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2501 M Street, NW Washington DC 20037

## PRELIMINARY ANALYSIS OF BYCATCH IN PACIFIC TRAWL FISHERIES: OVERVIEW OF CONCLUSIONS FROM 2001-2002 OBSERVER DATA

Michael F. Hirshfield, Ph.D.  
Santi Roberts

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**Bocaccio bycatch in 2003 may be substantially greater than expected.** The observed bycatch of bocaccio in the southern flatfish fishery, in waters less than 100 fm, was comparable to the bycatch assumed for the entire southern flatfish fishery for 2003 (2.32 mt observed vs. 2.48 mt from Hastie Report), even though only roughly 10% of that fishery was observed. Estimates of the annual bocaccio bycatch from the observer data for this fishery alone (from 17 to 33 mt) are close to or greater than the entire 2003 allowable catch of 20 mt of bocaccio for all fisheries. Although 2003 reductions in effort and depth closures mean estimates from the observer data are likely to be too high, *bycatch would have to be 90% less to reach the levels expected by the Council for 2003.*

**Canary rockfish bycatch in 2003 may be substantially greater than expected.** The observed bycatch of canary rockfish in the northern flatfish fishery, in waters less than 100 fm, was 40% of the bycatch assumed for the entire flatfish fishery, (5.4 mt observed vs. 13 mt from Hastie Report), even though only roughly 10% of that fishery was observed. Again, estimates of the annual canary rockfish catch from the observer data for this fishery alone (38 to 75 mt) are close to or greater than the entire 2003 allowable catch of 44 mt for all fisheries. Although 2003 reductions in effort and depth closures mean estimates from the observer data are likely to be too high, *bycatch would have to be 75% less to reach the levels expected by the Council for 2003.*

**Lingcod bycatch in 2003 may be substantially greater than expected.** Similarly, observed lingcod bycatch in the northern and southern shallow flatfish fishery was over half of the bycatch estimated for the entire flatfish fishery (37 mt observed vs. 67.5 from Hastie Report). Over eighty percent by weight of the observed lingcod catch was discarded.

**The DTS complex fishery has substantial discards of target species.** In the deep (greater than 200 fm) DTS fishery coastwide, observed dover sole discards were 18% of total dover sole catch; observed thornyhead species (combined) discards were 23% of total thornyhead catch, and sablefish discards were 59% of total sablefish catch.

**Observed bycatch of widow rockfish, darkblotched rockfish, and Pacific Ocean perch in 2003 may be less than expected.** Annual estimates of bycatch based on observer data for the shallow flatfish fisheries and the deep DTS fisheries was less than Hastie Report estimates for all three species (20% of estimated for widow, 25% of estimated for darkblotched, and 37% of estimated for POP).

## **ASSUMPTIONS, DEFINITIONS, METHODS:**

Bycatch totals are summed over the observer year (mid 2001 through mid 2002).

Bycatch is defined as discards for target species and retained plus discards for non-target species.

Bycatch rates are defined as % of retained target species.

Allowable catch limits for 2003 are taken from Pacific Council News, October 2002, Table 1, Council OY.

Model estimates for total 2003 bycatch are from Hastie Report, Table 19 or 27.

Observer based estimates of total 2003 bycatch were calculated by multiplying annual observed totals (from Observer Report, Appendix Tables II and III) by 7.1 and 14.3, and converting to metric tons. This approach assumes that the observer coverage is representative of the fishery in 2003, and is an unbiased 14% and 7% (respectively) sample of the fisheries. (The Observer Report concluded that the observer program achieved between 7% and 14% coverage, with an overall level of 10%.)

Only 5 bimonthly periods were observed for the flatfish/south/shallow fishery; the model (Hastie Report, Table 12b) assumes significant bycatch for lingcod, relatively low bycatch for bocaccio, and no bycatch for canary, during the missing period. If the model is correct, annual estimates of lingcod bycatch in this fishery, in particular, could be roughly 20% higher, assuming comparable target species catches in this period.

## **INFORMATION SOURCES:**

Northwest Fisheries Science Center West Coast Groundfish Observer Program Initial Data Report and Summary Analysis (January, 2003) (referred to as "Observer Report")

Hastie, James. Discussion of Bycatch Modeling Methods Developed for Evaluating Management Measures for the 2002 and 2003 Groundfish Trawl Fisheries, prepared for the PFMC's Bycatch Model Review Panel (January, 2003) (referred to as "Hastie Report")

Pacific Council News, October 2002.

For further information, contact Michael Hirshfield at (202) 833-3900 ext. 915.