

HABITAT COMMITTEE REPORT ON FISHERY ECOSYSTEM PLAN COORDINATED ECOSYSTEM INDICATOR REVIEW INITIATIVE

The Habitat Committee (HC) appreciates efforts by the Ecosystem Workgroup to coordinate review of ecosystem indicators. In general, the HC recommends developing better ways to summarize spatial variation of indicators that strongly vary across the California Current. One way to improve these summaries is to provide an annual map (in addition to time series) or a spatial summary of particular indicators (e.g., a map emphasizing where strong annual deviations in particular indicators occur). Because the State of the California Current Ecosystem Report is already longer than desired but describes many important indicators, one way to focus the report would be to highlight indicators for specific ecosystem-based fisheries management goals. For example, addressing priority groundfish habitats identified by the Council should point to relevant habitat indicators.

Additional comments focus on specific indicators:

Habitat indicators

Freshwater habitat indicators. As Columbia River salmon populations are a focal point for management and include a number of species listed under the Endangered Species Act (ESA), an indicator summarizing spill over Columbia River dams during outmigration periods may be a valuable predictor of survival. More generally, freshwater flow indicators should summarize velocity in addition to discharge.

Estuary/nearshore indicators. Indicators of riverine and estuary pollution may be summarized by mapping products produced by the National Fish Habitat Partnership and the Environmental Protection Agency's National Pollution Discharge data.

Pelagic indicators. Wind and wave maps produced by the Bureau of Ocean Energy Management may be useful for describing habitat conditions for pelagic species.

Seafloor indicators. The seafloor habitat disturbance indicator compiles both fixed-gear and bottom trawling efforts, which are expected to have very different habitat impacts and vary in intensity and spatial coverage. Therefore, they should be subdivided into fixed- and trawl-gear types. Like other indicators, they should be mapped or summarized by region.

Other indicators

Community vulnerability. As the fishing community extends well beyond commercial ventures, the community vulnerability index should be expanded to include sport and tribal fishing communities.

Seabird indicator. Species richness is a poor indicator because it masks differences in feeding groups preying upon different species. Analyses should be summarized by feeding groups or based on species that represent groups. For instance, Cassin's auklets feed primarily on copepods,

euphasiids and larval fish, while common murrens primarily eat herring, sandlance, anchovy, and juvenile salmon. Ocean distributions of piscivorous seabirds may be informative for inferring distribution of forage species, as long as lack of observations is not conflated with evidence of absence. Finally, marbled murrelet surveys are worth emphasizing on their own because of their use of nearshore areas, and because they are ESA-listed as threatened and were recently proposed as endangered.

PFMC
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