silver and blue-green sheen may be entirely lost and be replaced by one or more of the following colours; red, brown, black and yellow, depending on the sex and species.
2. Body shape may be grossly distorted as exemplified by the grotesque hook on the nose or exaggerated hump on the back.
3. Belly walls may be very thin.
4. Flesh colour may be bleached out and there may be some honeycombing of the flesh (usually observed only in frozen fish).

ANNEX B
Sampling Plan I

(Inspection Level I, AQL = 6.5)

Average net weight is equal to or less than 1 kg (2.2 lb)

| Lot Size (N) # of fish | Sample Size (n) | Acceptance No. (c) |
|---------------------------|-----------------|-----------------------|
| 4,800 or less | 6 | 1 (0)* |
| 4,801-24,000 | 13 | 2 (1) |
| 24,001-48,000 | 21 | 3 (2) |
| 48,001-84,000 | 29 | 4 (3) |
| 84,001-144,000 | 48 | 6 (4) |
| 144,001-240,000 | 84 | 9 (6) |
| more than 240,000 | 126 | 13 (9) |

Average net weight is greater than 1 kg (2.2 lb) but no more than 4.5 kg (10 lb)

| Lot Size (N) # of fish | Sample Size (n) | Acceptance No. (c) |
|---------------------------|-----------------|-----------------------|
| 2,400 or less | 6 | 1 (0)* |
| 2,401-15,000 | 13 | 2 (1) |
| 15,001-24,000 | 21 | 3 (2) |
| 24,001-42,000 | 29 | 4 (3) |
| 42,001-72,000 | 48 | 6 (4) |
| 72,001-120,000 | 84 | 9 (6) |
| more than 120,000 | 126 | 13 (9) |

Average Net weight is greater than 4.5 kg (10 lb)

| Lot Size (N) # of fish | Sample Size (n) | Acceptance No. (c) |
|---------------------------|-----------------|-----------------------|
| 600 or less | 6 | 1 (0)* |
| 601-2,000 | 13 | 2 (1) |
| 2,001-7,200 | 21 | 3 (2) |
| 7,201-15,000 | 29 | 4 (3) |
| 15,001-24,000 | 48 | 6 (4) |
| 24,001-42,000 | 84 | 9 (6) |
| more than 42,000 | 126 | 13 (9) |

*The figure in brackets under the Acceptance Number (c) indicates the acceptance number for decomposition.

ANNEX B
Sampling Plan II

(Inspection Level II, AQL = 6.5)

Average net weight is equal to or less than 1 kg (2.2 lb)

| Lot Size (N) | Sample Size (n) | Acceptance No. (c) |
|-------------------|-----------------|--------------------|
| # of fish | | |
| 4,800 or less | 13 | 2 (1)* |
| 4,801-24,000 | 21 | 3 (2) |
| 24,001-48,000 | 29 | 4 (3) |
| 48,001-84,000 | 48 | 6 (4) |
| 84,001-144,000 | 84 | 9 (6) |
| 144,001-240,000 | 126 | 13 (9) |
| more than 240,000 | 200 | 19 (13) |

Average net weight is greater than 1 kg (2.2 lb) but not more than 4.5 (10 lb)

| Lot Size (N) | Sample Size (n) | Acceptance No. (c) |
|-------------------|-----------------|--------------------|
| # of fish | | |
| 2,400 or less | 13 | 2 (1)* |
| 2,401-15,000 | 21 | 3 (2) |
| 15,001-24,000 | 29 | 4 (3) |
| 24,001-42,000 | 48 | 6 (4) |
| 42,001-72,000 | 84 | 9 (6) |
| 72,001-120,000 | 126 | 13 (9) |
| more than 120,000 | 200 | 19 (13) |

Average net weight is greater than 4.5 kg (10 lb)

| Lot Size (N) | Sample Size (n) | Acceptance No. (c) |
|------------------|-----------------|--------------------|
| # of fish | | |
| 600 or less | 13 | 2 (1)* |
| 601-2,000 | 21 | 3 (2) |
| 2,001-7,200 | 29 | 4 (3) |
| 7,201-15,000 | 48 | 6 (4) |
| 15,001-24,000 | 84 | 9 (6) |
| 24,001-42,000 | 126 | 13 (9) |
| more than 42,000 | 200 | 19 (13) |

*The figure in brackets under the Acceptance Number (c) indicates the acceptance number for decomposition.

ANNEX C

GLOSSARY OF TERMS USED TO DESCRIBE
GRADING CRITERIA

a) External Surface

1. Discoloured skin: readily discernible deviation from the normal characteristic colour of the species concerned.
2. Cherry belly: reddening of the skin caused by broken blood vessels on the ventral surface of the fish.
3. Net Marks: marks or abrasions that indent, perforate or soften the flesh caused by fish nets.
4. Cuts, scars and punctures: readily discernible damage to the skin.
5. Slime: a natural substance on the fish exterior which becomes thick, copious and cloudy as sexual maturity of the fish and/or decomposition progresses.
6. Scale loss: associated with flesh softening.

Defects in Frozen Fish

1. Damage to the protective coating:
voids in the ice glaze or tears in the covering membrane.
2. Dehydration or freezer burn:
loss of moisture from the surface tissue resulting in a dry, porous or spongy condition.

3. Body distortion: distortion or bending of the body during the freezing operation.
4. Oil migration: the movement of fish oil to the surface glaze due to prolonged cold storage or storage at elevated cold storage temperatures.

b) Internal Grading Criteria

1. Flesh colour: the loss of colour or bleaching due to advancing sexual maturity.
2. Belly burn: the reddening and eventual breakdown of the peritoneal lining in the gut cavity due to enzymatic action.
3. Cuts, tears and bruises: cuts and tears associated with evisceration of the fish and readily discernible localized discolouration caused by diffusion of blood into the flesh.
4. Improper washing: inadequate removal of slime, blood and bits of viscera from the surface of the fish and from the body cavity.

c) Texture and Odour

1. Flesh softening and separation: flesh softening and separation due to advancing sexual maturity and or spoilage.
2. Odour: sour, stale and late odours associated with advancing sexual maturity and/or spoilage.

d) Sexual Maturity

The onset of skin colour changes (red, brown or green tints), barring on chums, hooked nose, distinct back humping and thinning of belly walls associated with advancing maturity leading to spawning.

GLOSSARY OF GENERAL TERMS

| | |
|--------------|---|
| Container | Any type of receptacle, package, wrapper or confining band used in packing or marketing fish. |
| Decomposed: | Fish that has offensive or objectionable odour, colour, texture or substance associated with spoilage. |
| Eviscerated: | Fish which has been gutted by cutting from the collar through the centre of the belly to the anal opening and removing the contents of the belly cavity. |
| Fresh: | Natural raw fish which has not been changed to any other state by freezing, cooking, curing, etc. |
| Frozen: | Fish that has been changed from the natural (fresh) state to that in which the thermal center of the product has been frozen to a temperature of -21 degrees celsius or colder, and the fish is maintained at a temperature of -26 degrees celsius or colder. |
| Rancid: | A pungent, sharp odour typical of oxidized oil, or an oil such as linseed oil. |
| Sour Odour: | An odour associated with such products as vinegar or acids or having an odour similar to sour milk. |
| Tainted: | Fish that is rancid or has abnormal odours. |
| Unwholesome: | Fish that has in or upon it bacteria of public health significance or substances toxic or aesthetically offensive to man. |