



ARCTIC STORM MANAGEMENT GROUP, LLC

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Mr. Dan Hull, Chairman
North Pacific Fishery Management Council
605 West 4th, Suite 306
Anchorage, AK 99501

September 28, 2015

RE: Bering Sea Canyons and Corals, Agenda Item C3

Dear Chairman Hull,

Arctic Storm is a long time participant in the Bering Sea pollock fishery and the North Pacific Fishery Management Council process. We have consistently supported management measures that promote the continued sustainability of the Bering Sea marine resource, long recognized as the best managed fisheries in the world. After three years of scientific research and review by the Alaska Fisheries Science Center and the Council, the evidence is unambiguous in its assessment that canyon habitat is not unique, that there are few corals in the Bering Sea and that fishing poses little or no risk to coral habitat. Based on this scientific assessment, further protective action does not appear to be warranted at this time.

Overview

Three years ago the Council was asked to initiate a process that would consider closure of Zhemchug and Pribilof canyons in the Bering Sea because of their unique habitat and to protect deep sea corals. The Council tasked the Alaska Fisheries Science Center (AFSC) with investigating this issue so that Council consideration of the proposal would be based on the best scientific information available. The AFSC went further than that request. In an unprecedented dedication of resources and a transparent process, the AFSC developed a predictive model using groundfish trawl survey data to determine where invertebrates such as coral, sea whips and sponges would most likely be located. The task was to best assess the variability and uniqueness of habitat features along the Bering Sea shelf break or "Greenbelt" as some NGO's call it. The AFSC dedicated further staff and funds to conduct a camera-drop survey to verify the predictive model. The survey conducted 250 transect camera drops, each about 1 kilometer long and 4 meters wide, during which about 250,000 photos were taken to document the ocean bottom habitat, including the presence of invertebrates, fish species and evidence of fishing. Each photo was reviewed to count the presence or absence, depth, height and location of all species and evidence of fishing activity. The evidence is unambiguous in its

findings that canyons are not unique, coral occurs in low abundance and fishery impacts are negligible.

Coral Abundance

The Council was asked to give special focus to corals while assessing the uniqueness of canyon habitat. The preliminary results of the predictive model indicated that most occurrences of coral were in patchy locations of Pribilof canyon. Based on those findings, the Council developed a Problem Statement to focus any future analysis of management actions on coral densities in the Pribilof Canyon area. The camera drop survey was conducted last summer and confirmed that the highest densities of coral do occur in Pribilof Canyon but that the density levels of coral, even in this region, are very low when compared with coral densities in the Aleutian Islands and Gulf of Alaska.

Included as part of these comments is an attachment identifying location, size, depth and density of the 32 transects where coral was found. (Attachment 1) The highlights of these findings are as follows:

- The corals were small, averaging about 8 inches in height, or about the size of a football.
- The average depth where coral occurred was 450 meters, far deeper than where most fishing occurs. So, even if fishing were to occur in areas where low abundance of coral were found, the likely interaction with fishing gear would be very low.
- Of the 250 camera drop transects completed, only 32 found any coral. The average density for the region surveyed was .005, or 1 coral/ 200 m², an area about the size of two football fields.
- In the 32 transects that found any coral, the average density was .0336, or about 1 coral/30 m² an area about the size of the Council meeting room. The minimum density where coral was found was 1 coral in 1,300 m², or an area about the size of downtown Anchorage.
- In the single transect with the densest aggregation of coral, the average density was .234 or about 1 coral/ 3.5 m², an area about the size of my office and at a depth of 524 meters. Most transects had far fewer coral than this transect in order to raise the average coral density of 32 transects with coral to about 10 times the density of this single transect. Nonetheless, the density of this single transect is a small fraction (1/5th) of the density of corals found in the AI and GOA where protective measures have already been imposed by the Council.

Damage due to fishing

The AFSC not only counted all coral, sponges and sea whips found in the 250,000 photos, it counted 1) the number that were damaged and 2) the number of damaged where there was evidence of fishing activity. The numbers are stunning and clearly document that few of these invertebrates were damaged and that, where evidence of fishing was found, negligible damage was discovered. Specifically, despite an annual Bering Sea harvest of 2 million metric tons of seafood, only 94 sea whips, 5 sponges and ZERO coral were found damaged where there was evidence of fishing. In all, only two corals were found damaged in the entire "Greenbelt," which was identified as the area most likely to have occurrences of corals. And those two corals were found in depths of 455 and 760 meters, depths where trawl fishing generally does not occur.

<u>Species</u>	<u>% Damaged</u>	<u>% Damaged where there was evidence of fishing</u>
CORAL	2.9%	0%
SPONGES	.3%	.2%
SEAWHIPS	9%	2.1%

Unintended consequences of further action

It is important to remember that fishing is an activity taken to produce food and must be viewed in this context. If proposed closures reduce the ability to efficiently harvest seafood in the Bering Sea then this food will be sourced elsewhere, probably in areas that would increase ecological damage, increase the carbon footprint and increase the bycatch of prohibited species.

- It seems unlikely that a farm producing a crop such as corn would have less impact to the ecosystem than impact found in the Bering Sea AFSC study that documented damage to 94 sea whips, 5 sponges and zero coral where there was evidence of fishing.
- If the protein was sourced elsewhere in oceans around the globe where habitat protections are less likely to exist, than increased damage to sensitive habitat would likely occur.
- If the protein was sourced elsewhere in the Bering Sea, in areas now avoided by the fleets, the bycatch of salmon, halibut and crab would likely increase, as would the carbon footprint.

- If a precedent is established to close areas of very low abundance of coral, then large areas of the Gulf Alaska may become candidates for additional closures.

Conclusion

The North Pacific Fishery Management Council has already implemented actions that provide protections to 1.2 million square miles of ocean, including the closure of 277,000 square miles in the Aleutian Islands to protect coral habitat. (Attachment 2) We cannot expect to have zero impact on habitat when harvesting seafood but, based on the evidence gathered by the AFSC, we seem very close to that mark in the Bering Sea. For this reason, we feel that no further protective action is necessary to protect the corals or canyons of the Bering Sea.

Sincerely,



Donna Parker
Director, Govt. Affairs

TRANSECTS WHERE CORAL LOCATED. 32 OUT OF 250 TRANSECTS.

ATTACHMENT #1

Sample	Haul	Survey Transect (meters)		Transect Area (m ²)	# Coral in Transect	Coral Density in Transect		depth in mtrs
		Distance	Width			# Coral / m ²	# m ² / Coral	
1	43	211.62	2.83	598.885	1	0.0017	598.9	713.88
2	129	287.68	3.18	914.822	1	0.0011	914.8	712.73
3	141	310.60	3.24	1,006.344	1	0.0010	1,006.3	769.87
4	50	435.75	3.00	1,307.250	1	0.0008	1,307.3	532.69
5	76	326.24	2.37	773.189	2	0.0026	386.6	473.96
6	172	223.10	3.56	794.236	2	0.0025	397.1	401.53
7	117	554.65	2.74	1,519.741	2	0.0013	759.9	284.99
8	67	598.29	3.75	2,243.588	2	0.0009	1,121.8	260.91
9	113	84.86	2.52	213.847	3	0.0140	71.3	725.78
10	88	511.21	3.17	1,620.536	4	0.0025	405.1	311.49
11	96	215.21	3.09	664.999	5	0.0075	133.0	759.27
12	28	268.69	3.34	897.425	7	0.0078	128.2	528.62
13	71	280.14	2.00	560.280	9	0.0161	62.3	760.24
14	27	290.25	3.74	1,085.535	10	0.0092	108.6	659.03
15	73	582.61	2.46	1,433.221	11	0.0077	130.3	349.29
16	115	664.29	2.33	1,547.796	11	0.0071	140.7	210.23
17	161	370.03	3.73	1,380.212	12	0.0087	115.0	694.93
18	53	839.27	3.59	3,012.979	17	0.0056	177.2	446.37
19	31	499.59	5.43	2,712.774	18	0.0066	150.7	327.14
20	116	748.88	2.61	1,954.577	22	0.0113	88.8	207.13
21	54	774.07	4.36	3,374.945	24	0.0071	140.6	435.09
22	74	387.02	1.79	692.766	27	0.0390	25.7	263.78
23	119	346.48	3.56	1,233.469	34	0.0276	36.3	759.62
24	97	466.36	3.24	1,511.006	36	0.0238	42.0	455.19
25	30	459.52	3.98	1,828.890	47	0.0257	38.9	394.02
26	70	512.98	2.15	1,102.907	101	0.0916	10.9	398.57
27	72	248.64	2.34	581.818	114	0.1959	5.1	761.13
28	40	542.86	3.42	1,856.581	124	0.0668	15.0	211.69
29	66	445.64	3.50	1,559.740	174	0.1116	9.0	200.67
30	41	499.36	3.03	1,513.061	196	0.1295	7.7	215.08
31	42	361.24	3.59	1,296.852	220	0.1696	5.9	531.72
32	29	240.55	3.32	798.626	227	0.2842	3.5	524.34
Sum of Hauls with Corals Observed				43,592.894	1,465	0.0336	29.8	
Average per Sample Haul				1,362.278	46	0.0336	29.8 m ²	
Minimum Density						0.0008	1,307.3 m ²	
Maximum Density						0.2842	3.5 m ²	

Numbers in red are densities expressed as 1 coral per noted m².

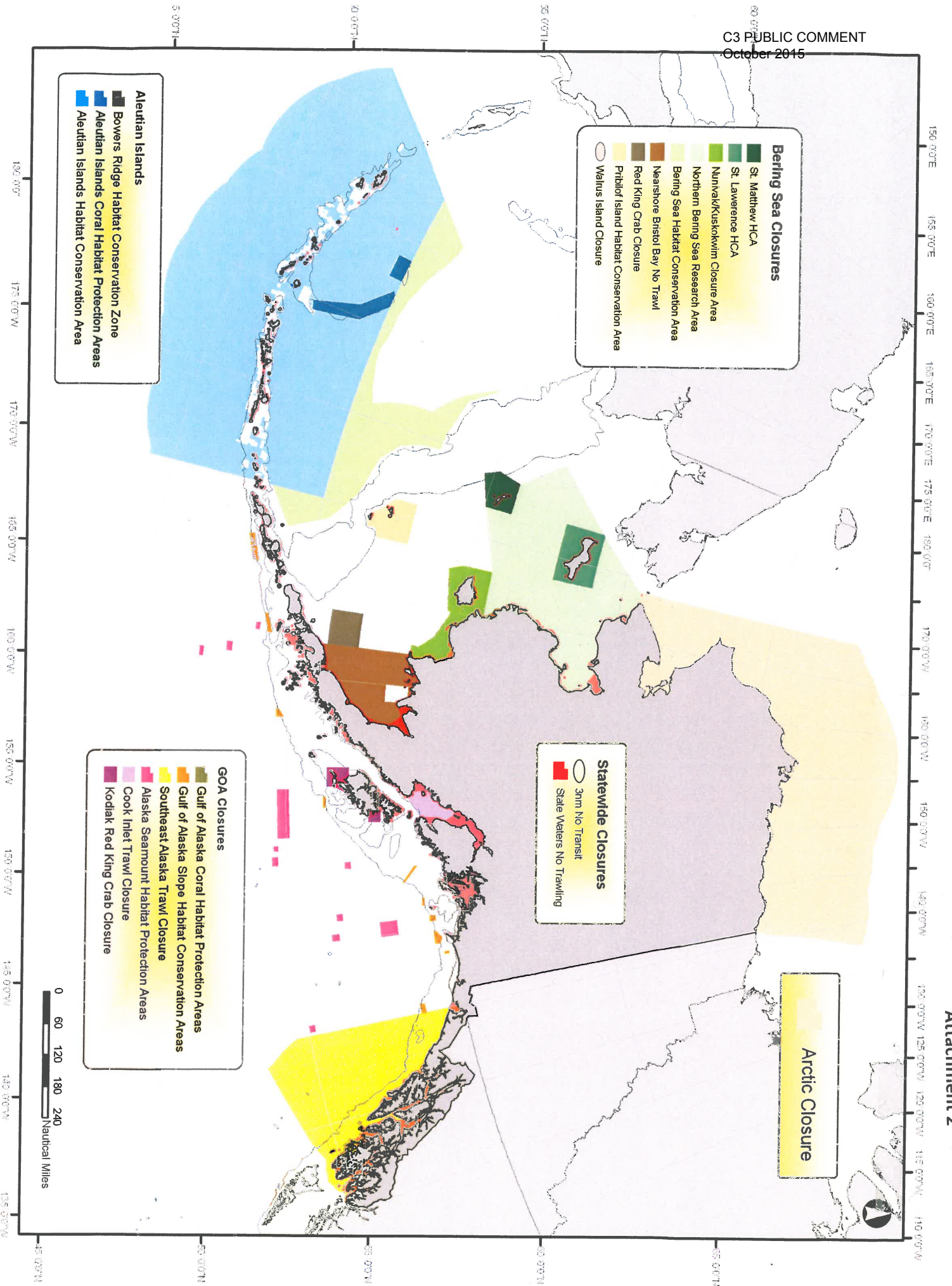
If there were 250 sample hauls with an overall average of 0.005 corals / m² - then:

Est Area Covered in Survey	293,000.000	1,465	0.0050	200.0 m ²
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Average depth of transects: 450 meters. Depth of pollock fishing: 100-200 meters.

Hauls marked yellow are hauls where 2 damaged corals found.

Average coral height is 20 cm or 8 inches.



September 29, 2015

Mr. Dan Hull
North Pacific Fishery Management Council
605 West 4th Avenue, Suite 306
Anchorage, Alaska 99501
npfmc.comments@noaa.gov

RE: C3 – Pribilof Canyon Corals

Dear Chairman Hull and Council members:

As a leading American grocery retailer, we at Albertsons are committed to providing our customers with seafood that is responsibly sourced in a manner that ensures a continued supply of seafood while minimizing impacts to the surrounding ecosystem.

We greatly applaud the Council's proactive examination of seafloor habitats in the Bering Sea Canyons and would like to commend the Alaska Fisheries Science Center for undertaking new research to verify their model of coral and sponge habitats in the eastern Bering Sea.

We consider Alaska to be a global leader in sustainable fishing practices. We urge the Council to continue to set an exemplary standard for ecosystem-based management through careful consideration of the recent results from the Bering Sea slope and outer shelf survey. Of particular interest is the region in and around Pribilof Canyon, where the greatest densities and heights of corals were observed in the survey. We trust the Council will utilize this recent scientific information on Bering Sea corals and sponges in its consideration of conservation and management for this region.

As a major buyer of Alaskan seafood, we share a common interest with the Council in maintaining the long-term sustainability and health of the eastern Bering Sea ecosystem.

Thank you for the opportunity to comment.

Sincerely,

Buster Houston – Director of Seafood

Chris Ratto – Director of Sustainability

Working together to be the *favorite local supermarket*[™]



September 29, 2015

Mr. Dan Hull, Chairman
Council Members
North Pacific Fishery Management Council
605 West 4th Avenue, Suite 306
Anchorage, AK 99501-2252

RE: C3 – Pribilof Canyon Corals

Dear Chairman Hull and Council Members,

In April 2014, the North Pacific Fishery Management Council (Council) adopted a Purpose and Need Statement to determine whether and how the Council should recommend amendment of the Bering Sea/Aleutian Islands Groundfish and Crab Fishery Management Plans (FMPs) to protect known, significant concentrations of deep-sea corals in the Pribilof Canyon and the adjacent slope from fishing impacts under the appropriate authorities of the Magnuson-Stevens Fishery Conservation and Management Act (MSA). Greenpeace, World Wildlife Fund, Marine Conservation Institute, and Earthjustice respectfully submit these comments and the attached conservation alternative for a Bering Sea Green Belt Conservation Area. We request the Council take the following two actions:

- Move forward now with an initial analysis of alternatives including the one submitted herein; and
- Expand the purpose and need statement and alternatives analysis to include Zhemchug Canyon as well as protections for concentrations of sponges and corals in and around both Pribilof and Zhemchug canyons.

We encourage the Council to identify alternatives and initiate analysis of measures that would protect vulnerable deep-sea habitat along the continental shelf in the Bering Sea in an area known as the "Green Belt." The Council has been evaluating measures to protect deep-sea habitat in Pribilof and Zhemchug canyons, two deep-sea canyons in the Green Belt, for over three years. The public has submitted numerous formal requests for habitat protections in these areas based on the evidence of important deep-sea coral, sponge, and sea whip habitat in the canyons. Surveys and analyses that the National Marine Fisheries Service (NMFS) and others have completed in the last year have strengthened the understanding that Pribilof and Zhemchug canyons, as well as slope areas adjacent to those canyons, contain a substantial amount of the coral and sponge habitat that is located in the Green Belt, and that the habitat is being threatened by fishing activity.

One of the primary goals of the MSA is to protect valuable marine habitat based on the best available scientific information. The MSA provides fishery managers with the authority to develop management measures to conserve habitat, and further obligates the Council to include measures in its FMPs to minimize the adverse impacts of fishing in essential fish habitat (EFH) and to minimize bycatch. The Council has historically been a leader in addressing ecosystem protections. And yet, the Council has never implemented protections for deep-sea corals in the Bering Sea, as called for in the 2007 amendments to the MSA. The Council should continue to be a leader in marine stewardship by exercising its broad MSA authority to conserve not only deep-sea corals but also sponges in both Pribilof and Zhemchug canyons, and along the Green Belt.

BACKGROUND

Actions to minimize the effects of fishing on sensitive habitat within the Green Belt are long over-due. Scientists recognize that the Green Belt is vital to the Bering Sea ecosystem because it provides high levels of both primary and secondary productivity to the region.¹ The Green Belt is also home to some of the largest submarine canyons in the world, including Pribilof and Zhemchug canyons, which support the circulation of nutrients throughout the region and provide vital habitat to many vulnerable species.² Canyon habitats can be physically complex, containing a variety of substrates, outcrops, and steep slopes that provide the necessary habitat to which many sessile species of corals, sponges, and other invertebrates can attach. The habitat supports a diverse assemblage of benthic and pelagic fauna that, in turn, support important fisheries.³

Deep-sea corals are fragile, slow-growing and long-lived species that provide invaluable ecosystem services.⁴ Coral and sponge communities provide essential habitat for numerous species, including many that are commercially-important and many other species that do not have commercial value, but play integral roles in ecosystem function. Coral and sponge habitats are particularly important for juvenile fish, and provide places for fish and invertebrates to spawn and lay their eggs.⁵ Deep-sea corals and sponges are often long-lived, extremely slow to recover, and highly vulnerable to bottom tending fishing gear.⁶ Recovery times for deep-sea corals disturbed by fishing activities can be 50 to 100 years or longer, if they recover at all, making it virtually impossible to replace the lost value to the ecosystem.⁷

Pribilof and Zhemchug canyons, and slope areas adjacent to both, contain a diverse amount of deep-sea corals, sea whips, and sponges.⁸ The best scientific information demonstrates the canyons also serve as important spawning, nursery, and foraging habitat for many species.⁹ The Council has identified EFH in the canyons for a number of commercially-managed species, including king crab species, tanner crab species, and most species of groundfish, notably pollock, Pacific cod, and rockfish species.¹⁰ Coral is also identified as EFH for both yelloweye rockfish and golden king crab.¹¹

1 Stump, K., Pribilof and Zhemchug Canyon Habitat Conservation Areas: An Updated Review with Implications for Management, White Paper submitted to the Council (March 20, 2012) at 3, 5.

2 *Id.* at 5-8.

3 *Id.*

4 *Id.* at 15.

5 *Id.* at 5-6.

6 *Id.* at 15-20; *see also* Deep Sea Corals Amendment to the Atlantic Mackerel, Squid, and Butterfish Fishery Management Plan: Measures to Protect Deep Sea Corals from Impacts of Fishing Gear, prepared by the Mid-Atlantic Fishery Management Council in cooperation with NOAA Fisheries, revised as of May 27, 2015 (hereinafter Draft Deep Sea Corals Amendment), at Appendix C (provides a review of research studies demonstrating the vulnerability of corals to fishing gear impacts).

7 *See* NOAA Strategic Plan at 5.

8 *Id.* at 8; Miller, J. et al., Structure-Forming Corals and Sponges and Their Use as Fish Habitat in Bering Sea Submarine Canyons. PLoS ONE 7(3): e33885 (March 2012).

9 Stump 2012 at 7.

10 *See* Council, Fishery Management Plan for Groundfish of the Bering Sea and Aleutian Islands Management Area (August 2015) (hereinafter BSAI Groundfish FMP), at Appendix E; Council, Fishery Management Plan for Bering Sea/Aleutian Islands King and Tanner Crabs (October 2011) (hereinafter BSAI Crab FMP), at App. D.3; 135-137.

11 BSAI Groundfish FMP at 92; BSAI Crab FMP at 136-37.

The canyons contain several habitat areas of particular concern that support documented skate egg nurseries.¹² Although the Council has identified large amounts of EFH as well as habitat areas of particular concern both in the canyons and along the Green Belt, the Council has not yet set aside any areas located in the Green Belt for protection.

Over the past decade, our understanding of the distribution, ecology, and importance of deep-sea coral and sponge ecosystems has increased greatly as a result of field exploration and predictive habitat modeling efforts in numerous regions. While we still have much to learn about the intricacies of ecosystem functions in deep-sea canyons, and relationships between benthic and pelagic species, we should take a precautionary management approach that can ensure the integrity of these productive ecosystems upon which we all depend. The Council should protect areas known or predicted to contain coral and sponge habitat now, as well as representative habitat areas in the Bering Sea Green Belt before they are damaged by destructive fishing techniques.

In line with international best practice, the Marine Stewardship Council (MSC) has recognized that vulnerable marine ecosystems, including corals and sponge fields, should be adequately protected from fishing impacts. This concept serves as the basis for new requirements for habitat protection issued by the MSC in October 2014. MSC-certified fisheries in the Bering Sea are required to comply with the new MSC habitat standards in the next re-certification. Action by the Council to analyze conservation measures for deep-sea corals and sponges and make improvements as needed will help to ensure that best practices are being followed and also help support the bid for recertification by these MSC-certified fisheries several years from now.

In April 2012, the Council initiated an action to consider habitat protection for Pribilof and Zhemchug canyons, citing new information demonstrating that both of these canyons are good candidates for management measures because they would provide protection for deep-sea corals, sponges, and other benthic habitat important to commercially-managed species in the eastern Bering Sea. In April 2014, the Council prematurely narrowed its purpose and need statement to focus on deep-sea corals only in Pribilof Canyon. The Council did not provide a rationale for eliminating Zhemchug Canyon or sponge habitat from the analysis, but stated that it would determine how it should “protect known, significant concentrations of deep-sea corals in Pribilof Canyon and the adjacent slope from fishing impacts.” The Council recognized that Pribilof Canyon supports populations of deep-sea corals, which are important habitat for several commercially-managed species and provide ecosystem services to the Bering Sea. The purpose and need statement should be expanded to include areas with concentrations of sponges and corals in the Green Belt including in and around both Pribilof and Zhemchug canyons.

Expanding the Purpose to Include Sponges and Zhemchug Canyon

If the Council is interested in protecting valuable benthic habitat along the Bering Sea slope, sponges should also be considered. Recent surveys, publications and reports evaluating deep-sea habitat along the Green Belt have included vulnerable sponge habitat as part of the analysis.¹³ Sponges and corals play similar roles in the Bering Sea ecosystem. They both are slow-growing, long-lived, structure-forming invertebrates that provide habitat and are highly vulnerable to fishing impacts. The value of sponge habitat is reflected in the primary goal of the National Oceanic and Atmospheric Administration (NOAA) Strategic Plan for Deep-Sea Coral and Sponge Ecosystems (re-

12 Council, EA/RIR/IRFA for Areas of Skate Egg Concentrations (March 2012).

13 *See infra*; see also Sigler, M.F., et al., Are Bering Sea canyons unique habitats within the eastern Bering Sea?, Draft White Paper submitted to the Council (June 2013); Sigler, et al., Faunal features of submarine canyons on the eastern Bering Sea slope, Marine Ecology Progress Series 526: 21-40 (2015); Draft NMFS response to Council on Agenda Item C-7 from June, 2013 meeting (Aug. 27, 2013).

leased in 2010): to “improve the understanding, conservation, and management of deep-sea coral and sponge ecosystems.”¹⁴

Zhemchug Canyon stands out in recent studies as an area containing rich sponge habitats. NMFS models show moderate to high probability of sponge habitat in Zhemchug Canyon.¹⁵ The NMFS models do not include coral and sponge records obtained from independent submersible expeditions in Zhemchug canyon¹⁶ which could have resulted in an underestimation of predicted coral and sponge habitat in the canyon and/or lower probabilities. In addition, 17 percent of Zhemchug canyon is considered too steep and bumpy for a trawl survey, so was not included in NMFS models.¹⁷ Miller et al. (2015) predicted moderate to high habitat suitability for gorgonian corals throughout Zhemchug canyon.¹⁸ Additionally, numerous individuals and organizations have provided the Council with public comments throughout this process emphasizing the importance of protecting sponges and habitat in Zhemchug canyon.¹⁹

We recognize that the Council’s current purpose and need statement is a working document, and we believe that it is too narrowly focused on coral habitat in Pribilof Canyon. Protecting sponges and fragile benthic habitat in Zhemchug canyon would serve the Council’s original intent and broader interests, and would be consistent with public comment provided to the Council during the scoping of this issue. As a result, our proposed conservation alternative includes protections for areas in Zhemchug Canyon, protections for sponge habitat, and protections for coral and sponge habitat in and adjacent to Pribilof and Zhemchug canyons.

Evidence Demonstrating the Need for Protections in and near Pribilof and Zhemchug Canyons

In the last year, new evidence has emerged that strengthens our understanding of the habitat in Pribilof and Zhemchug canyons, and indicates the Council should consider alternatives to protect coral and sponge habitat in both canyons and in slope areas adjacent to these canyons which contain known occurrences and/or predicted habitat. The NMFS and others completed surveys which confirm that Pribilof and Zhemchug canyons are hotspots for coral and sponge species. A study conducted by the NMFS found that Pribilof Canyon and the adjacent slope supports as much as 60 percent of predicted coral habitat on the entire Bering Sea slope.²⁰ Another report from the NMFS, based on a 2014 survey, showed that coral densities were higher in Pribilof Canyon than any other areas along the Green Belt and densities of sponges were high in both canyons.²¹ Mod-

14 National Oceanic and Atmospheric Administration, Coral Reef Conservation Program, NOAA Strategic Plan for Deep-Sea Coral and Sponge Ecosystems: Research, Management, and International Cooperation. Silver Spring, MD: NOAA Coral Reef Conservation Program. NOAA Technical Memorandum CRCP 11 (2010) (hereinafter NOAA Strategic Plan), at 6.

15 See, e.g., Rooper, C. *et al.*, Validation of models of the distribution of structure-forming invertebrates in the eastern Bering Sea using an underwater stereo camera (October 2015).

16 See, e.g., Miller, R.J., C. Juska, & J. Hocevar, Submarine canyons as coral and sponge habitat on the eastern Bering Sea slope, *Global Ecology and Conservation* 4: 85-94 (2015).

17 Sigler, M.F., *et al.*, Are Bering Sea canyons unique habitats within the eastern Bering Sea?, Draft White Paper submitted to the Council (June 2013), at 24.

18 *Id.*

19 See e.g., comments submitted on agenda item D3 at the December, 2014 Council meeting and comments submitted to the Bering Sea Canyons Workshop in February, 2014.

20 Sigler, M. F., *et al.*, Faunal features of submarine canyons on the eastern Bering Sea slope, *Marine Ecology Progress Series*, Vol. 526: 21-40 (April 22, 2015), at 35.

21 Rooper 2015 at 26.

eling analysis conducted by Miller et al. (2015) found that Pribilof Canyon contained over half of high-quality habitat for gorgonian corals and nearly half of high quality habitat for sponges, even though the entire canyon only represented 1.7 percent of the study area.²²

The recent studies also confirm that commercially-managed species have significant positive associations with the coral and sponge habitat located in the canyons. The 2014 survey conducted by the NMFS reported that coral and sponge in the canyons have significant positive associations with both rockfish species and king crabs.²³ According to the analysis completed by Miller et al. (2015), Pribilof Canyon provides abundant high-quality habitat for Pacific ocean perch in the form of structure-forming gorgonian corals and sponges.²⁴

Evidence demonstrates that fishing in Pribilof and Zhemchug canyons is causing adverse effects for benthic habitats, including corals, sea whips, and sponges. Bottom trawling, pelagic trawling, and longlining have occurred in both Pribilof and Zhemchug canyons for decades and have likely considerably altered the landscape and ecosystem there already. Heavy trawling has been shown to result in a patchier and less structured habitat with lower diversity of sedentary organisms.²⁵ Bottom trawling also reduces the mean body size of seafloor invertebrates.²⁶ The Council should design conservation areas that are large enough to provide buffers for fragile habitat and provide adequate opportunity to restore and enhance these vulnerable marine ecosystems.

Although both fixed gear and trawling can affect benthic species, trawling is likely the greatest threat to coral and sponge habitat in the canyons.²⁷ Current trawling in the canyons includes both bottom trawls and pelagic trawls. The pollock fishery primarily utilizes pelagic trawl nets, and the National Marine Fisheries Service has estimated that at least 44 percent of pelagic trawling efforts make contact with the ocean floor.²⁸ Pollock trawls have greater overall impact on the living biostructure of the Bering Sea shelf than the bottom trawl fishery and a greater impact on the Bering Sea slope than all other bottom trawl fisheries combined.²⁹ Longlines also impact invertebrates like corals and sponges,³⁰ and this impact may currently be underestimated.³¹

22 Miller 2015 at 89.

23 Rooper 2015 at 47.

24 Miller 2015 at 90.

25 McConnaughey, *et al.*, An examination of chronic trawling effects on soft-bottom benthos of the eastern Bering Sea. ICES Journal of Marine Science 57: 1377-1388 (2000).

26 McConnaughey, *et al.*, Effects of chronic bottom trawling on the size structure of soft-bottom benthic invertebrates, American Fisheries Society Symposium 41: 425-437 (2005).

27 Stump 2012 at 16-17.

28 National Marine Fisheries Service, Final Environmental Impact Statement for EFH Identification and Conservation in Alaska, Appendix B, Evaluation of Fishing Activities that may Adversely Affect EFH (April 2005) (hereinafter EFH EIS), at Table B.2-4.

29 See EFH EIS at B-22.

30 Stone, R.P., Coral habitat in the Aleutian Islands of Alaska: depth distribution, fine-scale species associations, and fisheries interactions, Coral Reefs 25: 229-238 (2006).

31 Stone, R.P. & S.K. Shotwell, State of deep coral ecosystems in the Alaska Region, pp. 65-108 in S.E. Lumsden, *et al.*, (eds.), The State of Deep Coral Ecosystems of the United States, NOAA Technical Memorandum CRCP-3, Silver Spring, MD (2007); NOAA Strategic Plan at 28 ("Bottom trawling is currently the major threat to these [deep-sea coral and sponge] ecosystems where such fishing is allowed, although other bottom-tending gear, including bottom-set longlines and gill nets and to a lesser extent traps, have also been identified as threats to deep-sea corals and sponges.").

Visual surveys conducted by Greenpeace provide photographic evidence of fishing damage to corals, sea whips, and sponges in both canyons.³² In a 2007 survey, Greenpeace noted evidence of fishing disturbance on 13 occasions, including trawl scars in the area, toppled corals, and fishing gear tangled around coral.³³ In a later survey, conducted in 2012, Greenpeace reported 79 observations of fishing damage. The 2014 visual survey conducted by NMFS also reported fishing damage. It found either evidence of fishing gear or damage to benthic invertebrates in 37 percent of transects.³⁴ Out of those observations, the survey reported damage to sea whips in 24 percent of transects, damage to coral in 1 percent of transects, and damage to sponges in 3 percent of transects. It reported evidence of fishing in 13 percent of transects, including evidence of fishing gear and trawl tracks.³⁵ The study noted that it is often difficult to quantify damage to benthic organisms like corals and sponges because the species have amorphous body shapes, so damage may be underreported.³⁶ Species like sea whips display damage more prominently and that may be the reason scientists most often reported damage to that species during the survey.³⁷

Observer-reported bycatch indicates that benthic fauna, including corals and sponges, is regularly hauled up with trawl and longline gear in Pribilof and Zhemchug canyons.³⁸ Many benthic organisms drop out of the large mesh panels in the pelagic nets before they are hauled up, so observer reports likely underestimate the amount of interaction between fishing nets, corals, and sponges.³⁹

AUTHORITY AND OBLIGATIONS UNDER THE MSA

Given the best available evidence described above, which underscores the importance of Pribilof and Zhemchug canyons as key habitat areas and demonstrates the adverse impacts from fishing occurring in the canyons, the Council should identify alternatives that would evaluate management measures and the creation of ecosystem reserves for the region. The MSA provides the Council with ample authority to protect important habitat in the canyons. Such protections would align with the purpose and goals of the MSA and would fulfill the Council's duty to minimize the adverse effects of fishing on EFH and to minimize bycatch in its FMPs.

The MSA's Purpose and Goals Direct the Council to Protect Valuable Marine Habitat

The MSA Prioritizes Habitat Protections in Fisheries Management

The MSA charges fishery managers with conserving marine habitat in order to support marine ecosystems and commercial fisheries. In passing the MSA, Congress emphasized in its findings that habitat loss is one of the "greatest long-term threats to the viability of commercial and recreational fisheries."⁴⁰ Congress stated that a national program for the conservation and management of fishery resources was necessary to facilitate the long-term protection of habitat and that "[h]abitat considerations should receive increased attention for the conservation and management of

32 Miller 2012 at 2.

33 *Id.* at 4.

34 Rooper 2015 at 47.

35 *Id.* at Table 8.

36 *Id.* at 43.

37 *Id.*

38 Pribilof and Zhemchug canyons: fishing activity, protection measures and process for future action, Council staff discussion paper (May 2013), at Figures 12-20.

39 Bering Sea/Aleutian Islands Fishery Management Plan for Groundfish (2015), at Appendix F, F-7.

40 16 U.S.C. §§ 1801(a)(9),(2).

fishery resources of the United States.”⁴¹

A primary purpose of the MSA is “to conserve and manage the *fishery resources* found off the coasts of the United States, and the anadromous species and Continental Shelf *fishery resources* of the United States, by exercising . . . sovereign rights for the purposes of exploring, exploiting, *conserving*, and managing *all fish* within the exclusive economic zone. . . .”⁴² The MSA defines “fishery resources” broadly to mean “any fishery, any stock of fish, any species of fish, and *any habitat* of fish.”⁴³ “Fish” are further defined to include “finfish, mollusks, crustaceans, and all other forms of marine animals and plant life other than marine mammals and birds.”⁴⁴

The statutory definition of “conservation and management” underscores the MSA’s emphasis on habitat protection. “Conservation and management” refers to legal measures “required to rebuild, restore, or maintain, and which are useful in rebuilding, restoring, or maintaining, any fishery resource *and* the marine environment; and . . . which are designed to assure that . . . irreversible or long-term adverse effects on fishery resources *and* the marine environment are avoided.”⁴⁵ This definition makes clear that “conservation and management” measures authorized by the MSA are intended to benefit not just current or future fisheries, but the marine environment as a whole. All of these provisions reflect Congress’s intent to foster forward-looking measures to protect marine habitats.

The MSA Provides the Council with Discretionary Authority to Protect Deep-Sea Habitat

The MSA also provides the Council with sufficient discretionary authority to protect deep-sea habitat by closing areas to fishing, limiting the types of fishing, vessels, or gear that can be allowed in designated zones, establishing limitations on the catch, sale, or transport of fish, and prohibiting or limiting the specific types and quantities of fishing gear, vessels or equipment that fishers can use.⁴⁶ Discretionary provisions allow the Council to conserve target and non-target fishery habitats.⁴⁷ These longstanding legal authorities for habitat protection were bolstered and emphasized in the 2007 re-authorization of the MSA, which reinforced the importance of marine habitat by adding new provisions for ecosystem protections. Congress added provisions which grant the Council additional discretionary authority to designate deep-sea coral zones and to prevent physical damage from fishing gear in those zones.⁴⁸ This new authority reflects the wide-spread agreement about the importance of protecting deep-sea ecosystems. In 2010, NOAA published a strategic plan to focus research and management on protecting deep-sea coral and sponge ecosystems.⁴⁹ The first two conservation and management objectives from that plan are:

1. Protect areas containing known deep-sea coral and sponge communities from impacts of bottom-tending fishing gear:

41 *Id.* §1801(a)(7),(9).

42 16 U.S.C. § 1801(b)(1) (emphasis added).

43 *Id.* § 1802(15) (emphasis added).

44 *Id.* § 1802(12).

45 *Id.* § 1802(5) (emphasis added).

46 *See, e.g.*, 16 U.S.C. § 1853 (b)(2)-(5); (12); (14).

47 *Id.* § 1853(b)(12).

48 *Id.* § 1853(b)(2)(B). In 2007, Congress also added a Section to the MSA to establish a program for deep-sea coral research which requires NMFS, in consultation with the Council, to establish a program to research and map locations of deep sea corals and to report biennially to Congress on steps taken to identify, monitor, and protect deep sea coral areas. 16 U.S.C. § 1884.

49 NOAA Strategic Plan 2010; see also NOAA Fisheries, Deep Sea Coral Research & Technology 2014 Report to Congress.

2. Protect areas that may support deep-sea coral and sponge communities where mobile bottom-tending fishing gear has not been used recently, as a precautionary measure.⁵⁰

The plan states, "In general, it is expected that the implementation of Objectives 1 and 2 will involve, but not be limited to, area closures to specific bottom-tending fishing gears likely to damage, or result in bycatch of, deep-sea corals or sponges in order to protect these resources within such areas."⁵¹

Other fishery management councils have used MSA-authority to protect important deep-water habitat. For example, earlier this year, the Mid-Atlantic Council amended one of its fishery management plans to protect areas that are known or highly likely to contain deep-sea corals, areas that primarily consisted of offshore canyons and slope areas along the continental shelf.⁵² The South Atlantic Council designated five areas (for a total area of over 23,000 square miles) as Coral Habitat Areas of Particular Concern in 2010 and recently expanded those protections by an additional 900 square miles.⁵³

The Council has itself formally acknowledged the importance of protecting marine habitat. In February of last year, it adopted as policy an ecosystem approach, recognizing that the Council has an "important stewardship responsibility" to protect the unique marine ecosystems in the Bering Sea into the future. Historical management actions that addressed fishing gear impacts on habitat in the Bering Sea have been focused on the protection of nearshore crab and sea lion habitat that consists mostly of sand substrate, and some deeper slope areas where fishing already is limited.⁵⁴ The Council has recognized the value of protecting coral ecosystems by designating marine protected areas for several coral gardens in the Aleutian Islands and Gulf of Alaska. However, the Council has yet to use its discretionary authority to designate any marine protected areas for vulnerable coral and sponge habitat in the Bering Sea, despite the recognition of the critical importance of such areas.

We caution the Council not to limit itself by narrowly defining the authority to be used in this action. The Council may naturally have multiple objectives in keeping with its interest in protecting coral habitat and in meeting its obligation to utilize its Ecosystem Approach to fisheries management. Nothing limits the Council's ability to fully analyze a range of alternatives, drawing on all authorities available to the Council, to protect coral and sponge habitat in a manner that provides for a healthy ecosystem while maintaining opportunities for fishing.

The MSA Obligates the Council to Include Measures in its FMPs to Minimize the Adverse Effects of Fishing in the Canyons

Fishing is Having Adverse Effects on EFH in the Canyons

The MSA not only provides the Council broad mandates and authority to protect habitat, it also imposes a specific obligations on the Council to include measures in its FMPs to minimize the adverse effects of fishing in EFH, like that found in the canyons. Developing alternatives that would evaluate protections for sensitive habitat in the canyons would allow the Council to address those MSA obligations.

The MSA requires the Council to "describe and identify EFH" in any fishery management plan for any fishery, to "minimize to the extent practicable" the adverse effects of fishing on EFH and

50 NOAA Strategic Plan 2010 at 6.

51 *Id.* at 30.

52 Draft Deep Sea Corals Amendment.

53 79 Fed. Reg. 31907-31914, at 31908 (June 3, 2014).

54 Stump 2012 at 3.

“identify other actions to encourage the conservation and enhancement” of those habitats.⁵⁵ In the Groundfish and Crab Fishery Management Plans, the Council has identified EFH in the Pribilof and Zhemchug canyons that support different life stages of nearly all crab and groundfish species.

Having identified EFH in the canyons, the Council must take action in its applicable FMPs to minimize the adverse effect of fishing that is affecting vital deep-sea habitat in the canyons.⁵⁶ Under the MSA implementing regulations, NMFS has defined an “adverse effect” to mean “any impact which reduces the quality and/or quantity” of EFH, which can include “direct or indirect physical, chemical, or biological alterations of the waters or substrate and loss of, or injury to, benthic organisms, prey species and their habitat, and other ecosystem components.”⁵⁷ In these canyons, as discussed above, evidence indicates that fishing is causing physical alterations to the benthic habitat by damaging corals, sea whips, and sponges that reside there. As a result, fishing reduces both the quantity and quality of habitat in the canyons, thereby causing an adverse effect.

The Adverse Effects from Fishing in the Canyons is Not Temporary

Under the MSA implementing regulations, “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.”⁵⁸ The terms “minimal” and “temporary” are not defined in the relevant regulations. However, the preamble to the EFH final rule states:

Temporary impacts are those that are limited in duration and that allow the particular environment to recover without measureable impact. Minimal impacts are those that may result in relatively small changes in the affected environment and insignificant changes in ecological functions.⁵⁹

In completing this evaluation, the Council is required to use the “best scientific information available.”⁶⁰

The best scientific information available demonstrates that the adverse effects from fishing in the canyons and on other Bering Sea coral and sponge habitat is far more than temporary. In its 2005 environmental impact statement related to EFH, the Council, together with NMFS, evaluated whether fishing was causing adverse effects in any EFH.⁶¹ That environmental analysis determined

55 16 U.S.C. § 1853(a)(7). “Essential fish habitat” is broadly defined as “those waters and substrate necessary to fish for spawning, breeding, feeding or growth to maturity.” 16 U.S.C. § 1802(10). The National Marine Fisheries Service has interpreted the word “necessary” to mean “the amount of habitat required to support a sustainable fishery and the managed species’ contribution to a healthy ecosystem.” 62 Fed. Reg. 66531, 66533 (Dec. 19, 1997); *see also* 50 C.F.R. § 600.815(a)(1)(iv)(E) (“The extent of the [EFH] should be based on the judgment of the Secretary and the appropriate Council(s) regarding the quantity and quality of habitat that are necessary to maintain a sustainable fishery and the managed species’ contribution to a healthy ecosystem.”).

56 16 U.S.C. § 1853(a)(7).

57 50 C.F.R. § 600.810(a). Adverse effects may result from actions occurring within the habitat or outside of the habitat and may include “site-specific or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions.”

58 50 C.F.R. § 600.815(a)(2)(ii).

59 67 Fed. Reg. 2343-07, 2354 (Jan. 17, 2002).

60 50 C.F.R. § 600.815(a)(2)(i).

61 EFH EIS.

that trawling on coral and sponge habitat has long-term effects that are more than temporary.⁶² Numerous studies have also demonstrated that damage to coral, sea whips, and sponges from fishing gear has lasting impacts on those species from which the species cannot easily recover.⁶³ Thus, the current damage from fishing is causing adverse effects that are not temporary.

The Adverse Effects from Fishing in the Canyons is More Than Minimal

Damage from fishing to habitat in the canyons is also more than minimal. In the past, the Council and NMFS have evaluated whether adverse impacts on EFH are more than minimal by focusing on the effects on commercially-managed species rather than effects on the habitat directly. The 2005 environmental analysis concluded that impacts from fishing were not more than minimal. It noted that NMFS's interpretation of the term "necessary" in terms of EFH limits it to only habitat that is necessary for a managed species to support a sustainable fishery and the managed species' contribution to a healthy ecosystem.⁶⁴ As a result, the analysis concluded that fishery effects must limit the welfare of a managed species in order to result in "adverse effects," rather than causing impacts to habitat on a local scale,⁶⁵ and focused on whether impacts were affecting the ability of any species to meet and sustain its maximum sustainable yield.⁶⁶ At that time, NMFS and Council concluded that the best available information did not indicate that the current rate and intensity of fishing would limit the capacity of EFH to support healthy populations of managed species over the long-term.⁶⁷

Focusing on the long-term yield of a managed stock to determine whether fishing is having an adverse effect is not consistent with the requirements of the MSA. The definition of EFH includes all habitat "necessary to fish for spawning, breeding, feeding and growth to maturity."⁶⁸ Under the plain language of the MSA, if fishing is causing adverse effects on habitat that supports important life functions of fish species, the Council and NMFS must act to minimize that effect to the extent practicable.⁶⁹ Further, the EFH requirements of the MSA direct the Council and NMFS to not only protect EFH, but also find ways to encourage the conservation and enhancement of the habitat.⁷⁰ The Council cannot wait until changes to the stock of a managed species occur before taking action to minimize adverse effects in the canyons. When finalizing regulations related to EFH, NMFS cautioned:

It is not appropriate to require definitive proof of a link between fishing impacts to EFH and reduced stock productivity before Councils can take action to minimize adverse fishing impacts to EFH to the extent practicable. Such a requirement would raise the threshold for action

62 *Id.* at B-15 through B-25, Table B.2-5; Record of Decision, at 10-11; see also Bering Sea/Aleutian Islands Groundfish Fishery Management Plan (2015), Appendix F, at F-11; F-5, F-7, F-8, F-10.

63 Stump 2012 at 18-20; NOAA Strategic Plan at 5.

64 EFH EIS at B-26.

65 *Id.*

66 *Id.* at B-3; see also Bering Sea/Aleutian Islands Groundfish Fishery Management Plan (2015), Appendix F, at F-12.

67 EFH EIS, Record of Decision, at 10-11; see also Bering Sea/Aleutian Islands Groundfish Fishery Management Plan (2015), Appendix F, at F-26. In terms of rockfish, the evaluation did recognize that much was unknown about many species' dependence on benthic habitat and how impacts to that habitat may affect certain species on smaller spatial scales. See, e.g., EFH EIS at B-95.

68 16 U.S.C. § 1802(10).

69 *Id.* §§ 1802(10); 1853(a)(7).

70 *Id.*

above that set by the Magnuson-Stevens Act. The final rule encourages Councils to use the best available science as well as other appropriate information sources when evaluating the impacts of fishing activities on EFH, and to consider different types of information according to its scientific rigor.⁷¹

Best available evidence demonstrates that fishing is having adverse effects on EFH in the canyons that are more than minimal. Visual surveys and observer reports described above have demonstrated that fishing is causing damage to corals and sponges in these areas and that corals and sponges are regularly being removed from these canyons as bycatch. It is likely that fishing damage is much more extensive than has been documented so far due to the difficulties of identifying damage to these benthic species. The best available evidence demonstrates that there is a significant association between managed species, including rockfish and crab species, and the coral and sponge habitat located in the canyons. All of the recent surveys confirm that these canyons contain some of the highest densities of coral and sponge habitat found in the entire Green Belt. Pribilof Canyon alone contains over half of the highest-quality coral habitat in the entire Green Belt and as much as 70 percent of high-quality habitat for some species of coral.⁷² As a result, the best available evidence demonstrates that fishing is causing potentially large and significant changes to coral and sponge habitat and ecological functions in Pribilof and Zhemchug canyons that are more than minimal.

The Council Should Move Forward with Alternatives at the October Meeting

We are aware that the Council will be initiating a 5-year review of EFH in the next year. However, the Council should not wait for that review process to develop amendments to its Groundfish and Crab Fishery Management Plans that would protect habitat in the canyons and on the Bering Sea slope. The Council initiated action to protect habitat in the canyons over three years ago, based on available evidence that demonstrated the importance and vulnerability of the habitat. In the last year, best available evidence has further shown that the canyons support important deep-sea coral and sponge habitats in the Bering Sea that is currently being threatened by fishing activities in the region. The MSA regulations instruct the Council to take action when best available evidence demonstrates that adverse effects from fishing are not temporary and more than minimal, as is the case here.⁷³ Now is the time for the Council to act in order to protect important coral and sponge habitat in the Bering Sea.

The MSA Obligates the Council to Minimize Bycatch in its FMPs

Developing protections for the canyons would also address the Council's obligation to minimize bycatch in its FMPs. National Standard 9 instructs that any FMP must include conservation and management measures that minimize bycatch to the extent practicable.⁷⁴ As described above, observer reports have shown that corals, sea whips, and sponges are regularly removed from the canyons as bycatch. Those reports likely underestimate the total bycatch that is occurring. Thus, restricting fishing in the canyons would address the Council's duty to minimize bycatch in its FMPs under the MSA.

CONSERVATION ALTERNATIVE

We urge the Council to utilize its broad authority under the MSA to identify and analyze alternatives that would protect deep-sea coral and sponge habitat in Pribilof and Zhemchug can-

71 67 Fed. Reg. 2343, 2354 (Jan. 17, 2002).

72 Miller 2015 at 90.

73 See 50 C.F.R. § 600.815(2).

74 16 U.S.C. § 1851(9); see also *id.* § 1853(a)(11).

yons. The National Environmental Policy Act (NEPA) requires agencies to evaluate a reasonable range of alternatives that would minimize the adverse effects of an action on the environment.⁷⁵ We propose the following reasonable alternative to be included with the Council's initial analysis. This alternative meets the Council's narrow purpose and need statement to develop protections for deep-sea corals in Pribilof Canyon. In addition, we encourage the Council to expand its purpose and need statement to include protections for Zhemchug Canyon and vulnerable sponge habitat in and adjacent to both canyons, as it originally set out to do. This alternative also includes measures that would meet that broader purpose.

The primary objective of the following conservation alternative is to minimize to the extent practicable the impacts on benthic habitat caused by fishing, and to encourage the conservation and enhancement of important benthic habitat in the Bering Sea, including significant concentrations of deep-sea corals that have been identified through research and predictive habitat modeling, so they are not damaged by incompatible fishing techniques.

Alternative: The Bering Sea Green Belt Conservation Area:

- Pribilof Canyon (200 to 1200 meters) and a portion of the slope extending northwest from Pribilof Canyon
- Zhemchug Canyon (200 to 1200 meters) and a portion of the slope extending northwest from Zhemchug Canyon

The **Bering Sea Green Belt Conservation Area** would be closed to fishing gear that is known to contact the bottom, e.g., bottom and pelagic trawls, longlines, and pot gear.

Requested Analysis

We request that NMFS and the Council include the following specific elements of analysis to better understand the potential implications and possible results of various management options.

Analysis of the use of the following gear types in the Bering Sea Green Belt Conservation Area should be conducted:

- Bottom trawl
- Pelagic trawl
- Pots
- Longline

Analysis of gear types should include the following information available for the proposed conservation area:

- Fishing effort (volume) by sector in the past 10 years;
- Fishing footprint by sector (including depths);
- Potential impacts to benthic habitat, or vulnerability to gears;
- Bycatch amount by species (coral, sponges, birds, mammals, skates, egg cases, etc.).

Other relevant requested analysis to consider if feasible in a reasonable time period:

- Potential for increased/enhanced recruitment for rockfish and crab due to conserved habitat and refugia;

75 See 40 C.F.R. §§ 1500.2(e); 1502.14.

- Use of conservation area by marine mammals and seabirds, in particular northern fur seal and cetaceans;
- Potential for gear modification that would provide guaranteed off-bottom fishing in the closed area – e.g., net sensors.

CONCLUSION

In sum, evidence demonstrates that Pribilof and Zhemchug canyons and adjacent slope areas contain some of the highest densities of deep-sea corals and sponges that can be found along the Green Belt. The Council has not yet acted to set aside any habitat along the entire length of the 700-mile long Green Belt for protection or to utilize its broad MSA authority to protect deep-sea corals or sponges there despite the value of this area for the Bering Sea. Fortunately, the Council is currently considering action that would begin to remedy this oversight by focusing on how best to protect deep-sea coral habitat in Pribilof Canyon. We strongly urge the Council to utilize any and all authority to take the next step at its October, 2015 meeting to develop alternatives that would analyze the options of protecting not just deep-sea coral habitat in Pribilof Canyon, but also a portion of representative habitats along the entire Green Belt including coral and sponge habitat in Zhemchug canyon, and slope areas adjacent to both canyons.

Attachment to Sept. 25 Letter to Council re. Agenda Item C3

Bering Sea Green Belt Conservation Area

Methods used to identify 200 – 1200 m alternative boundary for Pribilof Canyon, Zhemchug Canyon, and adjacent slope areas

Several datasets were collected and examined for the Bering Sea Canyons to identify a boundary that encompassed: 1) The majority of coral locations documented by NMFS drop camera surveys (Rooper et al 2015). 2) The majority of coral locations documented by Miller et al (2015), including submersible cruises. 3) The majority of high probability coral habitat predicted by NMFS in their averaged model. 4) The majority of high probability areas for high coral density predicted by NMFS (Rooper et al 2015) and 5) The majority of high probability areas for coral height predicted by NMFS (Rooper et al 2015).

Examination of the datasets described above combined with additional coral records from NMFS trawl survey data (Rooper et al 2015) and bathymetric data revealed that all five criteria could be met with a boundary encompassing depths 200 – 1200 m. Figures 1, 2 and 3 show the overlay of these datasets with the 200 – 1200m boundary for the Pribilof Canyon area. The north-west extent of the boundary was extended to include the area where 8 of the 11 largest bamboo coral colonies were found in camera surveys. Total area of the 200 – 1200 m alternative boundary for Pribilof Canyon area is 1,511 mi².

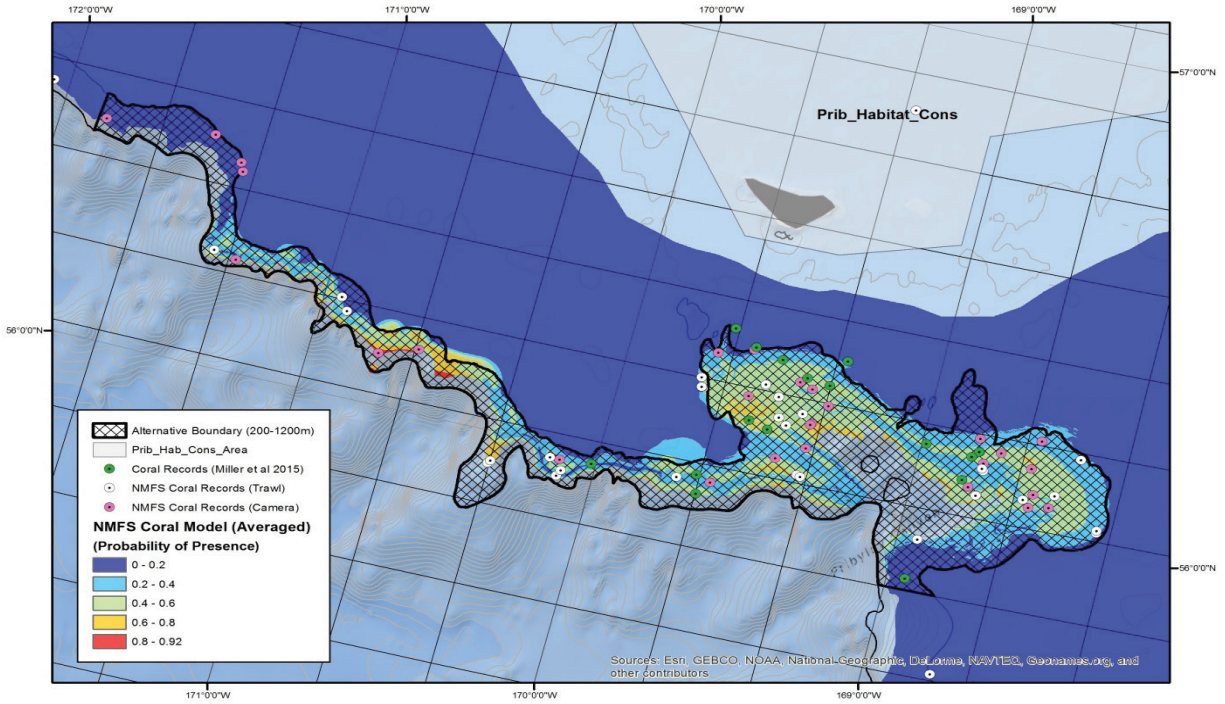


Figure 1. NMFS predicted coral habitat, documented coral records, and 200-1200m alternative boundary for Pribilof Canyon and adjacent slope area. Note: the pink dot closest to the NW extent of the alternative boundary is where 8 of the 11 largest bamboo coral colonies were documented.

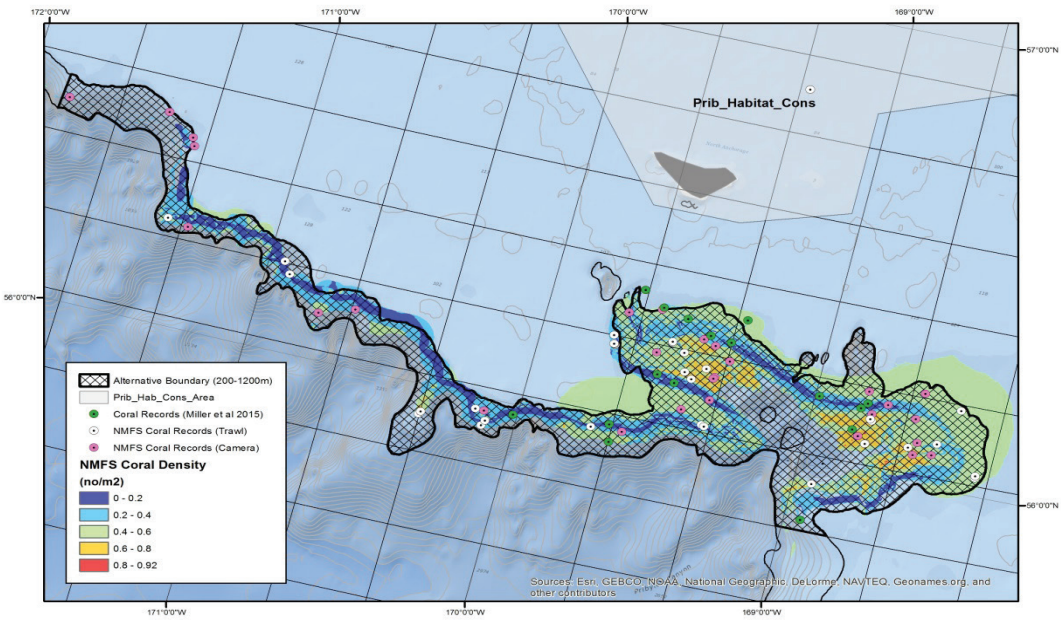


Figure 2. NMFS predicted coral density, documented coral records and 200-1200m alternative boundary for Pribilof Canyon and adjacent slope area.

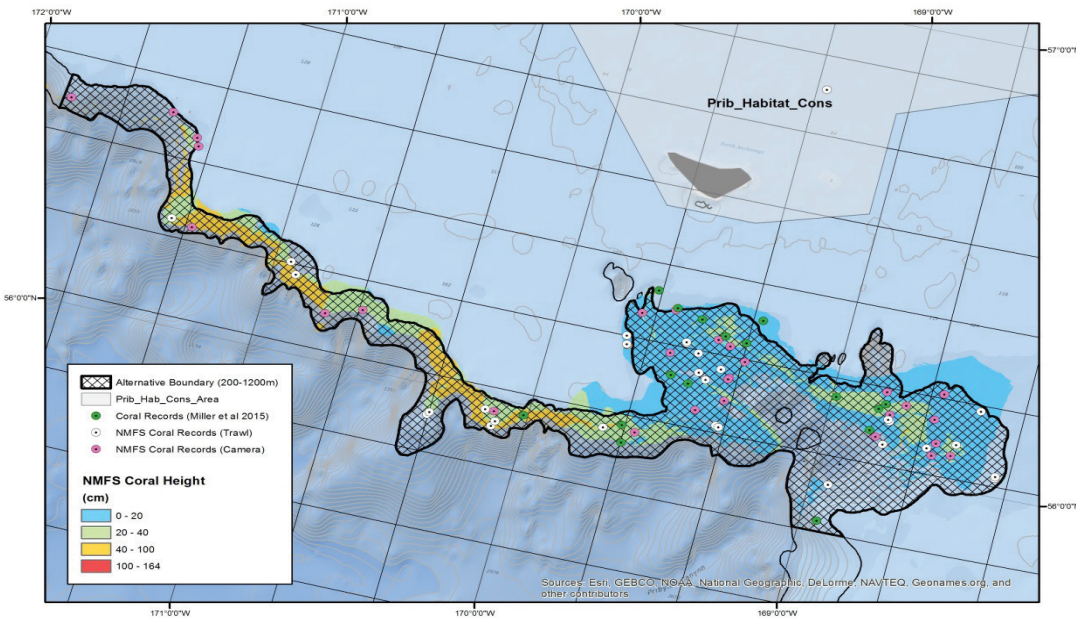


Figure 3. NMFS predicted coral height, documented coral records and 200-1200m alternative boundary for Pribilof Canyon and adjacent slope area.

The primary justification for the 200-1200m alternative boundary for the Zhemchug Canyon area was the combined distribution of documented coral records from Miller et al (2015) and NMFS trawl survey coral records (Figure 4). The distribution of documented sponge locations and probable sponge habitat from both models were also used to determine the alternate boundary. The southernmost boundary of the alternative was extended south (shallower than 200 m) to include the Zhemchug Ridges. Coral habitat models produced by Rooper et al (2015) predicted low probabilities for the area (Figure 4), only small areas of predicted high coral density in the southern region (Figure 5) and isolated areas of predicted high coral height (Figure 6). However, Miller et al (2015) results show moderate to high gorgonian coral habitat suitability for this area (Figure 7) and included coral records from submersible dives that were not included in NMFS models. The boundary also captures the majority of documented sponge locations from NMFS camera surveys, surveys reported by Miller et al (2015), and trawl survey records in this region. In addition, a significant area of moderate to highly probable sponge habitat predicted by both Miller et al (2015) and Rooper et al (2015) is also encompassed by the alternative boundary (Figures 8 and 9). Total area of the 200 – 1200 m alternative boundary for the Zhemchug Canyon area is 1,493 mi². The alternative boundaries for both Zhemchug and Pribilof combined capture 28 of the 32 (88%) coral locations documented by NMFS drop camera surveys.

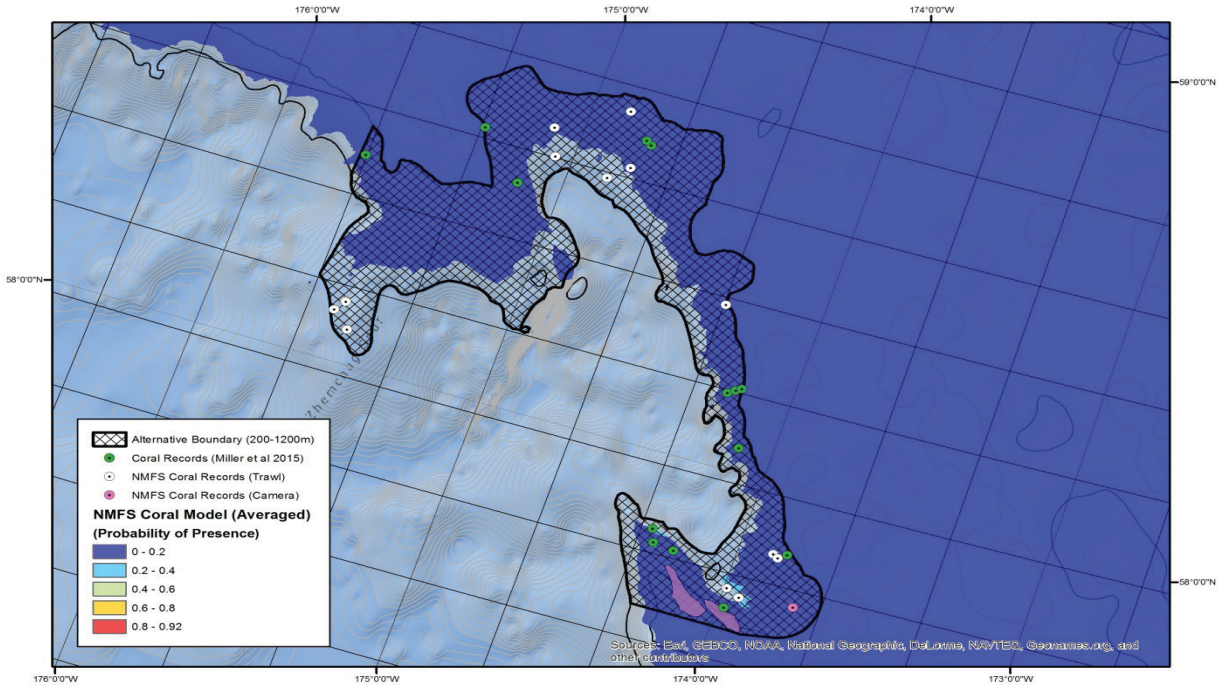


Figure 4. NMFS predicted coral habitat, documented coral records and 200-1200m alternative boundary for Zhemchug Canyon and adjacent slope area. Note: Zhemchug Ridges are the purple polygons.

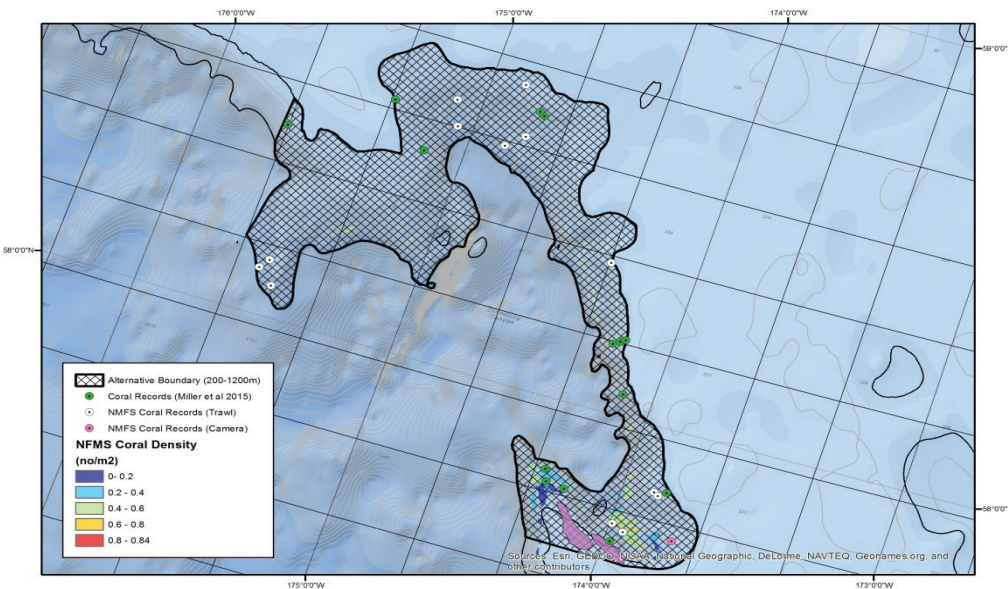


Figure 5. NMFS predicted coral density, documented coral records and 200-1200m alternative boundary for Zhemchug Canyon and adjacent slope area.

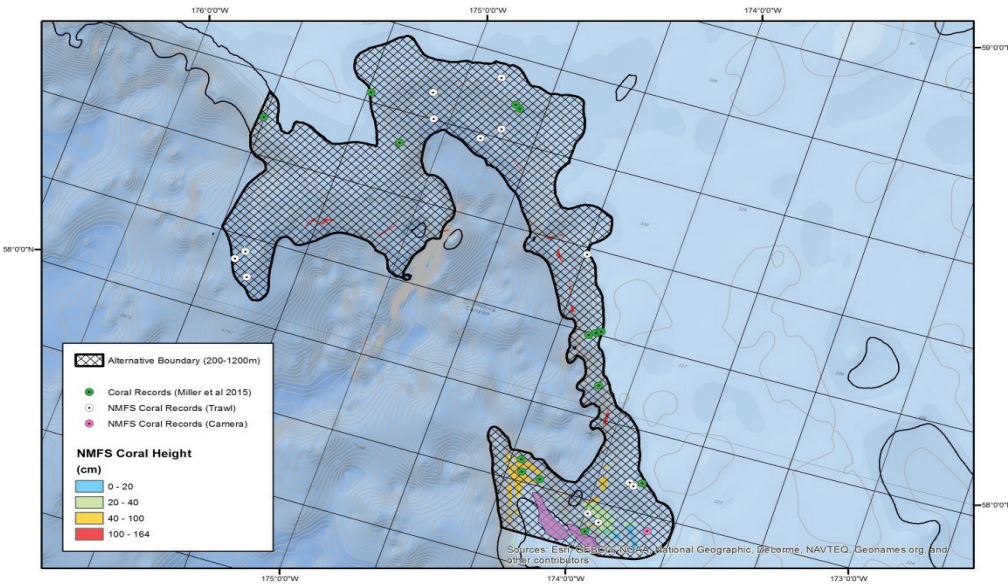


Figure 6. NMFS predicted coral height, documented coral records and 200-1200m alternative boundary for Zhemchug Canyon and adjacent slope area.

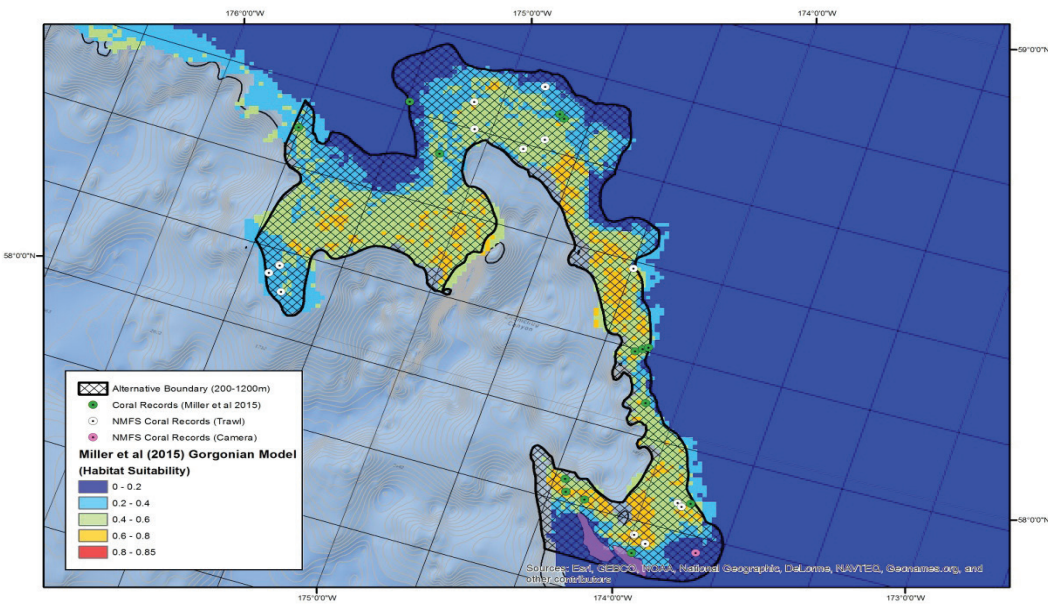


Figure 7. Miller et al (2015) predicted gorgonian habitat, documented coral records and 200-1200m alternative boundary for Zhemchug Canyon and adjacent slope area.

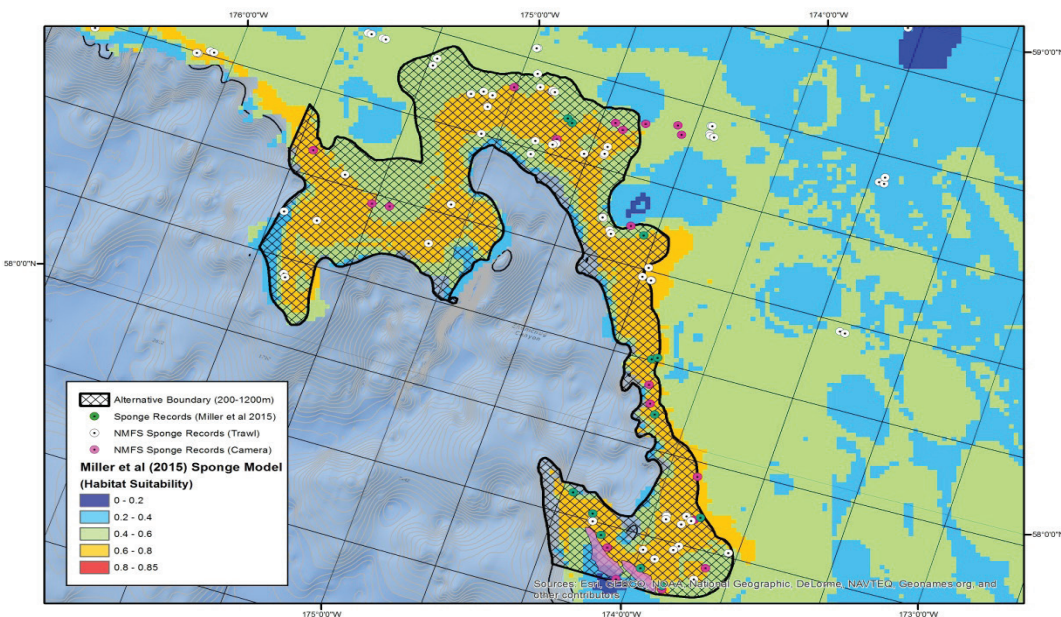


Figure 8. Miller et al (2015) predicted sponge habitat, documented sponge records and 200-1200m alternative boundary for Zhemchug Canyon and adjacent slope area.

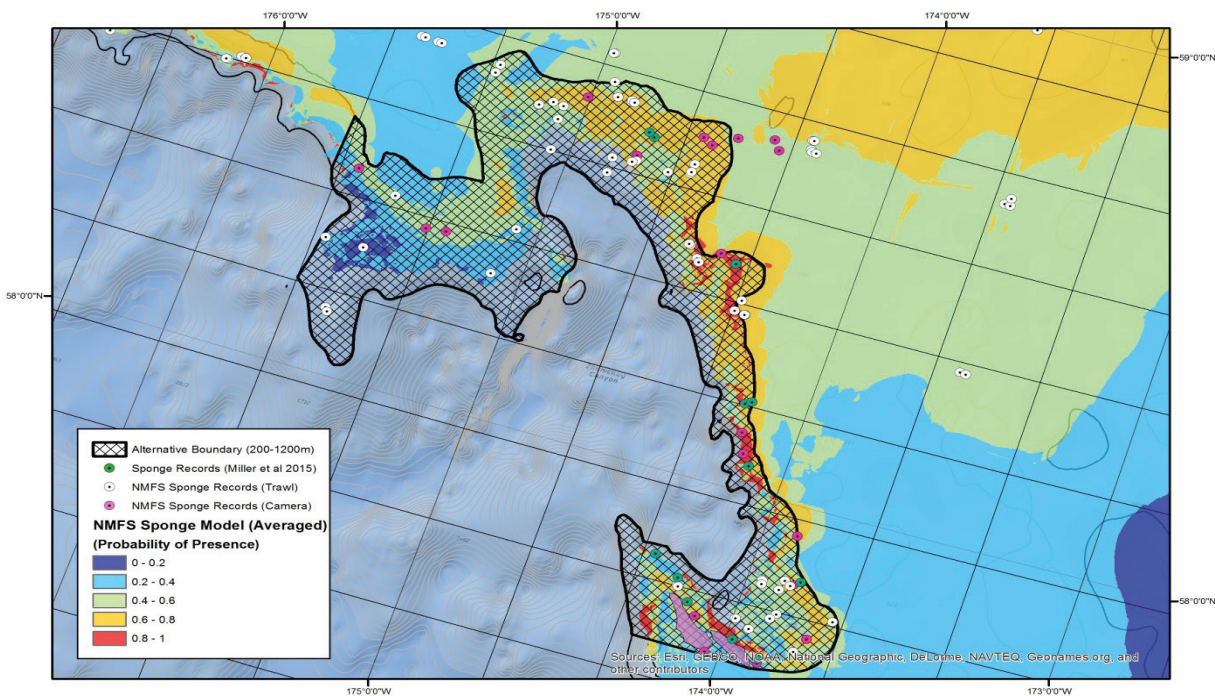


Figure 9. NMFS predicted sponge habitat, documented sponge records and 200-1200m alternative boundary for Zhemchug Canyon and adjacent slope area.

References:

Miller RJ, Juska C and J Hocevar. 2015. Submarine canyons as coral and sponge habitat on the eastern Bering Sea slope. *Global Ecology and Conservation* 4: 85-94.

Rooper C, Sigler M, Goddard P, Malecha P, Towler R, Williams K, and R Wilborn. 2015. Validation of models of the distribution of structure-forming invertebrates in the eastern Bering Sea using an underwater stereo camera. NOAA-NMFS report.

Additional Map:

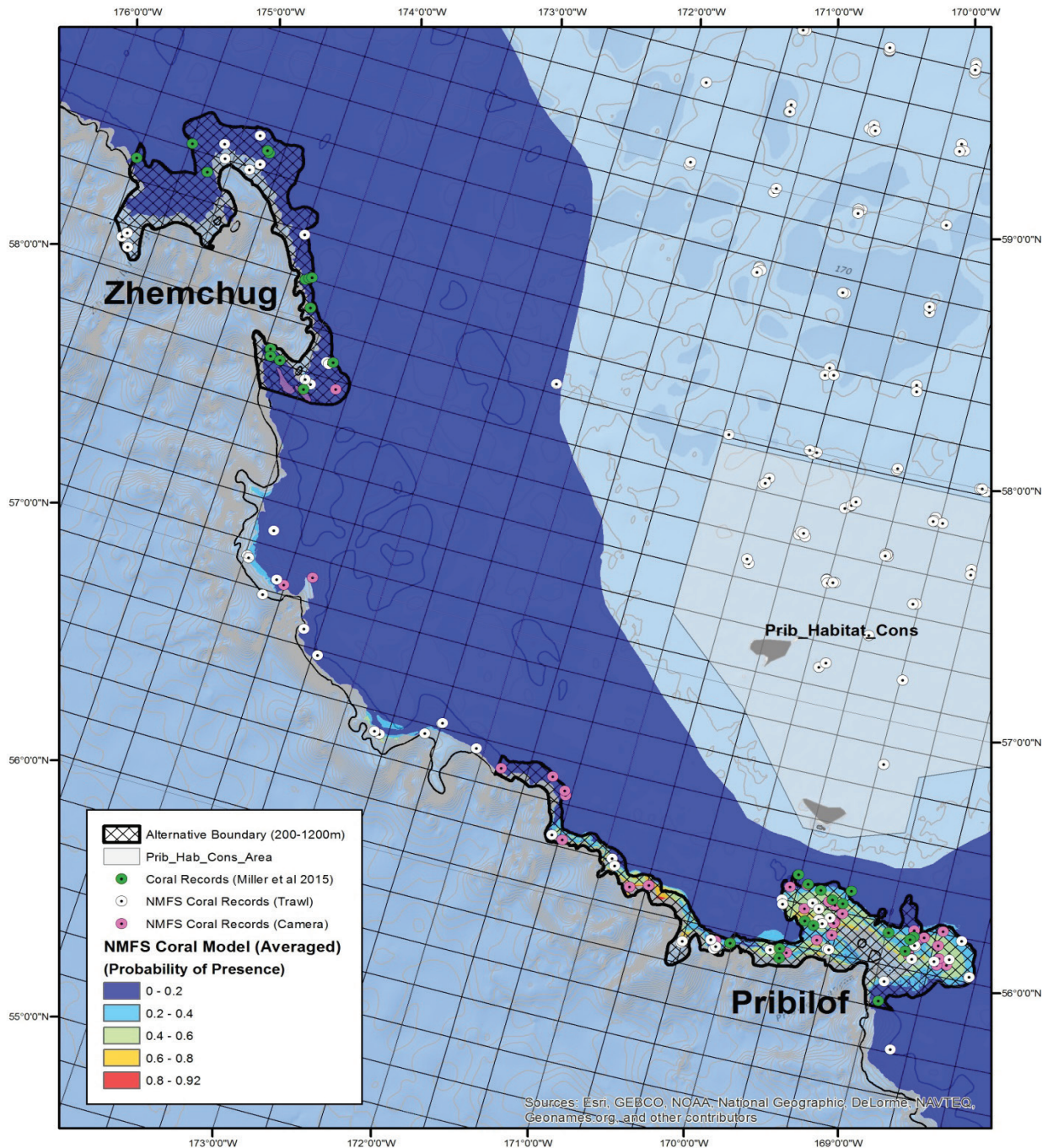


Figure 10. Overview map of Pribilof, Zhemchug, and slope areas. Note: the 200-1200 m alternative boundary is static for all maps in this document. Note: Zhemchug Ridges are the purple polygons in the southern region of the Zhemchug Canyon alternative boundary.

Thank you for your consideration of these comments and the proposed alternative.

Sincerely,

Heather Brandon
Senior Fisheries Officer
World Wildlife Fund



John Hocevar
Oceans Campaign Director
Greenpeace



Lance Morgan Ph.D.
President
Marine Conservation Institute



Brettny Hardy
Senior Associate Attorney
Earthjustice



Tuesday, September 29, 2015

Chairman Dan Hull
North Pacific Fishery Management Council
605 West 4th Avenue, Suite 306
Anchorage, AK 99501

RE: Agenda C3 - Canyon Corals

Dear Chairman Hull and Members of the Council:

I'm joining the call to protect the Bering Sea Canyons!

With this action, I join my voice with the over 200,000 people and hundreds of businesses -- including many of our nation's largest supermarkets and seafood buyers -- to call on the North Pacific Fishery Management Council to protect these important habitats.

The Bering Sea is home to vast numbers of whales, seals and sea lions, sea birds and also people in Alaska's indigenous coastal communities -- all who depend on a healthy ecosystem. New government science confirms that Pribilof Canyon alone likely contains half of the coral habitat in the Bering Sea. That's why I'm joining Greenpeace and coalition partners to call for the protection of these vital habitats.

Signed,

2,787 supporters
& Greenpeace USA

Name	City	State	Postal Code
Patti Mitchell	Port Saint Lucie	FL	34952-6886
Jean Farrell	Point Lookout	NY	11569-3015
Rebecca Keaton	Tallahassee	FL	32304-1213
Laura Furlong	Chula Vista	CA	91910-6769
Misti Reif	San Francisco	CA	94118-2236
Stacia Peter	Gig Harbor	WA	98335-5906
Tracy Neill	Manasquan	NJ	08736-1602
Van Hausman	San Francisco	CA	94107-3432
Shannon Cunningham	Marcellus	NY	13108-1018
Amanda Skerski	Marina Del Rey	CA	90292-5376
Jolie Kulsar	North Tonawanda	NY	14120-5406
Erin Kerrigan-Schmidt	Arcadia	CA	91006-5953
Taralynn Reynolds		AZ	85623
Kandace Nevin	Waynesville	OH	45068-9476
Kelly Hutson	Nottingham	MD	21236-4816

Jacquelyn Goldsmith		NY	12118
Rachael Eller			
Michele Denis		TX	76180
Victoria Omberg	Frederiksberg C	PA	18101
Janice Anderson		OH	43215
Alexandra Jelley		FL	33028
Mary Brice	Tampa	FL	33610-1652
Jesus Romero		CA	91342
Robert Stout			
Jennifer Holland		CA	94903
Velvet Nichols			
Janet curtis	Reno	NV	89511-1342
Marie Lohr	Sun Prairie	WI	53590-9108
Laina Lamb	Marion	OH	43302-8739
Terri Fulton	Costa Mesa	CA	92626-4326
Susan Kentler	New York	NY	10128-3623
Denise Lytle	Fords	NJ	08863-1836
Jamie Fillmore	Beaverton	OR	97006-1928
Shirley Robinson	Weeki Wachee	FL	34614-1907
Lynn Mattson	Fort Collins	CO	80521-1754
Tara Spies	San Marcos	TX	78666-6315
Jan Cowan	Saint Charles	MO	63301-0198
Lauren Ramsey	Corte Madera	CA	94925-2218
Temeca Shupe	Lincolnton	NC	28092-2536
Sarah Kozenko	Groton	MA	01450-1536
Deb Goodman	Oak Park	IL	60301-1244
James Newman	El Paso	TX	79925-5008
Blythe Grandon	Huntington Beach	CA	92646-6131
Christine Aurilia	Sayreville	NJ	08872-1303
Gina Willis	Woodstock	GA	30189-5407
Yazmin Gonzalez	Bellflower	CA	90706-5820
Laura Walker	San Francisco	CA	94112-2712
Patsy Matthews	Florence	SC	29505-3516
William Cowan	Beaumont	TX	77705-8376
Sharon Heath	Los Angeles	CA	90048-5323
Steve Iverson	Corona DI Mar	CA	92625-2919
Siobhan Keleher	Denver	CO	80209-4922
Daphne Painter	Oakridge	OR	97463-9756
Natalie Rakowski	Huntington	NY	11743-1724
Heather Rider	Santa Fe	NM	87508-2256
Shirley Shaw	Corvallis	OR	97330-3131
Dana Smith-Campb	Mandeville	LA	70471
Mike Toppe	Saint Paul	MN	55107-2249
Chris Young	Los Angeles	CA	90046-2536
Cherie Erwin	Langley	WA	98260
Chelsea Krebs	Fort Lauderdale	FL	33316-2204
Denise Prescott	Deerfield Beach	FL	33442-9221

Cheryl Young	Dallas	TX	75357-0281
Judy Desreuisseau	Gill	MA	01354-9615
Gerald Orcholski	Pasadena	CA	91104-3427
Evan Foss	Holliston	MA	01746-2317
Marian Fricano	San Jose	CA	95134-1256
Ilona Grasberg	Bellerose	NY	11426-2313
Charles Barnette	Pennington Gap	VA	24277-2251
Ron Mcgill	Fullerton	CA	92835-3234
Portia Mccracken	Greensboro	NC	27410-4709
William Harmon	Portland	OR	97202-7537
Kathy Ostram	Sonoma	CA	95476-6347
Catherine Ferguson	Hammond	IN	46320-1229
Patricia Garrison	Ellensburg	WA	98926-8982
Bren Danielson	Richmond	CA	94801-4039
Jeffrey Riney	Fletcher	NC	28732-9715
mary jo christian	Tinton Falls	NJ	07724-2826
Anthony Rodriguez	Bella Vista	AR	72714-3139
Irene Dick-Endrizzi	San Francisco	CA	94117-2906
Lisa Ham	Philadelphia	PA	19114-3905
Celeste Wernz	Tucson	AZ	85711-4864
Sharon Walsh	Jersey City	NJ	07307-4239
Karolin Lund	Seattle	WA	98117-2016
Monica Briggs	Jamaica Plain	MA	02130-3304
Ronna Rault	N Waterboro	ME	04061-4000
Dee Moore	North Manchester	IN	46962-9566
Catharine Mc Eachern	Saint Paul	MN	55105-3534
Carol Egslaer	Munising	MI	49862
Carole Menninger	Katy	TX	77450-3718
Lorraine Chavarria	Austin	TX	78745-5951
Anita Varga	Houston	TX	77099-3645
Victoria Brandon	Northridge	CA	91325-2407
Ramona Lione	San Jose	CA	95128-4220
Cat Salazar	West Lafayette	IN	47996-8058
Yolanda Rosales	Coeur D Alene	ID	83814-5091
Lisa Mulrane	Dunedin	FL	34698-4611
William Huggins	Las Vegas	NV	89183-7223
J. Porter	Richmond	VA	23223-7337
Karen Fedorov	Bealeton	VA	22712-7844
Nancy Schaak	Santa Barbara	CA	93108-2835
Shiela Smith	Delta	PA	17314-8942
Heiderose Forby	Columbus	OH	43211-1539
Jodi Desharnais	Dillon	CO	80435-0383
Annie McMahan	Clarkdale	AZ	86324-3128
Bonnie Turnbull	Atascadero	CA	93422-5173
Kristi Black	Minneapolis	MN	55428-0312
Diane Gentile	Rohnert Park	CA	94928-9999
Roberta Damke	San Mateo	CA	94403-1428

Dusty Stepanski	Richwood	NJ	08074-0097
Michael ann Azoulai	Woodland Hills	CA	91367-1125
Margo Falahee	Linthicum	MD	21090-1865
Natalie Gygi	Layton	UT	84041-6038
Patricia Thigpen	Ashland	OR	97520-1298
maryann Tamayo	Seattle	WA	98133-9333
Kori Craig	Manhattan	IL	60442-8549
Mark Ellefsen	Salt Lake City	UT	84105-3014
Karen Holleschau	Mercedes	TX	78570-9486
Jaclyn Hise	Boulder	CO	80303
Linda Maslin	Blue Bell	PA	19422-2451
Steve Downing	Santa Barbara	CA	93109-1923
Aaron Aldrich	Saint Augustine	FL	32086-7621
Yvonne Allen	Manassas	VA	20109-6823
Linda Bader	Cedar Rapids	IA	52402-7344
Ken Werner	Coos Bay	OR	97420-2362
David Councilman	Minneapolis	MN	55426-1936
Cheryl Fergeson	Ogden	UT	84404-8607
Kimberly Langon	Watsonville	CA	95076-3770
Virginia Fleming	Los Angeles	CA	90017-3844
Carol Lawrence	Mckinleyville	CA	95519-3448
Gwen Stewart	Santa Ana	CA	92703-4023
Cyndi Thompson	Wellsboro	PA	16901-7300
James A Hughes	Forked River	NJ	08731-4115
Roseanne Pacheco	Valatie	NY	12184
Nancy Gorton	Topeka	KS	66614-2721
Hannah Conroy	Helena	MT	59601-2828
Dena Garcia	Saint Cloud	FL	34771-8900
Kathleen Barrett	Syracuse	NY	13215-9629
B Winkler	Fenton	MO	63026-4229
Keith Morris	Los Angeles	CA	90027-5520
Sara Bakker	Santa Clara	CA	95051-6023
Laura Kennell	Saint Louis	MO	63130-1205
Gloria Picchetti	Chicago	IL	60613-2650
Rita Guidi	Wickenburg	AZ	85358-2578
Frank Colletto	Simi Valley	CA	93063-2927
Marcie Mott	Chattanooga	TN	37412-2946
Nadia Rains	Sacramento	CA	95825-6612
Amy Brockelman	Hartland	WI	53029-8445
Jennifer Ciabrone	Clifton	NJ	07011-3321
Patricia Palermo	Summit	NJ	07901-4002
Dawn Vermillion	Guffey	CO	80820-9104
Melissa Baird	Tarpon Springs	FL	34689-5409
Jan Harrison	Kingston	NY	12401-6022
Karen Ward	El Paso	TX	79936-1545
debbie weinberg	Monroeville	PA	15146-3840
Sarah Tuttle	Cromwell	IN	46732-9755

Stefanie Sellars	Simi Valley	CA	93065-4752
Lori Vest	Mammoth Lakes	CA	93546-0213
Linda DiGusta	New York	NY	10016-3123
Andrea Kendall	Athens	GA	30606-1904
Sharon Garlena	Frederick	MD	21702-9245
Bill Newman	Belmar	NJ	07719-3073
Terry Pellegrin	Beaverton	OR	97006-3433
Tammy Lettieri	Deerfield Beach	FL	33442-6050
Terri Myers	Syracuse	NY	13207-2238
Kimberly Burandt	Fishersville	VA	22939-2105
John Richkus	Jersey City	NJ	07307-3410
Julia Gilson	Jacksonville	FL	32224-7634
Jennifer Ott	Kalamazoo	MI	49009-9662
Cye Cave	Polvadera	NM	87828-0034
Colleen Benn	Valencia	CA	91355-2023
Janet Carper	Los Angeles	CA	90046-3141
Charles Jensen	Corona Del Mar	CA	92625-2844
Sharon Tipton	Irvine	CA	92614-7487
Panagiotis Rigopoulos	Patra	None	26225
Margaret Koster	Willits	CA	95490-1448
Jordon Rothstein	Whitestone	NY	11357-2211
Jennifer Jayroe	Littleton	CO	80127-3272
renee hamrick	Charleston	WV	25306-6817
Anthony Lioi	Highland Park	NJ	08904-2624
Barbara Cain	Concord	CA	94519-1155
Massimiliano Urso	San Pedro Sula	None	21112
Kevin Darcy	Bellingham	WA	98225-6577
Nancy Hynes	Fort Worth	TX	76107-2709
Nancy Everett	San Diego	CA	92130-2425
J A Mossbarger	Spring	TX	77379-4225
Lynette Mclamb	Forest Knolls	CA	94933-0400
Sveva Guidotti	Roma	None	165
Valerie Yarborough	Raleigh	NC	27607-6847
Kate Melges	Clearwater	FL	33767-2318
Susan Davis	Clearwater	FL	33756-6147
Courtenay Chadwell-Gatz	Bellingham	WA	98225-5611
Jim Hanson	Winter Park	FL	32789-1300
Gail Van Gundy	Montpelier	IA	52759
Jennifer Hall	Greeneville	TN	37745-1805
Joy Gilman	Key West	FL	33040-7193
Judy Meinhold	Las Vegas	NV	89108-7000
Victoria Cadogan-Rawlinson	New York	NY	10025-7251
Tania Malven	Tucson	AZ	85719-2441
Kirk Rhoads	Mountain Home	AR	7.27E+08
Teresa Cowley	Kingsville	TX	78363-3660
Nanette Oggiono	Upton	MA	01568-1424
Susan Sjolin	Spring	TX	77379-6128

Debra Raymond	Kannapolis	NC	28081-8533
Vivian Colodro	Los Angeles	CA	90049-2219
Elise Marks	Burlington	VT	05408-1928
Kerry Burkhardt	Clarence	NY	14031-1335
Miki Takada	Santa Rosa	CA	95403-2518
Roberta Stauffacher	Belmont	CA	94002-1636
Todd Davis	Portsmouth	OH	45662-5321
Gino Czaster	Buffalo	NY	14214-1011
Doreen Forbes			546
Danielle Guion-Swenson	Kapolei	HI	96707-1122
Shelley Wilson	New Milford	PA	18834-8042
Michelle Richards	Brooklyn	NY	11231-1800
April Swauger	Troutville	PA	15866-5014
Robert Kirsch	Eastlake	OH	44095
Mary Sanborn	Poway	CA	92064-2824
Daniel Eck	Ohio City	OH	45874-9056
Sarah Novak Novak	Mayville	NY	14757-9621
Tim Mckeever	Yorkville	IL	60560-1251
Carol Brown	Conneaut	OH	44030-2829
Laura Wertenberger	Grand Rapids	MI	49548-6908
Roberta Richardson	Golden	CO	80403-8585
Jenifer Alexander	Alpharetta	GA	30022-7665
Karen Martellaro	Shawnee Mission	KS	66215-2557
Gail Davern	Oak Harbor	WA	98277-5007
Carrie Osborne	Saint Charles	MO	63301-4875
Rachel Collins	Evergreen	CO	80439-6396
Heidi Shuler	Vancouver	WA	98663-1732
Margaret Silver	Atlantic Beach	FL	32233-4511
Richard Falzone	Mount Vernon	IL	62864
Pamela Baillio	Big Sky	MT	59716-1410
Judith Vincent	Salem	OR	97301-6644
Chris Obrien	Belchertown	MA	01007-9638
Deborah Crump	Florissant	MO	63031-7443
Jennifer Cooper	Boulder	CO	80304-1417
Elizabeth Unser	Westerville	OH	43081-2331
Barry De Jasu	Montague	MA	01351-0422
Yael Pardess	Los Angeles	CA	90065-4002
Jessica Penrose	Darby	PA	19023-4005
Ritwik Dey	New York	NY	10001-2412
Tricia Dunne-silvetti	Tomkins Cove	NY	10986-1208
Stephanie Lewis	Ponte Vedra Beach	FL	32082-2909
Allison Kampf	St Charles	IL	60175-6813
Holly Holtrop	Cleveland	GA	30528-0720
leslee kahler	Parkesburg	PA	19365-9100
Margaret Novitski	Mount Pleasant	MI	48858-3927
Hank Ramirez	San Diego	CA	92116-1979
Hilary Brown	Orlando	FL	32806-1612

Nancy Miller	Gwynn Oak	MD	21207-6009
Argenide Paliani	Venice	CA	90291-5904
Joe Cook	Los Angeles	CA	90028-5820
Kate Love-Kanow	Salinas	CA	93901-3318
Patricia Cohen	New Rochelle	NY	10801-3119
Andrew Astalos	Lakewood	NJ	08701-6744
Julia Cochrane	Port Townsend	WA	98368-0130
Andrew Moignard	Yardley	PA	19067-3942
Lorrie O	Minneapolis	MN	55408-2620
Hazel Landa	Cropseyville	NY	12052-3113
nancy berlin	San Antonio	TX	78254-1862
Jerry Peavy	Chico	CA	95926-2518
Kelleen Farrell	Placerville	CA	95667-4732
Lenore LeMans	Lake Oswego	OR	97035-6572
B KEANE	Gales Ferry	CT	06335-1704
Mary Tarallo	Demotte	IN	46310-9492
Sandra Oliver-Poore	Salem	OR	97301-2872
Dan Perdios	Palm Springs	CA	92262-0701
Karen Spehar	Cleveland	OH	44110-1636
Irene Siwik	New York	NY	10009-5137
Bogdan Bilyk	Pella	IA	50219-1772
barbara jannicelli	Brooksville	FL	34601-1015
Kleomichele Leeds	Santa Barbara	CA	93105-2662
Micki LeCronier	Fort Myers	FL	33908-6902
Karen Hewelt	Chesterfield	MI	48051-3817
Janine Castaldo	Pacifica	CA	94044-2555
Marcia Pedrick	Oakland	CA	94618-1188
Karen Toyohara	La Mesa	CA	91941-6710
Bailey Verschoor	Berkeley	CA	94705
Renee Kimball	Lockhart	TX	78644-2416
Anne Settanni	Normal	IL	61761-3718
John Hirtle	Lexington	MA	02421-6929
Kristina Hartwig	Salisbury	NC	28144
Sally Flood	Indianapolis	IN	46219-7011
Merideth Genin	New York	NY	10009-6636
C S	Chattanooga	TN	37411
Stephanie Jacobs	Flushing	NY	11355-1871
Donna Looker	Cookeville	TN	38501-9559
Guloim Zhapbarbergenova	Royal Oak	MI	48073-2115
Mary Rawlings	Cape Coral	FL	33990-4718
Robert Stayman	New York	NY	10025-7639
Robert J Barnhart	Austin	TX	78757-3407
Lonnie D.Ward	Nettie	WV	26681-0506
Julie Gengo	Alameda	CA	94501-2340
Kate O'Hearn	St. Leonards on Sea	None	TN37 7PN
Kris Pagenkopf	Gainesville	FL	32607-1580
Andrea Ros	Eugene	OR	97405

Mary Holm	Minnetonka	MN	55345-4429
Lisa Brochu	Norwich	CT	06360-5517
Corinne Spangler	Shrewsbury	MA	01545-3127
Stewart Wiggers	Honolulu	HI	96814-4705
Lauren Devine	Boca Raton	FL	33486-6909
Daniel J. Sanchez	Crossville	TN	38572-3524
J Rigney	Newton	NJ	07860-4821
Stephanie Vorse	Carlsbad	NM	88220-4445
Will Lerner	Oceanside	CA	92054-5744
Jill Langford	Silver Spring	MD	20903-1506
Seamus M	Philadelphia	PA	19148-5717
Xyra Harper-Cann	Leesburg	VA	20176-5125
Lanie McCain	Braidwood	IL	60408-2094
Jeane King	Vidalia	LA	71373-3702
Patricia Kuczynski	Feasterville Trevose	PA	19053-6325
Kathy Palmer	Cambridge	ON	N1T 1W4
Tristin Ison			
Donna R. D'Finì	Colrain	MA	01340-9617
Susan Kotowicz	Cheyenne	WY	82001-3849
Maria Hernandez	Miami	FL	33130-4282
Marc Beauchamp	Santa Barbara	CA	93130-0801
Sue Sadler-Pare	Goleta	CA	93117-1916
Lisa Waege Waege	Tomah	WI	54660-5190
Thelma Matlin	Reno	NV	89519-0936
Michael Chutich	Saint Paul	MN	55105-2722
Phillip Price	Berkeley	CA	94709-1420
Heather Richman	Santa Cruz	CA	95065-1013
Sharon O'Hara	Penn Valley	CA	95946-8820
Laura Ennis	Baltimore	OR	97230
Jennifer Griffith	Durham	NC	27713-8811
Elizabeth Castigliero	Riverside	RI	02915-1930
Andrea Carney	Denver	CO	80238-2918
Barbara Zaha	Saint Charles	IL	60174-4362
Elaine Wilson	Torrance	CA	90501-1204
Judith Scherff	Topeka	KS	66605-3541
Karrie Vrabell	Minneapolis	MN	55407-2842
jose p	Sunny Isles Beach	FL	33160-4225
Candace Quibel	Bisbee	AZ	85603-0513
Jessica Taylor	Nashua	NH	03060-5477
Joshua Blackfoot	Toledo	OH	43611-3742
George Steinitz	Campo	CA	91906-1400
Uta Jehnich	San Rafael	CA	94903-2275
Kara St.Germain	Pascoag	RI	02859-3252
Susan Boone	Everett	WA	98208-6535
Gary Usinger	Winter Springs	FL	32708-4860
Michelle Titmus	Northridge	CA	91325-2133
Kyra Rice	Oakland	CA	94611-2138

Rosalie Harman	Brooklyn	NY	11236-3435
Nahid Varjavand	San Carlos	CA	94070-3614
Justin Shaw	Forest Grove	OR	97116-2364
Jerri-Beth Ann	Ontario	CA	91764-2736
Laurie Larson	Burlington	VT	05401-4238
Richard Jefferies	Thurmont	MD	21788
Tresa Harrington	Los Angeles	CA	90077-2104
Kelly Kramer	Garden Grove	CA	92840-1716
Elizabeth Walker	Vacaville	CA	95688-8504
Elizabeth Watts	Lynbrook	NY	11563-4025
Mim Shelden	Inman	SC	29349-9117
Robert Longer	Sacramento	CA	95833-1224
Crystin Orser	Portland	OR	97211-2426
martin kleino	Ypsilanti	MI	48198-3504
Lena Nielsen-Mackley	Highland	CA	92346-2905
Joan Reyes	Livonia	MI	48152-4517
Lana David	Roseville	CA	95678-4109
Kevin Mcnamara	Rio Vista	CA	94571-1263
Linda Kronholm	North Port	FL	34287-6153
Joan Dick	Escondido	CA	92025-4307
Lora Hamrock	Huron	OH	44839-1431
Vita Lawson	Medford	OR	97501-2723
Marcia Magee		MI	49841
Rebecca Kerber	Elgin	IL	60120-2460
Bianca Carrasco	Fort Worth	TX	76177-1510
Nancy Topping	Avondale Est	GA	30002-1326
Darlene Schueler	Estill Springs	TN	37330-3832
Sean Corrigan	Los Angeles	CA	4879
Christina Heon	Arroyo Grande	CA	93420-3116
Nelly Savova	Gatineau	QC	J8T 5Y9
Dianna MacLeod MacLeod	Langley	WA	98260-9600
Jeanne Held-Warmkessel	North Wales	PA	19454-4285
Bridget Wilson	Austin	TX	78702-3974
Andrea Garza	Pharr	TX	78577-5129
Elaine Charkowski	Fort Bragg	CA	95437-8256
Stacey Patton	Willits	CA	95490-9452
Kimberly Duval	Leland	NC	28451-8285
Stephanie Seed	Highland Park	IL	60035-5962
Nicola Peluso	Santa Rosa	CA	95405-5254
Sara Morrison	Charlotte	NC	28277-9509
Susan Lefler	Austin	TX	78737-4407
Maria Alessi	New York	NY	10029-1731
Heather Hopkins	Ocala	FL	34473-7880
Samantha Baker	Midway	KY	40347-4002
Anna Bergalis Bergalis	Stuart	FL	34996-6604
Scott Haless	Sonoma	CA	95476-4349
Shana Goldin-Perschbacher	Philadelphia	PA	19119-3154

Don Kult	Flora	IN	46929-1005
Christina Suksdorf	Seattle	WA	98103-8242
Anne Fraser	Dracut	MA	01826-1921
Adrian Smith	Moncure	NC	27559
Suzanne Harris	Chicago	IL	60660-4629
Judi Laing	Los Angeles	CA	90027-2207
Kate Richardson	Belvidere	NJ	07823-1415
Deborah Davies	Sedona	AZ	86336-3953
Jef Harvey	Palmer	AK	99645-8290
Asra Jawaid	Coral Gables	FL	33156-6408
Michael Duffey	Fort Walton Beach	FL	32548-5621
Veronica Smith	Panama City	FL	32417-9184
Uthpala Kurupparachchi	Athurugiriya	NY	10150
Jillian Forschner	Hudson	MA	01749-2842
Glenna Waterman	Brookline	MA	02445-6140
Dawn Hennessey	Austin	TX	78739-4412
Susan Lowery	Montague	MA	01351-9515
Cheryl Watson	Elk Grove	CA	95757-8229
Gina Clayton	Denver	CO	80231-3419
Jennifer Warren	Portsmouth	NH	03801-4333
Eileen Faust	Pottstown	PA	19464-5311
Alycia Gillespie	Dripping Springs	TX	78620-3571
Dorothy Vollans	Siasconset	MA	2564
Laurie Yergin	Lisbon	ME	04250-6629
Susan Myers	Willow Grove	PA	19090-1102
Heather Higgins	Bronx	NY	10471-0076
Dayna Hines	Huntersville	NC	28078-1828
Joris Hines	Merritt Island	FL	32952-2780
Linda Noyes	Key Largo	FL	33037-4329
kaatje bernabei	Miami	FL	33165-7321
BENNIE WOODARD	Winter Haven	FL	33881-3161
Judy Daniels	Birmingham	AL	35205-6603
Chris Santen	Lakewood	CO	80232-6765
MEAGAN GILL		UT	84339
Maria Ramirez	Woodland Hills	CA	91364-1515
Mike Smalley	Yucca Valley	CA	92284-3341
Carolyn Phinney	Orinda	CA	94563-3412
Karen Allman	Sacramento	CA	95838-2936
Adella Albiani	Penn Valley	CA	95946-0066
Kathy Goss	Oregon City	OR	97045-1707
Mary Murphy	Bend	OR	97702-3116
patricai wolfram	Seattle	WA	98133-7721
Moses Bates	Philadelphia	PA	19135-2428
Anthony Debiase	Delran	NJ	08075-1104
Jan Jackson	San Marcos	TX	78666-8704
Tamila Foster-Carter	Wichita	KS	67216-1734
Gale Thackrey	Columbia	IL	62236-1827

Ty Beh	Rio Rancho	NM	87124-1776
Kristen Swanson	Springfield	OR	97477-7633
Arlene Aquino	Conroe	TX	77303-5465
Mary Higgins	Albuquerque	NM	87110-1846
Don Thomsen	Spokane	WA	99202-4278
Jason Ledford	Milwaukee	WI	53233-1002
Jaan Carter	Alameda	CA	94501-2780
Ray Cammisa	Eagle River	AK	99577-8207
Debbie King	Little Rock	AR	72205-4336
April Carey	Overland Park	KS	66212-2317
Robert Ellis	Candler	NC	28715-8415
Nina Hyatt	Los Gatos	CA	95033-8538
Debra Flagg	Sicklerville	NJ	08081-3104
Jan Galt	Oakland	CA	94609
Karen Spragg	Port Saint Joe	FL	32456-2121
Kim Berry	Pleasant Prairie	WI	53158-1404
Donna Hernandez	Homestead	FL	33033-5792
Yvonne Tota-Guzman	Springfield	MA	01118-1955
Maureen Toscani	Palmyra	NJ	08065-2126
Krystal Mata	El Paso	TX	79930-4644
Birgit Campana	Woodbridge	VA	22191-6066
Jenny Wilder	Apple Valley	CA	92308-9340
Martin Ayora	Morgan Hill	CA	95037-5447
Paula Berry	Johnstown	PA	15906
Dalila Ibarra	Orange	CA	92867-7123
Rita De Ferrary	St. Thomas	VI	803
Lorna Soto	Rowlett	TX	75030-1282
Anahita Sarabhai	New York	NY	10032
Philip Winkels	Laytonville	CA	95454-2032
Patricia Conkel	Pittsburgh	PA	15206-4511
Charlotte Newman	Portland	OR	97220-5351
Alisa Arnold	Marina Del Rey	CA	90292-6865
Brittany Young	Staunton	VA	24401-5448
Mary Shoff	Scottsdale	AZ	85255-9007
Barbara Harnack	Cerrillos	NM	87010-8800
Ann Hess	Fort Collins	CO	80524-1850
William Sharfman	New York	NY	10024-6508
Casi Mahlberg	Lockport	IL	60441-2738
Mayra Gaytan	Culiacan	None	80000
Brooke Prim	Tucson	AZ	85749-9228
Lanelle Lovelace	Crestone	CO	81131-0342
Natalia Elizondo	Miami	FL	33130-4143
Natalia Pszenny	Chamblee	GA	30341-2663
Richard Nevle	San Jose	CA	95112-1711
Susanne Abetti	White River Junction	VT	05001-9664
J Beverly	Urbana	IL	61801-6858
Nancy Quijano	Jamaica	NY	11432-1725

Aisling LaBauve	Hollywood	FL	33020-3833
Joan Cambria	Rumson	NJ	07760-1704
Nancy Smith	Santa Monica	CA	90401-2605
Camille Thorns	Anderson	IN	46011-9518
Ana Rumbak	Zagreb	None	10000
Aaron Mencia	Miami	FL	33183-4194
Sean Burchell	Sebastopol	CA	95472-5814
Teresa G?àsior	Ostróda	None	14100
Diane Rios	Portland	OR	97215-3232
Megan Burger Burger	Everett	WA	98201-1538
Mark Ingham	Modesto	CA	95350-0701
Richard Moore	Sebastopol	CA	95472-2132
Tony Talevich	Seattle	WA	98118-2522
Linda Tipton	Long Beach	CA	90802-2292
Deepak Dhillonn	Lancaster	CA	93535-3215
Margie Barman	Laguna Hills	CA	92653-1111
Stacy Cain	Cedar Springs	MI	49319-8646
Stephanie Lin	Irvine	CA	92614-7545
Sarah Agate	Redwood City	CA	94062-2960
Lynn Jenkinson	Ann Arbor	MI	48108-2044
Carol Whitnah	Inverness	CA	94937-0552
Leah Garland	Los Angeles	CA	90049
Hans Huber	Bloomington	IN	47401-9551
Renee Quail	West Hills	CA	91307-3430
Laura Jenkis	Studio City	CA	91604-3951
Jens Hansen	Rosengarten	MD	21224
Vyonne Jenks	Pocatello	ID	83201-6147
Betty Murphy	Long Beach	CA	90802-5059
jacquet sylvie	marne	FL	51370
Maria Schulz	Timisoara	GA	30042
Mary Green	Menasha	WI	54952-8919
Ellaine Lurie Janicki	West Haven	CT	06516-6541
Lisandre van Leeuwen	Seal Beach	CA	90740-5833
Clarice Mushlin	Brookline	MA	02446-2218
Catherine Hill	Nashville	TN	37216-3323
Claudine Beck	Siloam	NC	27047-9111
Tascha Babitch	Portland	OR	97214-2649
Judith G. Hunt	Bloomfield	CT	06002-1804
Roberta Reynolds	Shelton	CT	06484-2725
Mary Jo Knox Knox	Bakerstown	PA	15007-0333
maryann mcgovern	Hartford	CT	06114-1779
Jodi Larson	Lakeland	MN	55043-9770
Charles Whelan	Barrington	IL	60010-9380
Vironica Dart	Seattle	WA	98075
Em Levitt	Concord	CO	80525
Sandra Sell-Lee	Sequim	WA	98382-7117
Sara Barrientos	Guatemala	NY	10011

Ann King	Busby	MT	59016-0156
Nina Rolles	Mc Donough	NY	13801-2102
Michael House	West Valley City	UT	84119-2663
Lois Olmstead	Lafayette	CA	94549-5108
Teather Pangarakis	Austin	TX	78741-3136
Myfanwy Mattes	Ithaca	NY	14850-5203
Jeanne Busacco	Durham	NC	27712-8968
Debra Murphy	Chadds Ford	PA	19317-9751
Patricia Field	Gibsonville	NC	27249-8829
Barbara Polhamius	Soquel	CA	95073-2425
Thomas Reeder	Ormond Beach	FL	32176-4750
Deborah Lane	Prescott Valley	AZ	86314-8310
Jessica McCall	Syracuse	NY	13209-1654
Frank Eichenberg	Santa Barbara	CA	93109-1858
Michael Solomon	Emeryville	CA	94608-3138
Thomas Murphy	Stacy	MN	55079-9389
Karen Choate	Lakeview	AR	72642-0265
Virginia McCoy	Mimbres	NM	88049-9309
Leslie Moravcik	Hot Springs Village	AR	71909-7971
Sherrie Hill	Saint Louis	MO	63128-3009
Rita Clonts	Concord	NC	28025-3377
Dennis Kreiner	Carpentersvle	IL	60110-1201
Patricia M Diekman Diekman	Savanna	IL	61074-8628
Lorelei Horry	Long Beach	CA	90808-3416
Roger & Mary Stephens	Morganton	NC	28655-7560
Herbert Secreti	Seattle	WA	98178-3237
Bettina Leonard	Schenectady	NY	12303-4514
Irmgard Gutersohn	Asperg	None	71679
David Sheets	Cleveland	OH	44135-4740
Mannon Jasperse	Revere	MA	02151-1178
Eileen McGuire	Drexel Hill	PA	19026-1602
Delia Mcgrath	Pacifica	CA	94044-3142
Kitty Watkins	Olympia	WA	98512
Amanda Stewart	Little Elm	TX	75068-5718
Nancy Brown	Bracebridge	ON	P1L 1W8
Connie J Cunningham	Boise	ID	83709-1920
Iris Escudero	Newbury Park	CA	91320-1119
Jo Anne Beemon	Charlevoix	MI	49720
Shelly Bautista	Pomona	CA	91767-1674
Kathy, Mark, Chris & Jessie Groth	Aurora	CO	80014-1036
Lauren Linda	Laguna Woods	CA	92637-8151
Ruth Janes-Allen	Lake Stevens	WA	98258-8830
Brian Blassingame	Hartsel	CA	94103
Michael Halliday	Columbus	OH	43204-1861
Alanna Woolley	Harper Woods	MI	48225-1652
Dorothy Townsend-Tyers	Langley	WA	98260-9698
Barb Roesel	Granville	NY	

Noah Tenney	Oakland	CA	94606-1416
Donna J Wagner	Pacifica	CA	94044-2567
Jessica Paulat	Lodi	CA	95240-9476
Lisha Lammers	Sweetwater	TN	37874-5259
Christopher Fries	Negaunee	MI	49866-9522
J Recker	Indian Hills	CO	80454
Renato Salerno			26110011
Leslie Medina	Norwalk	CA	90650-2295
Angela Rupar	Ormond Beach	FL	32174-7005
Barbara Essenmacher	Modesto	CA	95351-3062
Andreana Hilerio	astoria	NY	11103
Eva Larson	Agoura Hills	CA	91301-2111
Maggie F	Aurora	IL	60502-7311
Carolyn Murrow	Alva	OK	73717-2732
Jerilyn Kay Miller	Madison	WI	53713-2938
Cherise Albanese	Shorewood	IL	60404-8693
Brice Bray	Milwaukee	WI	53212-1717
Violeta Latorre	Los Angeles	CA	90008-1930
Dianne Cavoly	Raleigh	NC	27603-7830
Tracey Burley	Orlando	FL	32835-2957
Christine Weiss	Central Falls	RI	02863-3021
Gigi Ray	Arlington	TX	76013-3413
Ingrid Oscarsson	New York	NY	10024-6371
Cathy Hale	La Mesa	CA	91941-6900
Darian Mark	New York	NY	10022-2873
Kendra Bench	Mount Vernon	WA	98273-0865
Leslie Ann Rodarte	Walnut Creek	CA	94597-1904
John Leopard	Atlanta	GA	30324-4649
Rosa Henry	Hemet	CA	92543-7898
Nora Johnston	Menasha	WI	54952-9500
Sean Millis	San Francisco	CA	94115-2951
Tanya Kroeber	Jacksonville	FL	32225-3494
Wilson Sanabria	Elizabeth	NJ	72021857
Marcy Hancock	Lemoore	CA	93245-0828
Tina Baker	Saint Cloud	FL	34771
Lisa Wilcox	west hollywood	CA	91602
Irwin Hoenig	Laurel	MD	20726-5292
B. Ann Hannon	Anamosa	IA	52205-7683
Terry Keck Keck	Saint Clair Shores	MI	48081-3119
Jennifer Schally	Stillwater	MN	55082-9651
Darlene Barber	Dannemora	NY	12929-0475
Kristina Thorpe	Redmond	WA	98073-3284
Susan Spilecki	Brighton	MA	02135-7010
Penelope Cooper-Kelley	Santa Barbara	CA	93105-2743
John Henry	Tracy	CA	95304-8413
Lael Bradshaw Bradshaw	Camano Island	WA	98282-7664
Roxanne Hughes	Rowlett	TX	75088-4819

Debra Hope Arrington	Las Vegas	NV	89147-5116
Cheryl Caldwell	Conway	PA	15027-1342
Carol Tinkham	Buzzards Bay	MA	02532-5640
Diego Gavilanes	Canyon	TX	79015-4100
Elaine Hinman-Sweeney	Albuquerque	NM	87112-5846
Kristie Lyon	Saint Louis	MO	63139-1004
Johanna Turitto	Valley Center	CA	92082-3602
Dionna Campbell	Carmichael	CA	95608-4613
Brandea Wright		OH	44811
Cheryl Caldwell	Orlando	FL	32837-5215
Marcy Bustraan	Novi	MI	48377-1418
Gail Whitfield		MS	38672
Robin Korotko	Oconomowoc	WI	53066-9549
Pauline St Denis	New York	NY	10003-2454
Frieda Dean	Augusta	GA	30906-5204
JoAnn Porter	Port Townsend	WA	98368-1400
Linda Shilton	Los Angeles	CA	90064-3237
Adam Smith	Kemah	TX	77565
Purnima Barve	King of Prussia	PA	19406-2004
Debbie Sierchio	Trinity	FL	34655-7028
Stephanie Stuckey	Rolla	MO	65401-7617
Lisa Carpenito	Malden	MA	02148-6413
Carna Yipé	Argonia	KS	67004-8819
Stephanie Doyle	Hope	ID	83836-0282
Taylor Brown	Haverhill	MA	01832-5598
Silke Maurer	Berkeley	CA	94707-1618
Lorin Brand	Tallahassee	FL	32301-4415
Teresa Royer	Lake Grove	NY	11755-2937
Marilyn Ramseier	Antioch	CA	94531-7427
Jordan Fox	Marlton	NJ	08053-1241
Nan Johnson	Eureka Springs	AR	72632-9680
Nick Eustrom	West Hills	CA	91307-2908
Ellen Mangan	Maricopa	AZ	85138-3182
Marlena Fernandez	Tyler	TX	75709-3534
Julie Motl	Telford	TN	37690-2363
Chris Chambers	Rancho Palos Verdes	CA	90275-4458
Vanessa Carbia	Gainesville	FL	32608-8536
Susan McGrath	Champaign	IL	61820
Wendy Stankevich	Lawton	OK	73505-6802
Lisa Roberge	Leeds	MA	01053-9742
Jerold Huebner Huebner	Brooklyn	NY	11237-2648
Susan Ballard	Provincetown	MA	02657-1353
Robin Bodurka	Howell	MI	48855-8768
Laurie Kopack	Oak Park	MI	48237-2201
Kathryn Saari	Fresno	CA	93730-4511
Sheila Butler	Templeton	CA	93465-9091
Raimund Illek		NJ	8041

Christopher Evans	Near Byton Hand	None	HR6 9NL
Catherine Antoine	New York	NY	10012-0002
Linda Bailly		NM	87108
Maria Collee	Bloomington	IN	47401-5939
Sandy Cornell	Moab	UT	84532-2608
Cody Traweek	Tallahassee	FL	32303-6907
Debby Smith	Plum Branch	SC	29845-0033
Solis Lujan	Santa Fe	NM	87501-1917
Suzanne Dunham	Janesville	WI	53545-4204
Evelyn Rens	Tucson	AZ	85716-6365
Catherine Linton Cutler	Danvers	MA	01923-1927
Elena Makhova	Cincinnati	OH	45202
Stephanie Beeler	East Lansing	MI	48823-1856
Ina Mitchell	Van Nuys	CA	91406
Wendy Barner	Portland	OR	97213-6971
Itziar Antonana	Vitoria	MA	1013
Diane Bradbury	Cedar Rapids	IA	52402-3742
Mia Shaw	San Francisco	CA	94127-1731
Patricia Springer	Charlottesville	VA	22902-0803
Bos Claudine	poligny	IN	39800
Samantha Gibson	Glen Rock	PA	17327-8917
Eva Galvin	Niskayuna	NY	12309-4827
Sheila Chaffins	Burnet	TX	78611-5969
Jean SongWinds	Pamplico	SC	29583-6227
Mitchell Gershten	Paonia	CO	81428-4109
Tanya Roland	Falls Church	VA	22042-1731
Carolyn Caplan	Manitou Springs	CO	80829-1628
Steve Bongard	Philadelphia	PA	19128-4017
Marilyn Yates	Erwin	TN	37650-3022
Diane Kizer	Hendersonville	TN	37075-8701
Barbara Cullinan	North Bergen	NJ	07047-6184
Jennifer Barnes	Spring Hill	FL	34606-7007
Jacqueline Kolb	Miami Beach	FL	33141-3196
Todd Fisk	San Diego	CA	92131-3573
Charla Smith	Pittsburgh	PA	15122
John Kindel	Elizabeth	CO	80107-8415
Claire Ohrling			NOB2R0
Lisa Duaei	Portland	OR	97233-2826
Nils Chaplet	Brooklyn	NY	11238
Norma Curran	Oxnard	CA	93030-8583
Darlene Niman	Elmhurst	NY	11373-5803
Nancy Montgomery	Rutherfordton	NC	28139-7338
Cheryl Johnson	Grand Rapids	MI	49504-6076
Ann Shenfield	Nth Fitzroy	None	Vic
Lela Betts	Wyndmoor	PA	19038-7615
Nikolaus Gruswitz	Burlington	VT	05401-4521
Briit Belshin	Del Mar	CA	92014-2901

Aliyyah Harvey	San Lorenzo	CA	94580-2707
James Foley	Simi Valley	CA	93065-3360
Michelle Stern	Austin	TX	78701-3319
Karen Spurr	Warrenton	VA	20187-5850
Linda Close	Redford	MI	48240-1412
Julia Still	wilmington	VT	5363
Elizabeth Cole	Farmington	CT	06032-1563
Katherine Sartain	Saltillo	MS	38866-6924
Lauren Bhagwandeem	Colorado Springs	CO	80918-5705
Donna Davis	Creedmoor	TX	78610-2030
Nodia Brent-Lux	Santa Fe	NM	87505-5959
Chris Didear	Austin	TX	78748-2917
Hal Stanford	Austin	TX	78750-1292
Lisa Archer	Oakland	CA	94609-1205
Claire Delevingne	Jamaica Plain	MA	02130-3321
Manuela Wolter	Des Moines	IA	50309
Jackelyn Navarro	Brooklyn	NY	11228-2825
Sherron Varela	Middletown	NY	10941-1654
Julie Greco	Pleasantville	NY	10570-3355
Michelle Cavanaugh	Cheektowaga	NY	14215-1345
Mary Thiede	Gunnison	CO	81230-9778
Wendy Minovitz	Northridge	CA	91326-1703
Janis Moody		OK	74135
Jolene Foley	Grants Pass	OR	97528-0293
Valerie Gould	Belmont	CA	94002-3411
Amy Steadman	Rome	GA	30161-5946
Ashley Fedak		PA	18651
Kevin Klein	Hyattsville	MD	20784-1302
Brad Thomas	Warren	MI	48092-5900
Maria Arias	Weehawken	NJ	07086-7005
Claudia Rose		CA	91201
Bruce Johnson	Milwaukee	WI	53202-3481
Sandra Tetenburg	Den Haag	CA	91932
Don Smith	Desert Hot Springs	CA	92240-1604
Susanna Reilly	New Castle	PA	16101-3115
Linda Anderson	Salt Lake City	UT	84120-5390
Suzanne Esaine	Mount Marion	NY	12456-6003
Elisa Townshend	Denver	CO	80206
Maryelizabeth Lehman	Gilbert	AZ	85234-3031
Martha Redsecker	N Las Vegas	NV	89032-3121
Mary Mikesell	Noblesville	IN	46060-4902
Caridad Romaine	Central Islip	NY	11722-4433
David Brockett	Cleveland	OH	44118-3501
Roberta Limoli	Burlington	MA	01803-6515
Damien Tracy	Sturtevant	WI	53177-2703
Holly Homan	Shoreline	WA	98133-5341
Elinore Krause	Mc Kees Rocks	PA	15136-2414

Sherrie Lynne	Golden	CO	80401-4952
Maya Shenkman	New York	NY	10035-1842
Carol Burke	Oxford	OH	45056-2701
Kat Bowley	Acworth	GA	30102-2773
Christine Clayborne	Manassas	VA	20109-7657
Yvonne Townsley	Louisburg	NC	27549-8734
Alyce Herrera	Felton	CA	95018-8946
Albert Krohn	Livonia	MI	48152-1740
Nancy Fuller	Los Angeles	CA	90046
Leanne Reis-Ong	Carol Stream	IL	60188-2642
Virginia Mendez	North Miami Beach	FL	33160-4800
Roy Phillips	feds creek	KY	41524
Chemaine Leon	Millbrae	CA	94030-2448
Christi Cox	Paradise	CA	95969-3303
Wendy jean Hyde	Needham	MA	2492
Claudia Ezinicki	Lancaster	MA	01523-3072
Katherine Burns	Lynchburg	VA	24502-6927
Patricia Van Cour	Utica	NY	13501-4007
Sandra Nelson	Columbus	IN	47203
Josephine Harrison	El Paso	TX	79925-5149
Theresa Poulin	Grand Rapids	OH	43522-9695
Molly Gonzales	Minot Afb	ND	58704-2151
Tamaras Abrams	Eureka	CA	95503-5105
Jason Pearl	Independence	MO	64052-2553
Lori Fox	Vacaville	CA	95687-5816
Mary Ellen Bennett	Laguna Beach	CA	92651-1425
Verbena Santo	Coram	NY	11727-1512
Karin Eller	Blairsville	PA	15717-6449
Robert Johnson	Oak Park	IL	60304-2237
Cynthia Hines	Tomah	WI	54660-1360
Betty Carnes	Norton Shores	MI	49441-6536
Sebila Altunay	Ft Lauderdale	FL	33306-1921
Denise Rigotti	Lansing	MI	48912-2716
Kerry Lashbrook	Romeo	MI	48065-4782
Jennifer Schroeder	San Tan Valley	AZ	85140-3169
Donna Reuter	Bremerton	WA	98311-2474
Jo Ann Ryan	Cleveland	OH	44144
Denise Denton	Hastings	MI	49058-1910
Aubrey Cunningham	Tucson	AZ	85710-5757
Audrey Elszasz	Chardon	OH	44024
Tonya Christian	Claremore	OK	74019-2003
Diane Gubrud	Byron	IL	61010-8824
Jennifer Cassell	San Diego	CA	92104-4306
Mimi Farley	Portland	OR	97213-1262
Doug Johannes	Ventura	CA	93004-2714
Anders Hengsteler	Dunnellon	FL	34433-2289
Marilyn Gullledge	College Station	TX	77845-7906

Bridgit Sims	Coupeville	WA	98239-1703
Paul Davis	Jasper	AR	72641-0273
Ashley Bisnett	Roanoke	VA	24019-2653
J. Brown	Los Angeles	CA	90064
Linda Simonds	Norfolk	NY	13667-3256
Wendy Lucka	Germantown	WI	53022-1164
Amanda Nichols	Bradford	PA	16701-3976
Gaylene Mackey	Las Vegas	NV	89146-1428
Sherrie Rozniecki	Delaware	OH	43015-7837
Patricia Jones	Hilham	TN	38568-5851
Candace Donaldson	San Jose	CA	95148-2910
Gary Maedl	Hollis	NH	03049-6037
Victoria Pirozzoli	Carlisle	PA	17015-7106
Mary Alvarez	Sugar Land	TX	77479-2265
Judith Armdtrong	Truckee	CA	96161-2183
Kerriane Hanlin	Elkton	MD	21921-4649
Brianna Kohlenberg	Sumner	WA	98390-2623
Jaye Jackson	Salida	CO	81201-1302
Linda Delloiacono	Malden	MA	02148-2711
Elizabeth Bishop	Walton	KY	41094-7480
C Vasquez	New York	NY	10034-1927
Kathy Wallace	Waynesville	OH	45068-8981
Brenda Seldin	Narrowsburg	NY	12764-0081
Christopher Ryan	New Orleans	LA	70117-5122
Melanie Hetrick	Tillamook	OR	97141-3583
Stuart Hoffman	Topanga	CA	90290
Andrew Madeloni	Port Richey	FL	34668-5948
Andrea Haines	Philadelphia	PA	19119
Valerie Anderson	Vancouver	WA	98683-7056
Dorothea Stevens	San Carlos	AZ	85550-1584
Donna Varney	Golden	CO	80403-1659
Eleanor Wynn	West Linn	OR	97068-2245
Jonathan Bennett	Forest	VA	24551-2430
Sandra Yagi	San Francisco	CA	94114-1614
Deborah Brewster-McClellan	Zuni	VA	23898-2543
Steve Sehnert	Burlington	WI	53105-1677
Lynn Elliott	Diamond Bar	CA	91765-4233
Veronica Vicente	Ventura	CA	93001-4150
Megan Nepshinsky	West Kingston	RI	02892-1624
Kelly Howle	Carson City	NV	89701-8405
Trisha C	Evanston	IL	60202-1004
Florence Lamagna	New Bern	NC	28560-4808
William Newman	Austin	TX	78749-4540
Phoenixsong Alysia Stellamaris	Charlotte	NC	28204-3111
Miranda Huff	Raleigh	NC	27607
Sandy Sargeant	Rowlett	TX	75089-2410
Peter Sukowski	Fort Atkinson	WI	53538-9722

Rosa Medina	Tolleson	AZ	85353-8406
Sara LeMay	Goose Creek	SC	29445-5735
Veronica Barragan Barragan	Austin	TX	78744-5059
Greg Blevins	Phillips	ME	04966-4344
Irene Nickolai	New York	NY	10007-3635
Faith Morgan	Port Townsend	WA	98368-8528
Teanna Seminerio	St Petersburg	FL	33713-6700
Raynee Thomas	Cocoa	FL	32927-8525
Kathy Roy	Sherman Oaks	CA	91423
Alisha Purdy	Hilbert	WI	54129-9274
Lise Scully		FL	
Chris James	Louisville	KY	40299-1207
Lorraine Emanuele	San Diego	CA	92104-1905
Lindsay Loss Loss	North Myrtle Beach	SC	29582-3269
Curtis and Jane Hoffman	Dallas	TX	75225-2721
Mary Mancilla	Seattle	WA	98102-5981
Dawn McGrenera	Chicago	IL	60652-2212
Dora Lewis		IL	60559
Elizabeth Watson	Sterling	VA	20164-2904
Bobby Kerschner	Charlotte	NC	28215-3739
Stephanie Garrett	Charlotte	NC	28277-2256
Karen Mandeville	Oxford	CT	06478-1611
Sarah Sultana	Dsrt Hot Spgs	CA	92240-7723
Linda Chover	Minneapolis	MN	55414
Thomas Thornburg	Golden	CO	80401-2250
Dawn Harris	Reno	NV	89519-6053
Caitlin Noah	Pacifica	CA	94044-4112
C Sorensen	Burbank	IL	60459-2514
Paige Burson		WA	98661
Jocelyne LaPointe	Terrebonne	OH	44334
Leslie Meyers		VA	23518
Dale Watkins	Granite Bay	CA	95746-6509
Paige Kosturi	Lexington	KY	40517-3846
Susanna Minacheili	thessaloniki	None	54453
Moni Martinez	San Angelo	TX	76903-3847
Bonnie Silke	Garland	TX	75042-8145
Elizabeth Peryam Reshower		NC	28768
Jeannine Whitley	Irondale	AL	35210-4116
Laura Wolfe	Minneapolis	MN	55412-2538
Jamie Benson	Trenton	NJ	08610-5152
Carmen Bau	Rego Park	NY	11374-1117
Peter Bandurraga		NM	87047
Susan Averitt	Houston	TX	77022-4445
Bonny Holmes	Austin	TX	78704-6717
Mari Malcolm	Seattle	WA	98102-4627
Paola Covarrueias	Coronado	CA	92118-3021
Pamela Cattich	El Granada	CA	94018-1273

Darlene Falk	Vilas	NC	28692-6006
Tati Gorbachev			
Susan Mahoney	Syracuse	NY	13206-3237
Mary-Lou Baldwin	Amsterdam	NY	12010-3401
Kayla Norris	Victorville CA	CA	92392
Deborah Sebrell		OH	44906
Timothy Park	San Rafael	CA	94903-2415
Dorothy Johnson	Morrisville	NC	27560-9253
Krishna Cantwell	Orlando	FL	32804-3917
Janine Child	Austin	TX	78704-2637
Lupita Medina	alhambra	CA	91801
Cindy Horn	La Fayette	NY	13084-9571
Maria Saldica	Cedar Park	TX	78613-1718
Susan Hammen	Winnabow	NC	28479-5575
Adelinda Moran	West Palm Beach	FL	33409-7530
Heather Munro	Sebastian	FL	32958-4225
Jim Goulet	Cranston	RI	02910-3133
Matthew Correnti	Cedar Glen	CA	92321-0143
Karla Mackey	Bend	OR	97702-9480
Jason Williams	Lakewood	CO	80227-2531
Angela Rehart	Huntersville	NC	28078-4458
Kian Kad	Irvine	CA	92606-8805
Darlene Newcom	Hinton	WV	25951
Denise Wilson	Valley	AL	36854-2649
Danny Hoagland	Irving	TX	75038-8910
Sully Wilson	Santa Fe	NM	87508-2216
Pamela Wood	Keizer	OR	97307
Cheryl Miles		FL	32117
Gina Gaetz	Northampton	MA	01061-1213
Kathryn Morgan	Sebastopol	CA	95472-5204
Carolyn Davis	Livonia	MI	48154-3281
Patrice Anita	Los Angeles	CA	90034-0492
Dean Ruscoe	Port St Lucie	FL	34952-2624
Kristina Lamons	Houston	TX	77008-3428
Carolyn Cox		TX	78759
Sandra Charbonneau		WA	98388
Dylan Worsley	Woodland	CA	95695-5456
Maureen Quaid	Naperville	IL	60564-8250
Julie Braun	Buffalo	NY	14210-2456
Carmen Redding	Baltimore	MD	21206-1906
Jeanne Brooks	Orrs Island	ME	04066-0008
Patty Hancock	Thousand Oaks	CA	91362-2204
Lyn Wandell	Ojai	CA	93023-3549
Sarah McConnaughey		NV	89024
Eva Papoutsis	Omaha	NE	68132-3551
Patricia Williams	Murray	KY	42071-2254
Patricia Hughes	Lake Arrowhead	CA	92352-1375

Olga Mashkova	Minneapolis	MN	55418-2247
Sue Merris	Pittsboro	NC	27312-7059
Eric Habener	Murrieta	CA	92562-7532
Gayle Iverson	San Antonio	TX	78247-3130
Debra Brandis	Flagstaff	AZ	86004
Arthur Jones	new windsor	NY	12553
Martin Dunkerton	Venice	CA	90291-4639
William Edwards	Grand Rapids	MI	49505-3734
Sheila Eudy	Saint Paul	MN	55117-4232
Samantha Bayless	Sonoma	CA	95476-5653
Hayley Saccoman	San Francisco	CA	94131-2001
Diana Vogel	Oxford	MA	01540-1901
Deborah Zwolenk		CA	93942
Monica Ortiz	Brookline	MA	02446-4580
Mary Coburn	Yelm	WA	98597-9018
Diane Schorsch	St Petersburg	FL	33702-4186
Shirena Gonzalez	Chicago	IL	60605-2317
Gina Triviso	Costa Mesa	CA	92626-6103
Lisa Howard	Rocklin	CA	95677-2400
Mirta Rodriguez	Port Saint Lucie	FL	34953-6134
Elizabeth Sherman	Mount Vernon	WA	98274-4421
Jason Jackson	Grants Pass	OR	97526-1171
Jake Anonymous		AK	99623
Elizabeth Frost	Pittsford	VT	05763-9303
Ned Grant	Newtown	CT	06470-1729
William Webster	Oroville	CA	95966-9233
Ruth Arnone	Savannah	GA	31419-0015
Kathleen Wolfe	Gig Harbor	WA	98335-8521
Leslee Abern	Billings	MT	59105-3809
Cinzia Panetti	New Canaan	CT	06840-2203
Soleman Hashmi	Streamwood	IL	60107-4503
Jennie Ellerbee		AR	72007
Terri Camara	Dallas	TX	75206-4342
Christine Geery	Salt Lake City	UT	84116-4397
Jeffrey Freilich	Port Jervis	NY	12771-3423
Elena Miller	Indianapolis	IN	46235-4927
Tammy Creo	Alpharetta	GA	30004-7437
Cynthia Vogel	Lincoln	CA	95648-9355
Joni Jones	Winchester	CA	92596-9514
Mariah ONeill	Lincoln	MA	01773-3703
Cyndi Nusbaum	Boulder	CO	80301-2239
Megan De Wilde	Sun Valley	CA	91352-1116
Tristin Ison	Harrison Township	MI	48045-3368
Elizabeth Countryman	Columbia	SC	29205-1227
Shari Miller	Walnut Creek	CA	94596-0852
Juan Bueno	Battle Ground	IN	47920-7019
Crystal Flick	French Lick	IN	47432-1382

Catherine Jahn	Rockville Centre	NY	11570-4311
Meg Pasquini	Seattle	WA	98117-4457
Lauren Kincannon		CA	92705
Kathleen Burns		MA	1757
Yolanda Schultes	wittenbach	CA	93001
Alexandr Yantselovskiy	Vyshneve	None	8132
Linda Kelly	Round Lake	IL	60073-3318
Sharon Spriggs	North Chesterfield	VA	23234-4631
Cecilia Gimenez		OR	97526
Tammi Connery	Ashford	WA	98304-0367
Heidi Bean	Newport Beach	CA	92663-2615
Ruth Kramer	North Branford	CT	06471-1266
Anita Crawford	Pendleton	OR	97801-2321
Lauren Klingman	Orinda	CA	94563-3542
Patricia Brooking	Chantilly	VA	20151-3529
Heather Hale	Belleville	MI	48111-9119
Sarah Moss	Forest Park	IL	60130-1940
Becky English		CO	80209
Suzan Toma	Sittard	NY	12345
Gwynne Sullivan		AZ	8.5E+08
Emily Liebl	Altadena	CA	91001-3009
Robert S	Sausalito	CA	94966-2498
Maureen Murphy	Portland	OR	97203-5223
Siobhan Field	Oakland	CA	94611-4807
Bryna Pizzo	Saint Louis	MO	63128-2432
Alli Tripp	Richfield	MN	55423-1114
Kaye Holder-Neal	Mcminnville	TN	37110-2610
Caitlin Jonkel	South Lake Tahoe	CA	96150-7492
Rochelle Maloy	Deland	FL	32720-5085
Jonathan Gottlieb	Natick	MA	01760-3346
Jennifer Pearl	San Carlos	CA	94070-2142
Mark Offerman	New York	NY	10038-2307
Kathy O'Hara O'Hara	Seattle	WA	98105-6509
Paula Fougere	Seabrook	NH	03874-4108
Sarah Raite	Jamesville	NY	13078-9776
Stefani Kester	Grass Valley	CA	95945
Tammy Grimes	Marion	IN	46953-2953
Scott Eanes	Alameda	CA	94501-4714
Lorene Mills	Santa Fe	NM	87502-5141
Nancy Berggren	Ballston Spa	NY	12020-1824
B Greenhill	Newark	DE	19711-7023
Sarah McCoy		CA	94131
Nadia Reategui	Bradenton	FL	34205-7208
Rose Namay	Charleston	WV	25311-2407
Jose Morales	Avon	CO	81620-7824
Ann Blanchfield	Farmington	MO	63640-2539
Maricruz Lopez	EL PASO	TX	79904-6217

Elizabeth Roberts	Chicago	IL	60657-2874
Susan Helwig	Aurora	IL	60504-3127
Pam Mcintosh	Norman	OK	73070-6583
Robert Blackiston	Philadelphia	PA	19125
Jane Harrington	Los Angeles	CA	90018-3116
Jesse James	Springfield	OH	45503-4839
Tiffany Clark-Grove	Sterling	IL	61081-2724
Aimee Smith	San Marcos	CA	92078-1051
Terry Halsey-Scott		SC	29020
Jeanne Joannides	Fox Island	WA	98333-0533
Andrew Eisenberg	Boynton Beach	FL	33473-7845
Lu L. La Fontaine	Marianna	FL	32446-1823
Schueman Kelly		IL	60423
Linda Moretto	Chamois	MO	65024-0128
Nicole Lozano	Wylie	TX	75098-8167
Kelly Schumann	Rumney	NH	03266-3034
Dana Wilson	Appomattox	VA	24522-8278
Brown Kate	Martinsburg	WV	25401-2131
Angelique Curran	Laguna Niguel	CA	92677-5403
Cory Colley	Las Vegas	NV	89117-0691
Alicia Weber	Scotts Valley	CA	95067-6961
Barbara Ramirez	Spring	TX	77380-1807
Cheryl Burns	Lawrence	KS	66046-3009
Susan Sebanc	Boulder	CO	80303-1707
Linda Middagh		NY	14052
Alexander Gebhardt	Grand Rapids	MI	49506-4551
Evi Xanthopoulou	thessaloniki	WI	54655
Elizabeth Rose	Zanesville	OH	43701-4039
Gayle Boesky	New York	NY	10023-3754
Jeremy Yeakey	Spring	TX	77373-6220
Sabrina Lytton	Seattle	WA	98126
Illges Faron	Baton Rouge	LA	70816-2877
Phyllis Trammell	Fayetteville	AR	72701-6147
Michael Henn	Kalamazoo	MI	49006-2717
Kristin Cook	Stevensville	MD	21666-4056
Deborah Whittington	Carbondale	IL	62903-7616
Betty Scotto	Asheville	NC	28804-1502
Melinda Illingworth	Montclair	NJ	07042-2922
Conlen Birgit	Leicester	NC	28748-7731
Irene Dragustinovich	Houston	TX	77021-2915
Sandra Grace	Portland	OR	97229-7613
Judy S Richlin	Chesapeake	VA	23320-4828
Fuqua Donna	Forest	VA	24551-1588
Blank Gail	Fresno	CA	93722-6153
Martinez Sandy		OK	74129
Hunt Maureen		GA	30345
Shelby Price	Fort Myers	FL	33905-5551

Sonia Cortassa	Baltimore	MD	21212-1542
Soucie Ann		AZ	85704
Fran Young	Grand Prairie	TX	75050-3212
Price Lori			
David Morgan	Boise	ID	83702-4055
Vickie Bianco	Lakewood	CA	90712-2930
R Cobb	Brooklyn	NY	11211-4745
Peterson Kristen	Saint Louis	MO	63124-2155
Judy Jacobs	Melbourne Beach	FL	32951-2157
Kris Hubert	Atlanta	GA	30342-1073
Marria Yang	Killeen	TX	76549-4259
Nora Edison	Gainesville	FL	32609-3681
Maria Mollenkopf	Austin	TX	78729
Pamela Haun	Cooper City	FL	33328-4342
Gina Mindock	Orange	CA	92869-5002
Nancy Marshall	Portland	OR	97213-4738
Amanda Real	Portland	OR	97202-6575
Nancy Wells	Gardendale	AL	35071-4412
Chris Danne	Gainesville	FL	32608-2920
Wally Murphree	Batesville	AR	72501-8007
Samantha Wallace	Fairfield	IA	52556-2090
Barbara Franck	Philadelphia	PA	19124-2902
Kris Knoll	Las Vegas	NV	89103-1131
Carol Consolantis	Memphis	TN	38104-5128
Kate McCormick	Quincy	MA	02171-2272
Dan Oberc	Destin	FL	32541-3082
Marv Hamilton	Salt Lake City	UT	84111
Kim King		MO	64119
Dennis Wolff	Cave Springs	AR	72718-9037
Rob Bagley	Phoenix	AZ	85051-4767
Odea K	East Brunswick	NJ	08816-2219
Kelly Davies	Windsor	ON	N8Y 2R9
Christina Klein	Esch-sur-Alzette	ME	4112
Anna Goldman	Shelocta	PA	15774-7225
Elaine Brandt	Venice	CA	90291-2982
Sara Fogan	Valencia	CA	91385-0552
Clark Britnee	Pittsburgh	PA	15202-2666
Hyde Kristine		WA	98133
Pamela Murdock	Ogden	UT	84401-0635
Craig Schaffer	Port Orange	FL	32129-3129
Albert Diraddo		NY	13021
Milena Nes	Haledon	NJ	07508-1345
Horton Kristine	Twin Falls	ID	83301-0123
James Hill	Nahant	MA	01908-1182
Brandy Parsons		WA	98589
Tamara Burbridge		CA	94804
Ustin Holland	Poway	CA	92064

Markum Karen	Newark	DE	19713-3004
Ansley Martin Robin	BISHOP	CA	93514
Jozef Kempen	Mol; Belgium	None	2400
Hackel Helena		FL	32425
Michael Sodos	Frederick	MD	21703-7133
David Feltus		NC	27613
Bibbi Engberg	Hässelby	None	16557
Mansoor Shah	North Charleston	SC	29418-5407
Sue Mcguey	Brampton	ON	L6S 3E5
Marjan Sipsma	Petaling Jaya	AK	46000
Sonja Alonso	Portland	OR	97229-4865
Kenneth Orr	Richardson	TX	75080-5815
Terrance Isley	Perry	IA	50220-1531
Ana Sinclair	Mount Pleasant	TX	75455-4937
Paula Harrington	Las Vegas	NV	89138-3026
Maryanne Embury	Colorado Springs	CO	80903-2840
Nelson Guillory	Whittier	CA	90604-3718
Melissa Miles	Hixson	TN	37343-3805
Nancy Yarosis	Benson	NC	27504-6336
Rogge Christan	Peoria	AZ	85345-4811
Linda Tang	Staten Island	NY	10305-3802
Yolanda Negron	Thonotosassa	FL	33592-2724
Rebecca Boreham	Missouri City	TX	77459
Lisette Waard	Lelystad	None	8226
Lisa Perry	Hastings ON Hudson	NY	10706-3110
Raven V	Charlotte	NC	28078
Grenier Cassandra	Meriden	CT	06450-4776
Holly Williams	Tacoma	WA	98467-3832
Ramona Crumby	Yuma	AZ	85364
Stephanie Smith	Columbus	OH	43204-1635
Stephanie Clark	Long Beach	CA	90808-3411
Judit Spaeth	Karlsbad	TX	76307
Ursula Nett	Cologne	IA	50674
Cynthia Franke	Kassel	DE	34127
Willis Rachel	Liverpool	TX	77577-9700
Kantor Ruth	CLAYMONT	DE	19703
Kathy Johnson	Saint Paul Park	MN	55071-1450
Sherry Holcomb	Middleton	WI	53562-3437
Arce Jose	Hamilton	NJ	08610-5115
Rouse Lara	New Bern	NC	28562-3421
Alby Stewart	Shenandoah	VA	22849-4271
Emily Spina	Haledon	NJ	07508-1638
Ann Erickson	Monte Rio	CA	95462-0862
Jessica Wardlaw	Cottage Grove	MN	55016-4823
Kathi Lyon		MD	21037
Marilyn Sammons	Little Rock	AR	72205-2148
Hensley Donald	Youngtown	AZ	85363-1753

Jackson Kandi	Hays	KS	67601-4080
Dana Ferguson	Wellsburg	WV	26070-3101
Ankea Kkoutas Kkoutas	Houston	TX	75010
Parris Kayla		MA	1905
Jill McAnally	Trenton	TX	75490-6463
Choy Wk		WI	54426
Roos Susan		PA	18801
Linda Woodward	Bremerton	WA	98312-2654
Camille Larson	Tallahassee	FL	32312-3777
Peggy Menke		MO	63014
Erin Diehm	Berkeley	CA	94703-1620
Teresa Variano	Pleasant Valley	NY	12569
Theresa Martin		AZ	85019
Marsha Bomar	Wellston	OK	74881-8153
Lucia Vertkin		MA	2067
Paulakay Lindauer	Santa Rosa	CA	95409-5524
Sarah Smith	Vancouver	WA	98684-9699
Tiffany Houchins		MD	21211
Kathleen Ninneman	Brodhead	WI	53520-9698
Ariana Butterman Butterman	Redding	CA	96003-3710
Bruce Papier		NM	87507
Kimbrough Leslie	Clovis	CA	93613-3856
Beverly Smith		WA	98155
Yolanda Fuchs	Burbank	CA	91505-1531
Suzanne Berry		NM	88001
Vicki Rider	Chandler	AZ	85225-6898
Elizabeth Williams	Batesville	VA	22924-0215
Vicki Johnson	Centralia	WA	98531
Mai Lopez	Ewa Beach	HI	96706
Laura Loney		IA	50201
Allison Knight	Hurdle Mills	NC	27541-8342
Daniel Rifkin	Denver	CO	80210-2636
James Wilcox	Portland	OR	97219-5837
Harriett Quintana	Aberdeen	WA	98520-5016
Linda Corcoran	Lake Worth	FL	33461-5131
Dan Haeffner	Mcfarland	WI	53558
Yvonne Santiago	Savannah	GA	31401-5011
Laura Gandolfo Gandolfo	Ridgewood	NY	11385-1925
Jane Garsson	Mill Valley	CA	94941-3315
Chris Monti	North Ridgeville	OH	44039-1782
Cynthia Sedas	Albuquerque	NM	87108-5104
Dennis Caristi	Acton	MA	01720-4747
Stephanie Stinson	Erie	CO	80516-8473
Terry Huff	Salt Lake City	UT	84124-2158
Jovanka Ruiz	Barcelona	None	8013
Elaine Sanchez	South Padre Island	TX	78597-6989
Stacey Ballard	Pleasanton	CA	94566-0143

Marcia Zuvanich	Ponca City	OK	74604-5844
KristiLisa A. Kleiner		CA	93011
Joanna Dawson	cannes	CT	6150
Meredith Barrioz	Central	SC	29630-9088
Lonnie Stanton		OH	45120-9798
Lada Storer	Franklin	PA	16323
Lisa Griffith		CA	9.24E+08
Petra Lemberger	Kirchroth	None	94356
Maria Bon Bon	Simi Valley	CA	93063-3566
Jay Davey	Derry	NH	03038-1936
Carol Thatcher	Vineyard Haven	MA	2568
Eynne Ray	Watkinsville	GA	30677-2158
Leslie Salisbury	Las Vegas	NV	89149-6435
Judy Arbic	Glen Burnie	MD	21060-7311
Mox Ruge	Sherman Oaks	CA	91403-1711
Dalton Potter		CA	92008
Allison Cox	Vashon	WA	98070-7808
Jack Balch	Lake Worth	FL	33467-1003
Robert Buck	Saint Louis	MO	63103-1310
Doug Scott	Findlay	OH	45840-6954
Vera Sadkovsky	Modesto	CA	95354-3223
Julie Roohi	Wake Forest	NC	27587-4543
Elizabeth Hasty	Reading	PA	19607-1419
Sarah Jordan	Warrenton	VA	20187-7751
Cynthia Austing	Columbus	OH	43229-4672
Marjorie Mountjoy	Kalamazoo	MI	49009-9114
Sandy Richardson	Bloomington	IL	61701-9023
Yvonne Andrews	Bucksport	ME	04416-4117
April Strohmeyer	Mauston	WI	53948-9758
Lani Riday	Kirkland	WA	98033-5941
Stephen Trahan	Hampton Falls	NH	03844-2106
Barbara Murray	Lynnwood	WA	98087-2109
Terri Mclaury		WA	98258
Cassy Stone	Mount Morris	IL	61054-1549
Blake Risch	Fort Myers	FL	33901-6831
Janet DiFrangia	Youngstown	OH	44505-1701
E. Feldman		TX	77006
Jean Toler	Toms River	NJ	08753-7867
Esmeralda Garcia	Pomona	CA	91767
Laurie Neidich	Tucson	AZ	85745-2509
Robin Ford	Tiro	OH	44887-9796
Kenneth Moyer	Cinnaminson	NJ	08077-3876
Jenny McDermott	Saint Louis Park	MN	55426-4608
Joan Woodland	Ventnor City	NJ	08406-2006
Cm Gormly	Batavia	OH	45103-1824
Kathleen Burke		UT	84741
Sharron Jones		CA	95210

Sharon McCauley	Emeryville	CA	94608-3234
Cindy Mills		LA	70454
Missy Dominguez	Austin	TX	78705-5497
Margaret Fasolo	Brooklyn	NY	11229-2368
Priscilla Mezrahi	Merrick	NY	11566
Angelika Zintel	guntersblum	KS	67583
Mark Bastian	Helston	WA	99330
Amie Connor	Evanston	IL	60201-2072
Barbara TUcker	Hamilton	AL	35570
Edward Stonebraker	Ocean Shores	WA	98569-9729
Carol DeWald	La Center	WA	98629-5566
Lesley Evans	Henderson	NV	89011-2056
Jennifer Mansfield		WA	98225
Margaret Kohler	Sylvania	OH	43560-1882
Gregory Davis	Prescott	AZ	86301-2517
Sue Pierce		AZ	85022
Tina Brewster	Los Angeles	CA	90036-4227
Francene Kilichowski		NY	12020
Kelsey Graham	Birmingham	AL	35242-2811
Philip Patino	Pico Rivera	CA	90660-2225
Elizabeth Wilkes	Athens	GA	30606
Susan Shiels Matias		MN	55438
Brigitte Hoin	herzogenrath	IA	52134
Sacha Maxwell	west tisbury	MA	2575
Selma Saidane	Chicago	IL	60613-4235
Moriah Hughes Barlow	Reedsport	OR	97467
Sherry Byers	Fairbanks	AK	99708-2869
Colleen Hayse		MO	64804
Janet Lyon	leicester	None	le673bl GB
Cathy Deschu	Center Valley	PA	19034
Mitra Sabet	Atlanta	GA	30358
Ingrid Woerner	Berlin	None	10587
Nichelle Knobloch		PA	17362
Megan Bloom	Bellingham	WA	98225-3414
Toni Tempal Navarro	Colchester	VT	05446-5805
Stephanie Laurent	Carlisle	PA	17013
Karina Irina	ytina	KS	87676
Teri Johnston	Chico	CA	95973-5833
Don Dasinger		NJ	8753
Mark Tomlinson		PA	19054
Jamie Williams	Dallas	TX	75225-2618
Beverly Long	Saint Louis	MO	63109-1543
Feather Pritchard		CA	95062
Tom Thayer	Windsor	CA	95492-7931
Deanne Franklin		CA	94110
		MA	1612
Wendi Dennison	Port Orchard	WA	98366-1500

Jeremy Taylor	Morgan	UT	84050-9628
Rosalinda Szliuga	Tigard	OR	97224-1295
Darilyn Kotzenberg	Kings Beach	CA	96143-1014
Kaitlin Madigan		GA	30606
Missy Mueller	Spring Lake	NC	28390
Julie Martenson	Fredericksburg	TX	78624-4341
Gemma Buell	Pahoa	HI	96778
D. Hubenthal	Spokane	WA	99205-7334
Humphers Desiree	San Jose	CA	95136
Veronica Egan		CO	81328
Janis Totham	Takoma Park	MD	20912-4810
Mary Rotter	West Valley City	UT	84120-1638
Bianca Sodfried	Purbach	None	7083
Bodhi Kohler	Tuebingen	None	77777
Shawn Lockwood	Smithfield	UT	84335
Caitlin Schwerin	Durham	CA	95938-9790
Jennifer Sack	Seattle	WA	98168-1638
Gabriella Adinolfi	salerno	None	84
Sloan Bukowski	Alta Loma	CA	91701-8600
Leigh Anne Thrift	Clarksville	TN	37043-4945
Barbara Woolley	Louisville	KY	40207-2274
Claudette Dorsey	Hermosa Beach	CA	90254-4845
Daniel Ericksen		MI	48070
Sherry Setera	Chico	CA	95926
Gina Barnes	Portland	OR	97219-5114
Eric North	Washington	DC	20011-1255
Tina Clevenger	Hennef	WA	53773
Carrie Hubbel	Orlando	FL	32806
Alan Connors	Minneapolis	MN	55403-4121
Larry Cravetz		PA	19403
Brigitte Clary		NJ	8406
Beverly Ward		NY	11795
Debbie Davis	Beech Grove	IN	46107-2467
Kathy Keough	Redding	CA	96001-4011
Tammy Keefer		PA	17320
Christina Martinez	Lakewood	CO	80226-2989
Sandy Moore		AR	72034
Leslie Keeth	Willow Street	PA	17584-8942
Kim Cofer		TN	37406
Holly Marcum	Painesville	OH	44077-1827
Kelly Lee	Paris	KY	40361-1457
Mary Vasquez	Silver Spring	MD	20902-2058
Cosmic Sky		TN	37917
K Green	Archer	FL	32618
Amanda Bernheisel		ME	4090
Randee Alessi	Torrance	CA	90505
Andy Zahn	Toutle	WA	98649-0167

Syndi Benetti	Fall River	MA	02720-2707
Erin Lary	Middletown	OH	45042-3533
Joe DiJulio	East Haven	CT	06512-4822
Rachel Jacobson	Verona	NY	13478
Melissa Denby	Charlottesville	VA	22903-4117
Alyssa McMillen	Peoria	IL	61614-6866
JoAnn Cortina	Ukiah	CA	95482-9418
Paula Yurkovitch	Pataskala	OH	43062-8922
Adrienne Neff		NY	10040
Ashlee Bonham		NC	27295
Debbie J		IL	60442
Hope Campbell	Lawrenceville	GA	30043-4265
Florencia Campos		UT	84104
Cynthia Narkoff	Souderton	PA	18964-1617
Terry Bass	Philadelphia	PA	19149-1725
Lola Janes	Wetmore	MI	49895-9022
Cristiana De Lia	Rome	None	184
Deborah Hulsewede		KY	40206
Amy Chastain	Colbert	GA	30628-3549
Ricardo Valentino	Dunedin	FL	33759
Julia Hart	Magna	UT	84044-1268
Becky Pettitt	Mckinleyville	CA	95519-4031
Curtis Hart	Tarzana	CA	91335-7049
Hannah Mitchell		CO	80010
Rebecca Farrell	Avon	CT	06001-3410
Carmen Crespo	vega alta	PR	692
Alma Sanchez	Norwalk	CA	90650-1860
Joanna Dunne	Nottingham	None	0
Paige Dolan		IL	60613
Laurie Hargrove		MI	48072
Candace Koenig	New York	NY	10028-7181
Laura Gianni		NY	10024
Michelle Lemley	Placerville	CA	95667-9619
Dawn Williams	Newtown	CT	06470-1805
Cathi Rigsby	Port Richey	FL	34668-4730
Regina Kay	Stockton	CA	95207-6041
Marta Hullihen	Laguna Niguel	CA	92677-1460
Rebekkah L Moodie Sprague	Poestenkill	NY	12140-2803
Becky B		MO	64804
Linna Haynes	Petoskey	MI	49770-3402
Vedrana ??abrijan		FL	51000
Elspeth Bedell	Chesterfield	MO	63017-7811
Hillary Biggerstaff	Redlands	CA	92373-5121
Jacobo Chavez	Dallas	TX	75227-8514
Amanda Gordon	Sanford	FL	32773-6445
Ingrid Svensson	Nacka	NY	13830
Lindsay Marshall	Grass Lake	MI	49240-9161

Aranza Narcía	Mexico City	None	4620
Cathy Cadwell	Springfield	MA	1108
John Brusen	E Perth	None	6004
Diane Keane	Crescent City	CA	95531-2219
Line Ringgaard	Rising Sun	IN	47040-1056
Nina Clausen	new york	NY	13625
James Glatz	Greentown	PA	18426-3001
Waltraud Boyles	Clearwater	FL	33761-4061
Shirley Byrne		MS	39120
Gregg Orr	San Diego	CA	92103-2439
Gwen Neal	Benbrook	TX	76126-3511
Becky Everhart	Sellersburg	IN	47172-9466
Maria lanc	Zaragoza Spain	IA	50010
Elizabeth Domingos-Shepard	Dana Point	CA	92629-3217
Stephanie Davis		AR	72956
Erica Sanfiz			7071
Darla Wroblski	lr	AR	72190
Beth Bowe	Levittown	PA	19056-1546
Leigh Stanifer	Corryton	TN	37721-4728
Sarah Carter			
Hanh Doan	San Diego	CA	92120-3561
Tamilya Smith-Gonzalez	Dallas	TX	75209-3911
Maria P	paphos	AK	22222
Jocelyn Ramirez	Chicago	IL	60647-6885
Mary Cyr			
Nonie Kitto	St. Petersburg	FL	33709
Hana Yi	Rancho Cucamonga	CA	91730-2540
Edward Jacobus	Hackettstown	NJ	07840-1536
Greg Yaklin	Parker	CO	80138-8038
Maria Udell	Lockport	NY	14094-2735
Kathy Chiavola	Nashville	TN	37209-4731
Donna Yetto	New Port Richey	FL	34652-4711
Varpu Kaplas		WV	25110
Pamela Rey		CO	80250
Karen IJUNGVALL		CO	80401
Gabrielle Baker	Crescent Springs	KY	41017-1332
Tobiola	Riverside	CA	92503-6301
Julie Sopkowicz	Southfield	MI	48076-5701
First namejim Dale	Loveland	OH	45140
Gina Romberg	Chickasha	OK	73018-7358
Melodie Miller	polk city	FL	33868
Laurie Hurst	Mandeville	LA	70448-7095
April Smith		IN	46360
Carisa Dalton	Saint Peters	MO	63376-2784
Christan Gerlach	N Las Vegas	NV	89032-1404
Anne Hogan	Sunrise	FL	33322-1254
David Fisher	Paxinos	PA	17860-7085

Cindy Cook	Biloxi	MS	39532-9250
Stephanie Jones	Oklahoma City	OK	73107-3015
Sharon Phillips	Hawkinsville	GA	31036-4821
Savannah Sydney	Flagstaff	AZ	86001-0850
Theresa Horne	Waukesha	WI	53188-2419
Natalie Silvestri		CA	90057
Rob Whisler	Gap	PA	17527
Ann Evans	Westcliffe	CO	81252
Janet G Heinle	Santa Monica	CA	90403-4066
Linda Censorio	Attleboro	MA	02703-5138
Susanne Chakan	Brooklyn	NY	11201-2544
Alexandra Stallings	Frederick	MD	21702-2620
Yes Baillargeon	Orlando	FL	32811-3158
Karen Armlin	Jackson	NJ	08527-4529
Kelley Dempsey		MD	21703
Heather Johnston	Tarzana	CA	91356-1151
Ana Catarina Martins			20000
Donna Sachse	Olive Branch	MS	38654-6512
Daniella Kellogg	Huntington Beach	CA	92648-2035
Thomas Bennett		CO	80524
Rachael Prokop	Washington	VA	22202
Kimberley Buckley	Anaheim	CA	92804-2261
Francesca Rossellini	Portland	OR	97211-5503
Karen Mignona		OH	44202
Donna Starr	Fort Collins	CO	80526-5404
Bella M		VA	20152
Paul Clabough		AZ	85641
Robin Wagner		OH	45209
Margaret Domer	Pittsburgh	PA	15213-2706
Jill Hutchinson	San Francisco	CA	94102-3001
Alan Harper	Richmond	VA	23225-1353
Rich Venuti	Clementon	NJ	08021-6221
Kevin Peryagh	Curepipe	None	2300
Shelley Carroll	Orlando	FL	32825-8249
Margaret Roddy	Sacramento	CA	95842-1605
Kathleen Curtis	Des Moines	IA	50317-8742
Nuith Alatorre		TX	78758
Ronda Kisner		MN	55448
Logan Vineyard	New Washington	IN	47162-9615
Patricia Dunstan		MI	49795
Victoria Eells	Gold Beach	OR	97444-0693
Kelly Murray	Wisconsin Dells	WI	53965-8860
Cameron Moore		CA	95993
Isaac Green		CO	80905
H Hink		FL	33478
Megan Becker	Saint Paul	MN	55117-3427
Yvette Spires		FL	33021

Tiffany Whitfield	Grand Junction	CO	81504-4863
Debbie Lapierre	Ocala	FL	34483-2053
Anmorya Nolan	Brookline	NH	03033-2103
Heather DeNittis	Winterville	NC	28590-5869
Kristine Jacobus	Hope	ID	83836
Janna Pijoan		OR	97366
Alicia Bohley	valatie	NY	12184
Yvonne Oregel		CA	92832
Marjorie Frazier	Waterford	MI	48327-2869
Ximena Suarez Lopez	Gardena	CA	90247-5168
Denise Wright	Fayette	AL	35555-1803
Sue Dodson	Lincoln	NE	68521-1976
Deanna Smiley	Ashtabula	OH	44004-9383
Paula Tytlar	Kent Lakes	NY	10512-3104
Tim Flannigan	Water Valley	MS	38965-2545
Beth Jane Freeman	Wantagh	NY	11793-2658
Denise Smith	Salem	OR	97302-4121
Lynne Gonzalez	Chicago	IL	60634-4119
Alison Entler	Davenport	IA	52806-4105
Jennifer Shroyer	Pleasant Hill	CA	94523-2460
Julie Gulden		CO	80003
Tracey Walden	New Smyrna Beach	FL	32168-8566
Bridget Barefield	Laytonville	CA	95454-1483
Virginia Culbert	Winter Haven	FL	33884-2339
Rachel Seiler	Coram	NY	11727-2215
Teresa Rouse	New Bern	NC	28562-3421
Linda Landis		OH	45359
Lynn Killian		NY	12754
Susan Urell		OH	43209
Lauren Fancher	North Richland Hills	TX	76182-3410
Lisa Murray	Young America	MN	55551
Pamela Miller	Tolar	TX	76476-6917
Tiffany DeMartin		NY	10506
Tara Appleman	Roaring Spring	PA	16673-8232
Julie Christine Farmer	Wasilla	AK	99623-1019
Thomas Kopian	Glen Head	NY	11545-1731
Lucy Walker	Carmichael	CA	95608-3712
Faith Sadley	Thunderbolt	GA	31404-5010
Nikki Nolden		ND	58701
Rose Jensen	Staunton	VA	24401-4713
Alejandra Dominguez		CA	91732
Sonia Carreon	Albuquerque	NM	87105-2659
Barbara Bocca	Redwood City	CA	94063-4118
Michael Brooks	Pinellas Park	FL	33781-5267
Carlton Childress	Grand Bay	AL	36541-3530
Cathy Page	Pollocksville	NC	28573-8786
June Ammirari	Tampa	FL	33624-5206

Ananga Pigna		FL	33073
Heather Graham		FL	33328
Nicole Kremiller	Gaston	OR	97119-7733
Marie Rouchet			59500
Cory Maloney	Fairfax	VT	05454-9652
Jill Michael		MA	2125
Dawn Holmes Holmes		OH	43015
Cinzia Amiconi	Cave Creek	AZ	85331-2880
Eryn Cook	Baldwin	MD	21013-9742
Christine Cerqueda	Paranaque	None	1703
Laurie Storm	Buffalo	NY	14207-2804
Jennifer Schmidt	Farwell	MN	56327-8246
Mary Bailey	Haiku	HI	96708-5363
Sarah Greenberg	New York	NY	10023-4902
Natalie Winston	Incline Village	NV	89451-8611
Eva Martin	Perris	CA	92570-8095
Laura Boehm	Rochester	NY	14612
Sharon Barrington	Atlanta	GA	30306-2522
Connie Warner	Largo	FL	33770-2712
Lynn Brown	Rolla	MO	65401-3765
Pamela Giardino	Johnstown	NY	12095-1305
Cathy Thomas	North Chesterfield	VA	23235-3153
John Farver	Berwick	PA	18603-4609
Ryan Marin	Brooklyn	NY	11222-5605
Dyton Owen	Lexington	NE	68850-1416
Jorge Fiestas	Lima	None	Lima 30
Vanna Pagnozzi	Riedstadt	DE	64560
Aida Cadena		TX	78228
Karen Kerby		GA	30004
Tammy Fish	Carlsbad	CA	92009-6013
Becca Leen		NC	28374
Teresa Hope Urduja		FL	4118
Suzi Fieldbrave Morse	Vancouver	WA	98683-9585
Saskia Marc	Sosua	None	57000
Rita Monestersky- Sebastian		MA	2536
Andr??s Bermejo			15894
Penny Conner Gregorio	Albany	GA	31721-6111
Liliana N??jera	mexico city	None	11870
Susan Wille		AZ	85603
Phyllis Levinson	Gaithersburg	MD	20878-5604
Maralyn James	Greenford	None	UB6 OTA
Kelly Durham	San Antonio	TX	78218-4020
Kelley Cormack	Evanston	IL	60201-4180
Jennifer Vanacora		IL	60020
Marcie Newman-Perskin		NY	11358
Roswitha Hanowski	Wedel	None	22880
Tammy Taylor		SC	29483

Dakota Quenneville	Orange	VT	05641-9713
Amy Vyrostek			
Pam Nichols	Farmington Hills	MI	48331-3616
Mary Buchanan		WA	98661
Lolly Fox		FL	33431
Michele Baker		CA	95247
Marni Holmes	Lansing	MI	48912-4321
Patricia Hannon	Longview	WA	98632-9704
Lorie Obradovich		NE	68131-2235
Angela Evans		WA	98366
Patricia Jankowski		MI	48035
Donna Brooks	Richland Hills	TX	76118-6509
Rita Pesini	North Wales	PA	19454-2354
Keli Carlson	Ithaca	NY	14850-4146
Rhonda Gilliam	Vashon	WA	98070-5409
Andrea Bach-y-Rita		WI	53202
Kathlene Rohm	Bloomsburg	PA	17815-3005
Leota Iron Cloud	Parmelee	SD	57566-0085
Mary Van Way	Portland	OR	97203-3308
Lisa McGinn	San Clemente	CA	92673-6519
Ricardo Nouel	Delray Beach	FL	33483-5429
Ann Sammons	Saint Louis	MO	63114-2540
Kelly Herberth	Las Vegas	NV	89122-6000
Rahul Iyer	Roslyn Heights	NY	11577-2221
Dina Dunaway	Purdys	NY	10578-1428
Christine Nelson	Merriam	KS	66203-4219
Karen Liska	Edgewater Park	NJ	08010-2235
Eric Brooker	Charleston	SC	29492-8512
Kevin Saxon	Hyattsville	MD	20783-4328
Michael Van Sciver		CA	95959
Christina Lynn	Grand Rapids	MI	49548-7225
Hillary O'Malley			
Teresa Olsen		VA	22971
Kerry Baughman	Germantown	WI	53022-3295
David Hovey		WA	98177
Jamie Lynn Guy-Ostrowski	La Place	LA	70068-4113
Regine Pereira	Trostberg	None	83308
Dottie Lauffer		CA	91426
April Nham		CA	95817
Veronica Danie		ME	4071
Hui-Ying Tsai	Brooklyn	NY	11221-3806
Sherrie Gadreault		CA	96002
Tyler Devine	Holbrook	MA	02343-1551
Leslie Lund	New York	NY	10003-5366
Anne Pfeifenberger	Winchester	MA	1890
Gama Leong	ayer itam	MA	11060
Audrey Elicerio	Fairbanks	AK	99710-0528

David Reichert	Milwaukee	WI	53222-3630
Victoria Poole	Grants Pass	OR	97526-1722
Jill Murillo	Elbert	CO	80106-8819
Alicia Perry	Mckinleyville	CA	95519-4328
Anya Ivantseva	Olathe	KS	66062-7046
Judy Mitz	Las Vegas	NV	89117-0122
Martha Evans	Oakland	CA	94608
Charlotte Shockley		FL	34232
Arturo Oliva	West Palm Beach	FL	33412-2108
Ellen Farrell		NY	10462
Morgan DeNicola		PA	19111
Christie Guzman	Hamilton	OH	45013-2234
Holly Gi	Springfield	IL	62704-1634
Carol Taylor		NH	3234
Kim Taylor	Gaylord	MI	49734-0911
Hannalorre Chahine	Gardena	CA	90248-3021
Ann Schultz	Diamond Bar	CA	91765-3484
Cheryl Pullen	Shepherdstown	WV	25443-1608
Oliya Melnichuk	wesley chapel	FL	33545
Beverly Gouge	New Brighton	MN	55112-6733
Brenda Jenkins	Glen Burnie	MD	21061-5143
Samantha Rico	Salinas	CA	93905-3034
Brittany Braddock		ME	4015
Tina Conner	Monroe	NC	28110-8065
Theresa Yee	Mount Healthy	OH	45231-4263
Veronica Williams	Norfolk	VA	23503-1712
Ger Campion	Drogheda	None	89999
Sarah McLaughlin	Olympia	WA	98502-5175
Beth Shaffer	Greensboro	NC	27410-3940
Aniko van der Lee	San Francisco	CA	94115-4323
Lori Gibbons	Granite City	IL	62040
Bobbie O'Connor	Seneca Falls	NY	13148-1914
Barb O'Donnell	Bush	LA	70431-2626
Annie Gower	New York	NY	10034-6302
Kathy Davis	Clinton	MI	49236
Sofia Sofia		PA	15772
Nadaia Grundgeiger	Chicago	IL	60605
Lisa Sirois	Steamboat Springs	CO	80487
Jessica Sanchez	Lawrence	MA	01843-2536
Angela O'Connor	Asheville	NC	28803-7732
Jacqueline Cohn	Myrtle Beach	SC	29579-4225
Kathleen Brunner	Sheffield Lake	OH	44054-1920
Roberta Seog	Trenton	MI	48183-2204
David Jolliff	Ontonagon	MI	49953-1132
Carol Hankins	Rock Island	IL	61201-9027
Tommy Loe	Hot Springs	AR	71913-3320
Isabel Sadurni	Mill Valley	CA	94941-5055

Nouphin C Khammanivong	Rochester	NY	14606-2749
Daisy Ocheita	Sylmar	CA	91342-3325
Lauren Gantz		FL	34984
Holly Gerk		CO	80123
Debbie Haman	Richland Center	WI	53581-1157
Antony Barr	Los Angeles	CA	90046-7517
William McDonald		CA	90291
Amanda Ware		HI	96797
Teresa Silette Sandner		MI	48312
Christina Polwarth		WA	98007
Laurie Leinbach		MI	48176
Linley Beckbridge		DC	20002
Se Lamberts		IL	60048
Candy Jennings	Long Beach	CA	90815-3261
James Eaton		IN	47964
Natalie Di Dio	Boise	ID	83706-3318
Anne Berit Aas	Kristiansund	NV	6408
Heidi Frerichs	ventura	CA	93001
Michael Theoret	Fairfax	VT	05454-9684
Kathleen Krasenics		CA	91360
Randy Ransom	Lubbock	TX	79416-1454
Leah Hartman	Omaha	NE	68104-4436
Beck Reppel		MD	20634
Theresa Eberhardt	San Antonio	TX	78247-3746
Brett St Germain		WA	99403
Patricia Gladding		NC	28803
Gayle Geren		MO	6.31E+08
Kyme Rathke	Sheboygan	WI	53081-5762
Pamela Lloyd	New York	NY	10034-2711
Joey Fitz	OCEAN BEACH	NY	11770
Denbigh Perry	Bellingham	WA	98226-9303
Shannon Grow-Garrett		TX	77521
Misty Rose Brown	Las Vegas	NV	89130-2609
Erika Becerra		CA	95206
LeAnn Magee		LA	70420
Susan Griffith	Saint Louis	MO	63143-3429
Kathleen Mullis	Alma	GA	31510-7332
Roselyn Rauch	Twp Washinton	NJ	07676-4729
Chelsea Nava	Los Angeles	CA	90038-1643
Candace Nagle		CA	95472
Erika Schulze		CA	9.57E+08
Madelyn Scott			
Emily Smith		FL	33050
Katherine Costello		NY	11215
Sue Spann		CA	95926
Melinda W Sowder	Ellettsville	IN	47429-9502
Debra Noce		DE	19970

Patricia Cotton		TX	78660
Constance Stephens	Westerville	OH	43081-7903
L Balogh		GA	30815
Linda England			
Colleem Besette		NH	3851
Robin Gonsoski		MN	55071
Shannon Sinderson	Springfield	OR	97477-2377
Christina Atkinson	Santa Cruz	CA	95062-2016
Thomas Gilfillan		MI	48721
Katherine Phlegar		TX	78633
Thomas Siedschlag		KS	67203
Jeanne Murphy		NY	11234
Lawrence Partlow	Portland	OR	97236-4072
Leslie Green	Gary	IN	46403-1381
Margo Balderrama		TX	79937
Ute Vergin	Corvallis	OR	97330-2019
Autumn Blackburn	Bloomsburg	PA	17815-3195
Joann deLuna	San Antonio	TX	78209-1608
Jessica Thornton	Aloha	OR	97078-8604
Melania Johnson	Beavercreek	OR	97004-7685
Charlene Slayton	Bremerton	WA	98311-8505
Patricia Neal	Chicago	IL	60620-4036
Danny Chatfield	Leagueville	TX	75778
Julia Allen	Mcminnville	OR	97128-5064
Cory Mcquerry	Yakima	WA	98902-4543
Vicki Mccawley	Bel Air	MD	21015-5718
Debra Van Eerd	Westminster	SC	29693-6605
Sandy Brown	Chester	VA	23836-6313
Mary Madeco-Smith	Little Falls	MN	56345-4151
Kriss Perras	Malibu	CA	90265
Susan Poferl	Oakley	CA	94561-1666
Teri Hassell	St Petersburg	FL	33715-1637
Joy Aclupen	Yonkers	NY	10703-1843
Alyssa Brown	Browns Summit	NC	27214-9604
Josephine Torralba-Maronier		FL	33141
Kimble Darlington	smith river	CA	95567
Sally Stringer		FL	34990
Katie Smith			ml15bn
Deirdre Macdougall			99999
Esther McRae			99999
Kim Fenton			99999
Michelle Weir			99999
Randi Anderson	Kutztown	PA	19530-9432
Mary Pribble			99999
Jackie Boggs	Schenley	PA	15682-0042
Melissa Johnson			99999
Thomas Hart	Park Hills	KY	41011-2049

Manja DâÂ°hrkopf	bâÂ°delsdorf	None	24782
Martine Nivelais			9270
Philippa de Sausmarez	St Julien en Genevois	None	74160
Carly Burgess	Trinity	FL	34655-5319
Mihalis Lahanas	Athens	None	14560
Tiffanie Dillard	Carnegie	PA	15106-1200
Susan Lane	townsville	None	4810
Holliday Cullimore	Vallejo	CA	94591-4136
Bell S	Huntington	NY	11743-4925
Frances Bonner	Newport	OR	97365-1264
Karen Pereira	Incline Village	NV	89451-9037
Barbara Napier		MI	48197
Marguerite Joly	Hubbardston	MA	01452-1359
Mark Ortmeyer		WA	98290
Linda Lyndes	Helena	MT	59601-3325
Renea Johnson	Sunbury	AK	3429
Leela Fazzuoli	Scottsdale	AZ	85260-7570
Jesika J	Kenmore	WA	98028
Kimberly McCall	Smyrna	TN	37167-5906
Jeffry Goldstein	Ventura	CA	93001-3603
Marilyn Smith	N Las Vegas	NV	89031-3414
Erika Kenley	Huntington Beach	CA	92648-5491
Linda Stevenson	The Woodlands	TX	77380-0994
Dana Fedorenko		ND	58102
Karen Coppock	Jacksonville	FL	32256-3992
Mark Hansen	SD	CA	90210
Heather Davis	Seattle	WA	98116-4211
Elizabeth Morales		CA	92337
Amrita Patnaik	Hoboken	NJ	07030-3058
Heidi Wolf	Bellevue	WA	98007-4107
Donna Birge	Long Beach	CA	90807-1810
Hillary Finne	Carol Stream	IL	60188-2856
Kim Telgarsky	Harrisburg	PA	17111-4653
Nicole Felix		TX	77706
Monica Gunderson		CA	95350
JoAnn Jackson-Holt	Anderson	CA	96007-3763
Peggy Burnette	Cortland	OH	44410-0531
Jean Williams	Norwood	MA	02062-2834
Amanda G.		IL	60201
Joan Ochoa	Oxnard	CA	93030-0194
Amy Staats	Newport News	VA	23607-2064
Taryn Itagaki	Honolulu	HI	96818-1698
Shegufta Upama	Dhaka	None	1215
Victoria Morrison	Clyde	NC	28721-9299
Hollahan Gloria	Center Point	TX	78010-5455
Stuart Selwood	Franklin	IL	62638-5106
Megan Heinley		CO	80212

Itala Lopes			
Anne Ross			
Alice Steijn	North Bend	WA	98045-9133
Peter Zink	Lynnwood	WA	98037-2940
Baaghera An	clermont	WY	60600
Laila Hamrick	Jersey City	NJ	07306-3271
Marjorie Clinton	Clinton Township	MI	48038-5885
Moon Lady	Stockton	CA	95209
Corey Frantz		IL	60148
Sofia Anderson		CA	90024
Mary Bonetti		CO	80121
Elizabeth Marshall		OH	45840
Jocelyn Falandys		MA	2056
Paula Carlson	Aurora	CO	80017-4158
Paul Rose		NJ	8820
Annette Schafer		OH	45157
Maggie Down		WA	99330
Linda Rehatta			17148
Sandie Smith	Austin	TX	78749-4300
Shoma Chatterjee		CA	94109
Sandra Domizio			GU4 7LL
Frank Benjamin		NV	89156
Michelle Castro		CA	92021
Christi Neaton		MN	55423
Margo Nielsen		TX	78358
Jeremy Jeziorski	Corning	NY	14830-2139
Glory Cross		TX	78382
Paula Martins		NC	28237
Margaret Thompson	Chicago	IL	60630-1259
Rd mcCarver	Hermitage	TN	37076-3093
Gretchen McCarren			
Mandy van der Walt			21910
Nyla Bissram		NY	10306
Julia Moyse			
Anneline Bacon	Pointe aux Canonniers	GA	30522
Patricia Wood		SC	29570
Manuela van Hall			46509
Sandra McCain	Uhrichsville	OH	44683-1511
Dj Harper	Farmington	AR	72730
Bryanna B		MA	2356
Alison Carnie		IL	60657
George Ilic		IL	60016
Mario Jaspers	Apache Junction	AZ	85119-1416
Holly H		WI	54601
Neil Goerz	Wichita Falls	TX	76302-2103
Michael Eddy	Burlington	NC	27215-7174
Frank Byrne	Dublin	None	Dublin24

Leora Nunamacher		NY	11561
Margo Kligman		CA	90069
Karen Jordan		OR	97477
Sarah VanDeusen		IL	60618
Mila R	Miami	FL	33132-1550
Billie Jean Kovalcheck		PA	15320
Barbara DeVries	Grundy Center	IA	50638-1300
Melissa Taylor	Metairie	LA	70001-2657
Curtis Sommer	West Linn	OR	97068-1362
Elizabeth Giguere		CT	6457
Lindsay Connors	Oaks	PA	19456-0597
Joni Stellar	Yankee Hill	CA	95965-9789
Ovidio Parra	San Diego	CA	92117-5633
Kati Falbo	Wheaton	IL	60187-4442
Kasey Smith	Bethlehem	PA	18015-3739
Peggie Kirkpatrick	Yorba Linda	CA	92886-4529
Rachael Caron	Williamsburg	VA	23187
Christa Elliott	Red Deer	AB	T4R 3P3
Mark Rauser	Riverview	FL	33579-7101
Robyn Cartwright	Duluth	MN	55805-2304
Nina Glassbrenner	Harrisburg	PA	17112-1409
Constance Agostini			7086
Well-Womyn Wellman	Aurora	CO	80015-6558
Jeris JC Miller	Jacksonville	OR	97530-9657
Elisabeth Giles	Vermillion	SD	57069
Margaret Pangle	North Little Rock	AR	72190-4818
Sherrill Pritchett	Decatur	GA	30034-2113
Viochita Fea		VA	23220
Julee Rosa		CA	96146
Jacky Madine	Aiken	SC	29803-7431
Ara Johnson	Felton	CA	95018
Virginia Kepner	Pacoima	CA	91331-3512
Dina Ricker		CA	96067
Brittany Tomkosky	Tampa	FL	33602-1513
Marian Henderson		TX	78734
Susanne Retzer	Tuttlingen	None	78532
Ruth Marie Wise	Wooster	OH	44691-9048
Hossein Amirjalali	malden	MA	2148
Jacky Collette		PA	17251
Amanda Demarino	Los Angeles	CA	90036-3119
William Richer	Saint-Jerome	QC	J5L 0B7
John Craig Savage	Shoreline	WA	98155-1132
Michaela Williams	Everett	WA	98208-4838
Gordon Parker	Corpus Christi	TX	78418-4749
Lisa Lukowich	Throop	PA	18512-3346
Judy Smith		PA	19122
Katie Harris	Bolingbrook	IL	60490-3107

Lorna Soto	Dallas	TX	75214-3756
Christine Lamedica	Parma	OH	44129-1534
Ruth Ferguson	Cozad	NE	69130-1047
Lisa Sergy	Sherman Oaks	CA	91423-4436
Kimberly Babcock	Akron	OH	44305-3447
Jaleh Gautreaux	Lafayette	LA	70507-7006
Isa Mays	Vancouver	WA	98664-4081
Bonnie Besseck	Sykesville	MD	21784-5731
Ann Marie Sardineer	Trafford	PA	15085-1232
Mary Kemnitz	Milwaukee	WI	53210-2325
Alexandria Worthington	West Dennis	MA	02670-2432
Carter Neal	Austin	TX	78731-5209
Lynne Coburn	Honolulu	HI	96830-8421
Fran Metje	Cape Girardeau	MO	63701-9509
Astevia Willett	Largo	FL	33771-2372
Lyndon Sickmeier	Jerseyville	IL	62052-6414
Renee Howard	Bakersfield	CA	93309-8340
Elizabeth Fischer	Alexandria	VA	22311-4904
Guisela Laureano	Manchester	CT	6040
Linda Tomolonis	Hartshorne	OK	74547
Heather Riley	Hermosa Beach	CA	90254-3118
Laura Orebaugh	Hillsboro	OH	45133
Isabel Gonzalez	Bronx	NY	10472
Janet Van Swoll	Bella Vista	AR	72714
Ginny Stone	Quechee	VT	5059
Scott Rakestraw	Canton	MI	48187
Michelle Monk	Portland	OR	97202
Taeler Dombrosky	Spokane	WA	99208
Valery Wolf	Winter Park	CO	80482
Tiffany Kallgren	Gresham	OR	97080
Melinda George	Nicholasville	KY	40356-2364
Max Forsyth	Akron	OH	44333-1750
Lizz Hahn	West Palm Beach	FL	33409-7766
John Morrow	Portland	OR	97215-2512
Catharine McEachern	Saint Paul	MN	55105-3534
Rebecca Riley	Woodland Hills	CA	91367-1115
Glenn Roddy	Sandy	OR	97055-7693
Janet Waite	Lynnwood	WA	98087-5930
Alexander Vzquez	Tucson	AZ	85751-2880
Lin Jeffries	Temecula	CA	92592-4355
Fredrik Johansson	Göteborg	None	41654
Dennis Ramsey	Solsberry	IN	47459
Irene Martinez Albesa	SPAIN	None	8480
Sterling Hanselman	cuyahoga falls	OH	44221
Dawn Kirby	Caldwell	ID	83605-4238
Jay Matyas	Claremont	NH	3743
Nicole Picinic	North Bergen	NJ	7047

Michelle Cummings	Ozone Park	NY	11417-3020
Cheryl Esposito	Rutherford	NJ	07070-2113
Jeannine Kohlmeyer	Champaign	IL	61821-3203
Theresa Zadra	Iron	MN	55751
Cheryl Bostwick	Bear	DE	19701-2324
Laraine Beckhorn	Odessa	DE	19730-2025
Eckert Lauren	Castleton	NY	12033-1807
Denise Wedel	Marion	IA	52302-9470
Giovanna Ching	Clermont	FL	34711-8154
Deneen Olivieri	Casselberry	FL	32707-5049
Kelly Tabone	Syosset	NY	11791-4226
Jennifer Walker	La Crosse	WI	54601-6661
Anna Martin	Arkansas City	KS	67005-2916
Robin Whitmore	Arlington	VA	22201-2214
Renee Crump	Fallbrook	CA	92028-5111
Brenda Sherman	Vancouver	WA	98685-5425
Vicky Miller	Edmonds	WA	98026
de Lin Lindsay	Wilmington	NC	28412-2949
Robin Mayfield	Cascade	ID	83611-0889
Sue Hawkinson	Duluth	MN	55806
Sharon Nolan	Oneonta	AL	35121
Brittany Kunda	Medina	OH	44256
Hannah Zaverousky	Antigo	WI	54409-2514
Heather Hill	Winnemucca	NV	89445-7661
Bob Plummer		NY	1.26E+08
Angelique Brake		CA	95111
J. Dougherty		DC	20020
Michelle Mackenzie	San Carlos	CA	94070-4407
Jessica Delost		IL	61761
Debbie Hines		KY	42261
Gale Simon-Bierenbaum			8035
Shelby Harris		MI	49450
Ashley Bietz		WA	98382
Emilie Thiedt	Wapakoneta	OH	45895-0003
Angela Wilson	Spokane	WA	99201-5866
Alejandra Ahumada			35276
Moni Hill	Asheville	NC	28806-1661
LeAnn Ledford	Walla Walla	WA	99362-1478
Julie Gagnon		TX	75189
Bea Goode	Rockfrod	IL	61107
Kim Collier	Arlington	VA	22204-1513
Mary Murphy		IL	60656
Erica Bray	Astoria	NY	11102-2828
Stacey Lattinville		DE	19975
Valerie May		CA	94903
Juan Jose Perdomo		CA	90605
Stuart Palmer		IL	61701

Tish Ruegger		AL	36606
Michael Dean		GA	30312
Jacob Johnson	Lithia	FL	33547-2096
Jan Sturgis	Alexander	NC	28701-9726
Vanessa Foyo	Panama	None	NA
Jeffrey Simms		NC	28604
Lorene Waybrant		MI	48185
Sara Bachman		WA	98225
Soumya Naidu		MI	48322
Debby Cash			IP25 6LP
Cyn King		CA	95037
Dimitri Otto		NY	12020
Lita Sandy	Holland	MI	49423-9346
Jamie Vaughan		OH	44662
Nathalie Le Bla		CA	95110
A. O.Schaller			36433
Nathan Renouf	Miami	FL	33143-1849
Erin Hannaford	Lopez Island	WA	98261-8901
Jeannie Danna	Gerry	NY	14740-0134
Amy Bagwell	Germantown	TN	38138-4505
Margie Miller	Statesville	NC	28677-7245
Sandra Pelayo		WA	98121
Veronica Edwards		AZ	85282
William Fisk	Malabar	FL	32950-0132
Tom Ohara	Syracuse	NY	13209-1007
Steve Garrett	Bandon	OR	97411-8873
Jason Smith		WA	98002
Khianna Barwick		CA	90802
Anna Satterthwaite		NC	27886
Martina Kallies			26683
Barbara Kaufelds		PA	18940
Inez Gualtiere-Weber	Las Vegas	NV	89145-8829
Manuela Zeiler			1230
Heidi Hierl-Schulze			90530
José Gonzalez		TX	78015
Roger Register		AK	99694
Lindyq Chicola		SC	29526
Elise Allen	Milford	CT	06460-2641
Kathy Armstrong	Oklahoma City	OK	73132-5652
Julie Boomer	Divide	CO	80814-0471
Terri Rose		OR	97502
Caitlin Williams	Portland	OR	97202-1244
Franka Schoening	Los Angeles	CA	90038-1065
Melanie Kiddle		NY	12345
Sherry Pennington		TX	77095
Kevin Crooks		TN	38122
Alice Hyde	Belmont	CA	94002-3704

Lynn Faulkner		NM	88029
Leigh Soldan	London	ON	N5Y 3V8
Stacy Smith	Cottage Grove	MN	55016-3811
Jane Ellen Webber		CO	80015
Lisa Spellman	Berwyn	IL	60402-3880
Deborah Saunders		LA	70003
Mary Wright	Adair Village	OR	97330-9436
Astevia Willett	Largo	FL	33771-2372
Silvia Steinbrecher			53881
Inge Stadler			91161
Laura Mondon		PA	19010
Karen Caldwell		FL	32746
Travis Hammond	Tucson	AZ	85719-1457
John Morris	Florence	OR	97439-9204
Julie Lisnet		ME	4401
Patricia Krupa		PA	19029
Tasha Robbins		MA	01002-2157
Linda Levy	Boulder	CO	80302-7928
Daniel Solano		MI	48202
Elizabeth Cornell		CA	90212
Kimberly Esquer		CA	95620
Billie Fernandez		CA	93726
Millie Webster		TN	38119
Samantha Jones		IL	60654
Bujene Celkadam			
Darlynne Vrechek			
Sharon Wallace		TN	37014
Alonna Daly		CT	6239
Linda Alston		TN	37917
Patricia Barry		OR	97411
Amy Eppler		TX	75402
Kathryn Peery		TN	37803
Robin Burgess		CA	94949
Alan Mussen	Franklin Square	NY	11010-4316
Linda Troung		CA	92647
William Allen		CT	6105
Kimberle Okay		NJ	8108
Vicki Hartman	Woodstock	GA	30188-2742
Kevin Tweet		ND	58278
Marianne Giesler	Larkspur	CO	80118-9723
Elisa Leflore		AR	71730
Susan Fisher			22347
Susan Parker Leigh		TX	78676
Linda Stanley		OR	97321
Christine Lloyd	Boca Raton	FL	33433-1026
Barbara King	Edgewater	MD	21037-7662
Colleen Gorman		NJ	8015

Paulette Trimble		TX	77338
Linda Gembica		AR	72921
Deanna Jolly		CA	92040
Ria Hall		CA	94066
Jessica Rucker		IL	62959
Laura Hewitt		MD	21157
Diane Myers		AZ	85714-1809
Chandra Jennings		MI	49417
Anne Bumbak		OH	44124
Karen Johnson		NH	3811
Cathleen Longan		MI	48168
Matthew Fernald		ME	4105
Natalia Velasco		UT	84057
Shauna Turnbull	Andover	NH	03216-0418
Jennifer Helber		TX	76137
Lee Hamilton.	Mcallen	TX	78504-2044
Angie Agapetus	Houston	TX	77043-2101
Theresa Bathen		NY	13031
Ljnda Lum[nella	Sacramento	CA	95820-1661
Rebecca Spagnolo	springs	CO	81601
Necole Cook		VA	24153
Doreena Fliegel			21439
Jessica Roesel		NY	12865
Mary Hardin-Moore		FL	33850
Sm Savage		LA	70508
Janet Lamborn		PA	19555
Kel Garcia	Colorado Springs	CO	80920-2815
Colleen Roman		WA	98105
Robert Dawson		CA	90503
Kristin Landers		CA	94122
June Seid		NV	89135
Maria Georgina Camero		NJ	8215
Kristi Scott		WA	98270
Greg Panske		WI	54970
Mary Caponi	Des Moines	IA	50312-3329
Ellen Williams		NC	28403
Venus Deligianis		NY	11105
Molly Burnette	Austin	TX	78746-5507
Kat Pringle		NV	89010
Michelle Mongognia		NJ	7840
Lorry Hipwell		MI	48030
Susa Adler	San Rafael	CA	94901-2012
Yvonne Correa		CA	91355
Matthew Knobbe		IA	50058
Sheila Jindela		MO	63123
T Calderon	Studio City	CA	91604-1426
Deborah Gale		AZ	85618

Asmira Woodward-Page		NY	11231
Sarabear Kelly-Modlin		MN	55412
Shaunita Felder		WA	98444
Shellie Cavallaro		PA	19446
Pablo E. Rosales		FL	33012
Brenda Batcheldor		WA	98258
Marisol Thompson		CA	91763
Debra Lewis	Hayward	CA	94541-1808
Julie Fahl		CA	92663
Dawn Quirk		MA	2152
Judy Jones-Krivitskiy	Weatherford	TX	76087-7657
Dale Johnson		IL	60505
Selveda Ertas	Santa Barbara	CA	93110-1415
Tracy Tellefson		CA	95818
Darlene Alfonzo		WA	98056
Nadja Manuela Hofmann		CO	80933
Kyiah Evans		ID	83714
Marc Moscato		OR	97211
Libertad Animal			6000
Karen Bronner	Gualala	CA	95445-0994
Ross Heintzelman		FL	33713
Hillary J		WA	98674
Sarah Thiemann	Louisville	KY	40205-1921
Jacqueline Wagner	Wenonah	NJ	08090-1348
Melissa Mendell		TX	77511
Carmen R. Rivera		MA	1109
Benjamin Ponting	Salem	OR	97304-3086
Emily Heim		PA	18411
Danielle Gilbert		CA	94501
Lisa Osgood		IN	46186
Gloria Gomez		OK	74804
Casey Connelly	Hanover	PA	17331-5009
Cassandra Ong		NC	27607
Donna Rustigian		RI	2827
Hilary Clayton	Far Hills	NJ	07931-2322
Walter Vashey		NJ	7735
Steven Steele		TN	37204
Izzy Britton		MN	55128
Diane Abbott		NY	14075
Clare Kopelakis		NY	11229
Mike Frodsham		MT	59701-8227
Karen Draper		FL	32738
Debbie LaFleur		CA	91931
Larry Carroll		FL	32459
Carol Dutra		CA	95023
Rebecca Smith		TX	77042
Nicki Lorayn Pignoli		HI	96754

Annette Eckert		TX	76137
Melissa Clark		NC	27513
A Van Orman		UT	84095
Suzette Schumaker		OH	43407
Danielle Williams		FL	33708
Gigi Spratley	New York	NY	10002-1583
Aaron Turner		CA	96080
Lynne Jeanette		NY	12564
Angie Merriam	Columbus	OH	43235-5545
Peggy Brown		AL	35057
Faith Shaffer		TX	77546
Cindy Curtis		IN	47421
Alessandra Eleuteri	San Diego	CA	92130-1315
Brandess Sorrels		OR	97405
Christine Gumpfer		PA	19444
Patti Seymour		CA	92117
Lumina Greenway		RI	2879
Margaret Fagan		CA	91101
Bobbi Jones		MS	38672
Paul Schmidt II	Leavenworth	KS	6.6E+08
Linda Dimitroff		MI	49417
Christa Lutz		AZ	85021
Rotem Miron		CA	91356
Kimberly Garren		WY	82001
Kevin DeJesus		RI	2903
Jewel Sechser	Santa Rosa	CA	95405-8668
Tim Fisher	Cherry Hill	NJ	08034-3520
Pamela Reinbrecht		IL	61702
Lynn Washabaugh			97139
Eva Roop		TX	78636
Jennifer Coulter		CO	80401
Dolores Vinson		PA	19090
Kim VonderHaar	Louisville	KY	40207-4096
Anneliese Bowman		NM	87801
Nataly Cohen		CA	90293
Maria Diehl		FL	33012
Joan Bolluyt		MN	56584
Sharon Dewey	Lawrence	KS	66047-9406
Gayle Whatcott	Rancho Santa Margarita	CA	92688-5409
Thomas Canaday		KY	41537
Darien Draine		AZ	85323
Carol Mellom		MN	55107-3355
Anne Montana		NY	11215
Norma Fox		ME	4444
Liz Trujillo		NM	88004
Lisa Fisher		OH	43615
Bonalyn Barker		WI	53536

Kathrine Henn		IL	60554
Joan Martin		CA	90405
Alisha Allbritton		LA	70301
Cassandra Sciacca		OR	97212
Joan Tvedt		CA	93428
Shari Moy		MA	02139-3907
Dorothy Holton	Reading	PA	19606-1410
Kevin McNicholas	Scranton	PA	18510-2387
Shauna Summers		IL	61568
Faith Ian		NJ	8904
David F Spencer	Aiken	SC	29803-5306
Laurie Szujewska		CA	94951
Dave Nuetzel		AK	99835
Cameo Owelle		MI	49707-5132
Tina Lecueyr		NY	12188
Patrice Lecso		AK	99645
Rose Davis	Bay Harbor Islands	FL	33154-1295
Jacqueline Skill		HI	96761
Kharly Bailey		NM	87104
Debbie Carter		AZ	85022
Lynn Schlosser		PA	16415
Lindsey Cunningham		OH	43402
Carol Tollefsen		WA	9.8E+08
Abigail Humphreys		NC	27805
Paul Needles		FL	33778
Jami Goonan		PA	18042
Cheryl Ferendo		MD	21703-7432
Danielle Auclair		FL	34713
Denise Pouchet		CA	91504
Brenda Eiler		IN	46176
Cindy Zimmermann		CA	91932
Jeremy Jones			35100
Laurie VanHorn		MI	48801
Jennifer Edelen	Louisville	KY	40219-1909
Tar Sar		CO	81212
Mina Haile		CA	92054
Beate			42897
Rhonda Hottman		CA	91606
Stefanie Zitzka		CA	93551
Laurel Brooks		MN	55127
Christy Simpson	Atlanta	GA	30305-2100
Diana Yaglowski		FL	34669
Georgia Cougar		NM	87321
Carole Rose		FL	34203
Brenda Beatty		CO	80135
Beth Seasholtz		PA	19464
Elaine McPherson		MO	63052

Janis Millu		PA	16343
Katelyn Marengo	Nashua	NH	03062-1866
Carmen Camacho		PA	18466
Beverly Morrow		FL	33603
Chandra Sherin		WI	54601
Kathleen Petitt	Barstow	CA	92311-5652
Christen Lilly	Colorado Springs	CO	80920-3008
James Lunghi	Centereach	NY	11720-4321
Kristie Hicks	Clinton	SC	29325-4604
Breanna Duffy		FL	32507
Annie Prosperi-Philibert		VA	20119
Zach Siruta		HI	96793
Sean Bailey		RI	2920
Thomas Tomkiewicz	Evergreen	CO	80439-5478
Ana Millaruelo	Tujunga	CA	91042-1939
Marie Navarre		CA	92264
Jordan Herbold		MO	65803
Casey Thompson		MI	48444
Lisa De Veirman			92300
Michael Biello	Wildomar	CA	92595-9052
Andi Cline	Grosse Pointe Woods	MI	48236-1009
Rachel Docherty	Boyes Hot Springs	CA	95416-1613
James McArthur	Glasgow	None	G83 8BE
Donald Smith	Desert Hot Springs	CA	92240-1604
Françoise Conci	MONTPELLIER	NY	34090
Ruth Crisp		LA	70454
Calvin Huang		CA	91730
Marie Brossard	New York City	NY	10025
Dorothea T			T5B 3L7
Wassila Cabral		CA	92126
Margaret Kessler		CA	92009
Tori Bamford		NH	3281
Adam Asencio		NY	10029
Summer Whelden		NC	28762
Beatriz Laracuenta		FL	33150
C Brummel			
Jacob Straus		CA	94720-2276
Christy Camp		GA	30075
Dawna Bucco			1870
Nicole Lopez		CA	91977
Sonia Reinoso			7810
Jaime Gerald		NY	11701
Christina Milauskas			2818
Sabine Charles			40000
Malissa Anne & Frank Hundley		AZ	85641
Linda Spjut	saltsjöbaden sweden	NY	13338
Adriana Covell		CA	92122

Rachel Price		MI	49601
Cynthia Salomao		DC	20540
Maya Tamang		FL	32432
Amanda Berry		FL	33928
Felicia Huntsinger		NC	28730
Judith Fairly		TX	76087
Nan Hinze		CA	94122
Claudia Hidrogo		CA	95124
Matt Wynne	Cornwall	NY	12518-1619
Gina Miceli		NC	28730
Tracy Kim		CA	93103
Gayleen Jacobs		AK	99835
Katherine Armistead			
Donna Hylton			
Louise Best		KY	41601
Natalie Ralston		CA	92507-4654
Marcos Anguiano		CA	95448
Cassie Villalba		AZ	85536
Anja Von Gesjen		CA	90277
Lucas Loeffler		CO	80026
Denise Horrocks			
Ryan Lapinski			
Lisa Kovacs			
Corine Bolla-Paquet			
Whitney Hewitt		MI	49506
Sharise Penczek		IL	60608
Charlotte Henry			
Rachel Damron		AZ	85296
Elizabeth Cervantes			4023
Anne Åkerblom			74143
Susilawati Samaat			
Alexisr Armitano			30400
Maureen Adams		AZ	85710
Nikki Quant		NY	12078
Matthieu Simard			
Brian Beffort		NV	89509
Anonymous		CA	94087
Wj Heller			
Sheila Butler		CA	93465
Melissa Williamson		NC	28391
Jeannine Linder		CA	93065
Dawne Santopietro	Macedon	NY	14502-8636
Christina Martinez		CO	80123
Sheri Fanning			
Vance Andress		MN	55387
Laine Beebe			
Meghan Taylor		FL	32128

Nathain Ardoin		LA	70535
Alex Wolff			
Lisa Ladew			
Megan Allen			
Patricia Jones			
Chloe Spinnanger		CT	6782
Elizabeth McCoy		OK	73848
Carol Plain		NM	87107
Tamara Vanhorn		CA	95918
Deborah Zarett		TX	78244
Susan Benitez		NC	27405
Ed Lisowski		FL	33702
Taylor Dunn		CA	92627
Lin Komdeur			
Donna Costa		NY	10701
Marie Delagarza			
Sushil Gopal			
Arline Deegan		NY	11385
Lynda Jarsocrak		PA	19608
Morgan Feger	Benzonia	MI	49616-9700
Nathan Serna		CA	93277
Shana Richer Smythe		NY	12768
Dennis Battler			
Mary Gourdou		TX	79924
Jennifer Ruiz		CA	94931
Crystal Hayes		IL	61501
Debbie Finn	North Andover	MA	01845-4426
Anh Kaul		FL	33160
Rebecca Farrell		CT	6790
Hilary Entley		PA	16507
Stephanie Miller		NY	12047
Carol Mullican			
C Campbell		CA	95476
Sharon Cordell		TX	77705-8678
Fiona Maguire			
Tabby Noor		FL	33132
Cheri Bjork		IL	60110
Brooke Eden		MO	65803
S. Bender		NY	10009
Samuel Cristobal		NY	11237
Diego Santos			
Jenifer Arias			
Berniece Thornton		FL	32034
Delal Kara			
Stacey Ballard		CA	94566
Shara Sanders		SC	29302
Comora Tolliver		CA	90065

Roderick Greengrass		
Odysseas Tatsis-Sofianopoulos		
Miguel Angel Rodriguez		
Cathe Dietrich	CA	94706
Louis Checo	NC	28314
Sunita Christiansen		
Molly Matlock	NC	27705
Amy Ducos	NY	10941
Janina Hubmann		
Laurie Hart		
Rachael Einarson		23475
David Quivey	VA	20111
Tina Yeung	FL	32825
Veronica Molina		3100
Carol Robinson	IL	60516
Brandi Fairbee	NC	27890
Laura Venticinque		
Amanda D	NY	10547
Angela Dowdy	PA	19010
Sam Weaver	AL	35212
Natalie Gomelski	KY	40601
Jenna Wolf		
Sorin Postelnicu		11111
Katy Murray	SC	29928
Marie-France Phaneuf		
Lisa Melville	MN	56544
Stefan Salvatierra		
April Lynch		
Nicholas Mitchell	UT	84025
Christine Kuntz	DE	19904
Thomas Goselin	FL	33578
Pat Hawk	FL	32686
Madeline Trost	FL	33317-1235
Elizabeth Hines	CA	91504
Harriett Emerson		
Anna Zancan	CT	6810
Shelley Sheldon	NY	13669
Talia Lisi	FL	34655
Linda Proudfoot	IL	60123
Wendy Betz	NJ	8094
Monika Lindenberg		
Elizabeth Wright		
Mike Howell	GA	30265
Fawn Quintanilla	ID	83440
Catarina Olsson		11300
Sandra Stanojevic		
Dellisse Kinette		66900

Anita van den Bos		NC	27620
Chel Jean			
Sherri Asaro		NH	3103
Bonnie Gillings	Sarnia	ON	N7T3K2
Klaus Gesch			
Hunter M.		AZ	86340
Christine Faszczewski		NY	11931
Teresa Searles		TX	79118
Dominique Bouillet			22700
Justine Smith-clark			
Rachel la Fein		CA	96093
Stacy Smith		AL	36567
Natasha Humphrey			
Kornelia Karbach-Tewes			50374
M Stokley		IN	47122
Deborah Dugas-Sellers			
Victoria Poole	Grants Pass	OR	97526
Patricia Rahn		CA	93534
Lisa Walder			
Mo Cesano			
Kim Shue		NC	27239
Jaclyn Hise		OR	97403
Sabine Schnatz			
Kris van Kaeden		CA	92832
Deborah Menei		NJ	8204
Kristen Bartle		CT	6042
Nikki Birdsall	pittsburgh	PA	15212
Juliana Williams		CA	94521
Kb Catano		NY	10001
Shaun Schwiderski		MN	56215
Tatiana Abramian		CA	90066
Beth Villarreal		WA	98409
Megan Kristine Capilla	Pleasanton	CA	94566-6712
Rosann Bates		NJ	8332
Charles Jensen		CA	92625
Kathryn Douglass			
Nash Snyder		MO	64118
Lori Sinclair		TX	77079
Maria Maddock		CA	92704
Lisa Graham		MI	48071
Kelley De Pompa			
Nikki Famiano		NC	27410
Sandra Sheppard			
Emmanuel Caretaker no		NY	11365
Marie-José Jourdren			75018
Bette Jo Miller		NJ	7033
Wendy Murry			98630

Rocio Ochoa	WA	98541
Renella Kendall	GA	30606
Mariposa Pigott	MS	39301
Matt Auger		
Karalinda Aguilat	CA	95630
Maureen Colose		
Jenny Forker	IA	50316
Heidar F	IL	60661
Mickie Koshmieder		
Vittorio Lubiato	GA	30173
Steffen Jäkel	ME	4288
Suzanna Varekamp	FL	32233
Lilia Tiemi Saito Saito	MA	2565
Sarah Dudas-Kanzler		
Tina Plitsas		
Melissa Regan	NJ	8857
Stephanie Laurent		
Emily Roberson	SD	57069
Jolene Richmond	MI	48875
Alejanrck Salinas		
Ann Athanasatos	NJ	8902
Ashley Wall	CA	91316
Jody Leanez	FL	32817
Megan Sitzmann	SD	57069
Gabrielle Ingram		
Laura Di monaco		9012
Judy Oneill	FL	34668
Despina Argyriou		
Madeline Frey		
Elina Lipilina	CA	95401
Daniel Reyes		
Allison Rogers	CA	92507
Tara Walker	GA	30656
Karen Shelley	NC	28412
Carrie Silvestri-Audette		
Sherry Halbrook	NY	12020
Lindsay Carlson	MT	59901
Hannah Clissold	KY	41011
Cathy Carroll	AL	35763
Matt Browner-Hamlin	DC	20011
Jamie Self		
Meghan Taylor		
Melissa Harbour		
Alan Geierman	IL	60629
Rick Cutcliffe		
Lynn Bradway	NY	12470
Stacy Pickering	IA	52327

Dana Lewis	TX	78652
Kristin Smith	GA	30076
Krystal Rowlett	MO	65775
Alexis Smith	PA	15301
Andrea Cermele		
Nicole Marchesano	CA	95662
Charles Brehm	TX	76365
Dustin Howland	CA	95521
Chelsea Dunn	NM	87505
Yvonne Ragland	TN	37902
Amber Link	NC	27006
Marcy Bustraan	MI	48377
S Triolo	MD	21218
Steph Millard	CO	80303
Carol Brooks	AL	35404
Katy Williams	IN	46035
Victoria Brandon	CA	91325
Nigel Sawyer	GA	30033
Eveline Kurowski		
Ashley Eustrom	CA	91360
Dense Dross		
Emelia Thygesen		
Holly Kelchner	AK	99801
Caridad Romaine	NY	11706-8530
Jill Foo	CA	94061
Elmar Aliev	WA	98034
Amy von Freymann	CA	92646
Karen Kulish	PA	18901
Debra Remington	WA	98512
Andrea Saunders	DE	19720
Lorraine Rojas		
Eileen Langan	CA	95946
Vince Caron		
Anne Parris	CA	94610
Ashly Fitzgerald	TX	77033
Tina Baker	FL	34771
Blandine Charvet		26790
Jennifer White		
Anna Kirschner		
Maria Berglund		12341
Melissa Oelschig	FL	33701
Tony Zaadel		26100
Hope Presley		
Doug James	DE	19971
Carol Drennan	TX	76458
Katharine Knight	CT	6250
Jean Olsen	MN	55037

Jessica Driver		IN	46034
Allyson Schmidt		MA	2648
Vincent Traver		MN	55418
Jenn Craffey		NH	3051
Brenda Hernandez		IN	46013
Valeria Vega		FL	33161
Amanda Winnick		MI	48602
Kimberly Goddard		FL	33445
R. Jane Gagner		CA	95501
Anne-laure Vincent		TX	78727
Charlotte Milanese		MI	49246
Abel Melchor		TX	77030
Laura Doty		MN	55118
Christina Hawkins		MI	49601
Zach Capetillo			
Julie Boomer		CO	80814
Felicity Alligood		TN	37914
Doug Hagler		PA	19460
Sarah Shelton	Lancaster	PA	17603-4607
Christiaan Voldstad		SC	29730
Melissa Brewer		OR	97405
Desiree Lepez		CA	95467
Jessica Shapiro		CA	91362
Rachel Wolf		CA	95060
Madeline Tucker		IL	60630
Elaine Spencer		OK	74105
Erica Parra		PA	16743
Ian Espinosa		CA	90802
Stephanie Strickland		FL	32304
Admin Paws Across the Nation		OR	97266
Mark Gopaulsingh			
Judy Smith		PA	19122
Lillian Kafka		CO	80224
Jack Prier		NV	89815
Mel Roethlisberger		IL	61068
Angie Messina		PA	15224
Pamela Timmons		WA	98029
Leah White		MD	20850
Joanna Cutler			
Abigail Bass		WA	98110
Samuel Rabreau			44000
Genevieve Simon			
Kayla Cole		NJ	7828
Lauren Gunn		MN	55119
Renate Ludwig		NJ	8062
Mark Roper			
Michele MacDonald		FL	33025

Carrie Sellner	MD	21122
Maryam Patel	FL	32822
Thomas Sears	WV	26201-5175
Wendy Gonzles		
Niccole Duquette		
Ruth McNaughton	CA	92655
Linda Stevenson	TX	77380
Irma Gotvald		
Suzann Brooke	MI	49686
Tammy Mcdaniel		
Andreana Hilerio		
Kathleen Pitts	CA	90621
Olivier Yolande		34060
Susanne Findeiß	TN	38229
Linsey Magrath	IL	60067
Pol Bablak		
Dara Sremm	PA	19144
Ashley Bromberg	WA	99004
Suzann Pape	TN	37725
Rita Grable	CA	91016
Hillary Mankins	OH	44691
Amanda Fry	PA	18080
Tamela Carlson	WA	99208
Karolina Morales		99999
K Eller	PA	15717
Brittany Washington	OH	45230
Kim Mills	OH	43469
Mary Kirby		
Tammy Steele	MD	21656
Rachel Fall	TX	77488
Windy Jenkins	WA	98661
Karol Mena	FL	34653
Allison R	NY	11215
Polly Halicki	AK	99701
Terra Robles	AZ	85086
Hollee Manu		
Ashley Schuh	MO	65653
Vicki Smith	CA	92382
Lilia Tiemi Saito Saito	MA	2565
Katrina Oost	OH	45324
Chris Shepherd	KS	66044
Lela Betts	PA	19038
Chris Keefe	CO	80219
Debra Marler	IL	62040
Betsy Andrews	NY	11226
Claudia Watson	AZ	85143
Sandie Rosales	TX	78108

Sabrina Guyll		CA	90025
Karen Hart		CA	93631
Susan Devereaux		DE	19720
Patricia Nelson		NY	13165
Bibi McGill			
Katherine Boykin	Marietta	GA	30062-1014
Matthias Eggert			
Misty Lee		WA	99026
Lisa Dellinger		OK	74447-6625
Fatma Kalkan			
Margie Fiero		PA	19125
Bina Pannell			87440
Sofia Lindgren			
Georgia Nally			
Rachel Reyes		KY	40206
Sandy Chadwick		CA	92654
Helen Carter		MA	1605
Vienna Saccomanno		WA	98115
Laurel Reece		IL	60914
Samantha Nicosia			
Giuseppe Fossati			
Arianne Ttaverso			
Lourdes Donikian		FL	33027
Rebecca Ray			
Danny Eidson		AR	72153
Doreen Martinez			
Sabra Ewing		VT	5079
Annette Cortes		FL	33156
Carmen Camacho		PA	18466
Stephanie Betts			
Mary Grace			
Leslie Grewn		IN	46403
Mike Young			56489
Laura Alosi		CA	91006
Christina Decker		FL	33316
Suzy Chin			
Charley Upton		CO	80501
Alec Perelman		CA	90046
Angeleigh Landis		OH	44681
Claudia Coihuin			
Angelo Ferrante		CA	95482
Kerstin Lundgren		FL	33193
Deborah Rittimann		TX	78109
Darci Fielding		IN	46637
Ashley Spocer		PA	16365
Amy Mele	Jacksonville	FL	32225-4156

GREENPEACE

Friends of the Earth

ALASKA WILDERNESS LEAGUE

PACIFIC ENVIRONMENT
Protecting the Living Environment of the Pacific Rim



OCEANA

COLORADO OCEAN COALITION



MARINE CONSERVATION INSTITUTE

OCEAN CONSERVATION RESEARCH



Oceanic Society



Ocean Doctor

VAITT INSTITUTE

EARTHJUSTICE

September 29, 2015

Chairman Dan Hull
North Pacific Fishery Management Council
605 West 4th Avenue, Suite 306
Anchorage, AK 99501

RE: Agenda C3 - Canyon Corals

Dear Chairman Hull and Members of the Council:

On behalf of all the organizations signed on to this letter, thank you for the opportunity to provide comments on the North Pacific Fishery Management Council's (the Council) next steps to protect coral and sponge habitat in the Bering Sea, in the canyons and along the Bering Sea shelf break. The shelf break ecosystem harbors ecological processes that support the rich Bering Sea food web – and therefore support commercial fisheries. Protection of areas important for ecosystem function and food web resilience is needed, including protection of representative habitats such as canyons and slope areas with structure-forming benthic organisms.

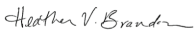
We applaud the new research conducted by National Oceanic and Atmospheric Administration (NOAA) scientists at the Alaska Fisheries Science Center (AFSC), that verified their coral and sponge distribution and density model in the eastern Bering Sea. This model now shows that 50% of Eastern Bering Sea coral habitat is located in Pribilof Canyon, with another ~35% on the slope to the northwest of Pribilof Canyon. This new research re-confirms that the Bering Sea shelf break - also called the Greenbelt (Springer et al. 1996) – is a unique area that harbors the majority of coral and sponge habitat in this distinct and vital large marine ecosystem. The density of corals and sponges in Pribilof Canyon, which comprises only a small percentage of the total shelf-break, was notably higher than in any other areas along the slope and the outer-shelf, or the Bering Sea as a whole.

Cold-water corals and sponges are long lived, slow growing, and highly susceptible to damage from bottom-contact by fishing gear. NOAA's number one deep-sea coral and sponge conservation and management objective states: protect areas containing known deep sea coral or sponge communities from impacts of bottom-tending fishing gear. The AFSC study found that 9% of all sea whips (corals) were damaged and observed damage or impacts from fishing gear in 37% of camera drop transects. This evidence of fishing gear impacts puts a spot light on the urgent need to move forward with developing measures for coral and sponge protection before damage from gear can become more widespread.

The Council now has an excellent body of data and recent science in this area, allowing the clear identification of areas containing vulnerable coral and sponge habitat. We urge the Council to implement a network of benthic protected areas that includes a representative sample of habitats found on the Bering Sea shelf-break, where no protections currently exist. We further urge the Council to move forward swiftly to analyze alternatives, including those presented by conservation NGOs, for the protection of corals and sponges in the eastern Bering Sea.

Sincerely,

Heather Brandon
Senior Fisheries
Officer
World Wildlife Fund



David Helvarg
President
Blue Frontier
Campaign



John Hocevar
Oceans Campaign
Director
Greenpeace



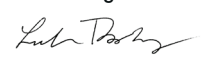
Doug Karpa, J.D.,
Ph.D.
Legal Program
Director
Turtle Island
Restoration Network



Lance Morgan Ph.D.
President
Marine Conservation
Institute



Leah Donahey
Senior Campaign
Director
Alaska Wilderness
League



Brettny Hardy
Senior Associate
Attorney
Earthjustice



Dr. Sylvia Earle
Founder
Mission Blue



Abel Valdivia PhD
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Center for Biological
Diversity



Marcie Keever
Oceans & Vessels
Program Director
Friends of the Earth



Tina Brown
President
Alaska Wildlife Alliance



Kevin Harun
Arctic Director
Pacific Environment



Delice Calcote
Executive Director
Alaska Inter-Tribal
Council



Jon Warrenchuk
Senior Scientist and
Campaign Manager
Oceana



Michael Dessner
Director of Operations
Waitt Institute



Vicki Nichols Goldstein
Founder
Colorado Ocean
Coalition



David E. Guggenheim,
Ph.D.
President
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Carl Wassile
Yup'iaq Biologist
Alaska's Big Village
Network



Hal Shepherd
President
Center for Water
Advocacy



Taylor Jones
Endangered Species
Advocate
WildEarth Guardians



Natasha Benjamin
Marine Applied
Research and
Exploration
Marine Applied
Research



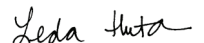
Roderic B. Mast
President & CEO
Oceanic Society



Michael Stocker
Director
Ocean Conservation
Research



Leda Huta
Executive Director
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September 29, 2015

Chairman Dan Hull
North Pacific Fishery Management Council
605 West 4th Avenue, Suite 306
Anchorage, AK 99501

RE: Agenda C3 - Canyon Corals

Dear Chairman Hull and Members of the Council:

Thank you for the opportunity to provide these comments on agenda item C3 – Canyon Corals. Greenpeace has contributed significantly to the discussion on the Bering Sea Canyons at the North Pacific Fishery Management Council since April 2012, including as a co-publisher of two peer-reviewed studies on coral and sponge habitat in Zhemchug and Pribilof canyons. In a separate letter submitted for this meeting with Marine Conservation Institute, World Wildlife Fund, and Earthjustice we provide the Council with detailed comments in support of moving forward now with an initial analysis of alternatives to protect Bering Sea canyon and Green Belt habitat.

The Council chose to wait for additional science from field studies (undertaken in summer 2014) to inform the development of alternatives to protect coral habitat in Pribilof canyon and the adjacent slope, in the narrowed area of interest identified by the Council in April 2014. We commend the Alaska Fisheries Science Center for their excellent work to model coral and sponge habitat along the Bering Sea slope and the recent camera-drop study and analysis that has verified those models and allowed the additional refinement of the best available science on the canyons. The Council should move forward now with a formal process, inclusive of full public input, to consider a range of alternatives to protect valuable and vulnerable benthic habitat in the Bering Sea.

The Council has received an enormous amount of public input urging protection for Zhemchug and Pribilof canyons and important habitat along the Green Belt. At this meeting an additional 16,631 individuals are urging the Council to protect the canyons, adding to more than 200,000 public comments received since the Council initiated this action in 2012. You have received consistent support for conservation action from a broad group of NGOs and tribal organizations, and letters from many of the largest seafood buyers in the U.S. including: Safeway, Costco, Ahold USA, Whole Foods Market, HyVee, SuperValu, Trader Joe's, Giant Eagle, Wegmans, Roundy's, Bon Appétit and most recently McDonald's. Some excerpts from these comments highlight the important voices of these essential stakeholders in the Council process:

“Giant Eagle and our NGO partner, Sustainable Fisheries Partnership, are asking the North Pacific Fishery Management Council to help protect coral and sponge habitat... We recommend to Retailers and Supply Chain to support the NPFMC in protecting known coral and sponge

habitat from the impacts of the bottom... and encourage the Council to implement a network of benthic protected areas that includes a representative sample of habitats found on the shelf break.”

- Giant Eagle letter, April 2015

“Specifically, we would like to ask the Council to protect the Zhemchug and Pribilof Canyons... As a seafood business that is committed to building a market for sustainable seafood, we have a strong interest in ensuring the health of ecosystems.”

- Safeway letter, January 2014

“We depend on your organization and others to ensure that fisheries in Alaska do not jeopardize the ecosystems that produce our food supply. Commercial fisheries can only be biologically and economically sustainable with a robust and healthy ecosystem... We urge you to take this opportunity to demonstrate progressive leadership in ecosystem management and provide all stakeholders with an insurance policy that can help preserve biodiversity as well as ensure the sustainability of fisheries and seafood supply.”

- Roundy’s letter, April 2015

“As part of our global sustainability framework’s 2020 goals we look forward to continued partnership with the Council and the industry to maintain that 100% of our fish sourced worldwide is verified sustainable. In order to ensure all sources remain comfortably above sustainability standards into the future, we voice our support to the Council and ask that it move swiftly to take all appropriate measures to protect the habitat of the Bering Sea canyons and sustain the long-term viability of its fisheries”

- McDonald’s letter, May 2015

A tremendous and valuable effort has gone into this issue from Council staff, NMFS and independent scientists. That effort along with an unprecedented amount of public interest in seeing this valuable ecosystem and habitat protected warrants the Council moving forward now with a process to evaluate a range of alternatives. None of the Bering Sea shelf break zone is protected despite its value as habitat and its extreme vulnerability to fishing gear.

We encourage the Council to take this opportunity to continue its leadership on ecosystem-based fisheries management. Challenges in capacity should not result in status quo fishing; where there are known impacts from fishing and vulnerable habitat identified precautionary action should be taken now.

Please move ahead now with a formal analysis of a range of alternatives including the alternative submitted by multiple conservation organizations. The data shows that the Council can address the stated

interests of millions of public stakeholders requesting the first ever conservation of the Bering Sea Green Belt, while also preserving the ability for continued fishing.

Thank you for your consideration of these comments.

Respectfully,

A handwritten signature in black ink, appearing to read "Jackie Dragon". The signature is fluid and cursive, with a large initial "J" and "D".

Jackie Dragon
Greenpeace



Ph. 206.284.2522
2303 W Commodore Way Suite 202
Seattle, WA 98199
www.freezerlonglinecoalition.com

September 29, 2015

Mr. Dan Hull, Chairman
North Pacific Fishery Management Council
605 W. 4th Ave, Suite 306
Anchorage, AK 99501-2252

RE: Agenda Item C-3, Pribilof Canyon Corals

Dear Chairman Hull,

Please accept the following comments from the Freezer Longline Coalition (FLC) in regards to agenda item C-3 (Pribilof Canyon). We appreciate the opportunity to provide input on this issue.

The FLC represents the owners and operators of over 30 U.S.-flag vessels that participate in the freezer longline sector of the Pacific cod fishery in the Bering Sea and Aleutian Islands. The mission of the FLC is to promote policies and practices that support the sustainable and orderly harvest of Pacific cod and other groundfish species. Since its establishment, FLC has been a leader in efforts to reduce bycatch and promote more sustainable fishing practices in the BSAI.

The Council and NMFS has devoted considerable time and resources to this issue since 2006 (see attached chronology). The best available scientific information available has consistently found that the Bering Sea canyons are not biologically unique habitats, contain low densities of coral, and are not at risk. At this time, the **FLC requests that the Council take no further action on this agenda item.**

If the Council chooses to continue with additional analyses, the FLC would then request the Council to include gear (and sector) specific analysis of potential overlap and potential benthic impacts by gear type. Additionally, any consideration of mitigation measures should be analyzed by gear (and/or sector) with the estimated impact of potential mitigation measures on each sector.

While the FLC understands the needs to conserve sensitive and essential fish habitats, we recommend taking no further action on this issue for the following reasons:

- Multiple studies have concluded that the canyons are not biologically unique habitats.
- The canyons are indistinguishable from adjacent slope habitat.
- The canyons are not essential fish habitat under EFH.
- The reference to deep sea corals in MSA is under the discretionary provisions of a FMP.
- The predominant substrates on the EBS slope are sand and mud with very little rock substrate observed. Only 0.8% of the video frames in the drop camera survey were predominately rocky (compared to 23% in the Aleutian Islands).

October 2015

- The average density of coral in the EBS slope is quite low with 0.005 individuals/square meter or 0.4% of the average density in the Central Aleutians (1.23 individuals/square meter from Stone 2006).
- The drop camera survey used a stratified random survey design with 250 stations. The mean transect covered 362 m long and 3.08 m wide for a mean of 1,115 square meters per transect for a total of 278,740 square meters.
- The submarine dives in 2007 and 2012 were not a random sample but a select survey in locations where observer reports indicated the presence of coral. These transects covered a total of 30,000 square meters (or 11% of the total drop camera survey area).
- The average size coral on the EBS slope is less than 8 inches in height.

The best scientific information available also makes it clear that fixed gear (including longline) has minimal and temporary effects on EBS slope habitat, including hard substrates (that would support coral) which are very minor portion of the slope habitat.

Effects of Fixed Gear on EBS Slope Habitat

- 1.) **EFH (Essential Fish Habitat): Long Term Effects (LEI) Index:** In the EFH LEI analysis, fixed gear (pot and longline) have the lowest LEI values for all gear types on the Bering Sea slope bio-structure (see Table B.2-10). The LEI value is the proportion of habitat reduced by a gear type. For the fishing effect on the Bering Sea slope, the LEI value for all gear is 10.9% - of which 7.2% is attributed to pelagic trawl; 3.7% is non-pelagic trawl; 0.0% is pot; and 0.0% is longline. The LEI value for longline gear on all hard substrates for all areas (BS, AI, and GOA) is 0.1%.
- 2.) **NMFS Sablefish Longline Survey, 1996-2013:** The NMFS longline survey identifies the catch on each and every hook (i.e. there are no sub-samples or extrapolations). Between 1996 and 2013, there have been a total of nine NMFS sablefish longline surveys conducted on the thirteen stations¹ along the EBS slope with a total of 610,555 hooks.

From 1996 to 2013 on the EBS slope, the longline survey had an aggregate total of **22 hooks with coral bycatch** (out of the 610,155 total hooks)². This is an average of **2.46 hooks per year with coral bycatch** from the thirteen EBS slope stations (with three years of no coral bycatch).

The average encounter rate for coral per hook is **0.000036** on the EBS slope. This is less than four thousandths of one percent (or one chance in 27,548).

- 3.) **IPHC Survey:** From 2002-2012, the IPHC surveys on the EBS edge (Areas 4A and 4D) had a grand total of **7 hooks with coral bycatch** (both hard and soft corals combined)³. The IPHC survey identifies non-target catch on 20% (20 consecutive hooks) of the hooks in each skate of gear.

Given this information, it is clear that fixed gear (including longline gear) has very little impact on the coral habitats of the EBS slope. Accordingly, the FLC requests that if the NPFMC considers closures in any future alternatives, there should be options that exclude fixed gear (including longline gear) from the closure areas.

¹ Stations 1, 2, 4, 6, 8, 10, 12, 13, 15, 17, 18, 20, and 22 (see Figure 1)

² Sablefish survey bycatch data provided by NMFS, July 2014 (Sigler, Rodgveller, Lunsford et al)

³ IPHC survey bycatch provided by IPHC July 2014 (Gilroy)

October 2015

FLC believes that the Council and NMFS has done their due diligence regarding this issue (See attached chronology). Given the finite resources of Council staff and the agency, we feel that there are more pressing priorities on the Council's agenda of critical importance to the future of our fisheries that warrant the investment of the public and Council's time and resources going forward.

Thank you for your consideration in this matter.

Sincerely,



Chad I. See
Executive Director
Freezer Longline Coalition



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Attenuated Chronology of Bering Sea Canyon Issue

- 1.) **November 2006: “A Review of Scientific Information Related to Bering Sea Canyons and Skate Nursery Areas”**. Summary paper of scientific literature regarding EBS canyons. *“Taken together, the information from these three studies do not support any proposals for closures based on the existence of unique and/or essential habitats, nor do they make the case for inordinately sensitive habitat in need of immediate protection.”*⁴
- 2.) **2012: NOAA Fisheries begins three year, \$2.4 M research program in Alaska on deep-water corals**. Part of the Deep Sea Coral Research and Technology program to better understand the location, distribution, ecosystem role, and status of deep-sea corals.
- 3.) **February 2013: NOAA Fisheries finds ESA listing of Alaska cold-water corals is not warranted**. In the response to deny the petition to list, NMFS stated that *“there is no indication at this time that corals, including the few petitioned species that are found there, face risks from commercial fishing that may warrant listing the species at threatened or endangered.”*⁵
- 4.) **June 2013: “Are Bering Sea canyons unique habitats within the eastern Bering Sea?” Sigler et al 2013**. *“These analyses imply that Pribilof and Zhemchug canyons are not biologically unique.”*⁶ And *“The analyses of coral, sponge, and sea whip presence-absence did not distinguish the canyons from the adjacent slope areas.”*⁷
- 5.) **June 2013: NPFMC Discussion Paper: “Pribilof and Zhemchug canyons: Fishing activity, protection measures, and process for future action.”**
- 6.) **February 2014: Public Workshop on Bering Sea slope corals.**
- 7.) **April 2014: Summary of public workshop.**
- 8.) **Summer 2014: EBS Slope Drop Camera Survey**
- 9.) **June 2015: “Validation of models of the distribution of structure-forming invertebrates in the Eastern Bering Sea using an underwater stereo camera”, Rooper et al 2015**. *“Overall the densities of coral were low.....The low densities were consistent with the absence of hard substrates for coral attachment in most areas of the Bering Sea.”*⁸

⁴ “A review of Scientific Information Related to Bering Sea Canyons and Skate Nursery Areas.” Nov. 2006, p. 30

⁵ February 14, 2013 Federal Register Notice of 90 day finding, p. 10605

⁶ P. 1 Sigler et al 2013

⁷ P. 17, Sigler et al 2013

⁸ P. 1, Rooper et al

FISHING VESSEL OWNERS' ASSOCIATION INCORPORATED

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SEATTLE, WASHINGTON 98199-1290
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SINCE 1914

September 29, 2015

Mr. Dan Hull, Chairman
North Pacific Fishery Management Council
605 West 4th, Suite 306
Anchorage, AK 99501-2252

RE: **C3 Canyon Corals**

Dear Chairman Hull:

This letter to the North Pacific Fishery Management Council (NPFMC) is in response to Agenda Item "C-3 Canyon Corals." The Fishing Vessel Owners Association (FVOA) represents 95 independent quota shareholders and fishing vessels of which 40 fish in the canyon areas under consideration. Our members have fished the Bering Sea edge for the past 90 years while targeting halibut. Our members target their halibut harvest mostly on the continental edge fishing between 110 to 300 fathoms when fishing in the various Bering Sea areas.

Our Association met with the representatives of Green Peace and they presented two charts of areas where they believe critical habitat (attached) exist. These areas appear to be important areas for the directed halibut fishermen. They do not appear to be important for crab, pacific cod, or various trawl activity. Should the Council decide to proceed with further analysis that would include gear restrictions, we request for the analysis to look at the effects of 90 years of halibut fishing in these areas. We believe the effects to be minimal. Currently the halibut fleet operates in the Bering Sea districts from June to September (4 months). Our members are limited in the time they can fish in this area due to the size of their vessels and weather and ice conditions.

We are attaching a "Habitat Sensitivity and Recovery Analysis Relative to Fishing Gear" developed by the Pacific Fishery Management Council which was included in their December 2005 Final EIS for Pacific Coast Groundfish EFH. As you can see, hooks and longlines have the least effect on habitat and their recovery. Based on our limited impact, we believe the halibut fishery should be exempted from any restrictions in these areas.

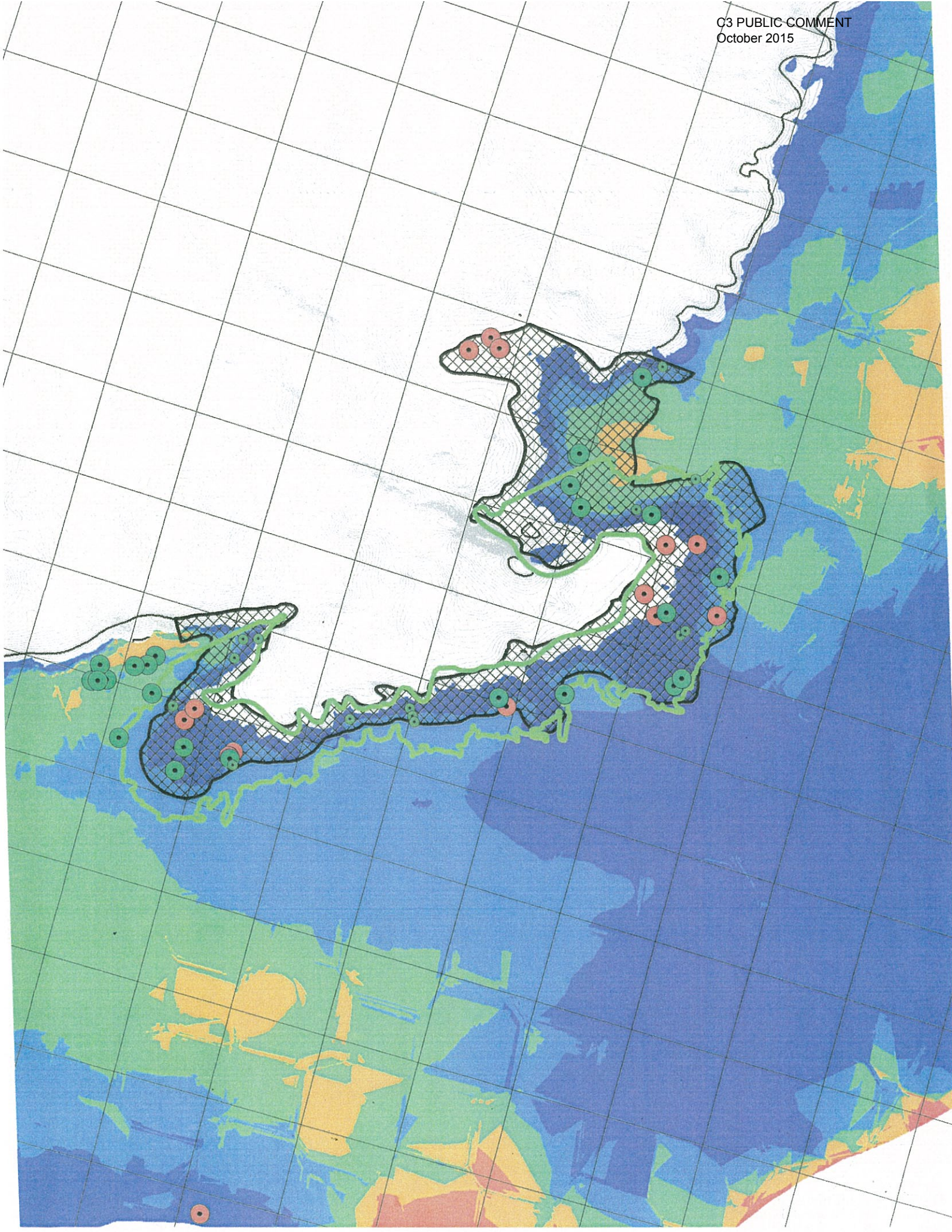
Sincerely,



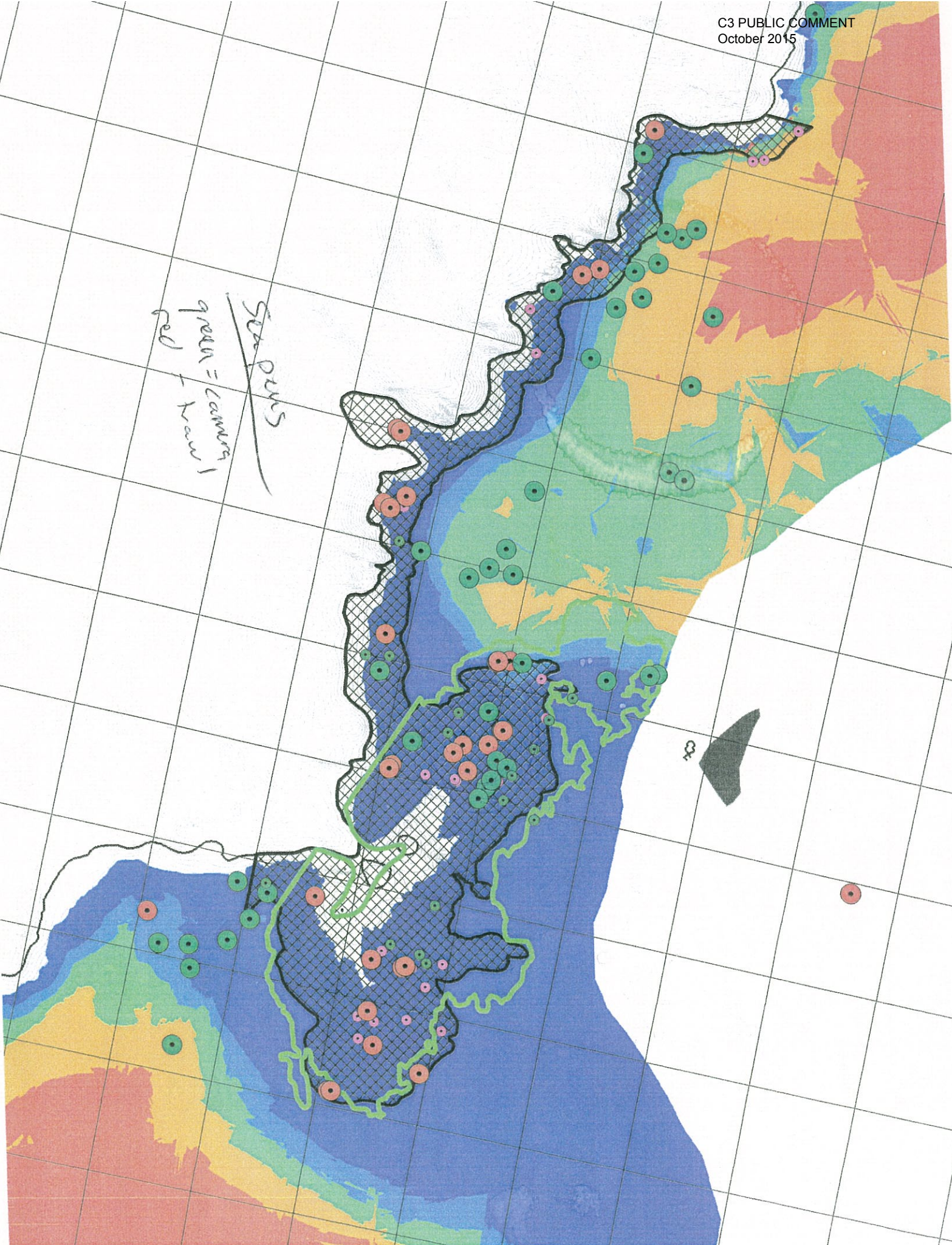
Robert D. Alverson
Manager

RDA:cb

Enclosures



Sea pens
green = common
red = rare



Chapter 3 – Affected Environment

Table 3-1: Summary of Habitat Type Sensitivity and Recovery Relative to Fishing Gear

Habitat Category	Habitat Type	Fishing Gear Type	Sensitivity to Impact ⁽¹⁾	Recovery from Impact (years)
Nearshore Biogenic	Estuarine Macrophyte	Dredge Gear	2.8 - 3.0	2.6 - 5.5
		Bottom Trawl	1.0 - 2.0	1.5 - 4.5
		Nets	0.5 - 1.0	0.5 - 2.0
		Pots and Traps	0 - 0.5	0 - 0.5
		Hook and Line	0 - 0.5	0 - 0.5
	Estuarine Shellfish	Dredge Gear	2.0 - 3.0	2.5 - 5.5
		Bottom Trawl	1.0 - 2.0	1.5 - 4.5
		Nets	0.5 - 1.0	0.5 - 2.0
		Pots and Traps	0 - 0.5	0 - 0.5
		Hook and Line	0 - 0.5	0 - 0.5
Nearshore Unconsolidated Bottom	Soft Bottom	Dredge Gear	1.0 - 1.6	0.2 - 0.6
		Bottom Trawl	0.5 - 1.0	0.1 - 0.3
		Nets	0.0 - 0.5	0.0 - 0.5
		Pots and Traps	0.0 - 0.5	0.0 - 0.5
		Hook and Line	0.0 - 0.5	0.0 - 0.5
Nearshore Hard Bottom	Hard Bottom	Dredge Gear	1.5 - 2.5	1.5 - 2.5
		Bottom Trawl	1.0 - 2.0	1.0 - 2.0
		Nets	0.5 - 1.0	0.5 - 1.0
		Pots and Traps	0 - 0.5	0 - 0.5
		Hook and Line	0 - 0.5	0 - 0.5
Offshore Biogenic	Macrophyte	Dredge Gear	1.4 - 3.0	2.0 - 6.0
		Bottom Trawl	1.0 - 3.0	1.5 - 4.5
		Nets	0.5 - 2.5	0.5 - 2.5
		Pots and Traps	0.3 - 1.3	0.3 - 1.3
		Hook and Line	0.3 - 1.3	0.3 - 1.3
	Shelf Shellfish	Dredge Gear	1.4 - 3.0	2.0 - 6.0
		Bottom Trawl	1.4 - 2.2	1.0 - 3.0
		Nets	0.9 - 1.8	0.5 - 1.5
		Pots and Traps	0.4 - 1.2	0.0 - 0.2
		Hook and Line	0.2 - 1.0	0.2 - 1.0
	Shelf Sponge	Dredge Gear	2.0 - 3.0	2.0 - 3.0
		Bottom Trawl	2.0 - 2.4	1.0 - 1.6
		Nets	0.9 - 1.8	0.5 - 1.5
		Pots and Traps	0.4 - 1.2	0.4 - 1.2
		Hook and Line	0.2 - 1.0	0.2 - 1.0
Offshore Biogenic	Slope Sponge	Dredge Gear	2.5 - 3.0	3.5 - 10.5
		Bottom Trawl	2.5 - 3.0	3.5 - 10.5
		Nets	1.0 - 2.0	2.0 - 8.0
		Pots and Traps	0.5 - 1.0	0.0 - 3.0
		Hook and Line	0.5 - 1.0	0.0 - 3.0

1 * See Appendix 10 to the Risk Assessment for a full description of the methodology for derivation of sensitivity and recovery values.

Chapter 3 – Affected Environment

Habitat Category	Habitat Type	Fishing Gear Type	Sensitivity to Impact	Recovery from Impact (years)
Offshore Biogenic	Shelf Coral	Dredge Gear	2.0 - 3.0	2.0 - 3.0
		Bottom Trawl	2.0 - 3.0	1.0 - 1.6
		Nets	0.5 - 2.5	0.5 - 1.5
		Pots and Traps	0.3 - 1.3	0.4 - 1.2
		Hook and Line	0.3 - 1.3	0.2 - 1.0
	Slope Coral	Dredge Gear	2.5 - 3.0	3.5 - 10.5
		Bottom Trawl	2.0 - 3.0	3.5 - 10.5
		Nets	1.0 - 2.0	2.0 - 8.0
		Pots and Traps	0.5 - 1.0	0.0 - 3.0
		Hook and Line	0.5 - 1.0	0.0 - 3.0
	Ridge	Dredge Gear	2.0 - 3.0	2.0 - 3.0
		Bottom Trawl	2.0 - 3.0	2.0 - 3.0
		Nets	0.5 - 2.5	0.5 - 2.5
		Pots and Traps	0.3 - 1.3	0.3 - 1.3
		Hook and Line	0.3 - 1.3	0.3 - 1.3
	Basin	Dredge Gear	2.0 - 3.0	3.5 - 10.5
		Bottom Trawl	2.0 - 3.0	3.5 - 10.5
		Nets	0.5 - 2.5	2.0 - 8.0
		Pots and Traps	0.3 - 1.3	0.0 - 3.0
		Hook and Line	0.3 - 1.3	0.0 - 3.0
Continental Rise	Dredge Gear	2.0 - 3.0	3.5 - 10.5	
	Bottom Trawl	2.0 - 3.0	3.5 - 10.5	
	Nets	0.5 - 2.5	2.0 - 8.0	
	Pots and Traps	0.3 - 1.3	0.0 - 3.0	
	Hook and Line	0.3 - 1.3	0.0 - 3.0	
Offshore Unconsolidated Bottom	Shelf Soft Bottom	Dredge Gear	0.9 - 1.1	0.3 - 0.7
		Bottom Trawl	0.5 - 1.0	0.2 - 0.6
		Nets	0.5 - 1.0	0.1 - 0.5
		Pots and Traps	0.0 - 0.5	0.0 - 0.5
		Hook and Line	0.0 - 0.2	0.0 - 0.2
Offshore Unconsolidated Bottom	Shelf canyons, gullies, and ice-formed features	Dredge Gear	0.9 - 1.1	0.3 - 0.7
		Bottom Trawl	0.5 - 1.0	0.2 - 0.6
		Nets	0.2 - 0.8	0.1 - 0.5
		Pots and Traps	0.0 - 0.5	0.0 - 0.5
		Hook and Line	0.0 - 0.2	0.0 - 0.2
	Ridge	Dredge Gear	0.9 - 1.1	0.9 - 1.1
		Bottom Trawl	0.5 - 1.0	0.5 - 1.0
		Nets	0.8 - 1.6	0.8 - 1.6
		Pots and Traps	0.0 - 0.6	0.0 - 0.6
		Hook and Line	0.0 - 0.6	0.0 - 0.6

Chapter 3 – Affected Environment

Habitat Category	Habitat Type	Fishing Gear Type	Sensitivity to Impact	Recovery from Impact (years)
Offshore Unconsolidated Bottom	Slope canyons, gullies, and ice-formed features	Dredge Gear	1.0 - 2.0	1.0 - 2.0
		Bottom Trawl	0.5 - 1.5	1.0 - 2.0
		Nets	0.3 - 1.0	0.5 - 1.0
		Pots and Traps	0.2 - 0.6	0.2 - 0.6
		Hook and Line	0.1 - 0.3	0.2 - 0.6
	Continental Rise canyons, gullies, and landslide	Dredge Gear	1.0 - 2.0	1.0 - 2.0
		Bottom Trawl	0.5 - 1.5	0.5 - 1.5
		Nets	0.3 - 1.0	0.3 - 1.0
		Pots and Traps	0.2 - 0.6	0.2 - 0.6
		Hook and Line	0.1 - 0.3	0.1 - 0.3
Offshore Hard Bottom	Canyon and ice-formed features	Dredge Gear	1.3 - 2.1	1.0 - 3.0
		Bottom Trawl	2.0 - 3.0	1.0 - 2.0
		Nets	0.8 - 1.6	0.5 - 1.5
		Pots and Traps	0.0 - 0.6	0.0 - 0.5
		Hook and Line	0.0 - 0.6	0.0 - 0.5
	Exposure	Dredge Gear	1.3 - 2.1	1.0 - 3.0
		Bottom Trawl	2.0 - 3.0	1.0 - 2.0
		Nets	0.8 - 1.6	0.5 - 1.5
		Pots and Traps	0.0 - 0.6	0.0 - 0.1
		Hook and Line	0.0 - 0.6	0.0 - 0.5
	Slope canyons, gullies, landslides, and exposures	Dredge Gear	2.5 - 3.0	2.5 - 3.0
		Bottom Trawl	2.5 - 3.0	2.5 - 3.0
		Nets	1.0 - 2.0	1.0 - 2.0
		Pots and Traps	0.5 - 1.0	0.5 - 1.0
		Hook and Line	0.5 - 1.0	0.5 - 1.0
	Basin	Dredge Gear	1.0 - 2.0	2.5 - 3.0
		Bottom Trawl	0.5 - 1.5	2.5 - 3.0
		Nets	0.3 - 1.0	1.0 - 2.0
		Pots and Traps	0.2 - 0.6	0.5 - 1.0
		Hook and Line	0.1 - 0.3	0.5 - 1.0



Marine Conservation Alliance

promoting sustainable fisheries to feed the world

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Togiak, Twin Hills, Ugashik

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Peter Pan Fleet Cooperative
Unalaska Fleet Cooperative
UniSea Fleet Cooperative
Westward Fleet Cooperative

September 29, 2015

Mr. Dan Hull, Chairman
North Pacific Fishery Management Council
605 West 4th Ave, Suite 306
Anchorage, Alaska 99501-2252

RE: Agenda Item C.3: Pribilof Canyon Corals

Dear Mr. Hull,

Thank you for the opportunity to comment on Agenda Item C.3, Pribilof Canyon Corals. The Marine Conservation Alliance (MCA) represents harvesters, processors, communities, and community development quota (CDQ) entities with interests in the Gulf of Alaska and Bering Sea. Our role is to pursue rational, science-based policies which support sustainable use of fisheries resources for current and future generations. We hope you find our comments helpful.

We greatly appreciate NOAA's devotion of resources toward deep sea coral research in the Bering Sea. We especially appreciate the efforts of staff at the Alaska Fisheries Science Center (AFSC) in carrying out this research and in communicating results frequently and clearly to members of the public. AFSC staff efforts in this regard have helped to ensure that this has been a model of what constitutes public, transparent process.

Available research on coral and canyons in the Bering Sea demonstrates that canyons are not unique; that coral abundance is low; and that fishing does not appear to pose a risk to the coral that are there. In spite of these findings, we believe the Council might consider an *additional analysis that looks at a fishery overlap* in locations where corals occur to best address the Council's Problem Statement.

Overview

Research on Bering Sea coral and canyons points to some important findings. These findings indicate that the Bering Sea canyons are not unique and cannot be characterized as having an abundance of coral communities. What are somewhat abundant are soft sea whips which are also commonly found on the continental shelf and slope areas that are not included in canyons. The lack of coral abundance in Bering Sea canyons can be tied to the lack of rocky substrate that exists in the area, which coral need in order to grow. Coral, other biota and fish are distributed heterogeneously across the Bering Sea and not found to be unique to canyons. The coral that are in the Bering Sea tend to be concentrated

in and around the Pribilof canyon area at density levels that remain relatively low when compared to the AI and GOA areas.

Coral height is an important attribute to consider in addition to density because it is thought to be related to the role that coral may play as habitat for fish species (larger coral may provide more structure). Height is also related to the vulnerability that coral have to fishing gear. For instance, fishing gear is more likely to pass over the top of small coral. Researchers measured coral height in the Bering Sea and found that coral there are relatively small on average, averaging 20 cm or about 8 inches. Research did find some correlations between fish species and structure forming invertebrates, but the AFSC research was inconclusive in its evaluation of the degree to which fish are using these invertebrates for habitat¹.

Researchers documented the presence of damaged coral as well as the presence of fishing activity (trawl tracks and/or lost fishing gear) to a rather minimal extent. In fact, only two coral were observed to be damaged. Moreover, zero coral were found damaged where there was evidence of fishing. This may not be surprising because most coral were found in water deeper than where most fishing occurs.

In response to the Council's request, researchers also attempted to measure coral vulnerability by examining the overlap of coral height and density. Using this method, the research pointed to an area of Pribilof canyon as vulnerable; however it is important to note that the method used in identifying this area uses density and height measurements that are relative to the rest of the Bering Sea, an area where very little coral exist. In absolute terms, we do not believe coral in the Bering Sea qualify as being particularly vulnerable because there do not appear to be any areas where coral are particularly large and dense. The lack of observed damage to corals in the AFSC camera drops appears to confirm this as well.

The lack of coral density and abundance in the Bering Sea does not necessarily lead to a conclusion that Bering Sea coral is unimportant. However, from a common sense perspective, their small vertical relief and their low density suggests that they are not an important feature relative to areas such as the Aleutians where they are dense relative to other sessile invertebrates and constitute considerable vertical habitat. The efforts to date at researching Bering Sea coral have nonetheless been a valuable exercise and have given us an important data point which helps us to more thoroughly understand the Bering Sea ecosystem.

Based on the information in available scientific documents, it does not appear that fishing restrictions for coral conservation are necessary. However, we believe the Council should be thorough in its examination of this issue, and that an additional analysis from the AFSC that looks at fishery overlap with information on coral would provide more conclusive information about the interaction with fisheries and coral that are found in the Bering Sea. Such an analysis would better link the available research on Bering Sea coral to the Council's purpose and need statement that was adopted in April of 2014. The purpose of this analysis would be to better characterize the risk that fisheries may pose to Bering Sea coral. The AFSC data shows that corals occur at depths deeper than where fishing operations occur. For this reason any overlap

¹ The manner in which fish and coral associations were measured and reported in the AFSC report examines the density of coral on a transect with the density of fish on that transect. This is different from approaches which have measured the number of fish that are within one body length of a coral. The latter approach tends to measure fish that are within close proximity to coral while the former approach makes a relationship less clear.

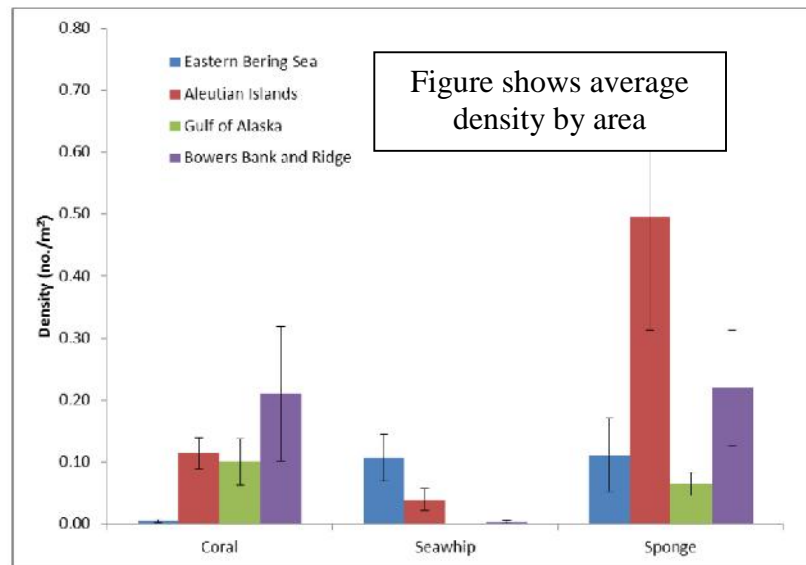
analysis by the AFSC should include a three dimensional look at fishery overlap. In this regard we expect that fishing depth reported in logbooks observer data and testimony from fishermen will be helpful.

Highpoints from AFSC Research on Bering Sea Coral Density and Distribution

Perhaps the single most important reason coral are not found in great abundance in the Bering Sea is due to the lack of rocky substrate there. Compared to other regions, such as the Aleutian Islands and Gulf of Alaska, findings indicate much less rocky substrate exists in the Bering Sea than elsewhere. For example,

- 58% of the video transects in the Gulf of Alaska contained rocky habitat
- 63% of the video transects in the Aleutian Islands contained rocky habitat
- 42% of the video transects from Bowers Bank contained rocky habitat
- 18% of the video transects in the Bering Sea contained rocky habitat

When it comes to substrate that is predominately rocky (rather than simply containing some rocky substrate), images indicate that only 2.8% of the substrate observed along the Bering Sea shelf break and slope was predominately rocky. This means that it is clear that the Bering Sea canyon and slope areas are mostly soft substrate (sand, mud).



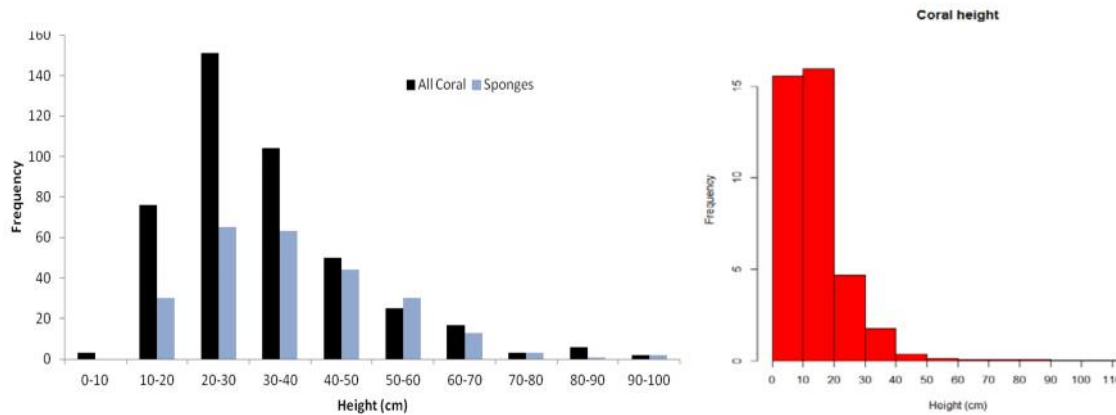
The lack of rocky substrate means that there are very few places for coral to grow. By extension we should expect coral density to be low, and indeed this is what researchers have found. When measured next to densities in other regions (GOA, AI, Bowers Bank and Ridge), average coral density in the Bering Sea is a fraction of the densities observed in these other regions. When researchers examine maximum coral densities from similar studies across Alaska, the Bering Sea continues to show relatively low abundance. As the table below indicates, maximum coral densities in the Bering Sea are a fraction of maximum densities measured in other regions of Alaska.

Highest Reported Coral Density by Area	
Study Location	No. per square meter
Aleutian Islands	1.30
Bowers Bank	1.67
Gulf of Alaska	1.20
Bering Sea	0.28

Coral density was measured and mapped by staff at the AFSC. Factors describing coral presence include depth, sediment size, current speed, and latitude. The images below show the results of model predictions and measurements of coral density from the camera drop survey. It is clear that the small amount of coral found in the Bering Sea is predominantly found near Pribilof Canyon. There are some coral found elsewhere but densities are far lower. The highest density observed on a single transect was 0.28 coral per square meter, but average densities were 0.005 coral per square meter. In total, only 32 transects observed any coral out of 250 transects.

Coral Height

Researchers measured the height of coral in the Bering Sea and are able to show that the height profile of Bering Sea coral is quite a bit smaller than in other areas, such as the Aleutian Islands. As the images below illustrate, coral and sponge in the Bering Sea are smaller, on average, than in the Aleutians. These figures also show that the size frequency is much more concentrated around the average in the Bering Sea than in the Aleutians, meaning the Bering Sea contains relatively few coral that are larger than the average height of 8 inches. (Note that the scale in the figures below is different; the left figure reports size frequencies in the Aleutians, while the right figure reports size frequencies in the Bering Sea).



Damaged Coral

In an effort to shed light on any effect fishing may be having on structure forming invertebrates in the Bering Sea, researchers documented the presence of damaged coral, sponge, and sea whips. They also reported evidence of fishing activity (trawl tracks or lost gear). It should be noted that coral damage does not necessarily mean that fishing was the cause. Similarly, it does not necessarily mean that the absence of fishing evidence means no fishing occurred in an area. However, this data does give us information to work from.

In total, researchers documented two damaged hard coral of the species Isididae, out of a total of 69 observed. Other hard coral species were observed but none were observed with damage. 2,653 sea whips were observed damaged, but only 94 were found damaged where there was evidence of fishing. While 115 demosponges were observed damaged, only 5 sponges were found damaged in areas where there was evidence of fishing. On a proportional basis, less than 3% of observed Isididae had damage, 0.3% of demosponge were observed with damage, and 9% of Halipteris (sea whips) were damaged. We know that sea whips are preyed upon by other species, such as sea stars, so the relatively higher proportion of damaged sea whips is not

surprising, nor is it necessarily concerning. In areas where evidence of fishing activity was observed, there were zero damaged coral.

Category	Taxa	Damaged	Undamaged	Total	Proportion Damaged	Damage and Evidence of Fishing
Coral	Isididae	2	67	69	0.029	0
	Gorgonacea		2	2	-	
	Plexauridae		8	8	-	
	Plumarella aleutiana		36	36	-	
	Plumarella sp.		775	775	-	
	Primnoidae		38	38	-	
	Swiftia sp.		537	537	-	
Sea whips	Halipteris sp.	26,553	26,782	29,435	0.090	94
Sponges	Demosponge	115	37,576	37,682	0.003	5
	Porifera		27	27	-	
	Calcarea		31	31	-	
	Hexactinellid		1,952	1,952	-	

Vulnerability

AFSC researchers attempted to respond to the Council's request regarding an examination of coral vulnerability. They did so by examining coral height and coral density and finding that area where the combination of the two was greatest. Of course, in reality other parameters determine coral vulnerability (such as reproduction rates and growth rates) however data on other parameters does not exist.

Research on Bering Sea coral vulnerability points to an area of Pribilof canyon as being potentially vulnerable. However, this is a product of the method used rather than the fact that these coral are actually vulnerable. In other words, the finding suggests that the area of Pribilof canyon may be more vulnerable than other areas of the Bering Sea, but when we compare coral characteristics in the Bering Sea to other regions, it is difficult to conclude that coral in the Pribilof canyon is vulnerable. We suggest that these areas are not in fact vulnerable. Coral height and density in the predicted area are best described as low, therefore coral vulnerability is also best described as low.

Research Methods

There are a variety of differences in the research that has been done on Bering Sea coral. These differences straddle issues of study design and technical methods. One of the justifications for the 2014 AFSC camera drop research was to address some of the shortcomings in prior research. In order to address these shortcomings, the AFSC camera drop study used a stratified random sampling method (rather than a systematic method which targeted areas where coral were thought to be found). AFSC research also treated each camera transect as a sample rather than each video frame as a sample. The methods used from the AFSC study make the results comparable to other studies around Alaska and the west coast where similar methods were also used. Conclusions about Bering Sea coral from other studies are not comparable to other regions because the methods are different.

The model developed by AFSC authors (a GAMS model) relies on coral presence and absence data. Another model was recently developed using what is called a “Maximum Entropy” approach, and this approach only uses data on coral presence. The MaxEnt approach is susceptible to issues of sample bias, while models based on presence and absence data (such as GAMS) are not as susceptible. Elith et al 2011, state “if presence-absence survey data are available, we believe it is generally advisable to use a presence-absence modelling method, since in that case the models are less susceptible to problems of sample selection bias”.

In other words, research done by the AFSC use preferred techniques, they avoid problems of sample bias, and they provide us with results that can be compared to coral densities measured in other regions. As noted in the AFSC paper, other research on Bering Sea coral did not employ the same randomized sampling designs. Predicted presence and absence and estimated densities need to be understood in the context of study design and potential problems with sample bias.

Conclusion

Coral in the Bering Sea are best described as being relatively sparse. To a large degree this can be attributed to the lack of rocky habitat that exists in the Bering Sea, which coral need in order to grow. In addition, Bering Sea coral are best described as being relatively small. Information on fishery interactions with coral suggests that there is a minimal amount of overlap. This is supported by research which documented very few damaged coral, and did not observe any damaged coral where there was also evidence of fishing. These findings might be enhanced with an analysis that looks at the overlap of fishing activity and coral occurrence.

Sincerely,



Merrick Burden
Executive Director

Table A.1 – Camera drop information on sponge, coral, and sea whips where there was evidence of fishing

Haul	Latitude	Longitude	Depth	Damaged sponges	Damaged corals	Damaged sea whips	Total sponge observed	Total coral observed	Total sea whips observed	Longline or crab gear observed	Trawl net observed	Trawl tracks observed
14	55.813	-168.719	143	0	0	0	0	0	0	No	No	Yes
28	56.074	-168.549	529	0	0	0	223	7	0	Yes	No	No
33	56.110	-168.196	149	0	0	0	0	0	0	No	No	Yes
35	56.135	-168.182	147	0	0	0	0	0	0	No	No	Yes
43	56.085	-168.818	714	0	0	0	17	1	0	Yes	No	No
46	56.310	-169.030	136	0	0	0	0	0	0	No	No	Yes
47	56.268	-169.090	141	0	0	0	0	0	0	No	No	Yes
76	55.989	-169.628	474	0	0	0	4	2	28	Yes	No	No
79	56.173	-169.997	117	0	0	6	0	0	29	No	No	Yes
88	55.972	-170.117	311	0	0	0	1415	4	0	No	Yes	No
98	56.135	-170.845	629	0	0	0	2	0	2	Yes	No	No
105	56.391	-170.672	116	0	0	33	0	0	1447	No	Yes	No
117	56.468	-171.493	285	0	0	0	1024	2	0	Yes	No	No
139	56.877	-173.412	515	0	0	1	3	0	71	Yes	No	No
144	56.414	-170.393	111	0	0	0	0	0	20	No	No	Yes
174	57.853	-173.854	272	0	0	0	91	0	1	Yes	No	No
175	57.944	-173.895	241	0	0	0	9	0	0	Yes	No	No
179	58.108	-174.171	563	0	0	0	1	0	0	Yes	No	No
187	58.735	-174.466	148	0	0	0	0	0	0	No	No	Yes
200	58.321	-175.341	375	0	0	0	6	0	0	No	No	Yes
208	59.101	-178.412	371	5	0	0	5	0	16	Yes	No	No
216	59.379	-178.186	748	0	0	0	0	0	0	Yes	No	No
223	59.465	-177.964	392	0	0	0	22	0	4	No	No	Yes
225	59.261	-177.662	261	0	0	0	0	0	0	No	No	Yes
232	54.713	-165.678	271	0	0	1	0	0	6	No	No	Yes
233	54.702	-165.604	274	0	0	8	1	0	466	No	No	Yes
234	54.691	-165.561	277	0	0	0	0	0	0	No	No	Yes
238	55.286	-167.789	217	0	0	44	0	0	1537	No	No	Yes
239	55.147	-167.681	278	0	0	1	0	0	543	No	No	Yes
240	55.050	-167.637	346	0	0	0	0	0	117	No	No	Yes
241	54.922	-167.448	394	0	0	0	0	0	27	No	No	Yes
242	54.915	-167.401	371	0	0	0	0	0	22	No	No	Yes

Table A.2 – Detailed information on coral density from the camera drop survey (transects where coral were observed)

Sample	Haul	Survey Transect (meters)		Transect Area (m ²)	# Coral in Transect	Coral Density in Transect		depth in mtrs
		Distance	Width			# Coral / m ²	# m ² / Coral	
1	43	211.62	2.83	598.885	1	0.0017	598.9	713.88
2	129	287.68	3.18	914.822	1	0.0011	914.8	712.73
3	141	310.60	3.24	1,006.344	1	0.0010	1,006.3	769.87
4	50	435.75	3.00	1,307.250	1	0.0008	1,307.3	532.69
5	76	326.24	2.37	773.189	2	0.0026	386.6	473.96
6	172	223.10	3.56	794.236	2	0.0025	397.1	401.53
7	117	554.65	2.74	1,519.741	2	0.0013	759.9	284.99
8	67	598.29	3.75	2,243.588	2	0.0009	1,121.8	260.91
9	113	84.86	2.52	213.847	3	0.0140	71.3	725.78
10	88	511.21	3.17	1,620.536	4	0.0025	405.1	311.49
11	96	215.21	3.09	664.999	5	0.0075	133.0	759.27
12	28	268.69	3.34	897.425	7	0.0078	128.2	528.62
13	71	280.14	2.00	560.280	9	0.0161	62.3	760.24
14	27	290.25	3.74	1,085.535	10	0.0092	108.6	659.03
15	73	582.61	2.46	1,433.221	11	0.0077	130.3	349.29
16	115	664.29	2.33	1,547.796	11	0.0071	140.7	210.23
17	161	370.03	3.73	1,380.212	12	0.0087	115.0	694.93
18	53	839.27	3.59	3,012.979	17	0.0056	177.2	446.37
19	31	499.59	5.43	2,712.774	18	0.0066	150.7	327.14
20	116	748.88	2.61	1,954.577	22	0.0113	88.8	207.13
21	54	774.07	4.36	3,374.945	24	0.0071	140.6	435.09
22	74	387.02	1.79	692.766	27	0.0390	25.7	263.78
23	119	346.48	3.56	1,233.469	34	0.0276	36.3	759.62
24	97	466.36	3.24	1,511.006	36	0.0238	42.0	455.19
25	30	459.52	3.98	1,828.890	47	0.0257	38.9	394.02
26	70	512.98	2.15	1,102.907	101	0.0916	10.9	398.57
27	72	248.64	2.34	581.818	114	0.1959	5.1	761.13
28	40	542.86	3.42	1,856.581	124	0.0668	15.0	211.69
29	66	445.64	3.50	1,559.740	174	0.1116	9.0	200.67
30	41	499.36	3.03	1,513.061	196	0.1295	7.7	215.08
31	42	361.24	3.59	1,296.852	220	0.1696	5.9	531.72
32	29	240.55	3.32	798.626	227	0.2842	3.5	524.34
Sum of Hauls with Corals Observed				43,592.894	1,465	0.0336	29.8	
Average per Sample Haul				1,362.278	46	0.0336	29.8	
Minimum Density						0.0008	1,307.3	
Maximum Density						0.2842	3.5	

Table A.3 – More detailed information on coral density from camera drop survey (transects where coral were observed)

Camera drop number	Start longitude	End longitude	Start latitude	End latitude	Depth (meters)	Distance the camera traveled on the seafloor (meters)	Width of the viewing area (meters)	Total number of coral observed on the transect	Density
Haul 43	-168.8166567	-168.8196017	56.08460833	56.08556833	713.8842697	211.62	2.83	1	0.001672
Haul 129	-172.7539367	-172.755655	56.464655	56.462245	712.7364706	287.68	3.18	1	0.001092
Haul 141	-173.6724017	-173.6770467	56.93771	56.938885	769.8772727	310.60	3.24	1	0.000995
Haul 50	-169.324295	-169.3239717	56.19436833	56.19013333	532.6902439	435.75	3.00	1	0.000764
Haul 76	-169.6276233	-169.6292083	55.99050333	55.98770667	473.9603636	326.24	2.37	2	0.002592
Haul 172	-173.7593283	-173.7569517	57.76051667	57.75896167	401.5382022	223.10	3.56	2	0.002518
Haul 117	-171.4907017	-171.4944033	56.46536167	56.46992333	284.9989011	554.65	2.74	2	0.001317
Haul 67	-169.7179817	-169.7124117	56.25588	56.25147833	260.9176471	598.29	3.75	2	0.000891
Haul 113	-171.3090483	-171.3105183	56.22742667	56.22817	725.7857143	84.86	2.52	3	0.014048
Haul 88	-170.1155017	-170.11861	55.96954	55.97382333	311.4955556	511.21	3.17	4	0.002468
Haul 96	-170.655225	-170.653275	56.13003167	56.13180833	759.2765306	215.99	3.09	5	0.007501
Haul 28	-168.5488567	-168.5501117	56.075565	56.07324667	528.6261364	268.69	3.34	7	0.007811
Haul 71	-169.358835	-169.3633667	56.15048667	56.15042833	760.2433333	280.14	2.00	9	0.016035
Haul 27	-168.6134683	-168.61352	56.068185	56.065575	659.0356322	290.25	3.74	10	0.009202
Haul 73	-169.3592	-169.3576533	56.09491333	56.10044	349.2915663	582.61	2.46	11	0.007676
Haul 115	-171.3702	-171.3735383	56.40317833	56.408895	210.2352941	664.29	2.33	11	0.007101
Haul 161	-173.4960883	-173.4971367	56.99712167	57.0004	694.9391304	370.03	3.73	12	0.008695
Haul 53	-169.3829033	-169.3924267	56.22196667	56.21658833	446.3788235	839.27	3.59	17	0.005637
Haul 31	-168.73668	-168.7460833	56.1663	56.166125	327.1405405	499.59	5.43	18	0.006635
Haul 116	-171.38305	-171.3867283	56.42062667	56.42707	207.1347826	748.88	2.61	22	0.011242
Haul 54	-169.4278417	-169.4374717	56.231025	56.226575	435.0920455	774.07	4.36	24	0.007119
Haul 74	-169.44538	-169.4479467	56.06695167	56.06375833	263.7820225	387.02	1.79	27	0.038946
Haul 119	-171.8484217	-171.8519267	56.44737	56.44982167	759.625	346.48	3.56	34	0.027529
Haul 97	-170.7734567	-170.7809667	56.10550667	56.105285	455.1934066	466.36	3.24	36	0.023851
Haul 30	-168.6304317	-168.63813	56.14768	56.14589	394.0294872	459.52	3.98	47	0.02569
Haul 70	-169.5837767	-169.5828033	56.18167667	56.177085	398.575	512.98	2.15	101	0.091432
Haul 72	-169.3630333	-169.365535	56.14606	56.147815	761.1382022	248.64	2.34	114	0.196189
Haul 40	-168.61932	-168.6278317	56.207045	56.20585333	211.694382	542.86	3.42	124	0.066702
Haul 66	-169.6026	-169.604725	56.27683833	56.27300833	200.6738095	445.64	3.50	174	0.111635
Haul 41	-168.8144483	-168.822505	56.18692167	56.187255	215.0827586	499.36	3.03	196	0.129607
Haul 42	-168.7864033	-168.79209	56.13829167	56.13900833	531.7235955	361.24	3.59	220	0.169458
Haul 29	-168.6075033	-168.6103033	56.09589667	56.0944	524.3454545	240.55	3.32	227	0.284055



Giant Eagle, Inc.

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September 29, 2015

Mr. Dan Hull
North Pacific Fishery Management Council
605 West 4th Avenue, Suite 306
Anchorage, Alaska 99501
npfmc.comments@noaa.gov

RE: C7 – Bering Sea Canyon Corals

Dear Chairman Hull and Council members:

Giant Eagle, Inc. appreciates the opportunity to comment and we commend the Alaska Fisheries Science Center (AFSC) for undertaking new research to verify their model of coral and sponge habitat in the Bering Sea. This research verified that Pribilof Canyon is an incredibly important area containing 50% of all the gorgonian corals in the eastern Bering Sea. The AFSC updated model also showed another 35-40% of the region's corals are located just northwest of Pribilof Canyon in the area the Council is considering for conservation measures. This new science has contributed substantially to the understanding of the location of these coral and sponge vulnerable marine ecosystems (VMEs), and we encourage the Council to analyze and implement protections now.

The eastern Bering Sea's "Greenbelt" is an incredibly productive area for plankton, serves as feeding grounds for seabirds and marine mammals, contains nursery areas for skates, and provides essential fish habitat for rockfish, Pacific cod, halibut, Pollock, and several species of crab. Gorgonian (hard, branching) corals are important hiding and rearing places (habitat) for juvenile king crab and several species of rockfish. There are currently no areas in the Greenbelt protected from fishing gear impacts, and Giant Eagle recommends the Council take immediate action to analyze alternatives and then implement protection measures.

We are committed to building a market for sustainable seafood, and it is important to our business and our customers that seafood harvested from the Bering Sea does not damage or impair VMEs that contribute to the resilience, biodiversity, and productivity of the regional food web. Ecologically viable fisheries maintain the diversity, structure, and function of healthy ecosystems, which depend, in part, on minimizing fishing gear interactions with VMEs and essential fish habitat. We depend upon this Council to ensure that fisheries in Alaska do not jeopardize the ecosystems that produce our seafood supply.

We urge the Council to carefully consider all the new scientific information about the Bering Sea corals and sponges (VMEs) found both in and outside of canyons since your last review in 2013. The Council should proactively take the next step by analyzing conservation and management alternatives that will protect a representative portion of Bering Sea canyons habitat and the corals and sponges found there.

Sincerely,

A handwritten signature in blue ink that reads "Richard Castle".

Richard Castle
Director, Seafood



World Wildlife Fund-US
406 G St, Suite 301
Anchorage, AK 99501

Main Phone: 907-279-5504
Fax: 907-279-5509

www.worldwildlife.org

September 29, 2015

Mr. Dan Hull, Chair
North Pacific Fishery Management Council
PO Box 103136
Anchorage, AK 99510

RE: Agenda Item C-3, Pribilof Canyon Corals

Dear Chairman Hull and Council Members:

World Wildlife Fund (WWF) commends the North Pacific Fishery Management Council (Council) for moving forward with assessment of deep-sea coral and sponge ecosystems in the Bering Sea. Given its rich biological diversity and ecological significance for the entire Bering Sea region, WWF considers the Green Belt¹ in the Bering Sea to be a priority area for precautionary management.

The Green Belt and associated canyons:

- support high levels of primary and secondary production (plankton and krill) that attract a wide variety and high volume of fish, mammals, and seabirds²;
- provide foraging habitat for species such as the endangered short-tailed albatross³;
- provide reproductive habitat for other species, such as skates⁴;
- are home to long-lived cold-water corals and sponges⁵;
- support prey for subsistence species important to Alaska native communities; and
- are currently unprotected from fishing gear impacts to the seafloor and benthic organisms.

At its October 2015 meeting, the Council will decide whether analyze a range of alternative measures (including the *status quo*) for conserving corals and sponges that occur in the Bering Sea, located primarily within the Green Belt. **WWF encourages the Council to move forward with this important analysis of conservation and management measures for deep-sea coral and sponge ecosystems** found on the Bering Sea slope both within and outside of canyon areas.

Prior to the October 2015 meeting, as a result of a motion the Council passed in 2014, the potential scope of this scientific analysis – as formulated in the Purpose & Need statement outlining the future analysis -- was narrowed to focus only on corals and only within Pribilof Canyon. Now, considering the results of

¹ Springer, McRoy and Flint. 1996. The Bering Sea Green Belt: shelf-edge processes and ecosystem production. *Fisheries Oceanography*. Vol. 5, pp. 205-223.

² *Ibid.*

³ Piatt et al. 2006. Predictable hotspots and foraging habitat of the endangered short-tailed albatross (*Phoebastria albatrus*) in the North Pacific: Implications for conservation. *Deep Sea Research Part II: Topical Studies in Oceanography*. Vol. 53, Issues 3–4: pp. 387–398

⁴ Hoff, Gerald R. 2010. Identification of skate nursery habitat in the eastern Bering Sea. *Marine Ecology Progress Series*. Vol. 403: pp. 243-254.

⁵ Sigler et al. 2015. Faunal features of submarine canyons in the eastern Bering Sea slope. *Marine Ecology Progress Series*. Vol. 526: pp. 21-40

the recent model by scientists at the Alaska Fishery Science Center, which validates the presence of deep-sea coral and sponges in other slope areas⁶, it is clear that the Purpose & Need statement should not have been limited to corals and Pribilof Canyon. Rather, it is the view of WWF that analyses of future management measures must also include sponge habitat and other areas on the Bering Sea slope.

Within the Council's management jurisdiction are several major fisheries – representing significant volume and economic value -- in the Bering Sea (e.g., pollock, Pacific cod, flatfish, and halibut) which have been shown to meet the global sustainability criteria of the Marine Stewardship Council (MSC). WWF commends these fisheries for operating in a sustainable manner and for validating this through a third-party auditor. The MSC maintains the world's leading standard for sustainable fishing and is currently considered the only credible and comprehensive wild-capture certification program⁷. MSC-certified Alaska seafood is desired by many major retailers and consumers in the U.S. and in Europe. MSC certification also helps to highlight globally the effectiveness of the Magnuson-Stevens Fishery Conservation and Management Act (MSA) in shaping and governing the world's leading fishery management systems.

Given the global recognition of the value of the MSC standards, which also incorporate and measure the adequacy of management systems to protect ecosystems and habitats, WWF strongly encourages the Council to consider the ecosystem benefits of conserving Bering Sea coral and sponge habitats. WWF encourages the Council to manage all federal fisheries in a manner at least consistent with the recently revised MSC standard. In doing so, the Council will contribute to protection of benthic species and habitats in the Bering Sea while upholding high standards and best practices for global markets that are committed to sourcing from fisheries with or working toward credible MSC certification.

The revised MSC standard (as of October 2014) includes new requirements for habitat protection, and currently certified fisheries must be able to meet the higher standard for ecosystem impacts before their next reassessment. For example, the MSC standard now requires that the client fishery has a strategy in place to ensure that certified fisheries are highly unlikely to reduce the structure and function of both commonly encountered and Vulnerable Marine Ecosystem⁸ (VME) habitats to a point where there would be serious or irreversible harm. This includes managing fisheries to account for cumulative impacts on VME habitats. The MSC also requires that the nature, distribution, and vulnerability of the main habitats in the fishing area are known at a level of detail relevant to the scale and intensity of the fishery under assessment. Detailed requirements can be found in the MSC Certification Requirements and Guidance v2.0⁹.

VMEs have one or more of the following characteristics, as defined in paragraph 42 of the Food and Agriculture (FAO) of the United Nations Guidelines¹⁰:

- Uniqueness or rarity – an area or ecosystem that is unique or that contains rare species whose loss could not be compensated for by similar areas or ecosystems
- Functional significance of the habitat – discrete areas or habitats that are necessary for survival, function, spawning/reproduction, or recovery of fish stocks; for particular life-

⁶ *Ibid.*

⁷ http://awsassets.panda.org/downloads/wwf_report_comparison_wild_capture_fisheries_schemes.pdf

⁸ VME is defined by the MSC as seamounts, hydrothermal vents, cold water corals and sponge fields. MSC uses Food and Agriculture Organization (FAO) of the United Nations guidelines definition of VME

(<http://www.fao.org/in-action/vulnerable-marine-ecosystems/definitions/en/>)

⁹ MSC Certification Requirements and Guidance v2.0. 2014: <https://www.msc.org/documents/scheme-documents/fisheries-certification-scheme-documents/fisheries-certification-requirements-version-2.0>

¹⁰ *Ibid.* p. 435

- history stages (e.g., nursery grounds, rearing areas); or for Endangered, Threatened or Protected species
- Fragility – an ecosystem that is highly susceptible to degradation by anthropogenic activities
 - Life-history traits of component species that make recovery difficult – ecosystems that are characterised by populations or assemblages of species that are slow growing, are slow maturing, have low or unpredictable recruitment, and/or are long lived
 - Structural complexity – an ecosystem that is characterised by complex physical structures created by significant concentrations of biotic and abiotic features

The FAO Guidelines' Annex identifies the following species groups, communities, and habitat-forming species that may form VMEs and may be indicative of the occurrence of VMEs:

- Certain coldwater corals and hydroids (e.g., reef builders and coral forest, such as stony corals, alcyonaceans, gorgonians, black corals, and hydrocorals)
- Some types of sponge-dominated communities
- Communities composed of dense emergent fauna where large sessile protozoans and invertebrates (e.g., hydroids and bryozoans) form an important structural component of habitat
- Seep and vent communities comprised of invertebrate and microbial species found nowhere else (i.e., endemic)

WWF has fifteen years of experience helping fisheries around the globe meet the MSC standard and achieve certification. We would be eager to work together with the Council and industry to ensure that certified Alaska fisheries can meet the new MSC standard so that they can remain certified and continue to meet the sustainable sourcing requirements of many major retailers worldwide. We appreciate the Council leading the way with a commitment to effective management and sustainable outcomes.

Thank you for considering this input.

Sincerely,



Heather V. Brandon
Senior Fisheries Officer



Alison Cross, Ph.D.
Lead, Fishery Certification