



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southwest Fisheries Science Center
8604 La Jolla Shores Drive
La Jolla, CA 92037-1508

August 4, 2009

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AUG 11 2009

MEMORANDUM FOR: Dr. Don McIsaac, Executive Director
Pacific Fishery Management Council (PFMC)

THRU: Dr. Norm Bartoo, Acting Science Director
Southwest Fisheries Science Center (SWFSC)

FROM: Dr. Russ Vetter, Division Chief
Fisheries Resources Division, SWFSC

PFMC

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A handwritten signature in black ink, appearing to be "Russ Vetter", written over the "FROM" line of the memorandum.

SUBJECT: Response to letter *Pacific Fishery Management Council Recommendations for Future Pacific Mackerel Assessments* (July 29, 2009); Pacific mackerel (coastal pelagic species, CPS) research in 2009-11

At the onset, thanks for your recent letter addressing Pacific Fishery Management Council (PFMC) recommendations regarding critical areas of research applicable to the Pacific mackerel population off the Pacific coast of the USA and Baja, Mexico (in support of federal/state Fishery Management Plan directives), i.e., we (Southwest Fisheries Science Center) have begun outlining specific projects for meeting PFMC recommendations that followed review/discussion at the forum convened recently in Spokane. Your letter provides a very good list, albeit an ideally inclusive one, which includes a broad range of topics from data collection in the field, evaluations in the laboratory, and statistical analysis of historical and alternative time series used in ongoing stock assessments of this species. In this context, the following discussion regards further details regarding the upcoming work, particularly in terms of scope, timing, and expectations associated with the respective projects underway (particularly, efforts that span from now, mid 2009, to the next stock assessment in mid 2011):

Pacific mackerel maturity study

- Re-examination of this species' maturity schedule is considered a high priority research effort that will likely take two years to realize fruition
 - it is important to note that Pacific mackerel have received little fishing pressure in recent years and thus, data collection is hampered accordingly, given it's not anticipated that independent 'survey' samples will be obtained for this species in the near future;
 - further, the formal status of this project was only recently finalized and thus, this year's sampling schemes are accordingly hampered;
 - in collaboration with the California Department of Fish and Game (CDFG), samples will be collected in the field, processed in the laboratory, and evaluated statistically;
 - sampling will be conducted across (at least) two complete summer blocks



- the overriding goal this summer (2009) is to establish a sampling protocol(s) across multiple fisheries (both commercial and recreational), whereby the following summer(s), the overall process from field-to-laboratory is efficient; and,
- it's possible (but not probable say ...) that a meaningful (statistically-sound) maturity schedule will be ready for the next formal assessment, but it's critical that the temporal/spatial attributes of the sampling design are not compromised, given such research is infrequently conducted and thus, conclusions generally remain in place for an extended time.

Commercial Passenger Fishing Vessel logbook project

- In collaboration with CDFG, review current monitoring programs for this fleet, as well as related recreational fisheries (e.g., private vessels) that harvest Pacific mackerel and CPS in general
 - re-evaluate current index of relative abundance (catch-per-unit-effort, CPUE) used in the formal stock assessment;
 - re-evaluate current length distribution time series for this fleet ... see above for CPUE index);
 - examine via sensitivity analysis in the fully-integrated assessment model (Stock Synthesis, SS) both catchability and selectivity parameterization, particularly, time-varying vs. constant assumptions;
 - develop (potentially) alternative indices of abundance based on this sample information; and,
 - it's very likely that substantial progress will be made with this project during this 'interim' year and thus, the next assessment will be based on an improved understanding of the accuracy (say robustness) of this index of abundance and ultimately, its influence in the ongoing assessment model.

California Cooperative Oceanic Fisheries Investigations (CalCOFI) time series project

- Re-examination of this species' egg/larvae data collected from the ongoing CalCOFI survey
 - assess the merits/drawbacks of alternative (potentially) time series of Pacific mackerel relative abundance associated with this research survey based on different spatial/temporal post stratification schemes, statistical methods, and/or oceanographic dynamics than used in previous stock status determinations; and
 - it's likely that progress will be made with this project prior to the next assessment, with findings presented accordingly for review in late 2010.

Improved scientific relations with Canada and in particular, Mexico

- We continue to initiate discussion and encourage collaborative research with our international colleagues, including coordinating and attending pivotal conferences/meetings in efforts to establish a setting that fosters long-term, high quality, and politically supported information exchange.