

**An Exempted Fishing Permit Application To Test A Salmon Excluder Device
For Pollock Trawls
March 2003**

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Name, mailing address, and phone number of applicant:

Principal Investigator:

John R. Gauvin
2104 SW 170th Street
Burien, WA 98166
(206) 660-0359

Co-Investigators and Pollock Industry Coordinators:

Brent Paine and John Gruver
United Catcher Boat Association
4005 20th Avenue West, Suite 116
Seattle, WA 98199

Purpose and Goals of the EFP: The purpose of this EFP is to test the effectiveness of a salmon excluder device for pollock trawls. The goal is to develop a device for pollock trawls that reduces salmon bycatch without significantly lowering catch rates of pollock. The EFP will produce a report for public dissemination describing the devices tested in each phase of the work (chum and Chinook salmon) and the performance of the devices in the tests. Because salmon bycatch currently constrains the pollock fishery and because the fishery is managed under a system that imparts individual accountability and bycatch management incentives, widespread voluntary adoption of the device can be expected if the device is successful.

Justification for the EFP: Mandates to reduce bycatch and bycatch mortality are set out in the Magnuson-Stevens Act. Current tools to avoid salmon bycatch are costly and at times less than effective. Salmon bycatch caps are currently very restrictive and in the case of the cap for Chinook salmon, further cap reductions are scheduled to take effect in the near future. The industry is very interested in the development of an effective salmon excluder and has committed significant resources to this project and associated development steps that have led up to this EFP test.

Names of participating vessels, copies of vessel Coast Guard documents, names of vessel masters: The principal investigator will notify the AKR Regional Administrator in writing of the name of the selected vessel including its associated document once the RFP process is completed. The principal investigator will also arrange to notify all relevant enforcement agencies of the vessel documentation and dates and area of operations for the EFP work. This will include ADF&G, NMFS, and the US Coast Guard.

Target and incidental species harvested: As the Council and NMFS have approved for past EFP experiments dedicated to bycatch reduction, groundfish and prohibited species taken during the experiment should not be counted against the annual total allowable catch and prohibited species bycatch caps. The taking of salmon during the experiment is crucial for determination of the effectiveness of the excluder device. The additional

amount of pollock taken in the EFP is not expected to cause the Bering Sea pollock fishery to exceed its acceptable biological catch. Pollock taken during the testing will be sold to help offset the costs to the vessel operations during the experimental work.

Groundfish: The estimated total harvest of allocated groundfish species including both the chum salmon stage of the EFP work (970 MT of pollock in fall of 2003) and the Chinook salmon stage (1,300 MT in spring of 2004) is 2,270 MT of groundfish. Approximately 98% of this is expected to be pollock and 2% is expected to be other groundfish species such as Pacific cod and flatfish. Retention standards for the EFP work will be the same as those for the directed fishery for pollock.

Pacific salmon: The experimental design calls for a minimum sample size of 200 chum salmon for the first stage of EFP work and 30 Chinook salmon for the Chinook salmon excluder test next spring. For the chum salmon excluder work, sample size is designed to have sufficient statistical power to have an 80% probability of detecting a 10% difference in proportion of effect (performance of the excluder) from the underlying proportion of 0.5 with 95% statistical confidence ($\alpha = 0.05$), (please see supporting document). For the Chinook salmon excluder portion of the EFP work, a sample size of 30 Chinook salmon is expected to provide an 80% probability of detecting a 25% difference from the underlying proportion of 0.50 (with α set at 0.05).

The determination of sample size for each species of salmon for each excluder trial is based on a target amount of pollock catch which, under the assumptions of the EFP work, is expected to have a reasonably high probability of generating the desired sample sizes for the two stages of the EFP. To reduce the risk of “under sampling” if salmon abundance turns out to be lower than it was in the data for the period used to develop sample size calculations, salmon bycatch data for sample size calculations were treated in a conservative fashion whereby only below average bycatch rates for the period covered by the data were used for sample size calculations. This “risk averse” treatment was adopted to increase the probability that the EFP achieves its sampling goals if the EFP fishery work happens to encounter “below average” salmon abundance conditions in areas where pollock fishing occurs.

An “upper end” estimate for salmon mortality associated with this project is 2,183 chum salmon and 217 Chinook salmon. This estimate was made based on the unlikely assumption that each stage of the experiment encountered conditions similar to the highest weekly bycatch rate (respectively) for the vessel with the highest respective salmon bycatch rates in the data used to develop the sample size calculations (see supporting document).

This application specifically requests that salmon catch not be a catch limitation for this EFP. The success of the EFP work depends on our ability to target areas with concentrations of these salmon for the benefit of the experimental work. Further, catching additional salmon will increase the ability of the EFP work to determine the effectiveness of the excluder device. Even if the upper bound estimates of salmon catch numbers for the EFP work were attained, these are relatively small numbers of mostly juvenile salmon compared to respective biomasses. We believe that the merits of the research in reducing salmon bycatch outweigh any potential effects such salmon removals associated with the EFP work might have.

Further, we are specifically requesting exemption from salmon bycatch management regulations establishing fishing area closures for the pollock and groundfish fisheries. The regulations we are seeking exemption from are the salmon bycatch management rules that either close areas annually at a certain point in time (seasonally) or those that may close areas upon attainment of a PSC cap (trigger) number of salmon. This exemption is also proposed because the success of the EFP work depends on our ability to conduct the experiment in areas where salmon are concentrated. A restriction on our ability to conduct the experimental fishing in salmon “savings” areas would be expected to reduce the potential success of the EFP test.

Disposition of allocated groundfish species caught in the EFP: The vessel selected for participation in the experiment can legally retain all groundfish catches in accordance to the directed fishing standards for the BS/AI pollock fishery that are applicable to the regular pollock fishery as set out in the American Fisheries Act and other applicable law. Salmon caught in the EFP work will be retained for donation to food banks according to the regulations governing this practice for the regular pollock fishery.

On-board sampling and data collection: Variables of primary interest for sampling during the experiment are the:

1. Number of salmon in recapture net and codend (per tow)
2. Quantity of groundfish in the recapture device and codend (per tow)
3. Length frequency of salmon in recapture device and codend (per tow)
4. Length frequency of approximately 100 pollock from codend and recapture device (each) per tow

To adequately collect data for the variables of interest for the EFP work, two NMFS-certified at-sea observers may be required for the at-sea EFP work. On deck facilities of certain catcher vessels may preclude complete removal of salmon from the catch in the main codend. Such vessels may be considered for the EFP if they have multiple RSW tanks that allow separation of the catches from each haul, which would then be re-screened during offloading of the catch at processing facilities. To allow consideration of alternative sorting and sampling proposals for these vessels, proposals for one at-sea observer and one additional observer stationed at the processing plant may be considered.

Expected impacts on marine mammals and endangered species: None. In the event that any additional sea lion protection area restrictions become effective for the pollock fishery within sea lion designated critical habitat, this application specifically request that NMFS do “everything in its power” to exempt this EFP work from those potential additional area restrictions. The relatively small amount of pollock catch associated with the EFP work could not expected to have any measurable effect on sea lions. Restrictions on conducting the EFP work in sea lion critical habitat, however, could dramatically affect the ability to find concentrations of salmon, which is critical to the success of the project.

Type and size of vessels and gear: Any vessel capable of meeting the requirements of the EFP work (as described in the RFP materials) can be proposed for the EFP. It is noted, however, that the EFP field work is specifically designed for a vessel platform similar to catcher vessels in the Alaska pollock fishery currently delivering either to a shoreside

processor or mothership. Trawl gear will be normal pollock trawls that comply with regulations governing pelagic trawls required for the BS/AI pollock fishery. These trawls will be modified with salmon excluder devices and recapture devices.

Approximate time and place for exempted fishing under EFP: The chum salmon field test portion of the EFP is expected to last approximately 12-15 consecutive days starting in mid-September of 2003 (see attached document for an explanation of the anticipated timing). The Chinook salmon excluder test is expected to start sometime from January 20th through the end of March in 2004. The expected duration of the EFP test of the Chinook salmon excluder is also 12-15 days. The location for the test will be the common areas for catcher vessels to fish for pollock in the Bering Sea at those times of the year. The single exception is the specific request for exception from regulations establishing salmon savings areas, either those pre-established closure areas or those closed if bycatch caps are attained (see above).

Data analysis and preliminary and final reports: Analysis will primarily focus on the estimation of the proportions of pollock and salmon excluded from the catch through the device. The experiment is designed to estimate these values for the combination of all tows, representing the value of the device in ordinary fishery conditions. Variability of escape rates between tows will be examined for indications of conditions affecting excluder performance. Combined size composition data will be tested for differences between retained and escaping fish. Results and analyses will be compiled into preliminary and final reports and presentations that will be made available to managers, trawlers, scientists and the interested public.

Signature of Applicants: