

3-3. Feeding Habits and Trophic Interaction (Poster-18)

## Feeding Selectivity of Pacific Salmon in the Western Bering Sea and Adjacent Pacific Waters

Alexander V. Zavolokin\*, Alexander M. Slabinskiy, and Alexander Ya. Efimkin

*Pacific Research Fisheries Centre (TINRO-Centre), 4 Shevchenko Alley, Vladivostok, 690950, Russia;  
E-mail, zavolokin@tinro.ru*

Species-specific, size-based and seasonal prey selectivity was examined for Pacific salmon caught in the western Bering Sea and adjacent Pacific waters in summer and fall 2002-2006. Potential zooplankton preys were sampled with 0.1 m<sup>2</sup> Jedy net with a 0.168 mm mesh. Micronekton (small fish and squids) abundance was estimated using a mathematic model which based on salmon diet data and plankton composition. All salmon species positively selected for most conspicuous prey. In the daytime, it is hyperiid amphipods, euphausiids, pteropods, decapod larvae, the squid *Gonatus kamtschaticus*, juvenile walleye pollock *Theragra chalcogramma* and atka mackerel *Pleurogrammus monopterygius*, which have a pigmented and/or large body. In the nighttime, salmon feed mainly on myctophids and euphausiids, which have luminous photophors. In 2002-2006, pink, chum and sockeye salmon selectively preyed on the same food items. Prey selectivity rank for first three items was: the euphausiid *Thysanoessa longipes* > the hyperiid amphipod *Themisto pacifica* > the pteropod *Limacina helicina* for pink salmon, *T. pacifica* > decapod larvae > *Th. longipes* for chum and sockeye salmon. Chinook and coho salmon positively selected mostly for nektonic organisms (squids and forage fish). Seasonal variation of salmon feeding preferences was determined. Chum, sockeye and chinook salmon reduced the number of favorite prey from summer to fall. Relationship between predator and prey size was studied.