

## Kodiak Perspectives on Marine Carbon Dioxide Removal (mCDR): Community Workshop Summary

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Fisherman's Hall, Kodiak, AK

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The 2.5-hour Kodiak regional community workshop was structured to introduce and discuss marine carbon dioxide removal (mCDR). The session welcomed in-person and virtual participants, outlined *Community Leaders and mCDR (CLaM)* project goals, and provided an accessible overview of mCDR science, local relevance, and emerging industry examples. A diverse group of 27 participants and five facilitators engaged in the workshop. While most of the participants were commercial fishermen and family members, attendees also included scientists, researchers, Tribal members and representatives, high school students, and retirees. Through presentations, small-group activities, and facilitated discussions, participants explored potential benefits, risks, and values, and considered how Kodiak communities could shape governance, decision-making, and future engagement around mCDR in Alaska waters. Across all formats, participants engaged seriously and critically while emphasizing fisheries protection, transparency, and accountability over technical optimism.



*Introductory scientific mCDR presentation.*

### Place-Based Values in the Middle of the Gulf of Alaska

Participants consistently emphasized that Kodiak's regional identity and well-being are inseparable from the surrounding marine ecosystem. The Gulf of Alaska was described as a highly productive and interconnected system, not an abstract or isolated environment suitable for experimentation from outside interests. Participants rejected the notion that offshore or remote locations inherently carry lower risk for interventions. Instead, they emphasized that currents and ecosystem connectivity mean impacts can travel, potentially affecting fishing grounds and coastal ecosystems far from the point of any mCDR field trial activity. Kodiak was repeatedly characterized as a place where

marine changes are felt quickly and across multiple fisheries that make up the socioeconomic backbone of the region.

### Livelihoods, Fisheries, and Economic Interdependence

Fisheries surfaced as the primary lens through which mCDR approaches would be assessed. Participants expressed deep unease about the potential movement of plankton blooms, toxin production, and broader cascading ecosystem changes that mCDR could have in a complex marine ecosystem already facing diverse stressors. Several participants stated that any approach threatening fisheries access or productivity would be unacceptable, regardless of overall carbon benefits. Other participants stated explicitly that if mCDR activities altered fishing grounds and species availability, the answer to possible projects would be “a hard no.”



*Breakout mCDR governance activity.*

### History and Community Memory

While Kodiak and Cordova are unique communities involved in the CLaM project, they have shared experiences and connections to fishing. Kodiak participants drew references to past industrial impacts and lessons from the Exxon Valdez oil spill, particularly the understanding that negative impacts often travel farther and behave less predictably than anticipated. This communal memory reinforced caution around large-scale or poorly understood ocean interventions. Trust with emerging marine industries was described as fragile and contingent. Participants emphasized that communities should not and would not bear disproportionate risk for global climate and

carbon experimentation, particularly when large emitters have not demonstrated meaningful emissions reductions.

### Scientific Engagement and Views on mCDR Approaches

Participants demonstrated strong scientific literacy as commercial fishermen and many community members are well-versed in fisheries management approaches and related scientific processes. Questions related to mCDR focused on scale, mechanisms, and certainty, including how phytoplankton density is sampled, what proportion of carbon reaches deep ocean storage, associated energy use to meet removal goals, and how ocean chemistry processes, such as downwelling and acidification, interact with proposed approaches.

Community members were attentive to species-specific responses, particularly which phytoplankton species might be favored under different mCDR methods and whether harmful algal toxins could increase. Ocean Iron Fertilization (OIF) was viewed with particular skepticism due to these kinds of concerns as participants were wary of experimental or pilot-scale trials “dumping” materials in their home waters, especially if framed as “testing.” Overall, participants made clear they are not opposed to science, but expect rigor, transparency, and honest acknowledgment of uncertainty in an experimental emerging industry like mCDR.

### Governance, Accountability, and Decision-Making

Governance emerged as a central concern. Participants emphasized that how decisions are made matters as much as the technical details of mCDR approaches. Communities must have real authority, not advisory-only roles. Calls for community veto power, co-design of projects, and enforceable accountability mechanisms were consistent across breakout groups.

**Repeated questions included:** Who holds liability if something goes wrong? Who pays for damages? What is the long-term monitoring plan? What insurance or compensation mechanisms exist? Participants stressed that Kodiak residents should not be left “holding the pieces” if negative impacts occur from mCDR activities, whether they be research or commercial in nature.

### Expectations for Transparency, Monitoring, and Risk Management

Trust emerged as a central issue and references to possible proprietary processes in mCDR development are a strong concern. Participants emphasized that full transparency is non-negotiable, including disclosure of any materials being introduced into the ocean, funding sources, carbon credit buyers, and whether project developers stand to profit. Any perception of secrecy or limited disclosure was described as deeply unsettling and incompatible with community acceptance. There was strong support for independent, third-party monitoring for any proposed mCDR activities modeled after familiar frameworks, such as fisheries observers or wastewater treatment oversight.

Participants emphasized long-term monitoring, public data access, and clear shutdown thresholds. Structures like the Ship Escort Response Vessel System (SERVS) created in 1989 to prevent oil spills and provide oil spill response and preparedness capabilities were discussed as a potential coordination tool, there was little interest in participation without far greater certainty about mCDR ecological impacts.

### Outreach and Community Engagement Expectations

Participants emphasized that any mCDR outreach must be broad, localized, and sustained, rather than extractive or performative. The group identified a wide range of stakeholders who must be engaged early and meaningfully, including fishing organizations, processors, Tribal representatives, subsistence and Fish and Game advisory committees, local government, high school students, and anyone who makes a living on the water. Preferred engagement mechanisms included open public meetings, town halls, local media, comprehensive online resources, and multiple in-person forums, such as ComFish forums. Engagement framed as extractive, short-term, or symbolic was strongly rejected.

### Overall Tone and Community Sentiment

Participants approached the mCDR discussion with a recognition of delicate and changing marine ecosystems, while expressing measured caution toward emerging mCDR approaches addressing carbon sequestration. Community sentiment was characterized by curiosity paired with hesitancy and high expectations for scientific rigor, transparency, and accountability, rather than outright enthusiasm or opposition. Participants consistently emphasized the need to proceed carefully, acknowledging uncertainty and prioritizing protection of fisheries and community livelihoods. This balanced, pragmatic tone reflects a willingness to engage in dialogue, conditional on processes that are inclusive and responsive to community values and concerns.

Facilitators observed the overall tone the workshop discussions as:

- Highly engaged and scientifically informed
- Direct and values-driven
- Cautious and skeptical
- Fiercely protective of fisheries and ecosystems

### Values-Based Questions: Risk, Benefit, and Purpose

Beyond technical feasibility, participants repeatedly asked foundational questions: Does this actually matter if emissions are not reduced? Is the risk worth the hypothetical reward? Who benefits and how are benefits shared? Many expressed concern that mCDR could distract from emissions reductions or shift responsibility away from major polluters. Protecting marine ecosystems, ensuring continued access to marine resources, and avoiding unintended harm were identified as core values guiding any consideration of mCDR.

### **Key Introductory Workshop Takeaways:**

- *Fisheries protection is non-negotiable.*
- *Communities are scientifically engaged and expect rigor.*
- *Scale and ocean circulation drive risk.*
- *Ocean Iron Fertilization is viewed as especially high-risk.*
- *Kodiak is not a testing ground.*
- *Transparency is essential to trust.*
- *Accountability must be explicit.*
- *Independent monitoring is required.*
- *Communities must have real authority.*
- *Outreach must be broad and local.*

### Implications for Future Community Engagement

These workshop discussions underscore that meaningful community engagement with an emerging mCDR industry must be grounded in governance, accountability, and respect for people and place, rather than driven by technological timelines and research or commercial interests. Coastal communities expect engagement to be proactive and sustained, with clear decision-making authority, defined guardrails, and enforceable accountability established before proposals advance. Trust will depend on whether proponents clearly communicate risks, uncertainties, and limits alongside potential benefits, acknowledge historical context, and demonstrate how community input can materially influence outcomes, including the ability to decline participation or halt projects. For communities whose livelihoods and identities are closely tied to marine ecosystems, engagement that outpaces understanding or minimizes uncertainty risks will undermine public confidence and social approval. Effective engagement will therefore require a deliberate, community-centered approach that prioritizes relationship-building, invests in local institutions, and recognizes community consent as a foundational condition for any future consideration of mCDR activities in Alaska waters.



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