

Angel Drobnica, Chair
North Pacific Fishery Management Council
1007 W. Third Ave, Suite 400
Anchorage, AK 99501

Jon Kurland, Regional Administrator
NOAA Fisheries, Alaska Region
PO Box 21688
Juneau, AK 99802

Re: C3 Pelagic Trawl Gear Definition & Innovation

Dear Chair Drobnica, Mr. Kurland and Council members:

Ocean Conservancy¹ submits the following comments on Pelagic Trawl Gear Definition Initial Review and Pelagic Trawl Gear Innovation Discussion Paper. At the June 2025 meeting, we urge the Council to:

- 1. Revise the pelagic trawl gear definition to clarify that pelagic trawl fishing gear is not permitted to contact the seafloor or recategorize pelagic trawl as a ‘mobile bottom contact gear.’**
- 2. Prohibit pelagic trawling in areas closed to bottom trawling until it can be reliably demonstrated that the gear is not in contact with the seafloor.**
- 3. Request an expanded Innovation discussion paper that focuses on regulatory measures and incentives to reduce bottom contact.**

Trawling is recognized as one of the most intense forms of widespread benthic disturbance throughout the world.^{2,3} Benthic habitat supports subsistence and commercial fisheries, is the foundation of ecosystem diversity and function and is critical to a myriad of species of crab, fish, marine mammals and the Tribes whose way of life is inextricably linked to our oceans. International scientific literature

¹ Ocean Conservancy is a non-profit organization working to protect the ocean from today's greatest global challenges. Together with our partners, we create evidence-based solutions for a healthy ocean and the wildlife and communities that depend on it.

² Kaiser, M.J., Ramsay, K., Richardson, C.A., Spence, F.E. and Brand, A.R., 2000. Chronic fishing disturbance has changed shelf sea benthic community structure. *Journal of Animal Ecology*, 69(3), pp.494-503.
<https://besjournals.onlinelibrary.wiley.com/doi/full/10.1046/j.1365-2656.2000.00412.x>

³ Pitcher, C.R., Hiddink, J.G., Jennings, S., Collie, J., Parma, A.M., Amoroso, R., Mazor, T., Sciberras, M., McConnaughey, R.A., Rijnsdorp, A.D. and Kaiser, M.J., 2022. Trawl impacts on the relative status of biotic communities of seabed sedimentary habitats in 24 regions worldwide. *Proceedings of the National Academy of Sciences*, 119(2), p.e2109449119.

confirms that trawling on the bottom of the seafloor has short- and long-term ecosystem-level impacts (see Section 3). Historically, fishery management in the North Pacific acknowledged these impacts, and therefore closed areas of the Bering Sea to bottom trawling. However, the current definition of “pelagic” trawling allows for high bottom contact rates by pelagic trawls in the Bering Sea and Aleutian Islands (BSAI) and Gulf of Alaska (GOA), including in important habitat areas closed to bottom trawling that provide Essential Fish Habitat (EFH) for over 25 species of groundfish and crab.⁴ The 2022 Evaluation of Fishing Effects on EFH in the Bering Sea and Aleutian Islands reported bottom contact estimates of 20-60% for “pelagic” trawl catcher vessels (CV) and 70-100% for “pelagic” trawl catcher processors (CP).⁵ In the Gulf of Alaska, where a 10% bottom contact limit is in place (but not enforced), bottom contact estimates for CVs were up to 40%.⁵ Permitting bottom contact by trawl fisheries in areas closed to bottom trawling creates significant harmful impacts and runs counter to the goals of numerous bottom trawl closures. The proposed definition change before the Council at this meeting does not address this fundamental problem nor does it address the deleterious impacts of trawling on the bottom.

Further, bifurcating the definition and innovation pieces of this issue ignores the interrelated elements and has muddled the transparency, opportunity for meaningful public engagement and overall decision-making process surrounding potential updates to pelagic trawl fishing gear regulations. There must first be a clear definition stating how the gear should be fished with respect to seafloor contact in order for the Council move forward with developing metrics and incentives for innovation that reduce habitat impacts and unobserved mortality associated with pelagic trawl gear. **Based on the recommendations below, the Council should delay final action on the Trawl Gear Definition and should request an expanded Trawl Gear Innovation discussion paper at the June 2025 meeting.**

- 1. Revise the pelagic trawl gear definition to clarify that pelagic trawl fishing gear is not intended to operate on the seafloor or recategorize pelagic trawl as a ‘mobile bottom contact gear.’**

The fishery management system in the North Pacific is premised on the assumption that “pelagic” trawling is fished midwater and thus allowed in areas closed to bottom trawling. The best available science confirms that this assumption is incorrect,⁵ and “pelagic” trawl gear makes contact with the seafloor the majority of the time. This major discrepancy, upon which habitat closures and even the certification of the fishery by the Marine Stewardship Council is based, must be addressed by revising the pelagic trawl gear definition. A revised definition should clarify that pelagic trawl gear is not intended to contact the seafloor. There is precedent for this type of high-level operational definition,⁶ and the Council should recognize that the State of Alaska as well as other regional and international regulations and definitions offer improved examples of clarity and transparency that would facilitate management and enforcement across jurisdictions.

⁴ NPFMC 2023. [North Pacific Conservation and Spatial Management Areas in the EEZ](#).

⁵ Zeleski et al. 2022. [2022 Evaluation of Fishing Effects on Essential Fish Habitat](#). NOAA.

⁶ [Alaska Department of Fish and Game \(5 AAC 39.105.\)](#); [European Union Common Fisheries Policy \(EU 2019/1241 Article 6\)](#); [Food and Agriculture Organization of the United Nations; Fisheries and Oceans Canada \(Tech memo 672\)](#)

If it is the Council's intent to allow significant bottom contact to continue, then pelagic trawl gear should be redefined as a mobile bottom contact gear. The Office of Law Enforcement (OLE) confirms that the current pelagic trawl gear definition and performance standard are not enforceable and do not effectively discourage or prevent trawl operations on the seabed. As part of the [2024 Bristol Bay Red King Crab Initial Review](#) (p. 188), the OLE recommended "*the Council consider listing pelagic trawl under the definitions of "bottom contact gear" and "mobile bottom contact gear."*

A transition to a mobile bottom contact gear classification for pelagic trawl would simplify enforcement. The [May 2025 Innovation Discussion Paper](#) (p.10) and Enforcement Committee Precepts (2015) states, "*Regulations should be as simple and straightforward as possible – reduced complexity equates to easier compliance and enforcement, and to the extent practicable, consistency should be considered.*" "*Increased clarity in objectives, expectations, and possible incentives could help foster an environment for collaborative development of gear modifications and innovations.*"

In addition to reducing enforcement challenges, recategorization to mobile bottom contact gear would allow the Council to better meet its management objectives for protections to vulnerable regions in preexisting bottom trawl closure areas such as the Red King Crab Savings Area (BBRKC), which was established to provide protections for adult red king crab and their habitat ([NPFMC 2023](#)). Figure 1 shows relatively high habitat disturbance occurring in the BBRKC Savings Area, indicating the Council is not meeting their managements objectives for that zone. Similarly, the Northern Bering Sea Research Area and St. Mathews Island Habitat Conservation area were designated to protect relatively "pristine" seafloor habitats which are critically important to neighboring communities ([NPFMC 2023](#)). Permitting the pelagic trawl fishery to continue to operate on bottom in these regions runs counter to the management objectives that established these bottom trawl closures in the first place.

2. Prohibit pelagic trawling in areas closed to bottom trawling until it can be reliably demonstrated that the gear is not in contact with the seafloor.

In order to meet the management and EFH objectives established by the Council, areas closed to bottom trawling should not be open to the pelagic trawl fishery until they can prove they are off bottom. Bottom contact sensor and camera technologies exist to support this kind of initiative,⁷ and we urge the Council and industry to focus on this element of the gear innovation discussion paper going forward. The [BBRKC 2023 Review](#) states, "*OLE has become aware of the potential to improve enforcement of existing and potential future gear restrictions involving seafloor contact. In recent months, OLE has determined currently fielded transducer and sensor technologies enable monitoring of seafloor contact. If the Council were to mandate the use of existing technologies to record – and allow enforcement access to – seafloor contact data, the potential for successful enforcement of seafloor-contact gear restriction(s) is high.*"

⁷ [Seafood New Zealand, "Visible footprints on the seafloor," June 2023.](#)

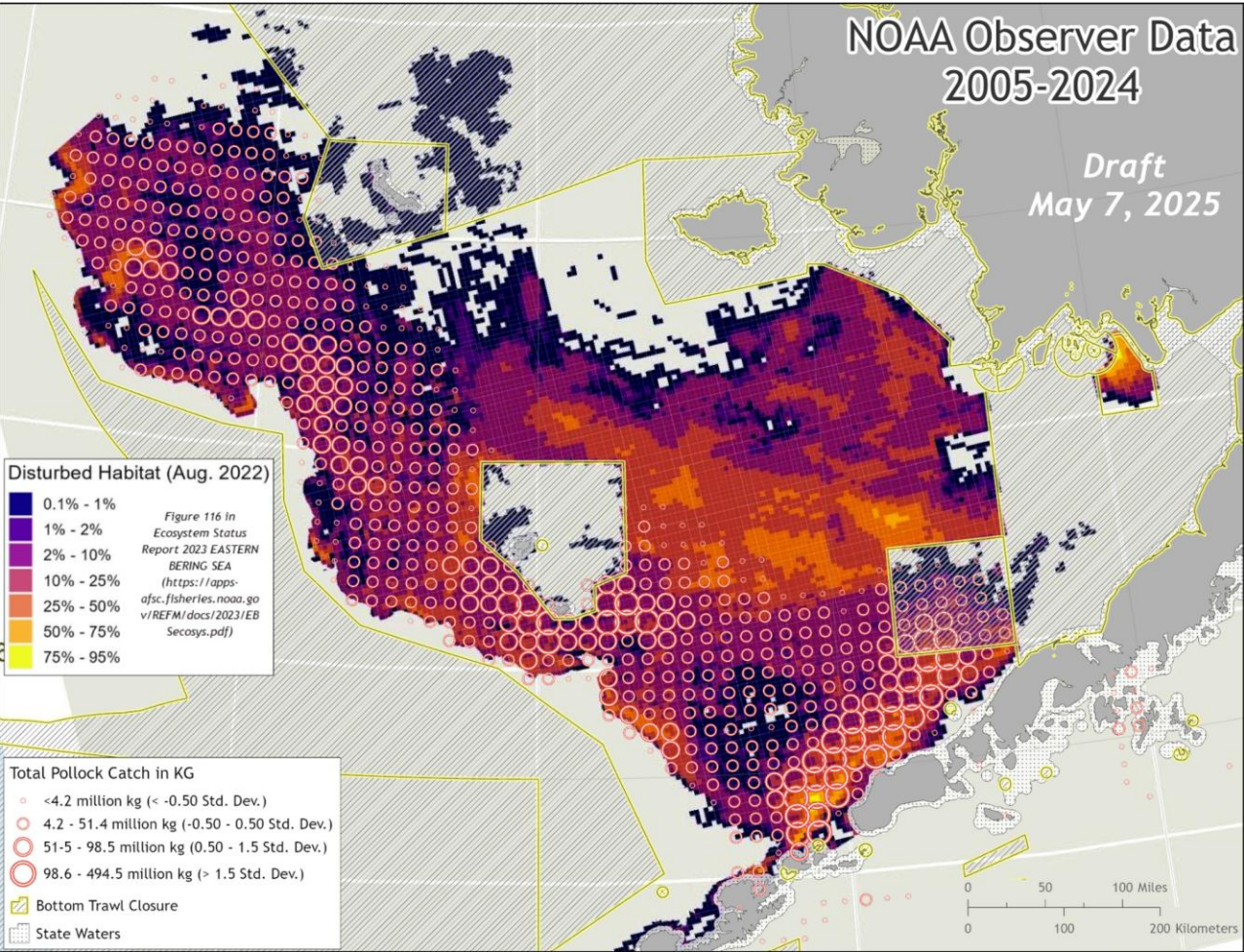


Figure 1. Overlay of pollock harvests from NOAA observer data 2005-2024 with the 2022 Fishing Effects Model Percentage Habitat Disturbed estimates.

Areas closed to bottom trawling (Figure 1) represent a small percentage (<5%) of overall pollock harvests 2005-2024 (Table 1, [NOAA observer data](#)). Closing these areas until the pelagic trawl definition is amended to ensure the fleet is operating off bottom would represent an effective and enforceable way to reduce seafloor impacts in designated conservation areas.

Table 1. Pollock harvested (t) broken out by habitat conservation area 2005-2024 ([NOAA observer data](#)).

	Pollock harvested (t)	Proportion of Overall Harvest 2005-2024
Pribilof Islands HCA	120,807	0.0057
Red King Crab Savings Area	770,843	0.0363
St. Mathew Island HCA	24,186	0.0011
State Waters	82,272	0.0039
No bottom trawl restrictions	20,233,936	0.953

The [2023 NPFMC report](#), “North Pacific Conservation and Spatial Management Areas in Alaska’s Exclusive Economic Zone” details the species which have EFH in areas closed to bottom trawling in

the Bering Sea. All together, these species span over 25 adult and juvenile phases of groundfish, as well as skates, crabs and other ecosystem component species. Under the Magnuson-Stevens Fishery Conservation and Management Act, the Council has the obligation to minimize to the extent practicable adverse effects on EFH caused by fishing and take actions to promote conservation of and enhancement of EFH. Mitigating bottom contact impacts by reducing the pelagic trawl footprint in these important ecological areas will in turn support more resilient and biodiverse habitats in these areas (see Section 3), simplify enforcement and regulatory challenges and enable the Council to meet their stated management objectives.

3. The Council should request an expanded Innovation discussion paper that focuses on regulatory measures and incentives to reduce bottom contact and associated impacts.

An expanded Trawl Gear Innovation discussion paper should identify and evaluate meaningful incentives and regulations to reduce bottom contact in the pelagic trawl fleet. This work must go beyond codifying current gear types and practices; it should set measurable targets and regulations that serve as clear incentives for innovation, reduced bottom contact and addressing unobserved mortality. And while we support innovations to reduce bottom contact, this does not mean the Council should sidestep precautionary management or ignore current protections in areas closed to bottom trawling while we gather for more information.

Trawling is known to cause widespread benthic disturbance throughout the world.^{2,3} Bottom trawling has significant negative impacts to the seafloor and benthic ecosystem function by reducing the density of organisms that cycle nutrients^{8,9}, reducing the density of faunal biomass with each pass¹⁰, impacting biogeochemical cycles¹¹, impairing nutrient fluxes³, and damaging biogenic bottom structure necessary for demersal fish throughout various life stages.¹² Areas with high trawling footprints also exhibit reduced carbon storage capabilities.¹³

Two recent studies conducted broad scale reviews of trawl impacts. Based on 70 comparative and experimental studies and an approach fitting models to global data, Hiddink et al. (2017) estimated depletion and recovery of seabed biota after trawling. Trawl gears removed 6–41% of faunal biomass per pass, and recovery times post trawling were 1.9–6.4 years depending on fisheries and

⁸ Olsford, F., Schaanning, M.T., Widdicombe, S., Kendall, M.A. and Austen, M.C., 2008. Effects of bottom trawling on ecosystem functioning. *Journal of Experimental Marine Biology and Ecology*, 366(1-2), pp.123-133.

⁹ Bradshaw, C., Jakobsson, M., Brüchert, V., Bonaglia, S., Mörtz, C.M., Muchowski, J., Stranne, C. and Sköld, M., 2021. Physical disturbance by bottom trawling suspends particulate matter and alters biogeochemical processes on and near the seafloor. *Frontiers in Marine Science*, 8, p.683331.

¹⁰ Hiddink, J.G., Jennings, S., Sciberras, M., Szostek, C.L., Hughes, K.M., Ellis, N., Rijnsdorp, A.D., McConnaughey, R.A., Mazon, T., Hilborn, R. and Collie, J.S., 2017. Global analysis of depletion and recovery of seabed biota after bottom trawling disturbance. *Proceedings of the National Academy of Sciences*, 114(31), pp.8301-8306.

¹¹ Pusceddu, A., Bianchelli, S., Martín, J., Puig, P., Palanques, A., Masqué, P. and Danovaro, R., 2014. Chronic and intensive bottom trawling impairs deep-sea biodiversity and ecosystem functioning. *Proceedings of the National Academy of Sciences*, 111(24), pp.8861-8866.

¹² Pauly, D., Christensen, V., Guénette, S., Pitcher, T.J., Sumaila, U.R., Walters, C.J., Watson, R., Zeller, D., 2002. Towards sustainability in world fisheries. *Nature* 418, 689–695.

¹³ Zhang, W., Porz, L., Yilmaz, R., Wallmann, K., Spiegel, T., Neumann, A., Holtappels, M., Kasten, S., Kuhlmann, J., Ziebarth, N. and Taylor, B., 2024. Long-term carbon storage in shelf sea sediments reduced by intensive bottom trawling. *Nature Geoscience*, pp.1-9.

environmental context. Sciberras et al. (2018) conducted a meta-analysis of 122 experiments worldwide on the effects of bottom fishing and estimated that gear passes reduced benthic invertebrate abundance by 26% and species richness by 19%.¹⁴ These global studies suggest that impacts to habitat and carbon storage occur quickly and that benthic systems take a long time to recover.^{10,13,14}

Unobserved crab mortality continues to be a high concern for the pelagic trawl fishery in Alaska due to bottom contact and the potential lethality of the gear ([NPMFC 2024](#)). High contact rates of any part of trawl gear can also have lasting impacts on long-lived coral and sponge populations.¹⁵ This interaction is especially problematic in Alaska, where sponge bycatch is 50 to 100 times higher than off the West Coast.¹⁶ Precautionary principles necessitate the Council revise their management approach to meaningfully address pelagic trawl bottom contact impacts. The science exists to expand these conversations at the Council.

In summary, the Council must prioritize a definition of pelagic trawl which ensures that pelagic trawls are not operating on the seafloor, especially in areas closed to bottom trawling. Until we have a definition and performance standard that ensures the pelagic trawl fishery is not contacting the seafloor and data that confirms pelagic trawl gear is not on bottom, the pelagic trawl fishery should be categorized as a mobile bottom contact gear to ensure EFH is protected and the Council's management goals are met.

Thank you for your consideration of our comments, and we look forward to working with you on this critical issue.

Sincerely,



Rebecca Robbins Gisclair
Sr. Director, Arctic & Northern Waters
Ocean Conservancy



Megan Williams, PhD
Fisheries Scientist, Arctic & Northern Waters
Ocean Conservancy

¹⁴ Sciberras, M., Hiddink, J.G., Jennings, S., Szostek, C.L., Hughes, K.M., Kneafsey, B., Clarke, L.J., Ellis, N., Rijnsdorp, A.D., McConnaughey, R.A. and Hilborn, R., 2018. Response of benthic fauna to experimental bottom fishing: A global meta-analysis. *Fish and Fisheries*, 19(4), pp.698-715.

¹⁵ Rooper, C.N., Wilkins, M.E., Rose, C.S. and Coon, C., 2011. Modeling the impacts of bottom trawling and the subsequent recovery rates of sponges and corals in the Aleutian Islands, Alaska. *Continental Shelf Research*, 31(17), pp.1827-1834.

¹⁶ Hourigan TF, Etnoyer PJ, Cairns SD (2017) The State of Deep-Sea Coral and Sponge Ecosystems of the United States. NOAA Technical Memorandum NMFS-OHC-4. Silver Spring, MD. 467 p.

June 7, 2025

Ms. Angel Drobnica, Chair
North Pacific Fishery Management Council
1007 West 3rd Ave., Suite 400
Anchorage, Alaska 99501

Re: Addressing C3 Pelagic Trawl Gear Definition/Innovation at the NPFMC

Dear Chair Drobnica and Members of the Council,

We, the 764 undersigned fishing families, organizations, scientists, community advocates, and Tribal organizations, write to express our concern about the routine seafloor contact occurring in Alaska's pelagic or "midwater" trawl fisheries, particularly within the Bering Sea and Gulf of Alaska pollock fisheries.

"Pelagic trawl" by universal definition refers to gear fishing mid-water, as the name implies. However, mounting evidence, including reports from the Council's Fishing Effects model, independent research, and trawl industry testimony, shows that some part of this gear routinely contacts the seafloor a significant amount of the time. Gear that makes bottom contact the majority of the time is not mid-water, and this incorrect definition undermines habitat protections and the sustainability and integrity of Alaska's fisheries and management systems.

We respectfully urge the Council to take the following steps:

- Amend the definition of pelagic trawl in federal fisheries to clarify that pelagic trawl gear does not operate on the seafloor.
- Require reliable seafloor contact monitoring tools, such as contact sensors, as a condition of pelagic trawl use to monitor and enforce the definition, and establish a timeline by which such tools must be in place.
- Prohibit pelagic trawl gear from being used in areas that are closed to bottom, or non-pelagic, trawling or mobile bottom contact gears, unless it can be reliably proven, in an enforceable manner, that the gear is not in contact with the seafloor.

We believe that trawl fisheries must be held to the same high standard of stewardship and sustainability that defines Alaska's broader seafood industry. Transparent enforcement, gear accountability, and habitat protection are essential to ensuring resilient marine ecosystems and healthy fisheries for future generations.

Thank you for your attention to this matter and your continued service to North Pacific fisheries and communities.

Sincerely,

The Undersigned

A. M. Jordan	Andrew Mueller	Audrey Alfson
A. V. Kilby	Andrew Shetter	Audrey Beam
Abigail Moone	Andrew Thoms	Barbara Atchak
Adam Zenger	Angela Bowers	Barbara Haas
Alan Ayres	Angela Ferrari	Barbara MacAlpine
Alan Dial	Angela Ferrari	Barbara Matheson
Alan Hickman	Angie Cogland	Barbara Miller
Alea Chevalier	Anita Cohen	Barbara Myers
Alexander Dickson	Anja Phenix	Barbara Rogers
Alex Carey	Ann Bayes	Barbara Rosenkotter
Alex Cubero	Anne Franklin	Barry Santana
Alexis Eyler	Anne Hornsby	Ben Griess
Alexus Kwachka	Anne Lee	Benjamin Campen
Alison G Browm	Anne Morrison	Benjamin Hulbert
Allan Richardson	Annette Bellamy	Benjamin L. Rasche
Allen Toman	Anne warner	Ben Matthys
Alva Greenberg	Ann Karkoska	Bethany andersen
Amanda Piatt	Ann Marie Meyer	Beth Gile
Amber Vaska	Ann McDonald	Betty Winholtz
Amy Herrick	Ann Siner	Bill Ehnis
Amy Roberts	Ann Unertl	Blake Wu
Amy Sparck	April Williams	Bob Albrecht
Andrea Reed	Arthur D. Sajecki	Bob Scowcroft
Andrea Warner	Arthur Dunlap	Bonnie Andersen
Andrew Currie	Ashley C. Whitsett-Jones	Bonnie Dupree

Bouchard	Cara Crain	Chuck Dusing
Brad Byers	Carl A. Soderland	Chung Ha
Brad Fields	Carl Russell	Cindy Beck
Brad Kirr	Carl Sanarov	Claire Prevost
Brandy Caster	Carol	Claudia Anderson
Brian Bolaski	Carole Guffey	Claudia Vanderpool
Brian Lawhead	Carole Lineberry-Moore	Clayton longfellow
Brian Rosborough	Carolyn Nichols	Clayton Smith
Brian Zwick	Carolyn R	Connors Susan
Bridgett	caronyna@msn.com	Constance Markis
Britta Mullan	Catherine Croom	Cooper Freeman
Brooke Woods	Catherine Davey	Courtney Moore
Bruce Hlodnicki	Cathy Jean Potter	Craig Barton
Bryan Kirkpatrick	Cavell Kyser	Craig Chythlook
Bryant Hertzog	Celia Bower	Craig Cleary
Byron Coker	Celia Friedman	Cynthia Hull
C. Yee	Chandler O'Connell	Cynthia Lagoudakis
Caleb Jennings	Charles Bingham	Dale Christofferson
Cale LaDuke	Charles W Goodyear	Dale Kaercher
Camden Erickson	Chris Jacobson	D Alexis
Cami Dalton	Christina Sofranec	dan
Camille Gilbert	Christine James	Dana
Candiano Rienzie	Christine Larsen	Dana W Dellmore
Candice Graham	Christine O'Connor	Dan fiacco
Captain Robert Heay	Christopher Hashiguchi	Daniel DeBoer

Daniel J Purnell	Denny Humphrey	Edwin Waleryszak
Daniel N Arshack	Derek Gendvil	Ehrich Huntley
Dan Suprak	Desiree Nagyfy	Elizabeth Allen
Danya Ortega	Devon Fernandez	Elizabeth Enright
Darin Patrick	Dewey Jarrett	Elizabeth Hanson
Darius Kasprzak	Diana S Goth	Elizabeth H Smith
Daryl Knutsen	Diane Hill	Elizabeth Seltzer
Dave Taylor	Diane Wessing	Ellen Jaimes
Dave Vought	Dolores Soffer	Emil
David Altekruise	Dominique Davis	Emily Scott
David Bernhardt	Donald Biciste	Emma Bruhl
David Johnson	Donald Filkins	Emmy Garnish
David Kubiak	Donald G. Wippel	Eric Mauro
David lawler	Donna Dimof	Eric Pelkofsky
David Lisi	Don Rase	Eric Wallis
David Worley	Dorothy Cassell	Erik Bakke
Dawn Alderfer Powers	Dot Rickard	Ernest G Figueredo
Deann Crandall	Dots Sherwood	Evan Thompson
Debbie Goodykoontz	Drenda Tilton	Evelyn oliver
Deborah S. Friedman	Dr Laura Bland	Faith Harjes
Debra Kern	Duane larson	Feini Yin
Deirdre Creed	Earl Tuttle	Fiona Bembridge
Del Stiewert	Edgar Chancellor	Frances Alderson
Denise Bujold	Edward Lemon	Frank Domurat
Denise Middlesworth	Edward Mazurek	Frank Patterson

Frank Patterson	Greg Springer	Jackie Stolfi
frank whitesides	Hahlen Behnken Barkhau	Jacob A. Smith
Fraser Nelson	Hannah	Jacob Stickler
Frederick Phillips	Hannah Heimbuch	Jacob Wade
Fred Matsuno	Hannah Patterson	Jacque Allen
Garrett Elwood	Hans J. Kairies	Jacques Lapalme
Garrison Goth	Harmony Wayner	Jake Schlapfer
Gary Hepler	Harry Angenendt	James a blake
Gary Patton	Heather Gordon	James Bateman
Gary Schwandt	Heather Schaefer	James Carter Hughes
Genevieve Shields	Helen Hedden	James Graue
George Krumm	Henry Bedford	James H. Ihrke
George R O'Connor	Henry Hagan	James Huck
Georgia Shankel	Hope and Samuel (Sandy) Hale	James Lewis
Geri A. Inama	Hope McGratty	James Mitchell
Gerry Morrison	Howard Cohen	James Moody
Glenn Hirsh	Hunter Heafer	James Pfeiffenberger
GLoria Pryzant	Ian McDonald	James schneck
Grace Allan	Ian Seward	James Shelden
Grace Hwang	Ivy Patton	Jamie O'Connor
Graeme Frazier	J. Barry Gurdin	Jane Eisemann
Greg Demers	J.L. Charrier	Janice Heck
Greg E Whelan	Jackie Stolfi	Janice Van Dyck
Greg Haag	Jackie Stolfi	Janie Kathleen Hamilton
Gregory Mawyer		Jason Mariner

Jason Sargent	Joan Addison	John W Hein
Jason Woodford	Joan Franz	Jon king
Jayden	Joann Koch	Jon McBride
Jean Marie VanWinkle	JoAnn Tredennick	Jordan Pullen
Jed Fawaz	Joe Emerson	Joseph Miller
Jeffrey Bindas	Joel Jackson	Josh L.
Jeffrey Thomas	Joe Maurer	Josh Wisniewski
Jeff Rideout	Joe Morein	Joyanne Bloom
Jeff Russell	John Boulden	Joyce Frohn
Jeff Wedekind	John Burton	Judith Sites
Jennifer Patterson	John DeGroot	Julia King
Jennifer Smith	John Doucette	Julie K Wahl
Jerald Goss	John Harrod	Julie Roedel
Jeremy	John Higgins	Julie Wyss (Ball)
jeremy robida	John Little	Justin Dufour
Jerome P. Rapin	John Little	Justin Evans
Jesse Kvale	john mclaren	Karen Christopher
Jesse pavlik	John Mulloy	Karen Johnson
Jessie Hedge	John O'Connor	Karen McCammon
Jess Thomas	John Pollocm	Kari Millstein
Jill Wittenbrader	John Polonowski	Katelyn Keith
Jim Ayers	John Sisk	Kate Weil
Jim Eastwood	John Sonin	Katherine Huff Pinard
Jim Hanson	Johnston Evans	Katherine Loewen
JL Angell	John W. Skeelee	Katherine McLaughlin

Kathleen C. Clark	Kyle volberding	Linda Luke
Kathleen Doherty	Kylie Hollingshead	Linda Millard
Kathleen Myers	Kyriaki Scott	Linda Prostko
Kathy Bradley	Laine Welch	Linda rabideau
Kathy Chancellor	Lance Young	Lindsay
Katiana	Larry R Yuva	Lisa Proud
Katie Libby	Laura Bailey	Lorene Lynn
Keegan Marrs	Laura M Colson	Loretta Austin
Kelly Brown	Laura Stats	Lori christopher
Kelvi Alvarez	Lauren Tracy	Lori Murray
Ken Hamrick	Lawrence Armstrong	Lorrie Switzer
Kent Barkhau	Leann Cyr, PhD	Louie Holst
Ken Wells	Lee Fister	Louise Bass
Kevin Ewing	Lesley Hammer	L P Felton
Kevin Walker	Leslie	Luke Hopkins
Kevin Whitworth	Letitia Noel	Luther andersen
Kim Dickinson	Ilexa grutter	Lydee Hummel
Kim Ross	Lila Johnson	Lynette Ridder
Kristen	Lila Little	Lynn
Kristi Buschemeyer	Linda Albrecht	Lynnda Kahn
Kristine Harder	Linda Elisabeth Behnken	Lynne Mawyer
Kristine Lindberg	Linda Flelder	Lynne M Dunn
Kristin Stahl-Johnson	Linda Kenwood	Lynn Kunau
Krystalynn Scott	Linda Kozak	Marc & Alice Imlay
Kurtis Jermain	Linda L McNiel	Margaret Arnett

Margaret Guilfoy Tyler	Mary Harrop	Michael Srodes
Margaret Schroeder	Mary Hogan	Michelle Renfrew
Maria Castan	Mary Johnson	Michelle Snyder
Marilyn Thomas	Mary Jo Lord-Wild	Michelle Stratton
Marisa Marulli	Mary Kay Fausch Fausch	Mickey Johnson
Marjorie Angelo	Mary Marks	Mikaela Mills-King
Mark Adams	Mary Puglia	Mike Bourget
Mark D. Faiusch	Mary V. Hausler	Mike Ferris
Mark Fitzjarrald	Matthew Jones	Mike Flores
Mark Keappler	Matt Raye	Mike Jensen
Mark Marum	McKinley Kellogg	Mikie
Mark McGraw	Melanie Sue Rhamey	Monica Schwartz
Mark Saviers	Melissa Cathcart	Nancy Behnken
Marlys Fox (Backley)	Mellisa Maktuayaq Johnson	Nancy Bone
Martha Gorak	Meredith Anderson	Nancy Boulden
Martin Gowdy	Meryle A. Korn	Nancy Boyce
Martin Kelly	Michael F. Dacey	Nancy Burger
Martin Nicolai	Michael Kapsimalis	Nancy Hillstrand
Marti Peterson	Michael Knez	Nancy Waterman
Mary Alex	Michael Kraus	Nathan Elswick
Mary Catharine Martin	Michael Michael	Nathaniel Sims
Mary Collins	Michael Pickett Jr	Neal Steiner
Mary Griffith	Michael Romano	Neil Schott
Mary Griffith	Michael Sawyer	Nicole E. Fonseca
Mary Hall		Nicole Schmitt

Nina Rumbough	Peggy Oba	Rika Mouw
Noah Vallincourt	Peg Tileston	Robert
no pelagic	Penelope Ward	robert aiken
Noris S Friedman	Peter Atchak	Robert Archibald
Norman Mullan	Peter Tiffany	Robert Bateman
Oceana	Peter VanWagner	Robert Bundy
Pamela Lloyd	Pete Wedin	Robert C. Vandermark
Pamela Lloyd	Philinda Stillwell	Robert F. Bergan
Pamela Tilton	Philip Bottrell	Robert Fairley
Pat	Philip Korsant	Robert Goth
Patricia(Trish) Litchfield	Philip Smith	Robert Harding
Patricia Clark	Philip Werner	Robert Hayton
Patricia Kaercher	Prue Beck	Robert J. Ritchie
Patricia Kenyon	Rachael Brennan	Robert Mandel
Patricia Kupchak	Rachel Flanagan	Robert Nau
Patricia Livingstone	Rachelle Severance	Robert Slater
Patricia Mueller	Rachel Shoemake	Robert Wolf
Paul A. Broadstone	Rebecca Bean Mullan	Robin Graves
Paula Altekruise	Rhonda Johnson	Robin Robertson
Paula Curtis	Rhonda Lynn	Robyn Deciccio
Paul Cook	Richard andersen	Robyn Dibble
Paul Marks II	Richard Curran	Roger Kass
Paul O'Keefe	Richard Rothstein	Roger R Phenix
Paul Rioux	Rick Strahl	Roger Schmidt
Peggy Bull		Roger Thomas

Ron Baughman	Scott McCormick	Stephanie Horine
Ron Domurat	Scott Weidner	Stephanie Rathert
Rosemary Dolowy	Scotty Daletas	stephen c coley
Rosemary Sanders	Sean O'Connor	Stephen Dutschke
Roxanne J Walz	Sean Solie	Stephen Wenderoth
Roy Bryant	Seth berger	Stephen Young
Roy Freiss	Shaelene Nickoli	Steve & Molly Box
Ruby Fried	Shannon	Steve Jangaard
Ruth	Sharon Baker	Steve Marshall
Ruth Walter	Sharon Dayton	Steven Busch
Ryan Burt	Sharon Eschenroeder	Steven Finer
Ryan Nichols	Sheila Cerwonka	Steven F Jess
Sally Watson Menkel	Shelley Gill	Steven Sheaf
Sam	Shelley Gill	Steve Skora
Samuel Steen	Sid anderson	Steve Wheeless
Sandra Eckerson	Signed	Stop Pelagic trawl
Sarah C Hafer	Sonja Rootvik Ewing	Sue
Sarah Ferretti	Sophie	Sue Baker
Sarah Rhodes	Soren Heinecke	Sue Engelmann
Sara Johnson	Stacey Cannon	Sue Siok
Sara Rice	Stanley Hastings	Susan Gibbs
Sara Shafer	Stan Robinson	Susanna L. Cunningham, PhD
Savage	Stefanie Harris	Susan Pacillo
Scott Fengler	Stephanie Assael	Susan Vogt
Scott Korman	Stephanie Horine	

Susan Vogt	Thomas Ely	Travis
Susan Worden	Thomas Gerrity	Trey Johnson
Suzanne Little	Thomas Graves	Tyler Cole
Suzanne Luetkemeyer	Thomas Nelson	Tyler Gottfredson
Suzanne Rapin	Tiera Schroeder	Tyler green
Sven Paukan	Tiffani Swanson	Vanessa Edwards
Sylvia K Bergman	Tiffany Stephens, PhD	Vera England
Sylvia Maiellaro	Tim Anderson	Vernon Adams Jr
T. Blake	Tim Gallagher	Vernon S. Bottenfield
Tama L. Gorelick	Tim Geoffrion	Veronica Bourassa
Tanana Chiefs Conference	Tim moon	Vic Bostock
Tara Weidner	Timothy Schwartz	Vicki Brownrigg
Taylor Walker	Tina Ann	Vicki Clark
Terrence Bendock	Todd Stegman	Vicki Huffman
Terri Leman	Tom Cloninger	Vicki Wheeler
Terri Patton	Tom Hlavnicka	Walker Lourie
Terry Cummings	Tom Krumm	Walter T Hughes
Terry Perensovich	tom stiles	Warren Libby
Tessa Anderson	Tony	Wayne Jenkins
Thais Taylor	Tony Arsenault	Webber Katie
Theresa Arthur	Tori Norman	wendy cushmsn
Theresa Hebron	Torris Torgessen	Werner Rhein
Theresa Murry	Traci Smith	Wes Mullan
Therese Harvey	Tracy Clement	Weston Hoard
Thomas Cerwonka	Tracy Ouellette	Whitney V Wilkinson

William A. Johnson

William A. O'Brien

William Allan

William Andrews

William Dunn

William Lindow

William Norris

William R Eisler

William Riddick

William Roberson

Will Mans

Winslow Furber

Wm. Langer Gokey

Wolfgang Burger

Woody Cyr

Yote Robertson

Zachary Joekay

Zed Blue