



May 27, 2026

North Pacific Fishery Management Council
1007 W. 3rd Avenue, Suite 400
Anchorage, AK 99501

Re: Agenda Item D1– Pelagic Trawl Gear Research Updates (GII) and Consideration of Performance Standards

Dear Chair Drobnica and Council Members:

On behalf of United Catcher Boats (UCB), thank you for the opportunity to comment on the June 2026 agenda item regarding pelagic trawl gear research updates and the potential consideration of a performance standard.

UCB represents the majority of the catcher vessel fleet operating in the Bering Sea pollock fishery. Our members operate within a federally managed fishery grounded in the best scientific information available, supported by extensive monitoring, accountability, and transparent scientific and regulatory processes.

Council Direction and Fleet Response

At its June 2025 meeting, the Council requested that the Bering Sea pollock industry develop dynamic spatial closures for the 2026 A season in the Red King Crab Saving Area (RKCSA), while maintaining priority for salmon bycatch avoidance through an override mechanism.

The fleets responded directly to that request.

Dynamic closures were implemented using the best available information, including survey data, collaboration with the Bering Sea Fishery Research Foundation (BSFRF), tagging data, and operational knowledge. Based on initial reporting and fleet experience:

- The closures were successfully implemented and adhered to while maintaining operational responsiveness.
- Initial implementation demonstrated that the fleet could operate within the closure framework without incursions, while maintaining operational flexibility.
- Salmon avoidance remained fully integrated into operational decision-making.

UCB supports the pollock fleets' demonstrated ability to develop and manage dynamic measures. It highlights the fleets' real-time responsiveness and commitment to science-based management, while carefully considering tradeoffs with other species and operations.

This voluntary dynamic measure demonstrates what can be achieved when the fleet is able to respond to in-season data in real time, collaborate with research partners and stakeholders, and adapt operations without being constrained by rigid static regulations or premature performance standards.

Maintaining this adaptive capacity is critical to responsible stewardship, effective in-season management, and continued innovation in a complex ecosystem where scientific understanding of gear interactions, habitat, and species distributions continues to evolve.

We are encouraged that much of the research used to inform development of these dynamic measures is continuing and will further improve understanding of red king crab and associated habitat in Bristol Bay.

Establishing static management measures risks undermining the pollock fleets' demonstrated ability to implement dynamic measures while creating unintended consequences by failing to adequately consider tradeoffs with other species and operational realities.

Premature regulatory measures that are not adaptive to new information or responsive to real-time fishery conditions risk undermining both conservation outcomes and the Council's existing research pathway, including substantial ongoing investments by Alaska Pacific University (APU), industry, and research partners.

Status of the Gear Innovation Initiative (GII)

The Gear Innovation Initiative (GII) represents a significant, collaborative effort between the pelagic trawl fleets in Alaska and the Fisheries, Aquatic Science, and Technology (FAST) Laboratory at APU to provide scientifically robust information on fishing gear to support effective fisheries management and provide a foundation for iterative, science-based gear innovation.

Robust evaluation of pelagic trawl gear behavior, operational performance, and potential habitat interaction requires direct participation from vessel operators and members of the trawl industry with extensive real-world gear expertise. Gear performance is highly dependent on vessel configuration, fishing practices, environmental conditions, and operational decision-making that cannot be fully understood through theoretical modeling or isolated observation alone.

Continued industry collaboration is therefore essential to ensuring that scientific analyses, model development, and future management measures accurately reflect real-world fishery conditions.

This work is well underway. To inform computational trawl gear simulations, fleet-wide Fishing Effects model updates, and the 2028 EFH 5-year review, the APU FAST Lab research team has been collecting the following components:

- Fleet-wide gear cataloging across catcher vessels and catcher-processors
- Development of fishing practice profiles capturing real-world operational variability
- Empirical haul-level data from multiple seasons and conditions

This robust body of work not only responds directly to the Council’s request but reflects the research pathway the Council has already recognized and supported.

The GII is designed to serve as a scientific foundation for innovation and future management decisions, not to produce immediate regulatory endpoints. It is building the data-based foundation, analytical tools, and understanding necessary to inform and support those types of decisions.

The GII and associated Fishing Effects model work remain in **active development** and are continuing to progress through the full scientific review and management process outlined by the Council.

Understanding pelagic trawl interaction with the seafloor is a central component of this work, including how gear geometry, configuration, and operator-controlled fishing practices influence trawl behavior and potential bottom contact.

Key components including model refinement, field validation, potential sensor development, fishing feasibility evaluation, and integration into the EFH 5-year review remain underway.

Importantly, pelagic trawl gear has never been understood or regulated as “zero contact” gear. Historically and operationally, pelagic trawl gear has been distinguished from non-pelagic or bottom trawl gear based on gear configuration, operational behavior, and reduced seafloor interaction.

Current federal regulations already recognize that some intermittent seabed interaction may occur under certain conditions while still distinguishing pelagic trawl operations from non-pelagic bottom trawl activity.

Ongoing GII and Fishing Effects model work is intended to improve understanding of the frequency, extent, and potential impacts of those interactions under varying operational conditions.

Importantly, bottom contact alone does not necessarily equate to habitat impact. Understanding potential impacts requires consideration of habitat susceptibility, sediment type, fishing practices, and gear behavior across varying conditions. These relationships are still being evaluated through the ongoing scientific process.

Additionally, if the Council is seeking a better understanding of habitat important to Bristol Bay red king crab (BBRKC) and unobserved fishing mortality, evaluation of all relevant sources of habitat disturbance should be included. Multiple fisheries and gear types, including fixed gear, have seafloor interactions. Naturally occurring habitat disturbance should also be considered if the Council intends to maintain an ecosystem-based approach to fishery management in the Bering Sea.

Council Direction and Recently Identified Objectives

The June 2025 Council motion explicitly recognizes both the complexity of these issues and the substantial body of research still required before additional management measures are evaluated.

The Council established a deliberate science-based pathway centered on Gear Innovation Initiative research, Fishing Effects model refinement, ongoing Bering Sea Fisheries Research Foundation crab research, EFH review, and scientific vetting.

These issues are not new to the Council process. Pelagic trawl gear interactions, benthic effects, and habitat considerations have been evaluated through prior EFH reviews, Fishing Effects analyses, and earlier Council discussions regarding pelagic trawl operations in the Bering Sea.

Moving toward a performance standard before that work is completed and reviewed would be inconsistent with the Council's own direction and the principles of science-based management required under National Standard 2.

The June 2025 motion states that:

“The Council intends to use the gear innovation research and other ongoing research to better quantify and understand current bottom contact by pelagic trawl gear types and will use that to evaluate management measures to further minimize the impacts of pelagic trawl gear in areas that are currently closed to nonpelagic trawl gear and to address potential unobserved crab mortality, unless the industry can document, as described below, limited seafloor contact and/or impacts.”

The motion makes clear that the Gear Innovation Initiative, Fishing Effects model updates, EFH work, and related crab research are interconnected components of a broader science-informed process that remains underway.

It establishes clear research priorities, timelines, and expectations for continued scientific review before additional management measures are evaluated.

Specifically, the Council directed continued work on:

- Gear Innovation Initiative research related to pelagic trawl interactions with benthic habitat and potential unobserved crab mortality;
- Refinement of Fishing Effects model inputs to improve bottom contact estimates;
- Continued Bering Sea Fisheries Research Foundation crab research and EFP work related to pelagic trawl gear modifications; and
- Further scientific review and development of information necessary to evaluate potential future management options.

The motion further stated:

“The Council intends to use the updated bottom contact estimates in the Fishing Effects model and gear research to develop options to revise the performance standard for pelagic trawl gear operations, based on previously stated Council objectives and available information.”

This language reflects the Council's clear recognition that substantial scientific work, refinement, and review remain necessary before developing additional management measures.

Moving toward a performance standard before those milestones are completed would be inconsistent with the Council's own stated process, the best scientific information available standard under National Standard 2, and the deliberate science-based management framework that has long defined North Pacific fisheries management.

Modified Performance Standards Are Not Justified or Appropriate at This Time

Given the substantial body of ongoing research regarding pelagic trawls, seafloor interaction, and crab habitat and distribution, **UCB does not support development or revision of a pelagic trawl performance standard at this time.** The Council has already identified that updated Fishing Effects model inputs, informed by GII research, are necessary to evaluate gear interactions. That work is still underway. Advancing a performance standard before those updates are complete would place management decisions ahead of the scientific process the Council specifically established to inform them.

At present, the Council's existing EFH review process, Fishing Effects evaluations, and available scientific information have not identified adverse benthic impacts or unobserved crab mortality associated with pelagic trawl operations at a level warranting additional regulatory measures such as a revised performance standard.

Importantly, the Council's peer-reviewed Fishing Effects (FE) model distinguishes between "fishing footprint," "benthic footprint," and "impacted footprint." The FE model explains that the "fishing footprint" includes "pelagic fishing activity" and represents the spatial footprint of fishing activity overall, while the "benthic footprint" estimates "how much of the seafloor has ever been contacted by fishing gear." The FE model further explains that the difference between those estimates represents areas that "have only ever had pelagic (or at least off bottom) fishing activity." (Zaleski et al. 2024). The model separately estimates "impacted footprint" as the proportion of benthic features estimated to have actually been impacted by fishing activity after accounting for contact adjustment and habitat susceptibility.

In the Eastern Bering Sea, the FE model estimated habitat disturbance at 5.2%, compared to a fishing footprint estimate of 37.9% (2022 Evaluation of Fishing Effects on Essential Fish Habitat).

As summarized in the June 2025 Council discussion paper on pelagic trawl gear innovation:

"During the most recent Fishing Effects Evaluation (Zaleski et al. 2024), stock authors reviewed results from the FEM to evaluate whether fishing adversely impacted each stock and were able to provide an FE evaluation to determine if fishing adversely impacted their stock if $\geq 10\%$ of the core EFH area (CEA) was disturbed. **None of the authors concluded that habitat disturbance within the core EFH area for each species was affecting each stock in ways that were more than minimal or not temporary. None of the stock authors or the Council recommended elevating the species for additional mitigation measures against impacts of fishing for any EFH 5-year Review period since implementation." (Pelagic Trawl Gear Innovation Discussion Paper, May 2025)**

Importantly, the same discussion paper reiterates the Council's existing EFH framework under the Magnuson-Stevens Act, stating that Councils "must act to prevent, mitigate, or minimize any adverse effects from fishing to the extent practicable, **if there is evidence that a fishing activity adversely affects EFH in a manner that is more than minimal and not temporary in nature.**" (Pelagic Trawl Gear Innovation Discussion Paper, May 2025)

Regardless of public opinion and pressure, the Council's own review processes and scientific evaluations have not reached that conclusion with respect to pelagic trawl gear.

Additionally, the Council-approved Unobserved Fishing Mortality Working Group (UFMWG) recently indicated in June 2024 that: “substantial data deficiencies currently preclude meaningful estimation of UFM. Overcoming these data gaps will require that all of the data gaps and research needs outlined in Table 1 be addressed. “The report further recommended: “that the construction of robust research designs depends on ecological or biological evidence (even preliminary) that elucidates the mechanisms and magnitude of a particular phenomenon of interest [UFM].” (UFMWG Report, June 2024)

Ongoing research efforts, including continued Bering Sea Fisheries Research Foundation crab habitat and distribution research, are intended to help address these remaining data gaps and improve understanding of crab interactions, habitat use, and potential unobserved mortality, consistent with the Council’s objectives laid out in the June 2025 motion.

It is premature for the Council to set or refine a pelagic trawl performance standard because the scientific elements necessary to develop meaningful, defensible, science-based management measures remain incomplete.

Consideration of cumulative benthic habitat disturbance should also recognize that habitat interactions may arise from a variety of operational and non-operational sources, including lost or abandoned fishing gear, which remain incompletely quantified across sectors.

As the Council is aware, bottom contact is not a static or easily verified metric. Current bottom contact estimates continue to evolve as FE Model inputs are refined through ongoing research, with additional updates expected through the next phase of the FE model anticipated in February 2027.

Establishing a performance standard before this work is complete risks creating a standard that is:

- Not grounded in the best scientific information available
- Difficult to consistently monitor, implement, or enforce
- Misaligned with actual gear performance in the fishery
- Failing to adequately account for operational tradeoffs and unintended consequences of unknown magnitude

Maintaining the Council’s Science-Based Management Process

The current pathway the Council has put forth is clear: continue GII and related research, improve Fishing Effects Model inputs and EFH analyses, allow for SSC review and scientific vetting, and evaluate management needs based on a complete body of validated information.

Departing from that sequence by moving toward performance standards now would be inconsistent with that process and, importantly, inconsistent with science-based management.

Further, doing so would fail to adequately account for tradeoffs with other management concerns and risks creating unintended consequences of unknown magnitude.

In the absence of a clearly defined and scientifically supported problem, there is a risk that management action becomes driven by perception rather than evidence, inconsistent with the science-based framework established under the MSA National Standard 2. National Standard 2 of the

MSA requires that conservation and management measures be based on the best scientific information available.

The Council already has multiple ongoing research efforts, existing habitat protections, and established management frameworks in place to evaluate pelagic trawl interactions with benthic habitat and potential crab impacts. Several of these projects are approaching stages where they are expected to provide highly informative data directly relevant to this process.

Given the performance standards already in place, combined with the current understanding reflected in the Fishing Effects model, the risk associated with allowing this work to continue to completion is likely minimal.

Continuing the current research, Fishing Effects model refinement, and scientific review processes before considering additional performance standards allows the Council to make more informed decisions using a more complete body of information, while existing management measures and conservation protections remain in effect.

Completing this work first improves the **quality, credibility, and practical applicability** of any future management decisions without foregoing protections already incorporated into the current management system.

Path Forward

UCB supports the following approach:

1. Continue and complete GII work, relevant ongoing EFPs, and Bering Sea Fisheries Research Foundation crab habitat research.
2. Support the pollock fleets' demonstrated ability to manage dynamic avoidance measures.
3. Maintain adaptive, operationally grounded management tools.
4. Support a broader ecosystem-wide and cross-gear scientific approach to evaluating habitat interactions, fishing effects, and potential unobserved mortality across sectors operating within the Bering Sea ecosystem.
5. Defer consideration of modified performance standards until the scientific foundation is more fully developed and the management objective is clearly defined.
6. Ensure continued and meaningful collaboration between industry participants, scientists, and managers throughout ongoing gear research, Fishing Effects model refinement, and any future evaluation of management measures.

The Council already has an established, science-based process for evaluating habitat impacts through the EFH framework and Fishing Effects model. The ongoing GII work is designed to inform those analyses, **not bypass them**.

It is also important to maintain clarity between questions related to benthic habitat interactions and those related to potential unobserved crab mortality, as these may involve different scientific questions, data gaps, research approaches, and management solutions.

Conclusion

The catcher vessel fleet has responded to Council direction, implemented new tools, and is actively participating in one of the most comprehensive gear research efforts undertaken in the North Pacific, and likely among the most robust in the nation.

That work is expected to produce meaningful information, improve understanding, and move the Council closer to the data necessary to make informed decisions.

But it is not finished.

Substantial research, refinement, and scientific review remain ongoing.

If the Council intends to seriously evaluate benthic impacts and potential unobserved mortality, the discussion should remain grounded in the full body of ongoing scientific research being presented throughout this Council meeting and include consideration of impacts and unobserved mortality across gear types and sectors.

This should include consideration of habitat interactions and potential mortality pathways across gear sectors and fishing activities operating within the Bering Sea ecosystem, including crab fisheries, fixed gear operations, and sources of benthic interaction associated with lost or abandoned gear that remain incompletely quantified across fisheries, rather than narrowly focusing on pelagic trawl operations in isolation.

UCB respectfully urges the Council to support continuation of the ongoing scientific work, remain grounded in the best scientific information available, and avoid premature regulatory action before the scientific foundation necessary to support those decisions is complete.

Thank you for your consideration.

Sincerely,

A handwritten signature in black ink that reads "Andrea Keikkala". The signature is written in a cursive, flowing style with a decorative flourish at the end.

Andrea Keikkala
Executive Director
United Catcher Boats