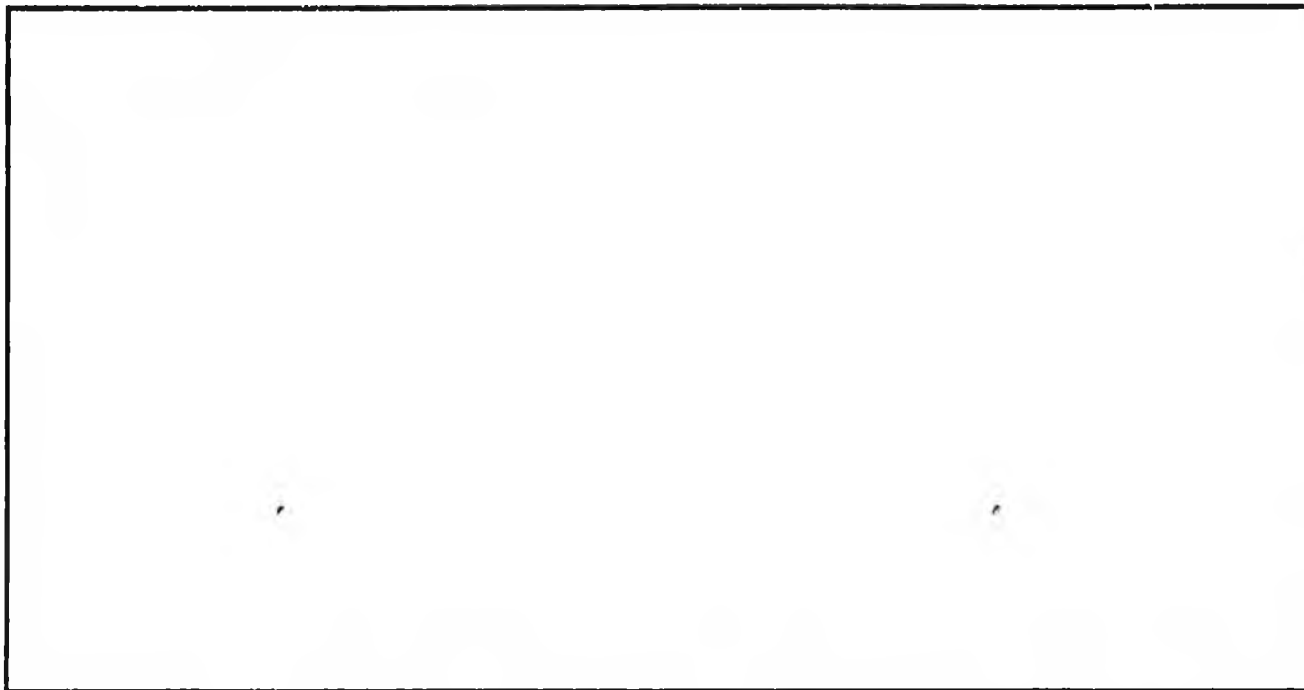


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Photograph 16. This excellent sockeye side was taken from the same lot of fish as shown in photograph 14. With proper handling procedures, 80% to 90% of net caught sockeye could look like this example.

(Continued from page 22)

in mind that it takes at least 24 hours of storage in ice to lower the temperature of a 5-pound to 6-pound sockeye from 55°F (12.78°C) to 35°F (1.67°C).

b. CSW: The maximum salmon loading rate for either a CSW or an RSW system is 45 pounds per cubic foot of hold space. Denser loading will prevent proper circulation of sea water. The successful operation of a good CSW system requires sufficient ice and proper mixing of the ice, sea water, and fish. The amount of ice needed can be calculated on the bases of the hold size, amount of fish expected, amount of insulation, outside air and water temperatures, length of trip, and several other minor factors. Apply this simple formula to obtain a useful estimate of ice needed:

$$\text{Tons of ice} = \frac{F(W+F+D)}{6}$$

where W = weight of water in tons
F = tons of fish to be chilled
D = trip length in days

The amount of ice needed per trip to cool the water and a maximum load of fish for each 1,000 cubic feet of hold space can be computed using the following figures and formula. One thousand cubic feet of hold space will contain 31 tons of water and accommodate 22.5 tons of salmon, so to estimate the amount of ice needed for a 4-day trip, use the formula: $\frac{F(31+22.5+4)}{6} = 9.6$ tons. The assumptions are that the hold is filled with sea water which is cooled to 31°F (-0.56°C) before any fish are loaded and that the hold has 3 to 4 inches of polyurethane insulation on deck heads and sides and 6 inches on the engine room bulkhead. A short period of experimentation will help in refining estimates of the amount of ice needed to take care of most situations. Every measure should be taken to avoid running out of ice. Without ice, the hold will quickly reach the temperature of the outside water and air, resulting in warm water, warm fish, or in the worst case, a lost load.

Some method must be used to mix the sea water, ice, and fish to prevent warm spots and stratification. The best and most efficient

way to mix sea water, ice, and fish is to force compressed air through holes in a grid of pipes at the bottom of the hold. (See figure 2).

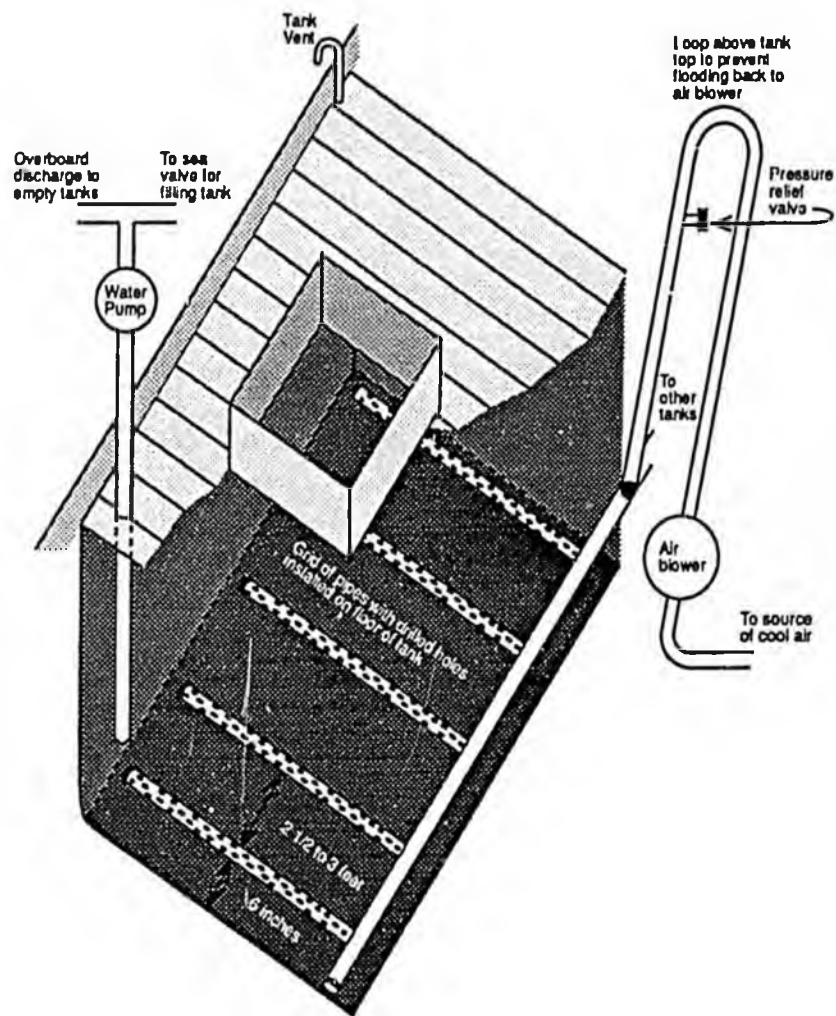


Figure 2. Diagram of a chilled sea water system. Air is bubbled through the holes in the grid of pipes on the floor of the tank to agitate the ice-fish-sea water mixture. Adapted from Kramer (1980).

Because the air that is pumped through the sea water and ice produces bubbles, CSW often is called the "champagne system."

Correct spacing of the pipe grid is a must. With a proper system, the temperature of a load of fish can be brought from 56°F (13.33°C) to 31°F (-0.56°C) in less than 6 hours. When the temperature reaches 31°F (-0.56°C), the air can be turned off and then operated intermittently until the next haul is brought onboard. The greatest variation in the temperature of fish landed in CSW systems is caused by inadequate mixing of sea water, ice, and fish.

c. RSW: RSW is the method most commonly used to chill and hold salmon. Purse seiners, tenders, and a few gillnetters have adopted this system. A major problem with many RSW installations is inadequate refrigeration capacity. Many RSW systems require 14 to 16 hours to bring a tank of sea water from 52°F (11.11°C) to 32°F (0°C). That is far too long considering the short running time to the fishing grounds and the high loading rates in some salmon fisheries. A preferred system will bring the temperature of sea water in an RSW tank down to 32°F (0°C) in 6 hours. Observations of and conversations with some purse seine vessel operators who use RSW systems indicate that once they unload on the fishing grounds, take on new sea water, and add fish, they do not get the system temperature down to 35°F (1.67°C) by the end of a fishing period. The internal temperature of the fish is even higher. One observer who checked tenders using RSW systems reports they could not lower the temperature of the fish and sea water mixture to 32°F (0°C) in 24 hours after loading was complete (Chuck Crapo, Marine Advisory Program, School of Fisheries and Ocean Sciences, University of Alaska Fairbanks, personal communication, July 1991). This points out the need to chill the RSW system to 32°F (0°C) before adding fish.

Two factors that must be considered in RSW systems on fishing boats and tenders are the refrigeration capacity (measured in tons) and the amount of evaporator surface in the heat exchanger. One ton of refrigeration (equal to 12,000 Btu/hr) is the amount of heat removed in freezing 1 ton of water, and capacity usually is given in tons per 24 hours. As a rule of thumb, for a well-insulated hold, 17 to 18 tons of refrigeration capacity are needed for each 1,000 cubic feet of hold space in order to be able to lower the temperature from 52°F (11.11°C) to 32°F (0°C) in 6 hours.

The evaporator (chiller) surface area is important when the sea water temperature has been lowered to within a few degrees of the evaporator temperature. The rate of heat removal is proportional to the temperature difference between the refrigerant and the sea water. When the sea water temperature is 52°F (11.11°C) and the heat exchanger temperature is 30°F (-1.11°C), the rate of chilling will be fast. When the sea water reaches 33°F (0.56°C), the difference in temperature between it and the evaporator is only 3 degrees, and the rate of heat exchange will be slow. An evaporator with a large surface area allows more contact between the sea water and the evaporator, which results in faster cooling if the system has adequate horsepower.

The minimum safe operating temperature to prevent freeze-up of the heat exchanger is 30°F (-1.11°C) for RSW systems with sea water of normal salinity. The freezing point of sea water is directly proportional to its salinity. At a salinity of 30 parts per thousand (ppt), sea water will freeze at 29°F (-1.67°C). The surface salinity on the continental shelf of the Gulf of Alaska is about 30 ppt in August. The salinity inshore and in bays, sounds, and inlets is lower. For example, in the bays of Prince William Sound, Kodiak Island, and Southeast Alaska, it is common to find surface salinities of 24 to 25 ppt. Waters with that salinity freeze at about 29.7°F (-1.28°C). Inner bay salinity can be significantly lower. For example, Port Valdez commonly has salinities of less than 1 ppt during heavy rains in July and August. Therefore, to take on sea water, fishing vessels and tenders should move as far out to open water as is practical and safe. Another reason for doing so is that high bacteria loads commonly are found in the water in and near harbors.

Operators of RSW systems sometimes add salt to the systems to lower the freezing point. This is often done haphazardly, with little attention paid to the amount of salt needed or to ensuring that it is dissolved and well-mixed. Although complete mixing is a must, it is seldom achieved. Dumping salt or even brine into sea water in the hold will not do the job because salt or brine immediately will sink to the bottom of the tank and stay there until the entire tank is physically mixed. Sea water will float on brine like kerosene on water, and no amount of pitching and rolling of the boat will mix the two. The only practical way to mix brine and sea water is to have a circulation

pump with the system intake in a sump at the lowest point in the tank. Continual pumping will gradually mix the brine and sea water. It is important to note that rock salt will take much longer to dissolve and mix. When the salinity is above 26 ppt, it is probably better to operate the system at a little higher temperature than to add salt.

Table 2 on page 44 gives close approximate values for the amount of salt needed per 1,000 cubic feet of hold space to bring the salt content to 3.4% (an amount approximately equal to 35 ppt salinity, which is equal to standard sea water).

The proper design of RSW systems is absolutely necessary to ensure complete circulation of the refrigerated sea water through the fish. S.W. Roach points out the inherent disadvantages of a system in which the flow is from top to bottom (that is, a system in which cold water is pumped in at the top and the intake suction is located at the bottom). Most systems now in use are of that design.

The recommended system of circulation is to force cold sea water into the tank from a high-pressure pump through manifolds running lengthwise in the hold. Holes in the manifold allow the cold sea water to be forced up through the fish. Adequate screening at the forward or sump end of the tank is necessary to ensure that fish are not pressured against the screens, blocking waterflow. The upwelling water will tend to hold the fish in suspension, allowing circulation throughout the load that will help to eliminate warm spots. For a more thorough discussion of the technical aspects of RSW systems, see "Operating Instructions for RSW Systems on B.C. Salmon Packers," by S.W. Roach. A design for an efficient upwelling RSW system is shown in figure 3 on page 45.

In Bristol Bay and Cook Inlet, high silt loads and low salinity present special problems for RSW operators. They should take on sea water well away from river systems in green water about one hour before high tide to obtain the cleanest water with the highest salinity in those regions.

Remember, an internal temperature of 31°F (-0.56°C) to 32°F (0°C) is ideal for holding Pacific salmon. The ideal is seldom realized. More often salmon are landed with an internal temperature

(Continued on page 46)

Table 2. Salinity conversions to degrees salometer, specific gravity, and approximate values for the amount of salt needed per 1,000 cubic feet of hold space to obtain the listed freezing point of sea water (35 ppt)*

Salometer Degrees**	Specific Gravity***	Approximate salt content by % of weight	Approximate Salinity in ppt***	Freezing point	Approximate lbs. salt to be added to reach 35 ppt
0	1.000	0.0	0.0	32.0	2,220
2	1.004	0.53	5.3	31.5	1,890
4	1.007	1.06	10.6	31.1	1,555
6	1.011	1.56	16.0	30.5	1,220
8	1.015	2.11	21.4	30.0	880
9	1.017	2.33	24.1	29.7	720
10	1.019	2.64	26.8	29.3	540
11	1.021	2.85	29.6	29.1	360
12	1.023	3.17	32.3	28.8	180
13	1.0245	3.38	35.1	28.5	

* Adapted from Roach (N.d.) and Hilderbrand (1979).

** A salometer is a special hydrometer used to measure the strength of a brine solution. Standard readings are at 60°F (15.56°C), because cold water is denser than warm water. Subtract 1 degree salometer for each 10 degrees F below 60°F. When using a standard hydrometer, be sure it has a range of 1.000 to 1.050.

*** Any difference of specific gravity of .002 or a salinity of 1 ppt will cause strong stratification in the hold.

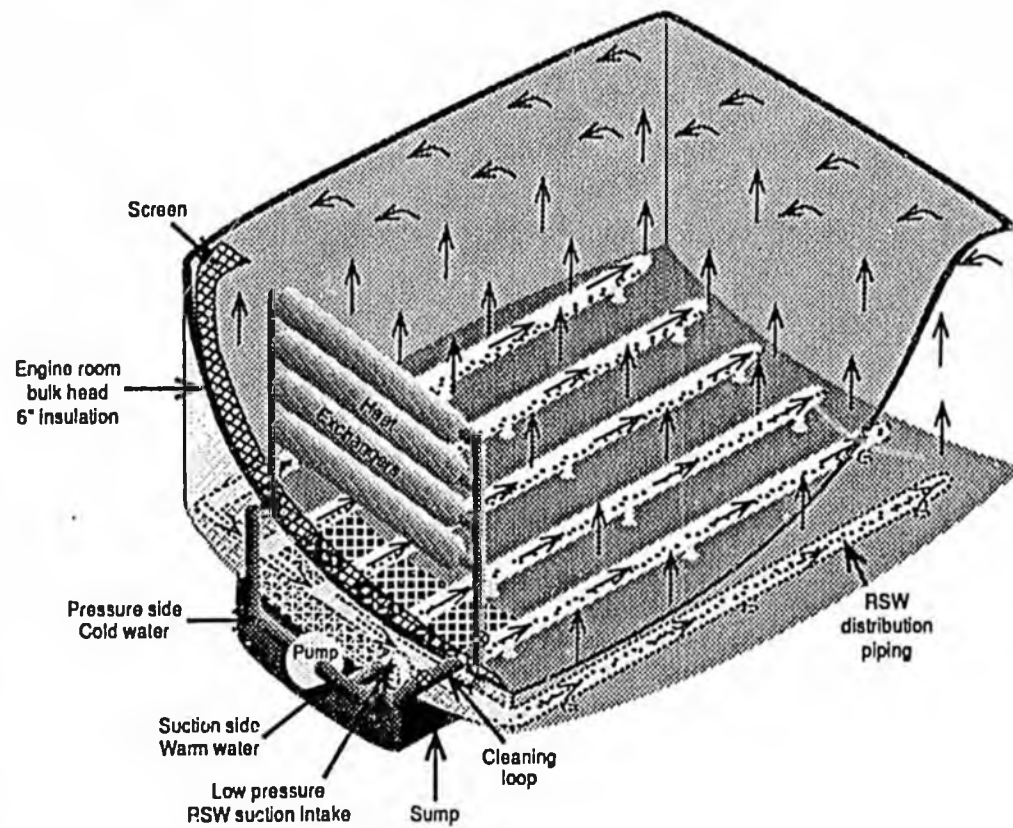


Figure 3. Schematic of an upwelling refrigerated sea water (RSW) system. This RSW system will force cold water through the mass of fish, which will provide an even temperature throughout the hold.

(Continued from page 43)

of 35°F (1.67°C). Bringing the temperature of fish down as close as possible to 32°F (0°C) is very important. Experiments have demonstrated that pink salmon held at 31°F (-0.56°C) for 2 days are much superior to pink salmon from the same lot held at 35°F (1.67°C) and 37°F (2.78°C) (Crapo and Elliott 1987). In the same experiments, when fish were held for 4 days at 31°F (-0.56°C), 20% graded excellent and 80% graded good; of those held at 37°F (2.78°C), 20% graded good and 80% fair. While these findings are particularly important to tender operations, they also point out to the fisherman the importance of getting the product temperature down as soon as possible and keeping it down.

All RSW systems should have a temperature measuring device in the hold to monitor sea water temperature and record fluctuations. Rugged thermistors, electric temperature sensing instruments which accurately measure temperature, should be placed close to the suction intake of the pump. The thermistor should be connected to a temperature readout on the bridge, and a record should be kept of temperature and fluctuations. Continual recording devices are available that will provide a temperature record for each trip.

A thermistor inserted into an RSW tank gives the temperature of the RSW, not of the fish. Unless the fish are held several days, their internal temperature will be several degrees higher than that of the surrounding sea water. In addition, a thermistor will give the temperature in one place and may not indicate warm spots. To detect warm spots, an array of several thermistors are required in corners of the hold, at the center, and in a position well away from the pressure side of the inflow manifolds. When the temperature of a full load of fish drops faster than is normal, be suspicious: that is a good sign of overloading, and hot spots will develop.

If a product of good quality is an objective, the use of ice, RSW, or CSW is a must for chilling salmon.

VI. Harvest Methods—Problems and Recommendations

Each catching method has its own set of problems and opportunities for producing high-quality salmon. If the salmon fishermen of the northeast Pacific are to maintain their market share, it has become necessary for them to take advantage of every opportunity to maintain high quality.

A. Trolling problems

Trollers have the best opportunity to produce premium grade fish because they take fish alive, one at a time. They can gill and bleed fish immediately and then quickly place them on ice or in a freezer. There is no reason for an intrinsically high-quality salmon to come off a troll boat as anything but premium grade. However, all too often major defects are found in troll caught fish. Bruises caused by stunning (shown in photograph 11 on page 33) and gaff puncture wounds (shown in photograph 6 on page 28) are often found in troll caught salmon.

B. Recommendations for trollers

1. Gaffing salmon

Fish should be gaffed only in the head. If gaffed in the body, a salmon should be separated from premium grade fish and iced with fish that have visible defects such as seal bites.

2. Stunning salmon

Gaping commonly occurs in troll caught fish. To prevent gaping, all salmon must be stunned when first brought onboard. The failure to stun salmon is a major reason for scale loss and bruising that can be caused by the fish thrashing on deck. Small fish, in particular, are often hauled onboard without being stunned. Troll caught fish are active feeders and are in especially good nutritional condition. If these fish are not stunned, their struggling increases the buildup of lactic acid in the muscle tissue and promotes severe muscle contractions that can cause gaping.

3. Bleeding Salmon

Bleeding is best accomplished by gilling or by a deep throat cut when the fish is landed. Bleeding is more complete if fish are placed in sea water. For example, Valdimarsson, Matthiasson, and Steffansson (1984) have shown that bleeding salmon in sea water removed twice as much blood from the flesh as bleeding them in air. Bleeding salmon in sea water slows clotting, prevents the temperature of fish from rising, and provides better flesh color. It has been shown that bleeding and gutting Atlantic cod in one step gives results very similar to bleeding and then gutting the fish 20 minutes later (Valdimarsson, Matthiasson, and Steffansson 1984). Because belly burn can happen very rapidly in actively feeding fish, it is recommended that bleeding and gutting be done immediately as a single step. When fish are in the checker for bleeding, continually pump fresh sea water into the bottom of the checker to wash away blood and slime.

4. Dressing salmon

Care must be taken when dressing salmon. In the proposed new Canadian grade standards for fresh and frozen fish, any cut in the belly wall in excess of 1 inch (2.4 cm) will reduce a fish from Grade A to Standard Grade, according to an unpublished document prepared by the Department of Fisheries and Oceans in 1991. Splitting the throat too far forward causes the collars and belly flap to be separated during the heading or when the fish is handled. When frozen, the collars of those fish are often bent out of shape and/or the belly flaps are distorted. This results in a second grade fish. To dress fish for icing, remove the kidney (blood line) with a dull spoon, then wash the fish and remove any bits of viscera next to the backbone, especially in the collar area. °

Dress salmon for freezing in the same way as for icing, with the addition of these three steps: (1) when washing the fish, use the back of a spoon to gently press the remaining blood from the veins along the ribs; (2) wash slime off the skin because slime will prevent the skin from taking a good glaze; and (3) head the fish. The head is removed by cutting well forward of the throat latch and slicing to the top of the head by following the curve of the collar, then exiting at the top of the head above the eye. The knife should pass through the

back part of the brain case as shown in photograph 12 on page 34. A cut too far back will expose flesh at the nape to bacteria and dehydration (see photograph 13 on page 35).

5. Icing salmon

After the fish have bled for 10 to 20 minutes, they must be lowered, not dropped, into the slaughterhouse. Icing must take place as soon as possible. Putting fish in the slaughterhouse will prevent further warming of them, but will not cool them. Plenty of ice is a must; enough should be used on the bottom, sides, and bulkheads to prevent fish from touching hold surfaces until the end of the trip. On boats with holds deeper than 36 inches, horizontal shelving should be placed every 24 inches. Do not overfill spaces between shelves. To do so will crush fish and negate the use of shelves.

Using chilling coils in ice can be beneficial in several ways (Crapo 1986). Refrigeration coils cut down heat gain from outside sources, which slows ice melt. This makes the ice easier to work, and that translates to better chilling. Refrigeration coils also can eliminate hot spots such as the deck heads, engine room bulkhead, and shaft alley areas.

Trip length must be limited to eight days for king and silver salmon and to fewer days when sockeye and pinks are taken. Technological advances should be used to improve the quality of the product landed, *NOT* to increase trip length.

6. Freezing salmon

The numbers of freezer trollers (and of freezer gillnetters in Canada) are increasing. Some fishermen have achieved success in direct marketing of their frozen product because they have developed a reputation for producing salmon of very good quality. However, common complaints about salmon frozen at sea are that they are not properly glazed (have no glaze, little glaze, or an inconsistent amount of glaze); show poor workmanship in dressing; and were frozen slowly or incompletely.

It is beyond the scope of this paper to discuss freezer equipment requirements. For a discussion of freezer options, see Gibbard (1978) and Kolbe (1981). A well-engineered freezing system will

produce the best results. Needless to say, a transport truck refrigeration system installed in the fish hold will not produce good results. When considering a freezing operation, space requirements are of prime importance. To be satisfactory, a system should be capable of freezing a 25-pound fish to a core (center of the maximum thickness) temperature of -20°F (-28.89°C) and of maintaining a storage temperature of -15°F (-26.11°C). Slow freezing results in increased drip loss on thawing and greater cooking loss, giving dry, tough flesh (Bilinski 1977; Jones 1964; Love 1979). The freezer vessel operator should strive to maintain a constant hold temperature. A constant hold temperature of -10°F (-23.33°C) is better for holding frozen salmon than a temperature that fluctuates between -10°F (-23.33°C) and -15°F (-26.11°C). There must be enough freezer space and refrigeration capacity to handle the largest anticipated daily catch.

Salmon should be frozen pre-rigor or post-rigor but never during rigor. Freezing during rigor distorts the frozen fish (as shown in photograph 13 on page 35); increases gaping; and results in a dry, tough, cooked product. Freezing during pre-rigor is preferable. If that is impossible, the fish must be chilled until the resolution of rigor. Do not hasten rigor by allowing the fish to become warm.

When the core temperature reaches -15°F (-26.11°C) to -25°F (-31.67°C), the fish should be glazed. The core temperature can be measured by punching a hole in the thick part of the back with an awl and inserting a dial-type thermometer. A good glaze can be obtained using clean sea water. It is important that the glaze water be as close as possible to freezing to prevent warming of the fish. Keeping glaze water cold will allow the fish to take on a good, even glaze. If the amount of glaze on each lot of fish is to be the same from one batch to another, the temperature of the fish and the temperature of the glaze water must be consistent from one batch to another.

After glazing, the fish should be placed in boxes lined with 4-mil polyethylene bags to prevent loss of glaze and dehydration of the fish flesh, and then stored in the side pens. For further information on freezing salmon at sea, see Davis (1980).

C. Drift gillnet problems

The size of gillnet vessels, fishing conditions, fish handling practices, and attitudes of gillnet fishermen differ widely over the

range of the salmon harvest. These factors lead to a great variation in the quality of gillnet caught salmon.

As I pointed out in previous paper (Doyle 1978), variations in the quality of net caught salmon from different regions around the northeast Pacific are related to handling practices onboard the fishing vessel. There is a direct relationship between the attitude of the fishermen of a given region toward quality and handling and the quality of gillnet salmon produced in that region. Prior to the early 1970s, most net caught salmon which were frozen came from Southeast Alaska. Many of the gillnet fishermen in that region also trolled and had a good understanding of the quality requirements of the frozen market. For a long time, Southeast Alaska gillnetters have had enclosed, insulated holds and have used ice or a CSW system to cool fish immediately after catching them. Fishermen from other areas of the state traditionally have fished for the canned market. These different traditions are the sources of different attitudes that exist among fishermen as to the importance of the care and handling of salmon in relation to the quality of the product.

Gillnet boats tend to be larger in the Pacific Northwest, Canada, and Southeast Alaska than in the rest of Alaska. Because the larger boats in Southeast Alaska have fewer space constraints than the smaller boats in use in the rest of the state, they allow for better handling of the catch. Another constraint on gillnet fishermen in Prince William Sound, Cook Inlet, and Bristol Bay is that the catch rate per day during the peak run is much higher than it is to the south where runs extend over a longer period. When catch rates are high, time is spent harvesting with little thought or effort given to careful handling of salmon.

Many gillnet boats have unlined, uninsulated holds that connect directly to the bilge. In some cases the engine partially extends into the hold and is covered with an uninsulated box. These conditions are totally unacceptable because they make it impossible to land a quality product. Fish held in such conditions are bruised by exposed frames and reach high temperatures, especially those which lie against the engine room bulkhead.

D. Recommendations for drift gillnetters

1. Handle fish gently because that is the key to reduced bruising.
2. Hold drifts to one hour; fewer fish will die in the net, and net marks and dropouts will be fewer.
3. Pick fish by holding the head, not the tail; fewer broken backs and bad bruises will result.
4. *DO NOT* wind fish onto the reel; crushing of fish and net cuts will be reduced.
5. Place fish in checkers rather than dropping them on the net cockpit deck, and transfer them to the hold by a chute; this will reduce the bruising and crushing which result in mushy flesh.
6. Keep fish cool; dry boats should deliver to tenders as often as possible.
7. When using a brailer on the boat, use horizontal shelving every 24 inches and do not overfill. Use fine mesh, knotless web for brailers.
8. Load only 200 sockeye per brailer (and fewer silvers and chums per brailer) to prevent crushing.
9. Dress salmon as described above in "Recommendations for trollers."

E. Set gillnet problems

Setnetters face more difficult problems and have more difficulty delivering a quality product than do other salmon fishermen. Most setnetters operate in areas of high tides, broad tidal flats, and strong currents. These problems are particularly acute in upper Cook Inlet and Bristol Bay. When nets go dry, the catch is exposed to sun and wind and will lie in sand or mud until picked from the net. Setnet skiffs are, of necessity, small and cannot carry large amounts of fish. These constraints make it very difficult for upper Cook Inlet and Bristol Bay setnetters to produce a high-quality product.

Setnet fishermen have exhibited ingenuity in increasing their productivity. Many of them put their gear on running lines so they

can pull their nets offshore as the tide recedes or pull nets loaded with fish onshore using a tractor. The result of such rough treatment is shown in photograph 5 on page 27.

In some areas where ice is available, setnet fishermen ice their catch in totes, and small tenders come by frequently to transport the iced catch to the processor. This operation results in a higher percentage of good-quality salmon. It has become extremely important that setnet fishermen adopt innovative operations and procedures to improve product quality. In locations where water and electricity are available, setnet fishermen, either individually or as a group, could install ice machines close to their operations to ensure a constant supply of ice for their catch.

F. Recommendations for set gillnetters

Because setnet fishing takes place under a wide range of physical conditions, it is hard to form definitive guidelines, but these recommendations should be followed as closely as possible:

1. Pick fish from the net as often as physically possible, especially at slack tide.
2. Always handle salmon by the head.
3. Carry white plastic totes in the picking skiff and place all fish in them. This will ensure that the fish do not get contaminated with fuel, oil, and gurry which may accumulate in the bottom of a skiff. Cover totes with white covers because white does not absorb heat as fast as dark colors.
4. Handle fish gently. Do not throw them. Photograph 14 on page 36 shows the damage caused by rough handling of a sockeye salmon taken in a setnet.
5. Unload totes by boom directly to a delivery truck or tender. Do not throw fish into a truck.
6. Wash the fish which have lain on tide flats immediately after picking them from the net.
7. Do not drag a net loaded with fish onto the beach with a tractor, because dirt will be ground into the flesh, and the strain on the net will cause severe damage.

G. Purse seine problems

Because salmon taken by purse seine are brought onboard alive, logic indicates that purse seiners should land fish of consistently high quality, but that is not the case. Their quality varies greatly both within regions and between regions. In general, king salmon and sometimes silvers taken by purse seine are soft and mushy.

The many reasons for the wide range in quality of seine caught salmon include large variations in the intrinsic quality of fish. For example, pink salmon change in color, shape, and fat content within a short time and a short migrating distance. King, sockeye, and silver salmon taken by purse seine often are migrating fish which are actively feeding. This makes them prone to belly burn, other enzymatic breakdown, and gaping. Kings, silvers, and sockeye, all of which are referred to as "money fish," may be handled several times before they are delivered to the plant. The more often fish are handled, the greater the incidence of bruising, according to D.E. Kramer, Marine Advisory Program, School of Fisheries and Ocean Sciences, University of Alaska Fairbanks (personal communication, July 1991). Photograph 15 on page 37 provides graphic evidence of the effect of multiple pumping and rough handling of chum salmon taken in a purse seine. From a practical viewpoint, taking large amounts of fish in a single set makes rapid chilling and careful handling difficult.

Among several suspected causes of bruising and mushiness in seine caught salmon is the common practice of hauling a seine bunt loaded with salmon over the gunnel and onto the deck. Pressure from the weight of fish and knots in the seine web can result in extensive damage to the load. The same is true of the growing practice of sewing a codend into the bunt and hauling the codend over the side of the boat. Pumping, brailing, or splitting the load would cause less harm. Multiple handling of fish destined for freezing also damages them. At the time fish are pumped from seiner to tender, it is common practice to separate the sockeye, kings, chum, and coho destined for freezing from pinks destined for the cannery. The fish are separated after they are pumped onto the dewatering line, and then the sockeye, kings, chum, and coho are dropped into totes. Instead of dropping the fish, sliding them into totes along a chute would lessen damage. Often the fish are returned

directly to the hold of the seiner, only to be pumped to a tender for transport to a freezer plant. A better practice would be to transfer the "money fish" directly to the tender in totes.

The great variation in the quality of fish landed by different purse seine vessels which fish the same areas is due in part to altitude and in part to the characteristics of the vessels. Some dry purse seiners in the fleet still have unlined holds and exposed frames and use no refrigeration. Many RSW systems vary in their chilling capacity and uniformity of temperature within the hold. Some vessels using CSW have poor mixing systems and are prone to warm spots.

H. Recommendations for purse seiners

1. Handle fish gently and as few times as possible. When "money fish" are separated from pinks on the tender, place them in totes as gently as possible. *DO NOT* drop them from the dewatering line to the bottom of the tote. If possible, hold "money fish" on ice or stow them separately.
2. When practical, large sets should be pumped directly from the seine to the tender.
3. Do not pull large loads into the bunt of the seine directly over the gunnel.
4. All holds must be lined, watertight, designed with a sump, and equipped with a sump pump.
5. All CSW systems should use compressed air forced through a manifold system (as shown in figure 2 on page 40) to properly mix the fish, ice, and sea water.
6. All RSW systems should have a refrigeration capacity sufficient to reduce the ambient summer sea water temperature to 32°F (0°C) in 6 hours.
7. When possible, prechill RSW systems to 32°F (0°C) before taking on fish.
8. All new or replaced RSW systems should be designed so that the chilled sea water is forced in at the bottom of the hold through a manifold system and the warmer water is taken off the top.

9. Load CSW and RSW systems to a maximum of 45 pounds per cubic foot of hold space.

10. Encourage fishery management agencies to allow fishing as far away from the home stream area as possible in keeping with sound fishery management practices.

11. Dress salmon as described above in "Recommendations for trollers."

VII. Cleaning and Sanitation

Good housekeeping on a fishing boat is essential to provide a clean environment for both fish and crew. Bacteria will grow on any surface where there are food and moisture. On a boat, this means that bacteria and mold can be found almost everywhere except the engine exhaust manifold and exhaust stack. Fish gurry and slime build up on all surfaces touched by fish.

The rate of spoilage or decomposition is directly related to the number of bacteria on the skin and in the flesh. Blood, slime, and bits of fish provide bacteria with excellent food and a good place to live. Fish generally spoil faster than other protein foods. Therefore, to hold down the bacteria population, it is necessary to practice good housekeeping by frequently cleaning decks, equipment, tools, and clothes. Special attention should be given to cleaning the hold. Cleaning and sanitation are two separate operations, and cleaning must be done first. After all dirt and gurry have been removed, surfaces should be sanitized to kill the remaining bacteria. Manufacturers of a number of cleaners on the market claim that they both clean and sanitize. However, the sanitizers in many of these compounds are not effective killers of pseudomonad bacteria, the potent spoilers mentioned on page 21. In other sanitizers the alkalinity of the solution is too high for chlorine compounds to be effective. Therefore, it is strongly recommended that cleaning and sanitizing be done in two steps.

A. Cleaning

Cleaning is a continual operation in a fish plant, and on a boat it should be the same. Decks should be hosed down after each set. At the end of the day, decks should be scrubbed with a strong detergent and then flushed. Checkers should be flushed out, hosed down, and scrubbed each time they are emptied. On trollers, all surfaces where the fish are dressed should be rinsed continuously to reduce the number of bacteria that can enter the cut flesh of the salmon.

The holds, including pen boards, shelves, and stanchions of all salmon boats and tenders, must be washed after every delivery. Operators of gillnet vessels that use brailers in the holds need to keep their brailers clean. Slime-soaked twine and knots are perfect

growing places for bacteria. Wash brailers in a tote of sea water with a strong detergent and rinse them in sea water containing household bleach.

The easiest and best way to clean a hold is to use a pressure spray system. All large processing plants have such systems, so when delivering fish for processing, use the plant's pressure cleaning system. Small, inexpensive, portable units are adequate for vessel cleaning. All processors should be able to provide the vessel operator with excellent cleaning agents. When pressure systems or special cleaning agents are not available, a stiff brush, deck bucket, laundry detergent, and plenty of elbow grease will work wonders on a dirty boat and hold.

Use a half-cup of strong laundry detergent per 5-gallon bucket of water. Add a half-cup of household bleach to help break down the protein. In this case the bleach is not a sanitizer, but it is a great help in removing slime and blood. Start cleaning at the top and work down. Material that is hard to remove, such as partially dried slime, will require extra effort. Pay special attention to cleaning corners and areas that are hard to reach. Remember that bacteria will multiply rapidly when food is available and the temperature is high. Rinse away all cleaning agents after scrubbing has been completed.

B. Sanitation

After cleaning the deck area and hold, it is necessary to kill the bacteria on surfaces with which fish have come in contact. Sanitizers are effective for this purpose if they are applied to clean surfaces. If chlorine-based sanitizing agents come in contact with gurry or dirt, they will react with them and will not reach the bacteria.

Chlorine is the best and most readily available sanitizer to use on a fishing boat. If you are at a fish plant, ask the dock foreman to increase the chlorine content in the plant's fresh water supply from 10 parts per million (ppm) to 25 ppm, and if that is possible, thoroughly wash down all areas. Do not rinse them off.⁴ Often the

⁴ Some fishermen don't want to use chlorine, because they believe it will cause corrosion. However, it has been demonstrated in food plants that the regular use of chlorine on equipment will reduce corrosion by killing bacteria that produce acid to break down protein.

plant cannot provide high levels of chlorine in its fresh water system; in that case, use household bleach. A half-cup of bleach per 5 gallons of water will provide from 25 ppm to 50 ppm of chlorine. **DO NOT USE A STRONGER SOLUTION.** The recommended concentration will provide the optimum killing power (Doyle 1970). The powdered form of chlorine (calcium hypochlorite) sometimes is distributed by seafood processors. Do not use powdered forms of chlorine-producing compounds, because they have a very high chlorine content which is difficult to dilute to a proper level. Never mix together chlorine and ammonia compounds, because the mixture gives off toxic chlorine gas. Never use phenolic compounds on a fishing boat for any reason. They will impart a strong, unpleasant, and persistent odor to the fish.

It is impossible to properly sanitize unprotected wooden surfaces because bacteria will invade pores in the wood and will be protected by cracks. This means that wooden holds should be lined with fiberglass, or the wood must be coated with a suitable paint.

Use the same concentration of detergent and bleach as recommended above to wash oilskins and gloves at the end of the day. Wash gloves in soapy water, rinse them, and leave them overnight in a deck bucket containing 25 ppm to 50 ppm chlorine (a half-cup bleach per 5 gallons of water). This will provide clean, sweet-smelling gloves, which will be more comfortable to wear as well as bacteria free. Wash brailers and then soak them in a tote in a solution of 25 ppm to 50 ppm chlorine.

C. Special cleaning problems

The piping in CSW systems and the piping, pumps, and heat exchangers in RSW systems present special problems.

1. CSW systems

When the air is off, water pressure will cause the pipes to flood, carrying in bacteria, slime, and blood. The slime and blood will stick to the inside, providing the bacteria with food and a place to grow. These pipes must be cleaned, or the next load of fish will be contaminated with bacteria.

The air piping system should be constructed so that it is easy to take apart. After unloading fish, take the pipe apart and lay it on the bottom of the hold. While the hold is being scrubbed, wash water will accumulate in the pipes and soften the gurry attached to the pipe walls. After pumping the wash water out of the hold, add enough water and a strong cleaning mixture (1 cup cleaner per 5 gallons of water) to cover the piping. Allow it to soak for 30 minutes. Pump out the cleaning mixture and cover the piping with a standard solution of bleach or chlorinated water. Leave the pipes in the solution until they must be reassembled.

2. RSW systems

Because the heat exchanger is completely enclosed, it presents the greatest problem in adequately cleaning and sanitizing an RSW system. The heat exchanger often is located in the engine room. When a heat exchanger in that location is not operating, its temperature will rise to that of the engine room, and when the hold is pumped down during unloading, the heat exchanger will contain sea water, blood, and slime. The result is a perfect environment for anaerobic bacteria (bacteria that grow without oxygen). Anaerobes are stink-ers—that is, in breaking down protein they produce hydrogen sulfide, the source of the foul odor in many RSW systems after a short period of operation.

Proper cleaning of the heat exchanger, pump, and piping is a must. Figure 4 on page 61 is a diagram of an RSW system showing a cleaning loop that isolates the pump and heat exchanger from the hold. A cleaning loop is essential; without it, cleaning would require that the hold be partially filled with a cleaning solution before the pump could pick it up and circulate it.

Clean the hold in the same way as recommended for dry holds and CSW systems, and then clean the pump and heat exchangers. Fill the cleaning loop with a strong cleaning agent and circulate it for 15 to 20 minutes. Then flush the system into the hold and continue to flush with fresh sea water until no cleaning agent remains in the system. The final step is to kill remaining bacteria with a sanitizing agent. Chlorine at a concentration of 25 ppm to 50 ppm will suffice, but a better agent is an "iodophor," an iodine containing compound

often used as a hand dip in processing plants. Iodophors are noncorrosive, long-lasting, and safe in contact with food. Fill the cleaning loop with an a 25 ppm iodophor solution, circulate it for 20 to 30 minutes, then pump it out, and flush the system with clean water. This will kill most spoilage bacteria. When filling the hold and starting the refrigeration system, pump the iodine or chlorine based sanitizer directly into the hold. If an iodophor solution is used, the concentration of iodine in the hold will be undetectably small. Use of the procedure outlined above will reduce corrosion in the system and provide a better quality of fish.

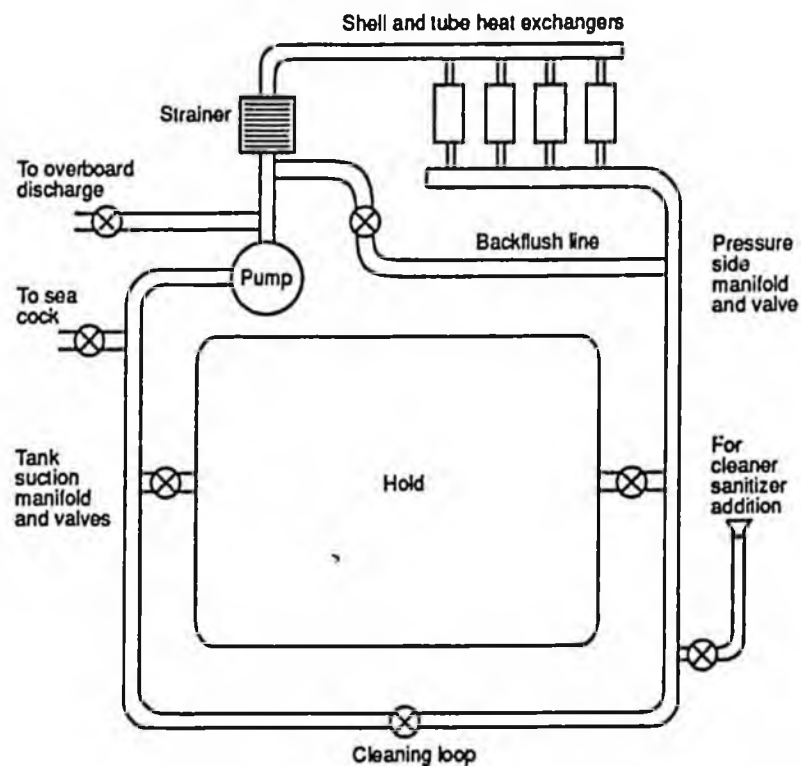


Figure 4. Diagram of a refrigerated sea water system showing the cleaning loop. Adapted from Kramer (1980).

VIII. General Recommendations

The following recommendations apply to all vessels harvesting and/or transporting fresh salmon.

A. Holds

1. All vessels must have watertight holds that prevent any contamination from the engine room, bilges, and shaft alley.
2. Holds must be lined with a nonporous material such as glass-reinforced plastic (fiberglass); aluminum; or coated steel.
3. Holds must be adequately insulated to reduce incoming heat. The engine room bulkhead should have an "R" factor of 50, and other surfaces, including the shaft alley, should have an "R" factor of 33.
4. All angles and corners must be faired because the hold cannot have sharp obstructions.
5. There must be a sump and a sump pump at the lowest part of the hold.
6. Fuel lines and hydraulic lines that pass through the hold must be shielded to prevent heat loss and contamination from spillage.
7. Hatch combings and covers must be adequate to prevent leakage of water and contaminants from the deck into the hold.
8. Setnet and other skiff fisheries must hold and transport fish in light-colored totes.

B. Chilling

1. All fishing vessels must chill their fish at the time of catch, using ice, chilled sea water, refrigerated sea water, or its equivalent.
2. Salmon must be chilled to a core temperature of at least 35°F (1.67°C) within 24 hours of harvest.

IX. Conclusions

The Alaska fishing industry faces a difficult struggle to regain lost markets. Neither its competitors nor the marketplace will be swayed by advertising or promotion. Consumers must see a significant improvement in the quality of wild salmon from Alaska and, to a lesser extent, from Canada and the Pacific Northwest before they will return to the use of wild salmon for top-of-the-market items.

The most important change needed is *a change in attitude* in the industry; firstly, a recognition of the need for improved quality, and secondly, a willingness to move away from the concept that the most important job is to maximize production and to accept the idea that the job is to produce a high-quality food. If these changes take place, the industry will be well on its way to better serving the consumer.

With proper care and handling, up to 90% of net caught sockeye and coho salmon should provide sides of the quality shown in photograph 16 on page 38.⁵

The State of Alaska has a responsibility for and a vested interest in promoting salmon quality, in a broad sense to protect Alaska's economy, and in a narrower sense to maximize income to the State treasury.

Salmon products from Alaska often will be judged by the product of lowest quality—that is, by the lowest common denominator. Therefore, the State should implement as regulations either the general recommendations given above or similar requirements. The hold recommendations that appear above should be enforced no later than the 1993 fishing season, and the chilling recommendations should be enforced no later than the 1995 season.

**Remember, salmon is a fine food:
Handle with care.
Keep it cold,
keep it clean,
keep it moving to the consumer.**

⁵ Prince William Sound fishermen instituted a voluntary quality and education program in 1980 and 1981. As a result, the quantity of exported number one sockeye salmon suitable for the manufacture of lox increased from a previous level of 70% to between 80% and 90%. (Interviews by the author with the president and staff of Sanyo Food Co., Hokkaido, Japan, 1984 and 1986).

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HOUSE BILL 477 (RES) - BILL ANALYSIS

<u>CALENDAR YEAR</u>	<u>RAW FISH TAX CREDIT</u>		<u>SALMON MARKETING TAX</u>		<u>ASMI BOARD</u>	<u>MISC. PROVISIONS</u>
	<u>CREDIT</u>	<u>AMOUNT RAISED</u>	<u>% TAX</u>	<u>AMOUNT RAISED</u>		
1992	<u>20%</u>	<u>\$2+ mil.</u> Sec. 9, and 16	-		Two fishermen added to Board Sec. 1, 3, 5, 13, 14, 16, and 18	Several new provisions are added under Sec. 3, 6, 7, 8, and 15
1993	<u>20%</u>	<u>\$4+ mil.</u> Sec. 9, 10, and 16	-		No change	--
1994	<u>10%</u>	<u>\$2+ mil.</u> Sec. 9, 10, and 16	<u>1/2%</u>	<u>\$2 mil.</u> Sec. 11, 17, and 18	No change	--
1995			<u>1%</u>	<u>\$4 mil.</u> Sec. 11, 12, 17, and 18	Three fishermen added to Board upon term expiration or resignation of two processor rep. Final Board: 10 processors 10 fishermen 1 public member Sec. 2, 4, 13, and 18	--

FISCAL NOTE

STATE OF ALASKA
1992 LEGISLATIVE SESSION

BILL NO. HB 477

Revision Date: February 18, 1992
Title: An Act establishing the Alaska
Salmon Marketing and Development Fund
Sponsor: Labor and Commerce Committee
Requestor: _____

Department Affected: Department of Revenue
BRU: Revenue Operations
Component: Income and Excise Audit
COMPONENT SERIAL NO. | 1 | 1 | 3 |

EXPENDITURES/REVENUES: (Thousands of Dollars)

OPERATING	FY 93	FY 94	FY 95	FY 96	FY 97	FY 98
PERSONAL SERVICES	0.0	0.0	37.5	74.9	74.9	74.9
TRAVEL	0.0	0.0	7.5	15.0	15.0	15.0
CONTRACTUAL	0.0	0.0	3.0	6.0	6.0	6.0
SUPPLIES	0.0	0.0	1.0	2.0	2.0	2.0
EQUIPMENT	0.0	0.0	10.0	0.0	0.0	0.0
LANDS & STRUCTURES						
GRANTS, CLAIMS						
MISCELLANEOUS						
TOTAL OPERATING	0.0	0.0	59.0	97.9	97.9	97.9
CAPITAL	0.0	0.0	0.0	0.0	0.0	0.0
REVENUE	(6M - 12M)	(6M - 12M)	(5.9M - 11.9M)	(2M - 8M)	(2M - 8M)	4.5M
FUND SOURCE						

FUNDING: (Thousands of Dollars)

GENERAL FUND	0.0	0.0	59.0	97.9	97.9	97.9
FEDERAL FUNDS						
OTHER						
FUND SOURCE						
TOTAL	0.0	0.0	59.0	97.9	97.9	97.9

POSITIONS:

FULL-TIME	0.0	0.0	2.0	2.0	2.0	2.0
PART-TIME						
TEMPORARY						

Estimate of current year impact: 0.0

ANALYSIS: Attach a separate page if necessary.

SEE ATTACHED

Prepared By: Paul E. Dick Phone: (907) 465-2320
Division: Income and Excise Audit Date: February 18, 1992

Approved by Commissioner: Darrel J. Rexwinkel
Agency: Department of Revenue Date: 2/18/92

HB 477 Bill Analysis
 Prepared by Income and Excise Audit
 February 18, 1992

This bill impacts the Department of Revenue by amending Alaska statutes to:

- 1) provide for a fisheries tax credit program for fisheries businesses which make donations to a salmon marketing and development fund established under this bill, and
- 2) establish a new salmon marketing and development tax.

The tax credit program under this bill entitles fisheries businesses to a credit of not more than 50% of their fisheries tax liabilities during tax years 1992 through 1996 for donations made to a salmon marketing and development fund established under section 1. In no case would taxpayers be allowed to claim more than 50% of their total tax liability if they are also claiming other credits under the fisheries tax statutes (AS 43.75). The tax credit program under this bill requires that the department prepare and approve applications for the donations.

The salmon marketing and development tax provided under this bill imposes a 1% tax on commercial fishermen when they transfer or sell salmon to a buyer, or transport it out of the state. Buyers will collect the tax from the fishermen at the time of sale and remit taxes to the department on a monthly basis. Fishermen transporting salmon outside of Alaska would be required to report and remit taxes directly to the department on a monthly basis. All taxpayers would be required to file an annual report to the department for the previous year's activity. Note that this tax would not become effective until January 1, 1995 under Section 8 of this bill.

This bill will decrease general fund revenues in fiscal years 1993 through 1996 by \$6 to \$12 million due to the credits claimed as a result of donations made by fisheries businesses to the salmon marketing and development fund.

The salmon marketing and development tax takes effect January 1, 1995 and from this point through fiscal year 1997, taxes collected will offset the tax credits as follows. Note that the amount of taxes for fiscal year 1995 represents activity for the months of January through May, 1995 (May returns are due June 30, 1995.)

<u>Fiscal Year</u>	<u>Salmon Market Taxes</u>	<u>Fish Tax Credits</u>	<u>Net Decrease</u>
1995	100.0	(6,000.0 - 12,000.0)	(5,900.0 - 11,900.0)
1996	4,000.0	(6,000.0 - 12,000.0)	(2,000.0 - 8,000.0)
1997	4,000.0	(6,000.0 - 12,000.0)	(2,000.0 - 8,000.0)

Effective fiscal year 1998, the fisheries tax credit program will no longer be applicable since the last tax year in which credits may be claimed is 1996 under section 4 of this bill. General fund revenues from the salmon marketing and development tax are estimated to be \$4.5 million for fiscal year 1998.

HB 477 ANALYSIS
Prepared by Income and Excise Audit
February 18, 1992

The tax imposed under this bill would not become effective until
January 1, 1995.

PERSONAL SERVICES **

Tax Examiner, Juneau, Range 12	\$40.4	
Accounting Clerk, Juneau, Range 9	\$34.5	
TOTAL:		\$74.9

TRAVEL

10 Audit Trips	\$10.0	
5 Compliance Trips	\$5.0	
TOTAL:		\$15.0

CONTRACTUAL

Advertising	\$3.0	
Printing	\$2.0	
Mailing	\$1.0	
TOTAL:		\$6.0

SUPPLIES

Office and Computer Supplies	\$2.0	
TOTAL:		<u>\$2.0</u>

FISCAL NOTE TOTAL: \$97.9

EQUIPMENT *

Two Computers, Two Printers, Two calculators, Modular Furniture	\$10.0	
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* FY95 Only

** FY95 represents 6 month funding level

HOUSE LABOR AND COMMERCE COMMITTEE

ALASKA STATE LEGISLATURE

P.O. BOX Y, JUNEAU 99811



M E M O R A N D U M

February 18, 1992

TO: House Labor and Commerce Committee Members
FR: David Finkelstein, Chairman *DF*
RE: H.B. 477 "Alaska Salmon Marketing and Development Fund"

As a result of information gathered in the process of hearing HB 358 and HB 414, I realized additional legislation would be required to find a way to pay for about \$10 million in marketing and development work for each of the next five years, while fostering cooperation between salmon industry factions, and without creating a huge new state bureaucracy. I believe HB 477 meets these difficult requirements.

HB 477 authorizes fish processors to take fisheries business (or "raw fish") tax credits for voluntary contributions to a new public corporation created within Commerce: the Alaska Salmon Marketing and Development Fund. With one representative from each major industry sector, this fund's board would then solicit and fund grant proposals from other public and private groups to accomplish the necessary work. After three years, the fishermen would pick up their share of the funding burden through a 1% salmon marketing tax.

HB 477, similar to a tax credit program that ended last year, should raise about \$10 million this coming season, a figure comparable with the appropriation requested by ASMI and exceeding the expected revenues from an immediate 1% tax on fishermen. This level of funding gives reasonable hope for successful competition in tough domestic markets and also allows for badly needed investment in new products.

HB 477 also encourages cooperation between fish processors and harvesters by creating a balanced board and requiring a 4/5ths majority for board votes. This avoids divisive tinkering with existing entities like ASMI, without ducking the need to give all industry factions a satisfactory say in planning for marketing.

Finally, HB 477 uses existing expertise to accomplish its goals. ASMI, AFDF, the Kodiak Fisheries Institute, the University of Alaska Marine Advisory Program, and other public and private experts would do the necessary marketing and development work -- not new government employees in a new agency. As a further check on bureaucracy, all board functions and staff would be paid for from the new fund, with a 5% cap on administrative costs.

SECTIONAL ANALYSIS

CSHB 477 (L&C)
("Alaska Salmon Marketing and Development Fund")

SECTION 1:

Sec. 16.51.210. Creates the Alaska Salmon Marketing and Development Fund, a public corporation within the Department of Commerce and Economic Development.

Sec. 16.51.220. Requires that the board of trustees of the fund shall be comprised of one representative of DCED, plus four members appointed by the Governor, one each representing the harvesters, processors, hatcheries, and the marketing/retailers.

Sec. 16.51.230 Allows the board of trustees to act only on the affirmative vote of four of the five trustees.

Sec. 16.51.240 Gives the trustees powers similar to those of other public corporations. Limits annual administrative costs to 5% of annual disbursements.

Sec. 16.51.250 Sets forth the duties of the board: to coordinate and fund proposals by other entities to market and develop existing and new Alaska salmon products. 70% of fund expenditures are legislatively directed to identified categories, with the remainder to be allocated by the trustees as needed.

Sec. 16.51.260 Establishes the fund itself, containing the contributions made by processors for the purpose of obtaining tax credits, as well as any other money secured by or appropriated to the fund.

Sec. 16.51.295 Defines the terms used by the new section.

SECTION 2:

Adds employees of the fund to the exempt service (trustees are not compensated).

SECTION 3:

Adds employees and trustees of the fund to the Public Officers and Employees code.

SECTION 4:

Sec. 43.75.037. Authorizes a processor to take a tax credit equal to up to 50% of tax liability (other half goes to

municipalities) for donations made to the fund. Allows credits up to full value of contributions, a one-for-one tax credit. Sunsets tax credit after five years.

SECTION 5:

Sec. 43.75.032. Adds reference to this tax credit to section allocating other half of fish tax revenues to municipal governments.

SECTION 6:

Sec. 43.76.110. Adds new 1% salmon marketing tax (taking effect in three years) to harvesters' existing taxes. Tax is only levied on salmon.

Sec. 43.76.120. Describes procedures for collection and deposits of tax in general fund, but with proviso that the proceeds may be added to the new salmon marketing and development fund by the legislature.

Sec. 43.76.130 Defines new terms in section.

SECTION 7:

Sets terms of board of trustees at four years, with staggered terms for first board.

SECTION 8:

Makes the new marketing tax effective only after three years.

SECTION 9:

Makes the remainder of act effective on July 1, 1992.

To make the latest CS for HB 477 acceptable to United Fishermen of Alaska a bit more tinkering is needed. Specifically, we need to see more of HB 414 incorporated into it. These additions as well other modifications are outlined below for interested parties:

HB 414 changes strongly desired to be part of HB 477:

Section 1 (a) and Section 2 (b) which adds 2 fishermen to ASMI's Board. This is necessary now to recognize the marketing contributions fishermen currently pay by way of their reduced ex-vessel price.

Section 5.

Add to AS. 16. 51. 090 Powers of Board a specific reference to the salmon marketing program referred to in Section 5 of HB 414. This reference should include promotion of new product development.

The funding mechanism in HB 477 is generally acceptable. However, there is serious concern that the revenue flow kicks in lower and later than it needs to. Therefore, one might consider raising the first year tax credit to 20% and move up a year the tax credit and salmon tax schedule.

Further changes to ASMI Board should lead to a 50:50 representation of fishermen and processors. Why not drop through term expiration the 1 public member on the ASMI Board? Out of respect for the need for continuity and carry over of expertise, there is no objection to adding fishermen on the ASMI Board through attrition of terms. Furthermore, there is no objection to legislative assurances that the part of the legislation dealing with future revenues will not get severed from the part that deals with ASMI's Board re-structure.

Add in an accountability requirement; i. e. report to all salmon permit holders before the tax kicks in and periodically after the tax kicks in.

FISCAL NOTE

**STATE OF ALASKA
1992 LEGISLATIVE SESSION**

BILL NO. CSHB 477 (RES)

Revision Date: April 24, 1992
Title: Alaska Salmon Marketing Tax

Department Affected: Department of Revenue
BRU: Revenue Operations
Component: Income and Excise Audit

Sponsor: Labor and Commerce Committee
Requestor: House Resources Committee

COMPONENT SERIAL NO. | 1 | 1 | 3 |

EXPENDITURES/REVENUES: (Thousands of Dollars)

OPERATING	FY 93	FY 94	FY 95	FY 96	FY 97	FY 98
PERSONAL SERVICES	0.0	37.5	74.9	74.9	74.9	74.9
TRAVEL	0.0	7.5	15.0	15.0	15.0	15.0
CONTRACTUAL	0.0	3.0	6.0	6.0	6.0	6.0
SUPPLIES	0.0	1.0	2.0	2.0	2.0	2.0
EQUIPMENT	0.0	10.0	0.0	0.0	0.0	0.0
LANDS & STRUCTURES						
GRANTS, CLAIMS						
MISCELLANEOUS						
TOTAL OPERATING	0.0	59.0	97.9	97.9	97.9	97.9
CAPITAL	0.0	0.0	0.0	0.0	0.0	0.0
REVENUE	(2,400.0)	(2,350.0)	(400.0)	4,000.0	4,000.0	4,500.0
FUND SOURCE	(4,800.0)	(4,750.0)	800.0			

FUNDING: (Thousands of Dollars)

GENERAL FUND	0.0	59.0	97.9	97.9	97.9	97.9
FEDERAL FUNDS						
OTHER FUND SOURCE						
TOTAL	0.0	59.0	97.9	97.9	97.9	97.9

POSITIONS:

FULL-TIME	0.0	2.0	2.0	2.0	2.0	2.0
PART-TIME						
TEMPORARY						

Estimate of current year impact: 0.0

ANALYSIS: Attach a separate page if necessary.

SEE ATTACHED

Prepared By: Paul E. Dick Phone: (907) 465-2320
Division: Income and Excise Audit Date: April 24, 1992

Approved by Commissioner: Darrel J. Rexwinkel Date: 4/27/92
Agency: Department of Revenue

Distribution (by preparer): Leg. Fin., Legislative Sponsor, Requestor, OMB/DBR, Gov. Legis. Ofc., & Impacted Agency(ies).

Analysis

This bill impacts the Department of Revenue by amending Alaska statutes to:

- 1) provide for a fisheries tax credit program for fisheries businesses which make donations to a salmon marketing fund established under this bill, and
- 2) establish a salmon marketing tax.

Section 9 of this bill entitles fisheries businesses to take a credit against their fisheries tax liabilities for tax years 1992 through 1994 for donations made to the Alaska salmon marketing fund established under Section 8. Taxpayers could claim a maximum credit of 20% of their fisheries tax liability for 1992 and 1993, and 10% for tax year 1994. The tax credit program requires that the department prepare and approve applications for the donations.

The salmon marketing tax will be phased in at 1/2% in 1994 and 1% in 1995 and thereafter as provided under Section 11 and 12 respectively. The tax will be imposed on commercial fishermen when they transfer or sell salmon to a buyer, or transport it out of the state. Buyers will collect the tax from the fishermen at the time of sale and remit taxes to the department on a monthly basis. Fishermen transporting salmon outside of Alaska would be required to report and remit taxes directly to the department on a monthly basis.

The department would receive returns from over 500 fisheries businesses and fishermen. All taxpayers would be required to file an annual report to the department for the previous year's activity.

Revenues

The revenue effects of this bill are scheduled below and reflect the phase out of the tax credit program and the phase in of the salmon marketing tax. Note that fisheries business tax returns are for calendar year activity and filed in March of the following year. Thus, the credits for a calendar year will be reflected in the following fiscal year.

<u>Fiscal Year</u>	<u>Salmon Market Taxes</u>	<u>Fisheries Tax Credits</u>	<u>Net Revenue Increase (Decrease)</u>
1993	0.0	(2,400.0 - 4,800.0)	(2,400.0 - 4,800.0)
1994	50.0	(2,400.0 - 4,800.0)	(2,350.0 - 4,750.0)
1995	2,000.0	(1,200.0 - 2,400.0)	800.0 - (400.0)
1996	4,000.0	0.0	4,000.0
1997	4,000.0	0.0	4,000.0
1998	4,500.0	0.0	4,500.0

Taxes for fiscal year 1994 represents activity for the months of January through May, 1994 (May returns are due June 30, 1994).

Fiscal Note Analysis - CSHB 477 (RES)
Prepared by Paul Dick
Income and Excise Audit Division
April 24, 1992
Page 3

The tax imposed under this bill would not become effective until
January 1, 1994.

PERSONAL SERVICES **

Tax Examiner, Juneau, Range 12	\$40.4	
Accounting Clerk, Juneau, Range 9	\$34.5	
TOTAL:		\$74.9

TRAVEL

10 Audit Trips	\$10.0	
5 Compliance Trips	\$5.0	
TOTAL:		\$15.0

CONTRACTUAL

Advertising	\$3.0	
Printing	\$2.0	
Mailing	\$1.0	
TOTAL:		\$6.0

SUPPLIES

Office and Computer Supplies	\$2.0	
TOTAL:		<u>\$2.0</u>
FISCAL NOTE TOTAL:		<u>\$97.9</u>

EQUIPMENT *

Two Computers, Two Printers, Two calculators, Modular Furniture	\$10.0	
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* FY94 Only

** FY94 represents 6 month funding level

CS FOR HOUSE BILL NO. 477 (RESOURCES)
IN THE LEGISLATURE OF THE STATE OF ALASKA
SEVENTEENTH LEGISLATURE - SECOND SESSION

BY THE HOUSE RESOURCES COMMITTEE

Offered:
Referred:

Sponsor(s): HOUSE LABOR AND COMMERCE COMMITTEE

A BILL

FOR AN ACT ENTITLED

1 "An Act relating to the membership and quorum of the board of directors of the Alaska
2 Seafood Marketing Institute; establishing the Alaska salmon marketing fund in the Alaska
3 Seafood Marketing Institute; relating to a fisheries business tax credit for donations to the
4 Alaska salmon marketing fund; relating to the salmon marketing tax; and providing for
5 an effective date."

6 BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:

7 * Section 1. AS 16.51.020(a) is amended to read:

8 (a) The governing body of the institute is a board of directors. The board consists of 20
9 [18] voting members appointed by the governor. In making appointments to the board the
10 governor shall consider, but need not appoint, nominees presented by persons engaged in fish
11 processing, the financing of fish processing, or commercial fishing.

12 * Sec. 2. AS 16.51.020(b) is amended to read:

13 (b) Twelve members of the board shall be seafood processors: eight of the seafood

1 processors must have an annual payroll in the state of more than \$1,000,000 [OR MORE]; four
2 of the seafood processors must have an annual payroll in the state of \$50,000 - \$1,000,000.
3 Seven [FIVE] members of the board must be engaged in commercial fishing. One member of
4 the board shall be a lay person selected by the governor.

5 * Sec. 3. AS 16.51.020(b) is amended to read:

6 (b) Ten [TWELVE] members of the board shall be seafood processors: seven [EIGHT]
7 of the seafood processors must have an annual payroll in the state of more than \$1,000,000;
8 three [OR MORE; FOUR] of the seafood processors must have an annual payroll in the state
9 of \$50,000 - \$1,000,000. Nine [SEVEN] members of the board must be engaged in commercial
10 fishing. One member of the board shall be a lay person selected by the governor.

11 * Sec. 4. AS 16.51.050 is amended to read:

12 Sec. 16.51.050. QUORUM. Twelve [TEN] members of the board appointed under
13 AS 16.51.020 constitute a quorum for the transaction of business and the exercise of the powers
14 and duties of the board.

15 * Sec. 5. AS 16.51 is amended by adding a new section to read:

16 Sec. 16.51.115. ALASKA SALMON MARKETING FUND. The Alaska salmon
17 marketing fund is created in the institute. The fund consists of grants and donations to the fund
18 and appropriations to the fund by the legislature. The institute may use the money in the fund
19 to promote and develop markets for Alaska salmon.

20 * Sec. 6. AS 43.75 is amended by adding a new section to read:

21 Sec. 43.75.037. TAX CREDIT FOR SALMON MARKETING FUND DONATIONS.

22 (a) A fisheries business is entitled to a credit for donations made during tax years 1993, 1994,
23 or 1995 to the Alaska salmon marketing fund established under AS 16.51.115. A tax credit
24 under this section may not be approved for more than 100 percent of the donation. The
25 maximum tax credit allowed under this section for tax year 1993 is 10 percent of the business
26 tax liability under AS 43.75.015, for tax year 1994 is 20 percent of the business tax liability
27 under AS 43.75.015, and for tax year 1995 is 10 percent of the business tax liability under
28 AS 43.75.015.

29 (b) Notwithstanding (a) of this section, a fisheries business may receive a tax credit under
30 this section only to the extent that the total tax credit received under this section and any other
31 provision of this chapter does not exceed 50 percent of the tax liability of the fisheries business

1 for the tax year.

2 (c) The department may not approve a tax credit under this section if the fisheries
3 business claiming the credit is in arrears in the payment of a state tax; for purposes of this
4 subsection, a taxpayer is not in arrears if the payment is under administrative or judicial appeal.

5 (d) The department shall prepare an application form for a tax credit under this section.

6 (e) The department shall approve or disapprove an application for a tax credit under this
7 section not later than 60 days after receiving the application.

8 * Sec. 7. AS 43.75.130(b) is amended to read:

9 (b) For purposes of this section, tax revenue collected under AS 43.75.015 from a person
10 entitled to a credit under AS 43.75.032 or 43.75.037 shall be calculated as if the person's tax had
11 been collected without applying the credit.

12 * Sec. 8. AS 43.76 is amended by adding new sections to read: ...

13 ARTICLE 2. SALMON MARKETING TAX.

14 Sec. 43.76.110. SALMON MARKETING TAX. A person holding a limited entry permit
15 or interim-use permit under AS 16.43 shall pay a salmon marketing tax at the rate of one-half
16 percent of the value of salmon that the person removes from the state or transfers to a buyer in
17 the state. The buyer shall collect the salmon marketing tax at the time the salmon is acquired
18 by the buyer.

19 Sec. 43.76.120. COLLECTION AND DISPOSITION OF PROCEEDS OF TAX. (a) A
20 buyer who acquires salmon that is subject to a salmon marketing tax imposed by AS 43.76.110
21 shall collect the salmon marketing tax at the time of purchase and shall remit the total salmon
22 marketing tax collected during each month to the department by the last day of the next month.

23 (b) A buyer who collects the salmon marketing tax shall

24 (1) maintain records of the value of salmon purchased in the state; and

25 (2) report to the department by March 1 of each year the total value of the salmon
26 that the buyer has acquired during the preceding year.

27 (c) The owner of salmon removed from the state is liable for payment of the salmon
28 marketing tax imposed by AS 43.76.110 if, at the time the salmon is removed from the state, the
29 tax payable on the salmon has not been collected by a buyer. If the owner of the salmon is liable
30 for payment of the salmon marketing tax under this subsection, the owner shall comply with the
31 requirement of (a) and (b) of this section to remit the tax to the department, to maintain records,

1 and to report to the department.

2 (d) The salmon marketing tax collected under this section shall be deposited in the
3 general fund. The legislature may make appropriations based on this revenue to the Alaska
4 salmon marketing fund established under AS 16.51.115 for the purpose of supporting the salmon
5 marketing program of the Alaska Seafood Marketing Institute.

6 Sec. 43.76.130. DEFINITIONS. In AS 43.76.110 - 43.76.130,

7 (1) "buyer" means a person who acquires possession of salmon from the person
8 who caught the salmon regardless of whether there is an actual sale of the salmon, but does not
9 include a person engaged solely in interstate transportation of goods for hire

10 (2) "value" has the meaning given in AS 43.75.290.

11 * Sec. 9. AS 43.76.110 is amended to read:

12 Sec. 43.76.110. SALMON MARKETING TAX. A person holding a limited entry permit
13 or interim-use permit under AS 16.43 shall pay a salmon marketing tax at the rate of one [ONE-
14 HALF] percent of the value of salmon that the person removes from the state or transfers to a
15 buyer in the state. The buyer shall collect the salmon marketing tax at the time the salmon is
16 acquired by the buyer.

17 * Sec. 10. APPOINTMENT OF ADDITIONAL COMMERCIAL FISHERMEN TO BOARD OF
18 DIRECTORS OF THE ALASKA SEAFOOD MARKETING INSTITUTE. (a) As soon as practicable
19 after January 1, 1995, the governor shall appoint two persons engaged in commercial fishing to the new
20 memberships created on the board of directors of the Alaska Seafood Marketing Institute by secs. 1 and
21 2 of this Act. These persons shall be appointed to three-year terms.

22 (b) Notwithstanding AS 16.51.020(b), as amended by sec. 3 of this Act, the governor shall
23 appoint persons engaged in commercial fishing to the first memberships on the board of directors of the
24 Alaska Seafood Marketing Institute that are vacated, after the effective date of sec. 3 of this Act, by a
25 seafood processor member who has an annual payroll in the state of more than \$1,000,000 and by a
26 seafood processor member who has an annual payroll in the state of \$50,000 - 1,000,000. If a person
27 is appointed under this subsection to fill a vacancy arising other than by the expiration of a term of
28 office, the person shall be appointed to complete the remainder of the unexpired term.

29 * Sec. 11. Section 5 of this Act takes effect July 1, 1992.

30 * Sec. 12. Sections 6 and 7 of this Act take effect January 1, 1993.

31 * Sec. 13. Sections 1, 2, 4, 5, and 10(a) of this Act take effect January 1, 1995.

1 * Sec. 14. Sections 3, 9, and 10(b) of this Act take effect January 1, 1996.

HOUSE BILL 477 (RES) - BILL ANALYSIS

<u>CALENDAR YEAR</u>	<u>RAW FISH TAX CREDIT</u>		<u>SALMON MARKETING TAX</u>		<u>ASMI BOARD</u>	<u>MISC. PROVISIONS</u>
	<u>CREDIT</u>	<u>AMOUNT RAISED</u>	<u>%</u>	<u>AMOUNT RAISED</u>		
1992	--	--	-		No change	AK Salmon Marketing Fund created in ASMI, Section 5 and 11
1993		<u>10% \$2+ mil.</u> Sec. 6, 7, and 12	-		No change	--
1994		<u>20% \$4+ mil.</u> Sec. 6, 7, and 12	-		No change	--
1995		<u>10% \$2+ mil.</u> Sec. 6, 7, and 12	<u>1/2</u>	<u>\$2 mil.</u> Sec. 8 and 13	Two fishermen added to Board Sec. 1, 2, 4, 10(a), and 13	--
1996	--	--	<u>1</u>	<u>\$4 mil.</u> Sec. 8, 9, 13, and 14	Two fishermen added to Board upon term expiration or resignation of two processor rep. Final Board: 10 processors 9 fishermen 1 public member Sec. 3, 10(b), 14	--

7-LS2007J-
Utermohle
4/6/92

CS FOR HOUSE BILL NO. 477 (RESOURCES)
IN THE LEGISLATURE OF THE STATE OF ALASKA
SEVENTEENTH LEGISLATURE - SECOND SESSION

BY THE HOUSE RESOURCES COMMITTEE

Offered:
Referred:

Sponsor(s): HOUSE LABOR AND COMMERCE COMMITTEE

A BILL

FOR AN ACT ENTITLED

1 "An Act relating to the membership, quorum, powers, and duties of the board of directors
2 of the Alaska Seafood Marketing Institute; establishing the Alaska salmon marketing fund
3 in the Alaska Seafood Marketing Institute; relating to a fisheries business tax credit for
4 donations to the Alaska salmon marketing fund; relating to the salmon marketing tax; and
5 providing for an effective date."

6 BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:

7 * Section 1. AS 16.51.020(a) is amended to read:

8 (a) The governing body of the institute is a board of directors. The board consists of 20
9 [18] voting members appointed by the governor. In making appointments to the board the
10 governor shall consider, but need not appoint, nominees presented by persons engaged in fish
11 processing, the financing of fish processing, or commercial fishing.

12 * Sec. 2. AS 16.51.020(a) is amended to read:

13 (a) The governing body of the institute is a board of directors. The board consists of 21

1 [20] voting members appointed by the governor. In making appointments to the board the
2 governor shall consider, but need not appoint, nominees presented by persons engaged in fish
3 processing, the financing of fish processing, or commercial fishing.

4 * Sec. 3. AS 16.51.020(b) is amended to read:

5 (b) Twelve members of the board shall be seafood processors: eight of the seafood
6 processors must have an annual payroll in the state of more than \$2,500,000 [\$1,000,000 OR
7 MORE]; four of the seafood processors must have an annual payroll in the state of \$50,000 -
8 \$2,500,000 [\$1,000,000]. Seven [FIVE] members of the board must be engaged in commercial
9 fishing. One member of the board shall be a lay person selected by the governor.

10 * Sec. 4. AS 16.51.020(b) is amended to read:

11 (b) Ten [TWELVE] members of the board shall be seafood processors: seven [EIGHT]
12 of the seafood processors must have an annual payroll in the state of more than \$2,500,000;
13 three [FOUR] of the seafood processors must have an annual payroll in the state of \$50,000 -
14 \$2,500,000. Ten [SEVEN] members of the board must be engaged in commercial fishing. One
15 member of the board shall be a lay person selected by the governor.

16 * Sec. 5. AS 16.51.050 is amended to read:

17 Sec. 16.51.050. QUORUM. Twelve [TEN] members of the board appointed under
18 AS 16.51.020 constitute a quorum for the transaction of business and the exercise of the powers
19 and duties of the board.

20 * Sec. 6. AS 16.51.090 is amended to read:

21 Sec. 16.51.090. POWERS OF BOARD. In carrying out the powers of the institute, the
22 board may

- 23 (1) adopt, alter, and use a corporate seal;
24 (2) prescribe, adopt, amend, and repeal bylaws;
25 (3) sue and be sued in the name of the institute;
26 (4) enter into any agreements necessary to the exercise of its powers and
27 functions;
28 (5) cooperate with a public or private board, organization, or agency engaged in
29 work or activities similar to the work or activities of the institute, including entering into
30 contracts for joint programs of consumer education, sales promotion, quality control, advertising,
31 and research in the production, processing, or distribution of seafood;

1 (6) conduct, or contract for, scientific research to develop and discover health,
2 dietetic, or other uses of seafood harvested and processed in the state;

3 (7) receive contributions of money from persons;

4 (8) establish offices in the state and otherwise incur expenses incidental to the
5 performance of its duties;

6 (9) appear on behalf of the institute before boards, commissions, departments, or
7 other agencies of municipal, state, or federal government;

8 (10) acquire, hold, lease, sell, or otherwise dispose of property, but such property
9 is limited to that which is necessary to the administrative functioning of the office of the institute;

10 (11) establish and maintain one or more bank accounts for the transaction of the
11 institute's business;

12 (12) prepare market research and product development plans for the promotion
13 of any species of seafood and their by-products that may be harvested in the state and processed
14 for sale;

15 (13) establish an executive committee to assist the board in efficiently
16 exercising the board's powers and duties under this chapter; the executive committee
17 consists of seven members selected from and by the board and must include at least two
18 members who are engaged in commercial fishing;

19 (14) promote newly developed seafood products.

20 * Sec. 7. AS 16.51.100 is amended to read:

21 Sec. 16.51.100. DUTIES OF BOARD. The board shall

22 (1) conduct programs of education, research, advertising, or sales promotion
23 designed to accomplish the purposes of this chapter;

24 (2) promote all species of seafood and their by-products that are harvested in the
25 state and processed for sale;

26 (3) develop market-oriented quality specifications for Alaska seafoods to be used
27 in developing a high quality image for Alaska seafood in domestic and world markets, and adopt
28 and distribute recommendations regarding the handling of seafood from the moment of capture
29 to final distribution;

30 (4) prepare market research and product development plans for the promotion of
31 all species of seafood and their by-products that are harvested in the state and processed for sale;

1 (5) submit an annual report to the governor and the legislature describing the
2 activities of the institute; [AND]

3 (6) develop marketing programs based on the "inspection" and "premium quality"
4 seals designed under AS 03.05.026 [,] and use the seals in advertising and promotion efforts of
5 the institute;

6 (7) establish a salmon marketing committee to administer the salmon
7 marketing program that is funded through the Alaska salmon marketing fund; the
8 committee consists of seven members appointed from among the membership of the board
9 and must include four members who are engaged in commercial fishing and three other
10 members of the board; the board may not override an action of the committee except by
11 a vote of a three-quarters majority of the board; and

12 (8) annually prepare and distribute, to each person who holds a limited entry
13 permit or interim-use permit under AS 16.43 for a salmon fishery, a report describing

14 (A) the salmon marketing efforts of the institute for the prior year and
15 for the current year; and

16 (B) the salmon marketing plans of the institute for subsequent years.

17 * Sec. 8. AS 16.51 is amended by adding a new section to read:

18 Sec. 16.51.115. ALASKA SALMON MARKETING FUND. The Alaska salmon
19 marketing fund is created in the institute. The fund consists of grants and donations to the fund
20 and appropriations to the fund by the legislature. The institute may use the money in the fund
21 to promote and develop markets for Alaska salmon.

22 * Sec. 9. AS 43.75 is amended by adding a new section to read:

23 Sec. 43.75.037. TAX CREDIT FOR SALMON MARKETING FUND DONATIONS.

24 (a) A fisheries business is entitled to a credit for donations made during tax years 1992, 1993,
25 or 1994 to the Alaska salmon marketing fund established under AS 16.51.115. A tax credit
26 under this section may not be approved for more than 100 percent of the donation. The
27 maximum tax credit allowed under this section for tax year 1992 is 20 percent of the business
28 tax liability under AS 43.75.015, for tax year 1993 is 20 percent of the business tax liability
29 under AS 43.75.015, and for tax year 1994 is 10 percent of the business tax liability under
30 AS 43.75.015.

31 (b) Notwithstanding (a) of this section, a fisheries business may receive a tax credit under

1 this section only to the extent that the total tax credit received under this section and any other
2 provision of this chapter does not exceed 50 percent of the tax liability of the fisheries business
3 for the tax year.

4 (c) The department may not approve a tax credit under this section if the fisheries
5 business claiming the credit is in arrears in the payment of a state tax; for purposes of this
6 subsection, a taxpayer is not in arrears if the payment is under administrative or judicial appeal.

7 (d) The department shall prepare an application form for a tax credit under this section.

8 (e) The department shall approve or disapprove an application for a tax credit under this
9 section not later than 60 days after receiving the application.

10 * Sec. 10. AS 43.75.130(b) is amended to read:

11 (b) For purposes of this section, tax revenue collected under AS 43.75.015 from a person
12 entitled to a credit under AS 43.75.032 or 43.75.037 shall be calculated as if the person's tax had
13 been collected without applying the credit.

14 * Sec. 11. AS 43.76 is amended by adding new sections to read:

15 ARTICLE 2. SALMON MARKETING TAX.

16 Sec. 43.76.110. SALMON MARKETING TAX. A person holding a limited entry permit
17 or interim-use permit under AS 16.43 shall pay a salmon marketing tax at the rate of one-half
18 percent of the value of salmon that the person removes from the state or transfers to a buyer in
19 the state. The buyer shall collect the salmon marketing tax at the time the salmon is acquired
20 by the buyer.

21 Sec. 43.76.120. COLLECTION AND DISPOSITION OF PROCEEDS OF TAX. (a) A
22 buyer who acquires salmon that is subject to a salmon marketing tax imposed by AS 43.76.110
23 shall collect the salmon marketing tax at the time of purchase and shall remit the total salmon
24 marketing tax collected during each month to the department by the last day of the next month.

25 (b) A buyer who collects the salmon marketing tax shall

26 (1) maintain records of the value of salmon purchased in the state; and

27 (2) report to the department by March 1 of each year the total value of the salmon
28 that the buyer has acquired during the preceding year.

29 (c) The owner of salmon removed from the state is liable for payment of the salmon
30 marketing tax imposed by AS 43.76.110 if, at the time the salmon is removed from the state, the
31 tax payable on the salmon has not been collected by a buyer. If the owner of the salmon is liable

1 for payment of the salmon marketing tax under this subsection, the owner shall comply with the
2 requirement of (a) and (b) of this section to remit the tax to the department, to maintain records,
3 and to report to the department.

4 (d) The salmon marketing tax collected under this section shall be deposited in the
5 general fund. The legislature may make appropriations based on this revenue to the Alaska
6 salmon marketing fund established under AS 16.51.115 for the purpose of supporting the salmon
7 marketing program of the Alaska Seafood Marketing Institute.

8 Sec. 43.76.130. DEFINITIONS. In AS 43.76.110 - 43.76.130,

9 (1) "buyer" means a person who acquires possession of salmon from the person
10 who caught the salmon regardless of whether there is an actual sale of the salmon, but does not
11 include a person engaged solely in interstate transportation of goods for hire

12 (2) "value" has the meaning given in AS 43.75.290.

13 * Sec. 12. AS 43.76.110 is amended to read:

14 Sec. 43.76.110. SALMON MARKETING TAX. A person holding a limited entry permit
15 or interim-use permit under AS 16.43 shall pay a salmon marketing tax at the rate of one [ONE-
16 HALF] percent of the value of salmon that the person removes from the state or transfers to a
17 buyer in the state. The buyer shall collect the salmon marketing tax at the time the salmon is
18 acquired by the buyer.

19 * Sec. 13. APPOINTMENT OF ADDITIONAL COMMERCIAL FISHERMEN TO BOARD OF
20 DIRECTORS OF THE ALASKA SEAFOOD MARKETING INSTITUTE. (a) As soon as practicable
21 after the effective date of sec. 1 of this Act, the governor shall appoint two persons engaged in
22 commercial fishing to the new memberships created on the board of directors of the Alaska Seafood
23 Marketing Institute by secs. 1 and 3 of this Act. These persons shall be appointed to three-year terms.

24 (b) As soon as practicable after the effective date of sec. 2 of this Act, the governor shall appoint
25 one person engaged in commercial fishing to the new membership created on the board of directors of
26 the Alaska Seafood Marketing Institute by secs. 2 and 4 of this Act. This person shall be appointed to
27 a three-year term.

28 (c) Notwithstanding AS 16.51.020(b), as amended by sec. 4 of this Act, the governor shall
29 appoint persons engaged in commercial fishing to the first memberships on the board of directors of the
30 Alaska Seafood Marketing Institute that are vacated, after the effective date of sec. 4 of this Act, by a
31 seafood processor member who has an annual payroll in the state of more than \$2,500,000 and by a

1 seafood processor member who has an annual payroll in the state of \$50,000 - \$2,500,000. If a person
2 is appointed under this subsection to fill a vacancy arising other than by the expiration of a term of
3 office, the person shall be appointed to complete the remainder of the unexpired term.

4 * Sec. 14. SEAFOOD PROCESSOR MEMBERS OF THE BOARD OF DIRECTORS OF THE
5 ALASKA SEAFOOD MARKETING INSTITUTE. Notwithstanding AS 16.51.020(b), as amended by
6 sec. 3 of this Act, those persons who are serving as seafood processor members of the board of directors
7 of the Alaska Seafood Marketing Institute on the effective date of sec. 3 of this Act may continue to
8 serve on the board for the term to which they are appointed. This section may not be construed as
9 limiting the power of the governor to remove members of the board of directors of the Alaska Seafood
10 Marketing Institute. Those persons who are appointed as seafood processor members of the board after
11 the effective date of sec. 3 of this Act, shall be appointed in accordance with the qualifications set out
12 in AS 16.51.020(b), as amended by sec. 3 of this Act.

13 * Sec. 15. REPORT ON SALMON MARKETING EFFORTS AND PLAN. Notwithstanding
14 AS 16.51.100(8), added by sec. 7 of this Act, the board of directors of the Alaska Seafood Marketing
15 Institute shall prepare and distribute the first report required under AS 16.51.100(8) by March 15, 1994.

16 * Sec. 16. Sections 1, 3, 5 - 10, 13(a), 14, and 15 of this Act take effect immediately under
17 AS 01.10.070(c).

18 * Sec. 17. Section 11 of this Act takes effect January 1, 1994.

19 * Sec. 18. Sections 2, 4, 12, 13(b), and 13(c) of this Act take effect January 1, 1995.

HPB

490

DEPARTMENT OF FISH AND GAME

POSITION PAPER

Bill Number: CSHB 490

Sponsor: Representative Grussendorf

Bill Title: "An act prohibiting the sale or purchase of parts of bears and prohibiting the possession of more than one bear gall bladder."

Department Position: The department supports this legislation.

Legislative Intent: The purpose of this bill is twofold: to increase the penalties for the unlawful sale of bear parts, and to specifically prohibit the purchase or sale of bear parts by statute.

Effects of Legislation on Department Programs: This legislation would have no effect on the activities of the department, as the sale or purchase of bear parts is already prohibited. It would preempt the Board of Game's current statutory discretion to allow the sale or purchase of bear parts. Presently, such activity is prohibited, unless the Board of Game were to specifically authorize such activity by regulation. To date, the Board of Game has not authorized any sale of bear parts.

This bill prohibits possession of more than one gall bladder of a bear. Regulations presently allow harvest of up to seven bears in a calendar year. Some Alaskan hunters salvage gall bladders for personal use--as medicine or for use as a tonic. This bill would force hunters to "waste" legally harvested gall bladders and to leave them in the field when a bear is taken.

The increase in fines would bring the penalties in line with the potential profit to be had from illegal trade in bear parts.

Commissioner's Signature

Don Somerville for

Date

4/8/92

MEMORANDUM

State of Alaska

Department of Law

TO: Representative Tom Moyer
Chairman, House Special Committee
on International Trade & Tourism

DATE: March 10, 1992

FILE NO:

TEL NO: 269-5100

SUBJECT: Response to Memorandum
Dated 2/26/92 Concerning
HB 490

FROM: Jeffrey T. Killip ^{JK}
Assistant Attorney General
Natural Resources - Anchorage

This memorandum responds to questions raised in your memorandum dated February 26, 1992, regarding HB 490. Your questions, and our responses, are described below.

I. Is There an Updated Legal Opinion on the Illegal Purchase, Sale, and Possession of Game?

In the limited time the Department of Law has had to research your requests, we have not done a complete update on the September 1, 1987 memorandum by Assistant Attorney General Sarah McCracken on purchase and sale of game. The Department of Law will provide you with a more comprehensive update as time allows. However, our brief review of the law has not disclosed any significant changes in the conclusions outlined in that memorandum.

II. What is the Status of State v. Grace Woo Chun? (State District Court at Anchorage, Case No. 3AN-91-3437 CR).

Defendant Chun was charged with one count of illegal purchase of game (approximately 385 pounds of frozen bear feet and 43 bear gall bladders), a Class A misdemeanor, in violation of AS 16.05.920(a) and 5 AAC 92.200(b)(2). AS 16.05.920 prohibits the purchase of game, unless permitted by AS 16.05-AS 16.40, or by regulations adopted under those statutes. 5 AAC 92.200 prohibits the "purchase, sale or barter" of "any part of a bear." 5 AAC 92.200. The complaint alleged that Chun, while in Anchorage, purchased bear parts over the telephone from an individual in Idaho for approximately \$1,500. Chun mailed payment from Anchorage to Idaho and the bear parts were then shipped from Idaho to Anchorage. Chun was met at the Anchorage International Airport by state officials when she arrived to claim shipment of the bear parts and was subsequently charged with the above violation.

Chun filed a motion to dismiss the case which asserted, among other arguments, that no crime was committed in Alaska and, therefore, the District Court had no jurisdiction to hear the matter. The District Court judge granted the motion and dismissed

Representative Tom Moyer
Chairman, House Special Committee
on International Trade & Tourism

March 10, 1992
Page 2

the case. The State of Alaska appealed the dismissal to the Alaska Court of Appeals (Case No. A4283) and the appeal is now pending. Chun has recently cross-appealed (Case No. A4323) in an attempt to raise as additional errors the fact that the District Court failed to rule on all of the grounds cited by Chun in her motion to dismiss. Chun has since filed a motion to consolidate the appeals. Briefs have yet to be filed in either appeal and each appeal will remain on a separate briefing and oral argument schedule unless or until consolidated by the Court of Appeals.

The District Court's order dismissing the case held that no crime was committed in Alaska. Therefore, the District Court agreed with Chun's argument and determined that it did not have jurisdiction over the matter. The District Court reasoned that since neither the statute nor the regulations provided a definition of the term "purchase," the court must disregard the common meaning of that term and look to Article 2 of the Uniform Commercial Code ("U.C.C.") for guidance. Under a U.C.C. analysis, the court reasoned that the purchase and sale take place in Idaho and not Alaska and, therefore, as a matter of law, no crime was committed in Alaska.

The State of Alaska will argue in the Chun appeal that the District Court erred in dismissing the case for the following reasons: First, the District Court erred by disregarding the common meaning of the terms "purchase" and "sale" and by looking to the U.C.C. (a technical commercial statute) to define their meaning. Second, under the particular facts of this case there was a substantial connection between the alleged crime and Alaska as a situs worthy of invoking jurisdiction in Alaska.

The problem with the Chun case is not that AS 16.05.920(a) is deficient in not including reference to import or export, but rather that on the particular facts of the case the judge was not convinced that a sufficient nexus existed with Alaska. We do not, therefore, view the case as demonstrating an inherent problem with the applicable statutes and regulations as presently written. Based on the facts of any given case, courts may differ in their respective application of these laws. If any statutory or regulatory language might have led to a favorable ruling for the state, that would have been a statutory or regulatory definition of "purchase" or "sale."

III. HB 490.

In addition to not addressing the problem encountered in the Chun case, we believe HB 490 as drafted raises some serious constitutional concerns. First and foremost, it is likely that HB 490, if enacted, would be challenged as a violation of the commerce clause of the federal constitution. U.S. Const., Art. 1, Sec. 8,

Representative Tom Moyer
Chairman, House Special Committee
on International Trade & Tourism

March 10, 1992
Page 3

cl.3. Although the commerce clause empowers Congress to "regulate Commerce with foreign Nations, among the several States, and with Indian Tribes . . . it also limits the power of the States to erect barriers against interstate trade." Maine v. Taylor, 477 U.S. 131, 106 S. Ct. 2440, at 2446-2447 (1986). The U.S. Supreme Court has distinguished between those state statutes which incidentally burden interstate commerce and those which affirmatively discriminate. State statutes that incidentally burden interstate commerce violate the commerce clause if those burdens are clearly excessive in relation to the putative local benefits. A state statute that affirmatively discriminates either in effect or on its face is subject to a higher level of scrutiny. In such instances, the state must demonstrate that the statute serves a legitimate local purpose that cannot be served as well by available nondiscriminatory means. A state statute which discriminates on its face is subject to strict scrutiny. Maine v. Taylor, 106 S. Ct. at 2447.

Although the proposed legislation is intended to further a legitimate local purpose (protection of Alaska's natural resources), it appears to discriminate on its face against interstate commerce and would thus likely trigger the highest standard of judicial review--strict scrutiny. Since it is likely that the state has nondiscriminatory alternatives available to it to achieve the same result intend by HB 490 (for example, by retaining the statutory status quo, or defining terms such as "purchase" and "sale"), the proposed legislation could be held unconstitutional. See Id.

IV. Have There Been Other Lawsuits Under Article 7. 16.05.920?

We do not have a record-keeping system that will readily allow us to give you a specific figure regarding the number of cases brought under this statute. There have, however, been quite a number of cases prosecuted, successfully, over the years for the illegal purchase or sale of fish or game, both instate and under the federal Lacey Act. 16 U.S.C. §§ 3371-3378. The Lacey Act establishes that it is a federal crime "to import, export, transport, sell, receive, acquire, or purchase in interstate or foreign commerce . . . any fish or wildlife taken, possessed, transported, or sold in violation of any law or regulation of any State or in violation of any foreign law." Id. at Section 3(a)(2)(A).

JTK:so

cc: Liza Gay, Assistant Attorney General
Lance Nelson, Assistant Attorney General
Deborah Behr, Regulations Attorney

2:jeff\HB490.mem

Sale of black-bear gallbladders leads to murder

By BILL ORDINE
KNOX HART NEWS-PAPER

In a place where homicide is exceptionally common, the circumstances in the murder of Haeng Gu Lee in New York City were decidedly uncommon.

Lee was stabbed five times and his throat was slashed in his Brooklyn apartment in October. But it wasn't the manner in which Lee died that made his death unusual, but rather the suspected motive.

Police say the 39-year-old Korean businessman was probably killed for his large cache of black-bear gallbladders.

Some Asians prize bear gallbladders for their medicinal use and as a reputed aphrodisiac. As a result, the demand for bear gallbladders has recently driven the price for the organs to astronomical levels. Though the sale of edible game parts from animals taken in the wild is outlawed in Pennsylvania, the sale of animal organs is legal in New York and Lee had been a supplier in the local Korean community, as well as nationally, for years.

The several dozen bear gallbladders taken from Lee's apartment were worth \$400 to \$600 each on the domestic market, according to law enforcement estimates. Sold in a powdered form in pharmacies in Asia, they could be worth 30 times as much.

"This is obviously a unique and challenging case," said New York Detective Thomas Dades who is investigating the slaying. "We're dealing with a subject that's pretty foreign to us, but we do know that the use of bear gallbladders is surprisingly popular and there's a lot of money involved."

That some of Lee's inventory came from Pennsylvania black bears is a strong possibility. Pennsylvania has the second-largest bear population in the Northeast United States next to Maine, and the Pocoson have become a favorite haunt for suppliers to New York City's Asian market.

In January, an 18-month investigation by the Pennsylvania Game Commission bore fruit as officers cited seven people, all of Asian extraction, for either illegally buying or possessing animal parts.

The commission's investigation of illegal trafficking in wildlife parts began in the fall of 1990 when potential buyers began frequenting the check stations

Some Asians prize bear gallbladders for their medicinal use and as a reputed aphrodisiac. As a result, the demand for bear gallbladders has recently driven the price for the organs to astronomical levels.

where hunters register the bears they have killed during the state's three-day hunting season.

Commission authorities chased the buyers from the check stations, but that did not deter the traffickers, who merely set up shop a mile or so down the road.

According to James Beard, an assistant director with the commission's bureau of law enforcement, the antics of the traffickers bordered on the comic.

"We have videotape of these people all wanting to have their picture taken with a dead bear, holding its head up or holding the paws. They all wanted a turn," Beard said. "They use the pictures as a selling point ... that the gallbladder they're selling comes from this particular bear."

In January, authorities filed charges against the seven people - including a man and woman from Elkins Park, Pa., - after searches of a motel-restaurant in Paradise Township, Pa., a grocery store near Stroudsburg, Pa., and two private homes yielded contraband including bear gallbladders.

The resulting citations were for summary offenses that carry fines and no jail terms. So far, two people have pleaded guilty and have been fined a total of \$20,838; four cases are pending, and a warrant has been issued for a New Jersey man who cannot be located.

Judy Mills, an investigator for the World Wildlife Fund, finds the penalties relatively meager and certainly not much of a deterrent. In her own 18-month inquiry into the illicit bear-parts market throughout Asia, Mills discovered that a bear gallbladder, freeze-dried and powdered, could be sold overseas for more than \$200 a gram. That works out to a yield of \$15,000 to \$25,000 for a single gallbladder.

"The populations of the Asian black and brown bears have been decimated," Mills said. "In Korea, the handful of bears left are a national monument,

and it is illegal to sell anything from an Asian bear. But those countries still permit the importation of North American bears. With prices like that, you can imagine the pressure that will be put on the bear population here."

The chemical produced by bear gallbladders is ursodeoxycholic acid (UDCA), and bear gallbladders have been used as a popular ingredient in Oriental medicine for 3,000 years to relieve human liver and gallbladder disorders. The Japanese have been able to synthesize UDCA, but traditionalists still crave the real thing.

To meet the demand for UDCA, the Chinese have begun to "farm" bears, keeping them penned in tight, restrictive cages and surgically inserting a tube directly into the animal's gallbladder to "milk" the valuable chemical.

So far, though, the most expedient way for Asian users to obtain bear gallbladders is to import them from North America, where three-quarters of the world's approximately one million bears still prowl.

Last week, bear experts from around the world met at a conference of the International Bear Association in Missoula, Mont. At the conference, Mills and her husband, Chris Servheen, a biologist, presented a paper detailing the findings of their investigations.

"Imagine this," Mills said. "There are about one million bears in the world, and there are one billion potential users of bear galls."

The IBA governing body went on to recommend to the Convention on International Trade and Endangered Species of Flora and Fauna (CITES), a conservation group that spawns treaties between governments, that it place the North American black bear on a list that would require origination documentation for imported bear parts. CITES meets this month in Kyoto, Japan.

Proponents of placing the North American black

bear in such a category say that it would help slow the killing of Asian bears - whose gallbladders are almost indistinguishable from those of their North American cousins - because merchants can easily pass off Asian bear gallbladders as those of North American bears. The listing, proponents say, would at least discourage poaching in this country.

Still, the recommendation is not universally embraced, even among conservationists. For instance, Pennsylvania Game Commission bear expert Gary Alt is skeptical that the special listing would help much.

Alt said he believed the listing "just adds a layer of bureaucracy and much more paperwork to the task of managing wildlife, and it may invite a lot of litigation because there is no evidence that the North American bear population has been reduced. I don't think this helps the animals or the people - unless you happen to be an attorney."

"I've asked the question, 'How many game protectors are finding bears in the forest with the gallbladders removed and their paws cut off?' (Bear paws are an Asian soup delicacy.) It's just not happening very much, and although it's an individual atrocity when it happens, statistically, it's not even measurable."

Commission law enforcement officials agree that there has been little, if any, evidence of outright poaching in the state for the purpose of supplying the Asian market with bear parts. But they are concerned that the arrests in January may have been just the opening shot of an assault on Pennsylvania's bear population.

"Poaching - taking bears out of season, killing them in their dens, setting out bait - has been our concern," said David Overcash, a wildlife conservation officer in Monroe County.

"Locals hear about how much money is involved, and you don't know how that will make a difference. If the prices I've seen are right, you could kill 10 bears, hop a plane (to Asia) and make a quick quarter-of-a-million dollars."

Said Beard, "Considering the demand out there for the gallbladders, people are going to (use) every means possible to get bear."

Including, apparently, the murder of Haeng Gu Lee.

FISCAL NOTE

STATE OF ALASKA
1992 LEGISLATIVE SESSION

BILL NO. HB 490

Revision Date: 3/27/92

Department Affected: Fish and Game

Title: Prohibiting sale of bear parts and

BRU: Wildlife Conservation

possession of more than one bear gall bladder

Component: Wildlife Conservation

Sponsor: Representative Grussendorf

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

COMPONENT SERIAL NO.

4	7	3
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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
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REVENUE FUND SOURCE:	0	0	0	0	0	0
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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

Phone: 465-4100

Division: Commissioner's Office

Date: 4/2/92

Approved by Commissioner: [Signature]

Agency: Department of Fish and Game

Date: 4/2/92

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

FISCAL NOTE

STATE OF ALASKA
1992 LEGISLATIVE SESSION

BILL NO. CSHB 490 (TT)

Revision Date: _____

Department Affected: Department of Law

Title: "An Act prohibiting the sale or purchase of parts of bears."

BRU: Prosecution, Legal Services

Sponsor: Representative Grussendorf

Component: Prosecution - All

Requestor: International Trade and Tourism

Legal Services - Operations

COMPONENT SERIAL

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Expenditures/Revenues: (Thousands of Dollars)

85 through 91, and 93

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

CAPITAL						
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REVENUE FUND SOURCE:						
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FUNDING: (Thousands of Dollars)

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

POSITIONS:

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

Estimate of current year impact: _____

ANALYSIS: (Attach a separate page if necessary.)

Please see the attached analysis.

Prepared by: Richard I. Peques, Director Phone: 465-3672
 Division: Administrative Services Date: March 16, 1992
 Approved by Commissioner: Charles E. Cole, Attorney General
 Agency: Department of Law Date: March 16, 1992

Distribution (by preparer): Leg. Fin., Legislative Sponsor, Requestor, OMB/DBR, Gov. Legis. Ofc., & Impacted Agency(ies).

CONTINUATION of FISCAL NOTE ANALYSIS

For Bill/Resolution No. CSHB 490 (ITT)

The Special Committee on International Trade and Tourism substitute for HB 490 amends AS 16.05.920 by adding a new section that would prohibit the sale or purchase of parts of bears. A person who violates this prohibition would be guilty of a class C felony. Although the current version of the bill abandons the concept of prohibiting the import or export of animal parts contained in the original bill, which we felt might have constitutional problems, we recommend that the committee substitute be further revised to clarify and strengthen some of the bill's provisions in accordance with state criminal law standards. Department of Law attorneys are already working with committee staff to draft the needed revisions. We do not believe that this bill will have a fiscal impact for our department, because it seeks to clarify the state's existing authority to exercise authority over the sale of game parts.

FISCAL NOTE

STATE OF ALASKA
1992 LEGISLATIVE SESSION

BILL NO. CSHB 490(ITT)

Revision Date: _____ Department Affected: Public Safety
 Title: "An Act prohibiting the sale or purchase of bear parts" BRU: Fish & Wildlife Protection
 Sponsor: Representative Grussendorf Component: Enforcement and ISU
 Requestor: House Judiciary COMPONENT SERIAL NO.

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EXPENDITURES/REVENUES: (Thousands of Dollars, (inflation not included))

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

CAPITAL	-0-	-0-	-0-	-0-	-0-	-0-
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REVENUE FUND SOURCE:	-0-	-0-	-0-	-0-	-0-	-0-
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FUNDING: (Thousands of Dollars)

GENERAL FUND						
FEDERAL FUNDS						
OTHER FUND SOURCE:						
TOTAL	-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: _____

ANALYSIS: (Attach a separate page if necessary.)

No fiscal impact upon the Division of Fish & Wildlife Protection is anticipated.

Prepared By: Gayle A. Horetski Phone: 465-4322
 Division: Commissioner's Office Date: 3/11/92
 Approved by Commissioner: *Gayle A. Horetski* for Richard L. Burton
 Agency: Department of Public Safety Date: 3/11/92

FISCAL NOTE

STATE OF ALASKA
1992 LEGISLATIVE SESSION

BILL NO. HB 490

Revision Date: _____
Title: "An Act relating to possession of fish, game, or aquatic plants."
Sponsor: Representative Grussendorf
Requestor: Representative Grussendorf

Department Affected: Department of Law
BRU: Prosecution, Legal Services
Component: Prosecution - All Legal Services - Operations
COMPONENT SERIAL

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Expenditures/Revenues: (Thousands of Dollars)

85 through 91, and 93

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

CAPITAL						
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REVENUE FUND SOURCE:						
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FUNDING: (Thousands of Dollars)

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

POSITIONS:

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

Estimate of current year impact: _____

ANALYSIS: (Attach a separate page if necessary.)

Please see the attached analysis.

Prepared by: Richard I. Pegues, Director
Division: Administrative Services
Approved by Commissioner: Charles E. Cole, Attorney General
Agency: Department of Law

Phone: 465-3672
Date: March 2, 1992
Date: March 2, 1992

Distribution (by preparer): Leg. Fin., Legislative Sponsor, Requestor, OMB/DBR, Gov. Legis. Ofc., & Impacted Agency(ies).

CONTINUATION of FISCAL NOTE ANALYSIS

For Bill/Resolution No. HB 490

This bill amends AS 16.05.920(a) to provide that a person may not export or import fish, game, or marine aquatic plants unless permitted by AS 16.05 - AS 16.40 or by a regulation adopted under AS 16.05 - AS 16.40. The existing statute already prohibits the taking, possession, transportation and sale or purchase of fish, game, and marine aquatic plant resources, except as permitted by law or regulation. The bill seeks to clarify existing law by reaffirming the state's regulatory control over these resources. However, we believe that the terms export and import, as broadly used here, will invite constitutional challenges as violative of the Commerce Clause of the United States Constitution. A recent criminal case, which is on appeal before the court of appeals, questions the extent of the state's authority to exercise jurisdiction over the sale of game parts from other states. At this point, it might be more helpful to hear the court's answer, before the law is changed.

REPRESENTATIVE
BEN GRUSSENDORF
1221 HALIBUT POINT ROAD
SITKA, ALASKA 99835
(907) 747-8158

RULES COMMITTEE
LEGISLATIVE COUNCIL

DISTRICT 3
CLIFF DAVIDSON
REPUBLICAN
PORT AND HANGER
SITKA
99835

Alaska State Legislature

WHILE IN JUNEAU
PO BOX 1
JUNEAU ALASKA 99901
(907) 465-3824
(907) 465-3720



House of Representatives
SPEAKER OF THE HOUSE

MEMORANDUM

To: Rep. Cliff Davidson
Chairman
House Resources Committee

From: Rep. Ben Grussendorf

Date: April 2, 1992

Re: House Bill 490 (Judiciary)
"An Act prohibiting the sale or purchase of parts of bears and prohibiting the possession of more than one bear gallbladder."

Thank you for scheduling a hearing on House Bill 490, of which I am the prime sponsor. I introduced the bill in response to a growing problem: the illegal traffic in bear parts -- particularly bear paws and gallbladders. The traffic in these parts is big business; in some parts of Asia and the Far East, a good quality bear gallbladder can sell for as much as \$4600 per ounce, bear paw soup for \$100 or more per bowl. I have attached to this memo some recent articles that illustrate the lucrative nature of this activity and the problems it is causing.

Although it has been illegal to sell bear parts in Alaska since the early 1980's, the prohibition has been by Board of Game regulation, the violation of which is only a misdemeanor. Because the profit potential for this type of activity is so high, I believe that offenders are willing to take the risk of a misdemeanor charge as a "cost of doing business." House Bill 490 (Judiciary) makes it a class C felony to traffic in bear parts; the penalty is up to five years in jail and a fine of up to \$100,000. The bill also makes it a class A misdemeanor to knowingly possess more than one bear gallbladder.

The Judiciary version of the bill was drafted after discussions with the Departments of Law, Public Safety, Fish & Game. I support it, and I hope the House Resources Committee will join me.

HB490

Ketchikan Daily News
March 19, 1992

In brief

Poached bears reported

Fish and Wildlife Trooper Jim Pagel has been investigating the killing of five black bears that were shot and wasted at the head of Carroll Inlet. The bears were killed sometime in late September 1991. The poacher took very little from the animals, according to a press release from the Alaska State Troopers. The bears' bodies were found and reported by a hunter, Pagel said.

Pagel estimated that the bears were dead for four days when they were discovered. The bears' coats were in prime shape, Pagel said. One of them was a large, trophy size bear, he said.

The five bears were shot by a poacher using a high powered rifle, the release said. Pagel said the poacher used a small skiff or canoe to get up the river at the head of the inlet.

The Alaska Fish and Wildlife Safeguard Program is offering a reward of up to \$1 000 for information that leads to the arrest of whoever is responsible for killing the bears.

Pagel declined to specify for the record what was taken from the bears so as not to compromise the investigation.

Big bucks bait bear poachers

Gallbladder demand greases black market

By JOE HUNT

TIMES WRITER

Poachers in the Lower 48 and black market entrepreneurs in Alaska are prospecting a potential gold mine in illegal animal parts, wildlife law enforcers said.

The unwanted gallbladder from brown and black bears, left to decay in the Alaska bush, is valuable in Asian countries for its medicinal properties.

"It's almost getting to the point where it's valued as much as cocaine," said Dave Perrington, U.S. Fish and Wildlife Service enforcement officer.

The highest quality gallbladders have been known to sell for as much as \$4,600 an ounce in Korea, roughly 13 times the going price for gold.

Gallbladders more commonly sell for \$200-\$1,000 each on the Asian market, according to wildlife protection officers specializing in the animal parts trade.

In addition, bear paw soup, served at the best restaurants in Seoul, is considered a rare cultural delicacy sold for \$100 or more a bowl.

It has been illegal to sell bear parts in Alaska since the mid-1980s. But the state's abundance of animals and wide-open, year-round hunting season creates an opportunity waiting to be exploited, they said.

"There are indications people are approaching hunters to keep the gallbladders (for sale or trade)," said Chuck Parker, special agent with the U.S. Fish and Wildlife Service.

"There's too much money to be made for people not to be dealing in this stuff. It's a big problem, but how big a problem we don't know," he said.

National Park Service rangers said they are aware of the potential in Alaska. "To our knowledge the problem in the parks is to a large degree theoretical," said ranger Steve Shackleton. "It's one of the nightmares we don't want to see occur up here."

Last month, a shipment of 173 black bear gallbladders from Canada, worth up to \$1,000 each on the Asian market, were seized at Anchorage International Airport. The package, from a dealer in

See Bears, page B5

Bears

Continued from page B1

Quarles, was addressed to two Anchorage men. The case is under investigation and no charges have been filed.

Another Anchorage man caught smuggling 31 grizzly and black bear gall bladders through the Yukon Territory, pleaded guilty in March 1991 to illegally exporting bear parts from Canada. Jay Ahn admitted to a Whitehorse court he planned to sell the gallbladders to friends and Oriental grocery stores in Alaska. The prosecutor told the court Ahn was fined \$6,000 and sentenced to one day in jail.

In both cases the gallbladders were legally obtained in Canadian provinces which allow the sale of animal parts. Violations occur when the gallbladders are transported without the proper permits, imported without non-fur customs or possessed with intent to resell them in Alaska, enforcement officials say.

Demand far outweighs supply, creating a market so lucrative that an underground network has developed connecting bear hunting regions of the U.S. with the population centers of Korea.

Poachers supplying the black market were responsible for devastating the bear population of Great Smokey Mountains National Park in North Carolina before federal agents infiltrated the network and ended the raids on the park. Two-thirds of the park's 500 black bears were killed over three years, their paws and gallbladders removed.

Poaching for parts placed California black bears in such trouble that hunting was banned for several years. A crackdown resulted in tougher laws making it a felony to sell bear parts in California and one seizure of more than 70 gallbladders from a hunting guide. The black bear population there is slowly recovering.

Bill Cook helped lead the multi-agency force that cracked the black market ring responsible for killing two-thirds of the black bears in the Great Smokey Mountains National Park. The National Park Service investigator now teaches at the Federal Law Enforcement Training Center in Glynnco, Ga., and has taught about the bear trade in Alaska.

"Yes. Absolutely. There's a potential for a large problem here," he said.

"I do know there are people out there — like in Glennallen — selling gallbladders and who have gallbladders drying on the side of their cabins," he said. "Oh yeah. It's happening up there."

Alaska has year-round legal hunting for black bear in many parts of the state and a high demand for the sale of gallbladders, he said. The bear parts do not have to be smuggled out.

The off-white gallbladder, used by the bear to create enzymes for digestion, resembles a baseball-sized balloon filled with water when fresh. Once it dries, it turns dark brown and shrinks to a "walnut" shape the size of a fig. The dry shade hardens into mottled-colored crystals.

The bitter tasting gall is either cut into thin wafers to be eaten or ground into powder like gran-



Times photo by DOUGLAS VAN BERTH

Chuck Parker, special agent with the U.S. Fish and Wildlife Service, displays a bear's dried gallbladder, which sells for \$4,600 an ounce in Korea — 13 times the going price for gold.

Its healing properties are widely believed in Korea and other Asian countries, said Choonga "Chuck" Kim, a leader in the Anchorage Korean community. The bear gallbladder has been an important medicine in Asia for thousands of years, he said.

The "Illustrated Natural Drugs Encyclopedia," published in Korea, says a bear gallbladder has many medicinal uses. It helps reduce fever from infectious diseases, aids digestion, soothes stomach aches, cures hepatitis, dysentery and jaundice, and should be used for people in a coma, though the book does not explain why.

Kim tasted bear gallbladder years ago when buying and selling animal parts was still legal in Alaska. He tried it out of curiosity mostly, he said. Dipping the wafers in sugar could not mask its taste. "It was awfully, awfully bitter. I could not tell what it did for me," he said.

Bear gallbladder is very rare in Korea, he said. Combine its rarity with its reputation as a powerful natural medicine and it is easy to see how it fetches top dollar. "It is valuable because they believe in it," he said.

Adult children often seek gall-

for their aging parents afflicted with a terminal illness, Kim said.

Bear gallbladders are still being used as medicine in Anchorage, Kim said. He said he does not know where they are coming from, but there are legitimate ways to get them in

Alaska. Gallbladder users can either go hunting for their own bear or they can ask hunter friends to save the organ for their use. There is no law against giving the gallbladder away.

A state law which encourages the waste of gallbladders when

there is a legitimate use for them does not make good sense to Kim. He said he would like to see the gallbladders made available as long as the bears were taken by legitimate means.

Oriental stores are no longer allowed to sell bear parts in any form. Pills and natural medicines produced in Asia containing minute amounts of animal parts are as illegal as selling the galls outright.

Jun Ro, a grocer at Seoul Oriental Food Store in Anchorage, said people occasionally ask for the medicines. It is usually requested by children wanting to buy it for their parents, he said.

Investigator Cook said his research of the Asian traditions has shown the gallbladder is prized for its powers to increase stamina. It is not an aphrodisiac as is often rumored, he said.

Western medicine has shown bear gallbladders to have some potential for dissolving gall stones in humans, he said. But Cook cautioned that it would be a mistake to mix western medicine with traditional Oriental beliefs.

"If I wanted to increase my stamina, in western medicinal thought I would take multiple vitamins," he said. "In eastern culture, I would ingest certain anatomical parts of animals that exhibited great stamina — like the black bear."

The high price of the black market trade gives the black bear the same potential for exploitation as the black rhino of

Africa, Cook said. Poachers seeking the rhino's prized horn for Oriental medicines have made it an endangered species.

Craig McClure inspects packages at Anchorage International Airport for the U.S. Fish and Wildlife Service to guard against illegal import and export of animals and their parts. He has confiscated bear gallbladders and medicines made with black rhino and sees the correlation.

"It's the same concern we have over black bears," he said. "What happens when the market gets so viable people start to shoot black bears just because they can get X number of dollars for the gallbladders."

Hunting guides in Alaska used to be solicited by Asian dealers before the sale of animal parts was banned. Joe Klutch, president of the Alaska Professional Hunters Association, said his assistant guides used to keep gallbladders as a way to make extra money during the guiding season. They could get between \$75 and \$300 for gallbladders, he said.

The remoteness of Alaska helps reduce the profitability of poaching. The most efficient way to acquire gallbladders would be through the guides, officials said.

All that has ended, Klutch said. "I haven't even heard anyone discuss it in the last two or three years. It's just nothing anybody in the industry would want to risk."

Demand for body parts may be wiping out black bears

VANCOUVER, British Columbia — Conservationists believe poachers capitalizing on a growing trade in bear parts are wiping out British Columbia's black bears and that provincial law helps them do it.

Driven by enormous profits for bear parts, which are in demand as remedies in Asian medicine, at least 100 poachers are slaughtering more than 3,500 bears a year, a British Columbia game warden said.

Another 4,000 are killed by sportsmen with permits and licensed trappers and hunters. And an unknown number of bears are taken by Indians, who are allowed to kill as many as they want.

"Black bears in B.C. are

Analysis

under attack (and) at this rate they will all be gone in a few years," said game warden Garry Grigg of Surrey, a federal wildlife trafficking expert.

Grigg said the provincial population estimate of 120,000 black bears is "outdated and a travesty." He said he believes the population is much smaller, but there is no way of knowing because the government's only figures are compiled by desk-bound biologists.

British Columbia is providing ammunition for the slaughter with its lax laws and inadequate enforcement, Grigg says.

"Poachers know the chances

of being detected are next to nil and if they're caught the fines are so damned small there's no deterrent," he said in a recent interview.

Unlike Alberta and California, where the sale of bears parts is banned, British Columbia allows their trade and export.

"You've got from fur trappers to sportsmen doing it (poaching) on a Sunday afternoon," Grigg said.

The parts often are sold at herbal stores in Vancouver's Chinatown that buy gall bladders, gonads and claws, but Grigg said the trade has expanded beyond that.

A bear gall bladder that weighs less than a quarter ounce sells in British Columbia for about \$350, but in South Korea

will fetch about \$18,000.

The bear parts are ground up and used in traditional cure-all medicines to combat a range of ailments, from bone fractures to hemorrhoids.

British Columbia conservation officer Andy Ackerman agreed there has been an alarming increase in the illegal slaughter in the last four years.

"I've even seen three cubs up a tree and the mother lying at the base with her paws cut off and her belly slit open for her bladder," Ackerman said.

Poachers are drawn from across North America because British Columbia is one of the few places in North America where it still is legal to sell and export bear parts.

Lax enforcement of game

laws by the province's overworked 128 conservation officers is a major problem, Grigg said.

"The only way to detect poaching is to go in (the woods) in a covert situation," he said. "The province doesn't have money for that."

Poachers can be fined up to \$10,000, but catching them red-handed is a daunting task in the wilderness, Ackerman said.

"It's like trying to find a needle in a haystack," he said. "If the poaching was to go unchecked there's a great danger of the bears being wiped out."

The poachers, armed with rifles and video cameras, use dogs equipped with radio collars to run down the bear. Then the

poachers shoot the bear.

As one poacher cuts out the prized parts -- the gall bladder, paws and genitals -- another films the procedure and dates it. Within days and with the help of provincial middlemen, the film and the parts are either in South Korea, Japan, China or Hong Kong.

Grigg says the video is used to verify that the parts were from a fresh British Columbia kill.

Ackerman says there has been an obvious decline in the black bear and grizzly population in recent years.

"The market is fueled by a tremendous demand. Even hunters and trappers are concerned."

Arch. Times 8/29/91

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9-24-91

Officers seize 173 bear bladders worth \$175,000

The Associated Press

Bear gall bladders valued up to \$175,000 have been seized at Anchorage International Airport by Fish and Wildlife Protection officers.

The 173 gall bladders were being shipped to Anchorage by a Canadian animal parts dealer, the state Department of Public Safety said in a release. They were seized at the airport Sunday.

The shipment was addressed to Charles Choi, 37, and Bong Kim, 45,

both of Anchorage. The department wouldn't say if the men had been arrested, but said that potential charges against the men include smuggling and violations of the Endangered Species Act.

An investigation is continuing by Fish and Wildlife Protection, the U.S. Customs Service and the U.S. Fish and Wildlife Service.

It is believed the bladders were from Canadian black bears and were to be shipped on to Asia. The public safety

department estimated that the street value of the parts in Asia could be as high as \$175,000.

Joe Campbell, a Fish and Wildlife Protection trooper, said Tuesday that the bladders and other animal parts are used in traditional Asian folk medicines to treat a variety of ailments, including heart disease, arthritis and blood disorders.

Campbell wouldn't say how Fish and Wildlife Protection learned of the shipment.

are restricted to bringing in no more than \$400 of such prepared medicine per person (J. Lee, pers. comm., December 1990; S. Song, pers. comm., December 1990).

South Korea's last wild bears were declared Natural Monument 329 in 1982, which gave them official protection from hunting taking, possession, and trade (Law for the Protection of Cultural Properties, No. 3644, 31 December 1982). Operating a bear farm in South Korea requires a license. Selling whole live bears for their galls is allowed under certain circumstances (see "Hunting" and "The Bear Market" in this chapter).

The new Animal Protection Act passed in May 1991 apparently does not cover bears (*The Korea Times*, 18 July 1991).

Law Enforcement

The law protecting South Korea's last wild bears is enforced and, whether for reasons of scarcity, legality, or practicality, certain aspects of the bear trade have disappeared. "Into the late 1960s it was quite possible, during a stroll along the back alleyways of Seoul, to see a man standing behind the carcass of a bear — fur and all — convincing a rapt audience of men that they would live longer lives if they consumed bear flesh," expatriate Gertrude Ferrar wrote in an early edition of *Insight Guides Korea* (date unknown).

Hunting

Though designation as a "natural monument" protects South Korea's bears from sport hunting, poaching still occurs on occasion. In May 1983, the year after the species became protected under national law, a 10-year-old female bear was found on Mt. Sorak near death from a gunshot wound (*Korea Herald*, 5 June 1983). A Korean man was later arrested for illegal hunting under cultural property protection and firearms control laws (*Korea Herald*, 7 June 1983) and sentenced to two years in prison

(*Korea Herald*, 21 August 1983). After the bear died, the Cultural Properties Maintenance Bureau sold its gallbladder at public auction for nearly \$64,000 (at the 1991 exchange rate) to the operator of an herbal medicine clinic (*Korea Herald*, 11 June 1983). In another round of public bidding, 51 kilos of the bear's meat were sold for more than \$2,000 (*Korea Herald*, 11 June 1983). Two people offered to buy the bear's hide for more than \$1 million (*Korea Herald*, 25 May 1983), but the Ministry of Culture opted to mount the hide and display it at a zoo. These prices illustrate some Koreans' pronounced preference for their native bears and how price escalates with scarcity.

Bears as Medicine

In Korean, bear gallbladder is called *ungdam*. From what we have seen, Koreans are perhaps the most dedicated of all Asians to the use of bear gallbladder as medicine — more so than the Chinese, who originated the practice. Some Koreans are willing to pay more for bear gall and go to greater lengths to get it than people of any other nationality. When possible, many prefer to see the gallbladder taken from the bear's body to ensure authenticity, and they are known to have had bears killed before them or on videotape for this purpose (Mills 1991; U.S. Fish & Wildlife Service agents, pers. comm., 1990–1991).

This dedication to the use of bear gall probably is due to a number of factors. Chinese medicine began to influence Korean medicine as early as 57 b.c. (Pang 1984). *Hanyak*, the Korean term for traditional medicines such as bear gallbladder, literally means medicine (*yak*) from China's Han Dynasty, which dated from 204 b.c. to 260 a.d. (Pang 1984). Korea's isolationist policies, which won it the name "The Hermit Kingdom," kept Western medicine out of the country until 1884 (Pang 1984). By the 1950s, the majority of Koreans probably still received their health care from practitioners of *hanbang*, the traditional Korean medicine that took root

from Chinese medicine (Pang 1984). In the throes of industrialization and modernization in the 1990s, Koreans remain devoted to ancient traditions such as ancestor worship, filial piety, tonic foods, and herbal medicine (N. Han, pers. comm., May 1991). The latter is illustrated by the thousands of *hanbang* clinics and the countless herb dealers dispensing *hanyak* medicines in South Korea. Superimposed on this national loyalty to tradition is an increased interest in health tonics fueled by newfound affluence (*Chung-Ang Il Bo* [newspaper], 16 July 1991) and a widely held belief in bear gall as a powerful cure for almost anything (*Korea Herald*, 17 July 1991). The head of a traditional medicine clinic was quoted as saying bear gall purges all toxins from the human body, helps serious liver ailment, and is a highly effective treatment for diabetes, high blood pressure, palsy, fever, and hemorrhoids (*Taeju Daily Mail*, 12 April 1991).

When asked about bear gall, a Korean-American friend's mother, who lives in Seoul, said matter-of-factly that "bear galls are imported from China and the U.S." (K. Kwak, pers. comm., July 1990). In fact, Koreans are rather infamous in China, Thailand, and the U.S. for their penchant for bears and bear gall. Koreans have been arrested in all three countries in connection with the illicit sale of bears and/or their parts. Koreans continue to be caught leaving China with bear galls hidden under their clothing (see China chapter). In July 1991, Thai law enforcement officials raided a farm outside Bangkok that catered to Korean tourists. Along with the establishment's Korean manager and a number of Korean tourists dining on bear meat, they found several living bears, several freshly killed bears, and records of sales of bear gallbladders and bear banquets (see Thailand chapter). In the U.S., one of the latest in a series of law enforcement cases involving Koreans buying bear galls occurred in April 1991, when 173 bear gallbladders addressed to two Koreans living in Alaska were seized at Anchorage International Airport (*Anchorage Daily News*, 24 April 1991). The galls were believed to be bound for

Asia. Chinese medicine merchants in Hong Kong and Malaysia describe Koreans as among their best customers. Between December 1990 and February 1991, more than 100 bears were killed at a Japanese bear farm. All of their gallbladders reportedly were shipped to Korea (Anon., pers. comm., June 1991).

Between 1985 and 1989, South Korea officially imported 25 kilograms of bear gall (TRAFFIC Japan memo to K. Johnson, dated 5 August 1991). In 1990, official statistics show another 7.8 kilos were imported (Science and Technology Office, U.S. Embassy, Seoul). Between 1980 and 1983 alone, South Korea imported 330 live bears (Milliken 1985). The next year, 1984, CITES signatories reported exporting another 52 live bears to South Korea (CITES Annual Report data). Because South Korea is not a CITES party and therefore under no obligation to report its trade in bears and bear parts, these data represent an incomplete and conservative picture of total South Korean bear imports.

Bears as Food

While bear paw dishes are considered Chinese food, they are nonetheless served in South Korea at Chinese restaurants (see "The Bear Market" in this chapter). Like the Chinese, Koreans regard bear meat as a "tonic" food for strengthening the human body. This belief is best illustrated by the 30 bears smuggled out of Thailand to South Korea to fortify Korean athletes for the 1988 Olympic Games (see Thailand chapter).

Bears as Pets

To our knowledge, bears are not popular pets in South Korea.

Bears as Food

Some Taiwan diners reportedly favor restaurants serving bear's paw (*Asiaweek*, 16 February 1990). The front paws are preferred (Wang 1989). A game-shop survey now in progress further documents a demand for bear paws (H. Chen, pers. comm., June 1991) that has survived enactment of Taiwan's Wildlife Conservation Law.

Bears as Pets

It has become "chic" in Taiwan to keep wild animals as pets, according to a report in the *Free China Journal* (28 July 1991). There currently are 140 bears registered with the Taiwan government as pets, of which about 120 are sun bears imported from Southeast Asia (H. Chen, pers. comm., June 1991). No one has yet censused unregistered bears (Y. Chang, pers. comm., June 1991). Despite the Wildlife Conservation Law, pet shops continue to sell bears. Sun bears usually sell for just under \$2,000, while Asiatic black bears can sell for more than \$5,500 (H. Chen, pers. comm., June 1991).

We went on a walk with two sun bears bought recently by the owner of a small leather-goods shop in downtown Taipei. It is not uncommon for business owners to place bears outside their establishments to attract customers (Wang 1989). Both of the leather-shop bears were purchased illegally as cubs from Taipei pet stores for between \$1,800 and \$2,600. Both bears had been declawed. The male bear is two years old and spends his days on a three-foot chain atop a ledge outside of the shop. The female is one year old and lives in a three- by four-foot cage inside the shop. Now that the bears are nearly full grown, the owner finds them difficult to care for. He would like to sell them to recoup their purchase price. He is angry that the Wildlife Conservation Law makes it illegal for him to do so.

Some owners of unwanted pet bears sell them to game shops and tell the government

that they died of some illness, according to Chen. He also has heard reliable reports of weary pet owners releasing their sun bears into Taiwan forests. He has even had hunters tell him tales of taking sun bears in the wild on Taiwan.

To date, there are no reports of Taiwanese farming bears for their bile. However, Chen had interviewed a man in Kaohsiung who keeps more than 20 bears in captivity and refuses to talk about his purpose for keeping so many bears.

THE BEAR MARKET

We checked for bear galls along and around Taipei's Di Hua Street, which is famous for its scores of Chinese apothecaries. Medicine shops from other parts of the island send representatives here to buy bear galls for their stock. Approximately 10 shop owners refused to talk because, they said, other foreigners had come around in the past investigating the trade in rhino horn for international conservation groups. In all, 34 medicine shops with personnel willing to talk were checked (Table 9). Some shopkeepers were more forthcoming than others. Thirty of 34 said they sold bear gallbladder. Among the four shopkeepers who said they did not have bear gall, one claimed the practice ran counter to the owners' Buddhist beliefs, one said he did not wish to break the new conservation law, and another said his shop had just opened so he hadn't yet had time to stock bear gall. The fourth simply told us he did not sell it and refused to say more.

In one shop, we saw a tray full of 25 to 30 whole galls, allegedly all taken from Asiatic black bears in Southeast Asia. In another shop, whole galls came sealed by the dozen in plastic bags. Some shops displayed partial galls, their sacks broken open where shopkeepers had been scooping out crystalline bile salts to sell by the gram. Most displayed glass jars filled with opaque brownish-gold, brownish-red, or brownish-green bile salts. Dealers claimed that loose

bile crystals are preferred by Taiwan users and are more expensive. Gallbladders and jars of bile salts were not hidden in a safe place as were those in South Korea, nor were they displayed prominently as in Hong Kong. Most often, they were in a discreet location, usually behind the counter or behind jars of other more common ingredients such as pearls or gazelle horns.

Prices ranged from \$8 to \$30 per gram, making a whole gallbladder of average weight worth \$800 to \$3,000. The broad range in pricing probably was due to several reasons, including the fact that some of the shops were wholesale outlets. The perceived quality of the bile was another variable. Country of origin, color, and bear species were all mentioned as pricing factors, though some sellers said only the color was important.

Many shop owners expressed a preference for Chinese bears. Taiwan bears were also favored. However, other dealers claimed bears from India produced the best medicinal bile. One man read from a medical text that specifically recommended the gallbladders of bears from China's Jilin, Heilongjiang, and Yunnan provinces. Many shopkeepers said the gallbladder of Southeast Asian bears was of lesser quality. One wholesaler said he preferred bear galls from Southeast Asia because he believed all those from China were now from captive-bred bears. A buyer for another shop stated that the best bear galls come from colder climates. He mentioned both northern China and Alaska specifically. He said galls from the lower 48 states were too small — an opinion expressed by others as well. But those from Alaska are large and, therefore, very desirable. This buyer said he bought most of his galls from a Hong Kong broker, but said people from Wisconsin once came to his shop selling gallbladders from American bears. He repeatedly asked if we had galls to sell. Another shopkeeper said that, while gallbladders from the lower 48 states were not as good as those from Alaska, he felt assured they were authentic because bear hunting is legal in the United States. Yet another said that bear gall

is so scarce that one cannot be particular about what country it comes from.

Color variations, in order of preference, are golden-brown, reddish-brown, greenish-brown, and black. There was unanimous agreement that golden bile was the best. What was referred to as *soo* gallbladder, gold-colored bile salts from Chinese bears, was most highly valued, while the nearly black bile salts of the Malayan sun bear were said to be least coveted. One merchant told us that color is what gives farmed bile away as inferior. This man also said that color is determined by the season when a bear is killed and the method by which it dies.

Some shopkeepers said Asiatic black bears yielded the most effective gall followed by brown bears. At least one shopkeeper said it was the other way around. One explained that polar bears eat too much fish, therefore their bile salts take on an unpleasant taste. Another said Himalayan black bears yield the best bile. Most agreed that Malayan sun bears were less desirable. One man declared that the gallbladders of all bear species have the same efficacy, as long as they are hung to dry rather than drying flat.

Two merchants mentioned that some unscrupulous sellers will inject gallbladders fresh from a bear with either pig bile or soil so that they become heavier and, therefore, more valuable after drying. Shopkeepers mentioned the problem of fake galls, but claimed they could tell the real thing from a fake based either on experience or by various tests. When placed in water, a sample of real bear bile will spiral to the bottom of the glass, one apothecary said. Another swore by dropping a bit in dusty water. If it is the real thing, he said, the dust will disappear. Yet another shop spokesman recommended dropping the bile in water. If it rises straight as it dissolves, then it is from a bear. The bile of any other animal will dissolve at the bottom of the glass, according to this source. Several shop owners claimed that taste was another factor in positively identifying real bear bile. Some insisted we try a taste test ourselves and placed a tiny bit on our tongues. The bile dissolved slowly in

Table 9.

Sampling of Bear Gall Prices in Taiwan Shops (June 1991).

Shop #/Location	Bear Gall		Stated Origin	Comments
	Sold	Price		
1 / Taipei	No	N/A	N/A	Bear gall too expensive and Buddhist owners believe it's wrong to kill bears for medicine.
2 / Taipei	Yes	\$20/gram	Not specified	1 partial jar of golden crystals and 1 full jar of reddish-brown crystals seen.
3 / Taipei	Yes	\$25/gram	Not specified	Shopkeeper reluctant to talk. Said only that his bear gall was smuggled into Taiwan.
4 / Taipei	No	N/A	N/A	Shop owners said they did not wish to break the law.
5 / Taipei	Yes	\$25/gram	Not specified	1 whole gallbladder seen.
6 / Taipei	Yes	Not given	Not specified	Shopkeeper reluctant to talk.
7 / Taipei	No	N/A	N/A	None.
8 / Taipei	Yes	Not given	Not specified	Shopkeeper reluctant to talk.
9 / Taipei	Yes	\$28/gram	Not specified	2 whole gallbladders seen. Shopkeeper said Chinese galls are best. Usually sells as part of mixture.
10 / Taipei	Yes	\$20/gram	Not specified	Shop owner said brown galls are best, followed by black bears. Malayan sun bear galls are "not so good."
11 / Taipei	Yes	\$30/gram	Not specified	Owner said Himalayan black bear gallbladders are the best.
12 / Taipei	Yes	\$13/gram	China	Most of his stock smuggled by individuals in lots of 10-20. Sells mainly for baby birth rite and in mixture.
13 / Taipei	Yes	\$20/gram	Not specified	Owner sells about 10 bear galls annually. Some customers buy 2-3 at a time, but most in mixture.

Table 9 (continued).

Shop #/Location	Bear Gall		Stated Origin	Comments
	Sold	Price		
14 / Taipei	Yes	\$10-20/gram	Not specified	Price depends on color. Golden more expensive. Darker color is cheaper.
15 / Taipei	No	N/A	N/A	Owner had no bear gall in stock as store had just opened.
16 / Taipei	Yes	\$20/gram	Hong Kong	Owner sells more than 100 per year. 3 whole galls seen, plus crystals. Asiatic black bear galls from Yunan Province on Main land best. He sells mainly for child's birth rite.
17 / Taipei	Yes	\$21/gram	Not specified	Owner said his stock smuggled into Taiwan.
18 / Taipei	Yes		Not specified	Employee said shop sells only whole galls, but owner refused to elaborate.
19 / Taipei	Yes	\$8/gram	Hong Kong, USA	Shop sells 1-2 kilogram of bear bile crystals annually. The best galls are from Alaska or northern China. Store's buyer asked if we were selling. Once bought from a Wisconsin seller.
20 / Taipei	Yes	\$12-13/gram	India, Southeast Asia	Three galls were shown. Priced according to country of origin. Indian are of higher quality. This was a wholesale shop only. Owner said some customers buy 10 galls at a time.
21 / Taipei	Yes	\$15-30/gram	China	Shop sometimes sells 150 grams per year. Jar of crystals shown. Supply smuggled by overseas Chinese or boss buys in Mainland China.
22 / Taipei	Yes	\$3-22/gram	Borneo, Southeast Asia, China	Jar of crystals shown. Taiwanese prefer bile salts without the gall bladder sack. Galls from Borneo of lesser quality.

Table 9 (continued).

Shop #/Location	Bear Gall		Stated Origin	Comments
	Sold	Price		
23 / Taipei	Yes	\$18/gram	India	Jar of crystals shown plus 2 whole galls. Shop sells as many as 5 galls per day and up to 100 per year.
24 / Taipei	Yes	\$16-19/gram	Cambodia, Thailand, Malaysia	3 whole galls and numerous empty gallbladder sacks shown plus 2 jars of crystals. Smuggled by overseas Chinese who come to university in Taiwan. Shop sells many galls to Japanese and some to South Koreans. Demand is increasing.
25 / Taipei	Yes	\$9-13/gram	India, Burma	Shop buys 3-4 kilograms of bear gallbladder several times per year. Japanese sometimes buy 20 kilo grams at a time. Package of 12 galls shown.
26 / Taipei	Yes	\$18/gram	Burma, Thailand, China	Owner complained of irregular supply. Many galls available in spring.
27 / Taipei	Yes	\$15-16/gram	"Tropics"	Supplies are scarce. Bear gall usually sold in mixture.

our mouths with a fizzing sensation. The taste was overwhelmingly bitter, and the acrid after-taste remained until we ate.

Many shops said they usually sold bear gall mixed with pearl, cow gallstones, musk, and amber. Reportedly, this is a powerful — and expensive — tonic for the liver, heart, lungs, stomach, and kidneys and is good for the skin as well. Sometimes rhino horn, gazelle horn, oxidized mercury (which is highly toxic when ingested), coral, dried palm, ginseng, dried insects, stalactites, and even gold are added for an even more powerful and expensive tonic.

All shops mentioned the use of pure bear bile in a birth rite for newborns. In fact,

some shops said most of their gall sales were intended for this purpose. At birth, a fraction of a gram of bear bile is placed on an infant's tongue to "cleanse the blood" of poison passed by the mother to the child in the womb. Shopkeepers in Taipei medicine shops repeatedly stated that bear bile "kills germs" and "cleanses the blood."

People at three different shops mentioned that Japanese buy a lot of their bear gall. One apothecary said she had sold 20 whole galls to Japanese in the first five months of 1991. Another shop owner said Japanese sometimes buy bear gallbladders and cow gallstones 20 kilograms at a time.

Table 9 (continued).

Shop #/Location	Bear Gall		Stated Origin	Comments
	Sold	Price		
28 / Taipei	Yes	\$18/gram	"All over the world," including Alaska	Jar of crystals shown. Owner believes galls from USA are authentic because hunting bears is legal.
29 / Taipei	Yes	\$16-20/gram	Worldwide	Shop once sold 100 kilograms of bear gall in a year's time.
30 / Taipei	Yes	\$18-25/gram	Southeast Asia	Whole galls are less per gram than crystals. A tray of 25-30 whole galls shown, all said to be from Asiatic black bears in Southeast Asia.
31 / Taipei	Yes	\$25/gram	China	Owners reluctant to talk. Said they sold 1-2 galls per year.
32 / Taipei	Yes	Not given	Thailand, India, China	Asiatic black bears yield the best medicine. Polar bears eat too much fish. Owner reluctant to talk.
33 / Taipei	Yes	\$8-9/gram	Not specified	Owner very nervous about talking. He said he kept his galls away from the premises.
34 / Taipei	Yes	\$25/gram	Not specified	Bear gall usually sold with other ingredients.

One shopkeeper claimed his bear galls are shipped in legally from India. Most others, however, admitted theirs were smuggled in. One man said his stock was smuggled from China by "individuals" who carried 10 to 20 pieces per trip. Another shop also said it depends on overseas Chinese to smuggle in supplies, except when the boss goes to Mainland China himself and smuggles galls home. Another shop said it simply waits for strangers to come peddling bear galls. Two shop owners said they buy from a distributor in Hong Kong, and one showed an invoice from a Hong Kong export company to prove he paid \$12 per gram retail for the gallbladders he sells for \$20 per gram. A woman

shopkeeper stated that she sometimes buys from overseas Chinese who come to Taiwan from Southeast Asia to attend college and bring 10 or 20 galls back with them to Taiwan after every visit home. Another shop owner said he bought his stock from a Taiwanese broker who buys bear galls from around the world, including Alaska.

Some shops said they sold ten or fewer bear gallbladders each year, while others claimed to sell five to ten a day at times. One owner said he sells more than 100 galls per year. A buyer for another shop said he goes through one or two kilograms of bile crystals annually. Another owner said he buys three or four kilograms of

bear gall several times a year to meet the demand. Yet another said once he sold 100 kilograms of bear galls in a year's time.

We asked five expensive Cantonese restaurants in Taipei whether they served bear paw. All said they no longer serve bear entrees, citing the law, a shortage of bears in the wild, or cruelty to animals as reasons. However, we are not convinced bear paw is not served in Taiwan restaurants and believe the matter deserves further investigation.

After shopping for bear parts, we asked Tang Hsiao-yu, chief of the Council of Agriculture Conservation Division, about the open sale of bear gallbladder in Taipei. He acted very surprised. "Not in Taipei," he said. "When?" He then referred us to the city government, as each city in Taiwan is responsible for enforcing the national Wildlife Conservation Law. The central government only wrote the law, he said. It has no hand in enforcing it.

At the Taipei City Government Department of Reconstruction, a five-department municipal team is charged with enforcing the Wildlife Conservation Law within Taipei city limits. This team is made up of members

with expertise in city government, police work, education, zoos, and animal welfare. Their main job is to inspect pet shops to see if any illegal trade is being conducted. In addition, they are attempting to get owners of protected animals and their parts to voluntarily register their holdings. Since January 1991, 5,316 captive animals from 81 protected species have been added to the government's pet records, including one Asiatic black bear and six sun bears. The enforcement team is not looking at bear gall and other protected species' parts sold in Chinese medicine shops due to lack of staff resources and the problems associated with positively identifying these parts as authentic. Their priorities at this time are registration of live animals in captivity and an accounting of all ivory and rhino horn in the possession of Taipei citizens. Afterward, as of an as-yet-unspecified date, citizens caught with unregistered protected wildlife will be prosecuted (Y. Chang, pers. comm., June 1991). Chang Yuan, a member of the Taipei municipal team, said that stopping the sale of bear gallbladders is not part of enforcement efforts at this time.



**US guns
for Vic
hunter**

THIS Victorian big game hunter is wanted by US police for killing this protected Alaskan Grizzly brown bear.

The killing has disgusted environmental groups and outraged Alaskan wildlife authorities.

Mr Peter Stapley admits

he shot the 181kg, 22 metre tall female bear in 1986 in the northern mountain area of Alaska — the last US refuge for the species.

The offence carries prison terms and stiff fines and Mr Stapley has been advised by his lawyer not

to return to the US.

Mr Stapley, 46, a deer farmer from Timboon in south west Victoria, also faces charges over the 1981 illegal killing of a caribou, a moose, a dall sheep and a deer.

● Full report, Pages 6 and 7

**DON'T MISS
KEVIN
BARTLETT**

- In Monday's *Herald-Sun*

**CAPTURED
NATIONS
FREED** - Page 2

By **MATTHEW PINKHEY**
GOVERNMENT schools face a shutdown after a meeting of Victoria's two main teacher unions yesterday

For the first time, unions representing more than 40,000 teachers have agreed to co-ordinate a series of half day strikes which will affect more than 500,000 students in 2000 schools.

According to the heads of the Victorian Secondary Teachers Association and the Federated Teachers Union of Victoria, teachers will hold a strike a week throughout the fourth term.

Teachers are demanding the government reverse budget decisions that will lead to the breaking of industrial agreements signed last year.

The co-ordinated strikes — which will begin on October 7 — are the first to be held since the 1990 disintegration of the Teachers Federation of Victoria and the emergence of separate secondary and primary teacher unions.

The half day stoppages are in addition to two 24 hour strikes on September 12 and October 31.

According to the president of the VSTA, Mr Brian Henderson, the industrial campaign will see "unprecedented disruption" of the school system.

News of the strikes came as the Education Minister, Mr Pullen, admitted he had made a mistake in signing industrial agreements with teacher unions.

In an open letter to teachers, Mr Pullen said staffing and conditions agreements had to be broken because of the worsening economy.

"With hindsight it may have been a mistake to approve the agreements," Mr Pullen wrote.

● Continued Page 2



**\$130,000
DREAM HOME**



**FOOTY
FINALS
SUPERFORM**



**LA TOYA JACKSON
BARING
MORE THAN
HER SOUL**

GAME IS UP



● The shooter and his trophy . . . Victorian big game hunter Peter Stapley with the antlers of a moose.

By CAROLYN FORD
in Los Angeles

DEATH came fast for an Alaskan grizzly bear feeding on salmon it had caught in a stream.

It was gunned down from 50 metres and skinned on the spot.

The bear's hide, including its head and paws, was stored for treatment by a taxidermist.

The rest of the 181kg carcass was left, like a stripped down car, for animal scavengers.

A Victorian big game hunter, Mr Peter Stapley, 46, is wanted over the bear's killing. He is also wanted for the illegal killings of a caribou, moose, dall sheep and black-tailed deer in 1984.

The killings contravened US state wildlife regulations.

Mr Stapley is charged with taking a grizzly bear without a licence, illegal possession of big game and being an alien hunter without a licensed guide.

Jail sentence

Each carries a one-year jail term and \$US5000 fine.

If Mr Stapley took the animals out of Alaska he violated federal law and could be charged with illegal interstate transportation of big game.

That carries a \$US250,000 fine and up to five years' jail.

"To our knowledge, he took everything back to Australia," said Mr Joe Campbell, of the Alaska Fish and Wildlife Protection Division.

Alaskan authorities have an outstanding warrant for Mr Stapley's arrest, with bail set at \$US25,000. But unless Mr Stapley returns to the US, he will not have to answer the charges.

Under US law, foreigners can be extradited from another state but not another country.

At his deer farm at Timboon in the state's south west, Mr Stapley confirmed he had killed the animals, but said he didn't know he was breaking any laws.

The Alaska Fish and Wildlife Protection Division uncovered Mr Stapley's hunting activities in 1987. Officers were searching

the home of an unlicensed guide, Mr Jim Baum — with whom Mr Stapley had hunted — when they found photographs of Mr Stapley with his wildlife trophies.

After a year-long investigation, authorities had enough evidence to lay charges but Mr Stapley had returned to Australia, and Timboon.

Mr Stapley said he thought Jim Baum was a licensed guide, and paid him \$US5500 to take him bear hunting.

He said Mr Baum told him all the paperwork and payments necessary for a foreigner to hunt had been taken care of.

"I paid for a hunt with a registered guide, but the guide turned out to be unlicensed. I wanted a cheap hunt not an illegal one that would get me in the strife I'm in," he said.

"I'm one of six or seven (Australians and New Zealanders) who have been illegally guided by this character. I am very bitter about the whole thing."

"I was led up the garden path, it's dirtied my name."

Alaskan wildlife officials were dismissive of Mr Stapley's explanation, saying he was not a novice to hunting in the area.

Mr Stapley has been offered a suspended prison sentence if he pleads guilty to the three state charges and pays related fines, makes a contribution to the Alaskan Wildlife Fund and returns all Alaskan wildlife trophies (antlers, horns and the Grizzly's head) at his expense.

Mr Stapley said he did not have the bear skin.

He said it was taken to a taxidermist in Anchorage, Alaska, to be tanned for a floor rug and that, he said, was the last he saw of it, despite paying \$US2200 for the treatment.

"I would go back if I could get a fair hearing," he said.

FOR BEAR HUNTER

They will not be back unless they can find the same bear cub. I can't find the same cub," says Mr. Stapley. Bears and their cubs are the most popular trophies of hunters in the US. Bears are hunted for their skins and skulls, and in Asia bear skulls are considered good luck and sell for as much as \$US14,000 each. But bear claws — for neck ties — and meat and paws are also in the demand. Paws are used in special tonic soup in Asia although it is gaining popularity in America too. The grizzly brown bear is an endangered species in all states of America except Alaska. To stop them becoming endangered, Alaskan authorities allow only a certain number to be harvested each year. The system is policed by purchase of hunting licences and bear tags. According to Mr. Stapley, hunters paying the Alaskan Government \$2500 in fees plus \$234.00 to \$2820.00 for a bear licence, are allowed to hunt only one bear a season. The licence is valid for 10 days. Mr. Stapley said. These rules go to the wildlife management.



Throwing rubbish
 Peter Stapley, a bear hunter, says that he is the only one who has ever thrown rubbish in the woods. He says that he has thrown away a lot of rubbish, including a dishwasher, refrigerator and washing machine. Mr. Stapley says that he has thrown away a lot of rubbish, including a dishwasher, refrigerator and washing machine. Mr. Stapley says that he has thrown away a lot of rubbish, including a dishwasher, refrigerator and washing machine.

● RIGHT: The victim and the gun ... a dead black-tailed deer. BELOW: A dall sheep, shot by Peter Stapley.

● ABOVE: The aftermath of an illegal shoot, say US wildlife authorities ... Peter Stapley posed for this picture after killing this caribou in 1984.



It's on the house

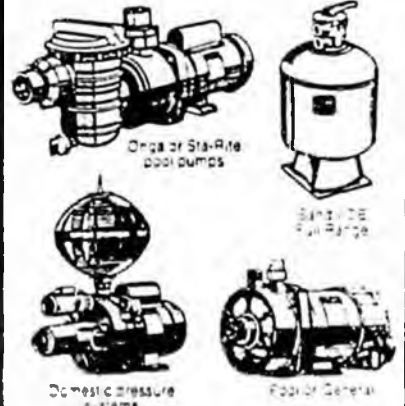
YOU can win a house on the house in the Herald-Sun and Triple M House on Every Street contest. We are giving away a fully furnished Pioneer home and land package worth \$130,000. You can view the dream home today at the Pioneer Estate Lot 21, Rosedale Place, Warrabee between noon and 5.30pm. The winner will also get \$20,000 worth of furniture, fittings, appliances and extras including a spa and landscaped garden. The furniture, from Designed Interiors, includes beds, lamps, dining table, chairs, and a sheet and doona set. The State Electricity Commission will provide \$5000 worth of energy-efficient appliances including a dishwasher, refrigerator and washing machine. The Warrabee home comes with carpets, window furnishings, a landscaped garden, a Philips home entertainment system worth \$3000 and a \$5000 spa pool from The Endless Swimming Spa Company. The house has three bedrooms, a lounge dining room, family room, modern kitchen and bathroom and a carport. Every day you have the chance to win both the Dora Straits On Every Street CDs and tickets to the band's November concert by listening to Triple M. The CD, ticket and cash winners are announced on Triple M between 6am and 7pm. If you live outside Triple M's broadcast area, the Herald-Sun has a daily winner who wins the daily prizes and goes into the house draw. Today's daily winner is Ms Fiona Lance at Berwick. Fiona wins a CD, tickets to a Dora Straits concert, \$105, and chance to win the house. The house winner will be drawn on September 27. For details see the coupon on Page 12.

Challenges delay Tas bribe report

THE RELEASE of a report on Tasmania's 1989 political bribery affair has been delayed by a court challenge by two of the key witnesses at an inquiry. For the past two weeks, three judges have heard an application from Opposition leader Robin Gray and two parliamentarians, Mr. Launceston-based media group ENT Ltd, David McQuesten, to stop publication of the report by the Royal Commissioner William Carter QC. The challenge is argued to be an attempt to stall the report by the Commissioner. The report was to have been handed to the government by September 30 but the deadline has been extended to after the Tasmanian Full Court has ruled on the challenge. Mr. Gray and Mr. McQuesten have claimed Mr Carter was liable to disclose the full names and quoted sources supporting the report. Mr. Gray and Mr. McQuesten have also claimed that the report was a breach of the Official Information Act. Mr. Gray and Mr. McQuesten have also claimed that the report was a breach of the Official Information Act. Mr. Gray and Mr. McQuesten have also claimed that the report was a breach of the Official Information Act.

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