







We discussed the potential for an effect on  $\beta^{fD}$  arising from the proposed change in the management area boundary with commercial and recreational fishermen familiar with the area and the proposal. For the commercial fishery, we considered whether there would be an increase in commercial fishing effort in the FB management area resulting from Eureka area vessels when the KC area was closed since the management area boundary would now be approximately five nautical miles closer to Eureka. Such an effort response was deemed unlikely because the proposed change in distance from Eureka to the northern boundary of FB is relatively small and Eureka-based vessels that typically do not travel outside the KC area to fish would be unlikely to begin doing so. The Shelter Cove commercial salmon fleet currently consists of less than ten active vessels, and they are smaller vessels that typically do not take multiple-day trips. While an effort increase among these vessels is possible, their contribution to the overall salmon fishing effort in the FB area is relatively minor and unlikely to make an appreciable difference. With regard to the recreational fishery, it was deemed very unlikely that Eureka-based vessels would travel below 40°10' to fish for salmon as the travel distance is long, especially for smaller vessels in an area known for rough ocean conditions. For Shelter Cove-based recreational vessels, there could be an increase in effort during times when KC is closed since boats would now be able to traverse further north, however given recent season structures this would only occur during times when local salmon fishing effort and harvest is already low (i.e., early-spring and fall).

As a result of these discussions, we determined that there is unlikely to be a notable effort response from the proposed management boundary change and thus did not further consider modifications to the effort per day open inputs for the KOHM and SHM.

### ***KRFC contact rates per unit effort***

The KOHM forecasts ocean contact rates (the proportion of the cohort that encounters fishing gear) for Klamath River fall Chinook (KRFC) by month, management area, fishery sector, and age<sup>3</sup> by multiplying the predicted effort by the estimated contact rate per unit effort,

$$c = \beta^{cf} \cdot f, \quad (2)$$

where  $c$  is the contact rate,  $\beta^{cf}$  is the contact rate per unit of effort, and  $f$  is fishing effort as defined in equation (1). Subscripts for age, month, area, and fishery sector are suppressed for clarity. Historical estimates of contact rates and fishing effort are used to estimate  $\beta^{cf}$  as described in Mohr (2006b). A more detailed description of the contact rate forecasting procedure is presented in Mohr (2006a).

Estimates of  $\beta^{cf}$  tend to be higher in KC than FB for both commercial and recreational fisheries (Figure 2). To examine a potential change in contact rates per unit effort in an expanded FB region resulting from the proposed management line boundary change, we computed weighted means of  $\beta^{cf}$  for FB and KC,

$$\beta_{FB,adj}^{cf} = \beta_{FB}^{cf} \cdot w_1 + \beta_{KC}^{cf} \cdot w_2, \quad (3)$$

<sup>3</sup> Contact rates are age-specific for the commercial fishery. For the recreational fishery, contact rates are not age-specific except for the Oregon and California Klamath Management Zone during the month of August.



















