

PROTECTING UNFISHED AND UNMANAGED FORAGE FISH SPECIES INITIATIVE

In April 2013, the Council adopted a Pacific Coast Fishery Ecosystem Plan (FEP) for the U.S. Portion of the California Current Large Marine Ecosystem as a vehicle for bringing ecosystem-based principles into the Council decision-making process under its existing Fishery Management Plans (FMPs). At the same time, the Council adopted an Ecosystem Initiatives Appendix, which provides examples of how the Council could address issues that affect two or more Council FMPs or coordinate major Council policies across the FMPs to fulfill identified FEP needs.

Initiative 1 is intended to recognize the importance of forage fish to the marine ecosystem off of the U.S. West Coast, and to provide adequate protection for forage fish. The Council is not pursuing a permanent moratorium on fishing for forage fish. Instead, the Council's objective is to prohibit the development of new directed fisheries on forage species that are not currently managed by the Council, or the States, until the Council has had an adequate opportunity to assess the science relating to any proposed fishery and any potential impacts to existing fisheries and communities. Under the current rules, there is some risk that fisheries could develop before such analyses could be conducted.

At its September 2013 meeting in Boise, Idaho, the Council adopted a list of species to consider for additional protective measures and directed the *ad hoc* Ecosystem Workgroup (EWG) to develop alternatives for prohibiting development of new commercial fisheries on these species groups through amending one or more existing FMPs, describe existing directed commercial fisheries and existing incidental take levels in other commercial fisheries, and recommend which FMPs would be best suited for amendment. The EWG met in Portland, Oregon in early-February and has completed a report responding to the Council's directions from September (Agenda Item, I.1.a, Attachment 1). This report was made available at the March 2014 Council meeting to those advisory bodies that were not scheduled to meet at the April 2014 Council meeting. The report and a video reader's guide have also been posted to the Council website in advance of the April Briefing Book to maximize review opportunities.

At this meeting, the Council and its advisors are scheduled to review the EWG report and the list of species and their linkages to FMPs, adopt a range of alternatives for future review and analysis, and to discuss a process and schedule for potential FMP amendments. Under the tentative schedule proposed in the EWG report, the Council would next address this issue at its September 2014 meeting in Spokane, WA to review a revised analysis of the alternatives and to consider draft amendatory FMP language for public review.

Council Action:

- 1. Review list of species.**
- 2. Adopt a range of alternatives for further review and analysis.**

Reference Materials:

1. Agenda Item I.1.a, Attachment 1, Ecosystem Initiative 1: Protecting Unfished and Unmanaged Forage Fish Species.
2. Agenda Item I.1.b, EWG Report.
3. Agenda Item I.1.b, Highly Migratory Species Advisory Subpanel Report.
4. Agenda Item I.1.b, Supplemental Ecosystem Advisory Subpanel Report.
5. Agenda Item I.1.b, Supplemental Highly Migratory Species Management Team Report.
6. Agenda Item I.1.c, Public Comment.

Agenda Order:

- a. Agenda Item Overview
 - b. Reports and Comments of Advisory Bodies and Management Entities
 - c. Public Comment
 - d. **Council Action:** Review List of Species and Adopt Range of Alternatives
- Mike Burner

PFMC
03/24/14

ECOSYSTEM INITIATIVE 1: PROTECTING UNFISHED AND UNMANAGED FORAGE FISH SPECIES

**OF THE U.S. PORTION OF THE
CALIFORNIA CURRENT LARGE MARINE ECOSYSTEM**

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Contents

1.0 Introduction.....	4
1.1 How this document is organized.....	4
1.2 Purpose and Need	4
1.3 Schedule and Process for Developing Ecosystem Initiative 1	5
2.0 Description of Alternatives	7
2.1 Alternative 1 (No Action Alternative) – the Federal List of Authorized Fisheries and Gear	8
2.2 Alternative 2 (Subject Species and their Connections to FMP Species via Three Potential Pathways	9
2.2.1 Ecosystem Trophic Role Pathway	9
2.2.2 Bycatch and Gear Pathway	9
2.2.3 Predator-Prey Pathway	10
2.3 Alternatives Considered But Rejected by the Workgroup	10
2.3.1 Bring All Subject Species into the CPS FMP as FMU species.....	10
2.3.2 Convert the FEP to an EFMP	11
3.0 Status of the Affected Environment.....	12
3.1 Physical Environment	12
3.2 Biological Environment	12
3.2.1 Round (<i>Etrumeus teres</i>) and Thread Herrings (<i>Opisthonema</i> spp.).....	12
3.2.2 Mesopelagic Fishes of the families <i>Myctophidae</i> , <i>Gonostomatidae</i> , <i>Paralepididae</i> , and <i>Bathylagidae</i>	13
3.2.3 Pacific sand lance, <i>Ammodytes hexapterus</i>	16
3.2.4 Pacific saury, <i>Cololabis saira</i>	17
3.2.5 Silversides (family <i>Atherinopsidae</i>).....	18
3.2.6 Osmerid Smelts	20
3.2.7 Pelagic Squids other than Humboldt Squid	21
3.3 Socio-Economic Environment	23
3.3.1 Directed Fisheries for the Species Subject to this Action	23
3.3.2 Incidental Take of Species Subject to the Action	30
3.3.3 Fisheries for Similar Lower Trophic Level Species Worldwide.....	34
3.3.4 Non-Fishing Human Activities Affecting Lower Trophic Level Species	35
3.4 Connections of Subject Species to Council FMPs.....	35
4.0 Recommendations on Incorporating Forage Species into the FMPs	37
5.0 Sources.....	38
6.0 Appendix.....	50

LIST OF ACRONYMS AND ABBREVIATIONS

CalCOFI	California Cooperative Oceanic Fisheries Investigations
CCE	California Current Ecosystem, or California Current Large Marine Ecosystem
CDFW	California Department of Fish and Wildlife
CFR	Code of Federal Regulations
Council	Pacific Fishery Management Council
CPS	Coastal Pelagic Species
EC	Ecosystem component (species)
EEZ	Exclusive Economic Zone
EFH	Essential Fish Habitat
EFP	Experimental Fishing Permit
ESA	Endangered Species Act
FEP	Fishery Ecosystem Plan
FMP	Fishery Management Plan
FMU	Fishery management unit
HMS	Highly Migratory Species
MSA	Magnuson-Stevens Fishery Conservation and Management Act
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
ODFW	Oregon Department of Fish and Wildlife
OY	Optimum yield
SAFE Report	Stock Assessment and Fishery Evaluation Report
U.S.	United States of America
WDFW	Washington Department of Fish and Wildlife

Document cover image – Blue Marble: Next Generation, Reto Stöckli, NASA Earth Observatory

1.0 Introduction

The Pacific Fishery Management Council (Council) adopted a Fishery Ecosystem Plan (FEP) and FEP appendix in April 2013. From its *Purpose and Need Statement*, the FEP is intended in part to provide “management policies that coordinate Council management across its Fishery Management Plans (FMPs) and the California Current Ecosystem (CCE).” For FMP policies, the FEP is needed to “identify and prioritize research needs and provide recommendations to address gaps in ecosystem knowledge and FMP policies, particularly with respect to the cumulative effects of fisheries management on marine ecosystems and fishing communities.” The FEP’s appendix provides a series of example ecosystem-based fishery management initiatives exploring how the Council could address issues that affect two or more Council FMPs or coordinate major Council policies across the FMPs to fulfill identified FEP needs. Concurrent with the adoption of its FEP, the Council also began planning this Ecosystem Initiative 1, which is intended to implement the Council’s policy on protection for forage fish species that are unfished and unmanaged in federal waters off the U.S. West Coast.

1.1 How this document is organized

This document includes elements of a National Environmental Policy Act (NEPA) analysis and responses to the Council’s April and September 2013 directions on the action. This document will evolve along with Council discussion on the action, meaning that sections may be added, removed, or amended over time. For this April 2014 Council meeting: Chapter 2 proposes alternatives, Chapter 3 describes the current physical, biological, and socio-economic environments relevant to the action, and Chapter 4 makes recommendations on what the Council might consider when assessing which FMPs would be best suited to incorporate the species subject to this action.

1.2 Purpose and Need

At its September 2013 meeting, the Council adopted the following draft Initiative 1 purpose and need statement for public review:

The purpose of this action is to recognize the importance of forage fish to the marine ecosystem off the U.S. West Coast. This action is needed to provide protection for unmanaged, unfished forage fish of the U.S. West Coast Exclusive Economic Zone (EEZ) by prohibiting new directed fishing on those species until the Council has had an adequate opportunity to assess the scientific information relating to any proposed fishery and to consider potential impacts to existing fisheries, fishing communities, and the greater marine ecosystem.

The EWG had originally proposed this purpose and need statement for the Council’s consideration during its September 2013 meeting. After receiving direction from the Council and after more thoroughly researching the species the Council has identified for inclusion in this action, the Workgroup recommends re-arranging and revising the purpose and need statement to more clearly define the action as follows:

The purpose of this action is to prohibit new directed commercial fishing in federal waters on unmanaged, unfished forage fish species until the Council has had an adequate opportunity to both assess the scientific information relating to any proposed directed fishery and consider potential impacts to existing fisheries, fishing communities, and the greater marine ecosystem. This action is needed to proactively protect unmanaged, unfished forage fish of the U.S. West Coast EEZ in recognition of the importance of these forage fish to the species managed under the Council’s FMPs and to the larger CCE.

The Workgroup requests that the Council consider adopting this revised purpose and need statement, which the Workgroup believes places more clear emphasis on prohibiting new directed commercial fisheries, and which also stresses the links that the species subject to this action have to the Council's FMP species.

1.3 Schedule and Process for Developing Ecosystem Initiative 1

At its September 2013 meeting, the Council identified a draft list of species needing additional protection against the potential development of new and unmanaged fisheries: round and thread herring, mesopelagic fishes (*Myctophidae*, *Bathylagidae*, *Paralepididae*, and *Gonosomatidae* spp.), Pacific sand lance, Pacific saury, silversides, Osmerid smelts, and pelagic squids (except Humboldt squid). The Council directed its Ecosystem Workgroup to develop alternatives for prohibiting development of new commercial fisheries on these species groups by amending one or more existing FMPs. This April 2014 Ecosystem Workgroup report is intended to respond to the Council's direction from September 2013, including direction that the Workgroup: analyze the listed species for inclusion in FMPs as either ecosystem component (EC) species or fishery management unit (FMU) species, describe existing directed fisheries and existing incidental take levels in other fisheries for the listed species, and make recommendations on which existing FMPs would be best suited to incorporate the listed species.

In order to incorporate new species into existing FMPs, the Council must follow the processes laid out in those FMPs for developing FMP amendments. For the Council's September 2013 meeting, the Ecosystem Workgroup described a potential process for amending one or more FMPs to bring new species into the FMPs as either FMU or EC species. That process, re-stated here, is based on a review of the FMP amendment processes described in the Council's FMPs. Regardless of whether forage species were added to FMPs as FMU or EC species or some mix thereof, the implementation process would occur approximately as follows:

1st Council meeting (September 2013): review a draft process and schedule for FMP amendment(s) to add new species to applicable FMP(s) and provide guidance to the Ecosystem Workgroup on future reports to the Council.

2nd Council meeting (April 2014): review list of potential species to be added to FMP(s), review ecological, biological, economic and other data on the role of species as forage and potential for the development of fisheries on those species in the CCE, adopt preliminary preferred and other alternatives for review and comment, adopt process and schedule for potential draft FMP amendment(s).

3rd Council meeting (tentatively scheduled for September 2014): Review recommendations of SSC and other advisory bodies on list of species to be added to the FMP(s) and Magnuson Stevens Act (MSA) required harvest reference points and essential fish habitat (EFH) designations. Develop draft FMP amendatory language to be sent out for public review. If the species are to be adopted as FMU species, the Council should review availability of scientific data and analyses needed to develop MSA-required harvest reference points for the new species.

4th Council meeting (to be scheduled): Review and either adopt FMP amendatory language (which would include MSA-required harvest reference points and EFH designations,) or revise and send language out for an additional round of review and comment by advisory bodies and the public. If an additional round of review and comment is needed, a 5th Council meeting will be needed to finalize Council recommendations to the National Marine Fisheries Service (NMFS).

1st Federal Register Notice: NMFS publishes a Notice of Availability for an FMP amendment for the appropriate FMP(s).

2nd Federal Register Notice: NMFS publishes Council recommendations as proposed rule.

3rd Federal Register Notice: NMFS will publish a final rule if it partially or fully approves the Council's recommendations to amend the FMP(s) and Federal regulations.

Under any of the action alternatives, this action would primarily affect the sections of the amended FMPs that list the FMU and EC species for those FMPs. The following sections of the Council's FMPs could be amended by this action:

Coastal Pelagic Species (CPS) FMP: Section 1.2, *Stocks in the Fishery Management*, and Section 1.4, *Ecosystem Component Species*. Section 1.2 would need to be modified if new species were added to the CPS FMP. Section 1.4 may need to be modified if the way that this action defines EC species does not fall within the bounds of how the CPS FMP currently uses the EC species designation.

Groundfish FMP: Section 3.1, *Species Managed by this Fishery Management*. The Council is tentatively scheduled to adopt final FMP amendatory language for Amendment 24 to the Groundfish FMP at its June 2014 meeting. Amendment 24 would revise Section 3.1 of the Groundfish FMP. Any FMP amendatory language developed for the Groundfish FMP in support of the action considered in this document needs to take into account the Amendment 24 final language.

Highly Migratory Species (HMS) FMP: Section 3.3, *Species Included in the FMP as Ecosystem Component Species*. If the Council decides to identify any of the subject species as FMU species within the HMS FMP, the FMP must designate whether the Pacific or Western Pacific Fishery Management Council is the primary council for that species. Section 3.1 of the HMS FMP lists FMU species.

Salmon FMP: Section 1.1, *Stock Classification*, Section 1.2, *Changes or Additions*. Sections 1.1 and 1.2 would need to be modified to explain incorporation of new non-salmonid EC species. A new Table 1-4 may need to be added for any non-salmonid EC species, since Tables 1-1, 1-2, and 1-3 address Chinook, coho, and pink salmon stocks, respectively.

2.0 Description of Alternatives

This section provides April 2014 Ecosystem Workgroup suggestions for possible alternatives for Council action. The Council has not yet reviewed these alternatives, does not yet have a preferred alternative, and may revise this suite of alternatives in April 2014 or at later meetings.

In drafting these alternatives, the Ecosystem Workgroup reviewed, among other items: Amendment 12 to the CPS FMP to prohibit the harvest of krill within the U.S. West Coast EEZ; the South Atlantic Fishery Management Council's Comprehensive Ecosystem-Based Amendment analysis and regulatory processes; the North Pacific Fishery Management Council's regulation of forage fish species in its Arctic FMP and in its Groundfish FMPs for the Bering Sea and Aleutian Islands and for the Gulf of Alaska. Alternative 1 is the No Action alternative, which is to protect the subject species through the Council's September 2013 recommendations to narrow the range of gear types and fisheries allowed for use within the U.S. West Coast EEZ without prior Council consultation. Alternative 2 has three pathways for Council consideration at this April 2014 meeting: (1) include the species in all four of the Council's FMPs in recognition of the broad trophic roles that the subject species have within the ecosystem as a whole; (2) include the subject species in the FMPs where those species are taken as bycatch or that allow a gear type potentially appropriate to the directed harvest of the subject species; or, (3) include the subject species in the FMPs that manage species that prey upon the subject species. Section 2.3 discusses alternatives that the Workgroup considered but suggests rejecting based on earlier Council discussions. At this April 2014 meeting, the Council may choose to move one or both of those alternatives into the range of alternatives subject to analysis. The first alternative considered but rejected by the Workgroup is to bring all of the subject species into only the CPS FMP as FMU species, as krill is managed. The second alternative considered but previously rejected by the Council is to convert the Council's non-regulatory Fishery Ecosystem Plan to an FMP featuring minor CCE forage species.

If species are to be added to one or more FMPs, they would be added as either FMU species or as EC species. Federal regulations at 50 CFR 600.10 define the term "fishery management unit" to mean: "a fishery or that portion of a fishery identified in an FMP relevant to the FMP's management objectives. The choice of an FMU depends on the focus of the FMP's objectives, and may be organized around biological, geographic, economic, technical, social, or ecological perspectives." Fish stocks that are classified as FMU species are considered to be in the fishery, whether as target or non-target species. The National Standard Guidelines at 50 CFR 600.310(d)(3) and (4) provide the following definitions for "target stocks" and "non-target species," both of which are considered FMU species:

"Target stocks" are stocks that fishers seek to catch for sale or personal use, including "economic discards" as defined under the MSA at section 3(9).

"Non-target species" and "non-target stocks" are fish caught incidentally during the pursuit of target stocks in a fishery, including "regulatory discards" as defined under the MSA at section 3(38). They may or may not be retained for sale or personal use. Non-target species may be included in a fishery and, if so, they should be identified at the stock level. Some non-target species may be identified in an FMP as EC species or stocks.

At 50 CFR 600.310(d)(5), federal regulations provide details on classifying species as EC species, saying that those species should:

- (A) Be a non-target species or non-target stock;
- (B) Not be determined to be subject to overfishing, approaching overfished, or overfished;
- (C) Not likely to become subject to overfishing or overfished, according to the best available information, in the absence of conservation and management measures; and
- (D) Not generally be retained for sale or personal use.

Species in the EC categories of the Council's FMPs may be subject to directed fishing within state waters. The States of Oregon and California both have fishery management programs that automatically bring state regulations into conformance with federal regulations. FMP amendatory language and federal regulations would have to be carefully crafted to ensure that federal regulations to prohibit the directed take of the species subject to this action do not inadvertently result in the closure of state waters fisheries.

One of the subject species, eulachon, is an Osmerid smelt listed as threatened under the Endangered Species Act (ESA). None of the alternatives would allow a fishery to develop for eulachon without advance NMFS assessment for compliance with the eulachon recovery plan (NMFS 2013) and other ESA requirements.

One of the subject species, jacksmelt, is already designated as an EC species within the CPS FMP. The Council's September 2013 motion for this action included silversides (Atherinids) generally, so the Workgroup did not explicitly exclude jacksmelt from this document. The Council may wish to either remove jacksmelt from this action or reconsider its placement within the CPS FMP or other FMPs as part of this action.

2.1 Alternative 1 (No Action Alternative) - the Federal List of Authorized Fisheries and Gear

Under the No Action alternative, Alternative 1, fishing within the EEZ for species that are not managed under a Council FMP or a state management program is governed by the federal list of authorized fisheries and gear at 50 CFR 600.725(v). The list of authorized fisheries and gear specifies those fisheries and gears that are authorized to operate within an EEZ, but does not prohibit new fisheries from emerging. Rather, it requires that persons wishing to develop new fisheries consult with the Council, so that the Council has an opportunity to comment on, develop a regulatory plan for, or recommend that NMFS prohibit the proposed fishery as appropriate.

A person wishing to begin a new fishery that is not listed in 50 CFR 600.725 must first notify the relevant fishery management council or its Director. If the council or its Director receives a complete notification, then "a signed return receipt for the notice serves as adequate evidence of the date that the notification was received by the appropriate Council . . . and establishes the beginning of the 90-day notification period, unless required information in the notification is incomplete" (50 CFR 600.747(c)(2)(i)). More information on what constitutes a complete notification under federal regulations is available at 50 CFR 600.747(c)(2). The Council provides its more detailed policy on the development of new EEZ fisheries for unfished species in its FEP appendix at Section A.1.1, which is reproduced in the appendix to this document.

At its September 2013 meeting, the Council finalized its recommendations to update the portion of that list that applies to the EEZ off the U.S. West Coast. Its recommendations explicitly removed Pacific saury, one of this action's subject species, from the list of species that may be fished without prior consultation with the Council. Its recommendations also explicitly removed all commercial net gear from those gears

that are generally available for use in new fisheries that could develop within the U.S. West Coast EEZ without prior consultation with the Council. Its rationale for requiring advance Council consultation on new uses of net gear (e.g. trawl, seine, gillnet, trammel net) was that those are the gear types that are used to fish for the subject species and their analogs in other parts of the world. NMFS is drafting a proposed rule to implement the Council's recommendations.

Under Alternative 1, anyone wishing to begin a new fishery for one of the subject species could follow the process described in federal regulations at 50 CFR §§ 600.725 and 600.747 to initiate that fishery. In other words, the no action alternative would give new fisheries the opportunity to begin after the passage of the 90-day notification period. The Council could recommend new regulations, including complete prohibition, for the new fishery at any time during or after the 90-day notification period.

2.2 Alternative 2 (Subject Species and their Connections to FMP Species via Three Potential Pathways)

If, at its April 2014 meeting, the Council chooses this alternative for future analysis, the Council would choose its preferred pathway for connecting the subject species to the Council's FMPs. Under Alternative 2, the subject species would be identified as EC species and new directed EEZ fishing for these species would be prohibited. No new future fishing could begin for these species without a Council process to develop an exempted fishing permit (EFP), although *de minimus* amounts of these species could be taken as bycatch without violating federal regulations, as allowed for krill. The Workgroup recommends classifying these species as EC species, rather than as FMU species, because the Workgroup anticipates that future incidental take of these species will remain at its current low levels. No long-term directed EEZ fisheries would be possible for these species without some future FMP amendment to: specify the targeted species as an FMU species, develop harvest specifications and identify EFH for that species, and provide gear specifications for the species. The connections between the species subject to this action are explored in more detail in Chapter 3, and summarized in Section 3.4.

2.2.1 Ecosystem Trophic Role Pathway

All of the subject species would be identified in all four FMPs as EC species, to recognize that, as a group, these species serve as prey for many higher order CCE predators, including FMP species. The advantage of this pathway is that it does not require that the Council assess the specific links that each of the subject species or species groups may have to particular FMP species. Under this pathway, EC species would be identified in all of the FMPs under 50 CFR 600.310(d)(5)(iii) to address "other ecosystem issues," because these species are broadly used prey of marine mammal, seabird, and fish species of the U.S. West Coast EEZ.

2.2.2 Bycatch and Gear Pathway

The subject species or species groups would be placed within the CPS, Groundfish, HMS, or Salmon FMP, which manage the fisheries where these species may occur as bycatch, or which permit the use of a gear type similar to that used for directed fisheries for the subject species in fisheries outside the U.S. The main benefit of using this pathway is that, if the Council wishes to develop any future fisheries on these species, these species will likely already be in an FMP that would be used to manage the species as fished, rather than unfished, species. The main disadvantage of this pathway is that bycatch data for some of these species is limited, and gear connections are fairly speculative – see Section 3.4. Under this pathway, EC species would be placed in either the CPS, or Groundfish, HMS, or Salmon FMP under 50 CFR 600.310(d)(5)(iii), "as considerations in the development of conservation and management measures for the associated fishery" in recognition that these species may be taken as bycatch in trace amounts in the CPS, groundfish,

or HMS fisheries, and to address “other ecosystem issues,” because these species are broadly used prey to protected marine mammal, seabird, and fish species of the U.S. West Coast EEZ. Based on information reviewed by the Workgroup, the subject species or species groups could become EC species in the CPS, Groundfish, HMS, or Salmon FMPs as follows:

CPS FMP – round herring, thread herring, Pacific saury, silversides spp., Osmerid smelts
Groundfish FMP – mesopelagics, silversides spp., Osmerid smelts, pelagic squids
HMS FMP – Pacific saury, pelagic squids
Salmon FMP – pelagic squids

2.2.3 Predator-Prey Pathway

The subject species or species groups would be placed within the CPS, Groundfish, HMS, and Salmon FMPs, which manage species that may prey upon the subject species. The main benefit of using this pathway is that it focuses on the role of the subject species as forage for FMP species. Species identified as EC species in the various FMPs would be identified as such under 50 CFR 600.310(d)(5)(iii) “for ecosystem considerations related to specification of optimum yield for the associated fishery,” because those species are known to support predator species’ growth and development, and to address “other ecosystem issues,” because these species are broadly used prey for specific FMP species and for protected marine mammal, seabird, and fish species of the U.S. West Coast EEZ. Some of the subject species are the prey of more than one group of predators and would become EC species in the CPS, Groundfish, HMS, or Salmon FMPs as follows:

CPS FMP – mesopelagics, Pacific sand lance, Pacific saury, Osmerid smelts,
Groundfish FMP – mesopelagics, Pacific sand lance, Pacific saury, Osmerid smelts, pelagic squids
HMS FMP – round and thread herrings, mesopelagics, Pacific saury, silversides spp., pelagic squids
Salmon FMP – mesopelagics, Pacific sand lance, silversides spp., Osmerid smelts, pelagic squids

Most of the subject species listed under the CPS FMP are prey of Pacific or jack mackerel, rather than of sardines, anchovies, or market squid. Round and thread herrings are listed in the HMS FMP for this pathway because they are prey for HMS species primarily when HMS species are feeding outside and south of the U.S. EEZ. Round and thread herrings rarely occur within the U.S. EEZ – see Section 3.2.1.

2.3 Alternatives Considered But Rejected by the Workgroup

This draft document contains alternatives the Workgroup considered but suggests rejecting. The Council itself chooses which alternatives will and will not move forward for analysis from its April 2014 meeting. Should the Council eliminate any of the above alternatives from consideration, those would be moved to this section after April 2014. Alternative 1, the no action alternative, must be analyzed in comparison with any action alternatives in order to meet the Council’s NEPA requirements for this action. Therefore, the no action alternative cannot be eliminated from analysis, although the Council can ultimately reject that alternative as a plan for implementing its desired program for forage fish.

2.3.1 Bring All Subject Species into the CPS FMP as FMU species

Krill is an FMU species in the CPS FMP. The Workgroup considered an alternative to bring all of the subject species into the CPS FMP as FMU species, but rejected this alternative for one or more of the following reasons:

- Some of the subject species are not connected to the dominant CPS FMP species or fisheries as bycatch or prey;
- FMU species must have harvest specifications and EFH, but there is not sufficient information to set these specifications for the subject species.

The lack of connection between some of the subject species and the CPS FMP also caused the Workgroup to reject the idea of including all of the subject species as EC species only within the CPS FMP. In other words, the subject species are not all components of the CPS fishery; therefore, they cannot be EC species of just that FMP. Making all of the subject species EC species within all of the FMPs works, as in the ecosystem trophic role pathway above, because doing so acknowledges the connections FMP species have to each other across the FMPs and the broad connections between the subject species and the larger ecosystem.

2.3.2 Convert the FEP to an EFMP

One alternative for accomplishing the Council's Purpose of and Need for Action would be to convert the FEP to an Ecosystem FMP, and to amend the CPS FMP to move krill from that FMP into the Ecosystem FMP. In an Ecosystem FMP, krill could serve as the sole FMU species, and the species subject to this action could be EC species. Similar to the North Pacific Fishery Management Council's Arctic FMP, the Ecosystem FMP would prohibit all commercial harvest of these species until and unless sufficient information is available to manage sustainable harvest for those species. The subject species would be identified as EC under 50 CFR 600.310(d)(5)(iii) to address "other ecosystem issues," because these species are broadly used prey of marine mammal, seabird, and fish species of the U.S. West Coast EEZ. For any fishery to develop on any of these species, the targeted species would need to be moved to one of the Council's species group FMPs, where that species would be identified as an FMU species, with harvest specifications, EFH, gear specifications and other management measures.

During the development of its FEP, the Council considered the possibility of creating an Ecosystem FMP with regulatory authority, but rejected that option because doing so would have added an unnecessary administrative and regulatory layer to the Council's management processes. This "considered but rejected" alternative is provided in this document to illustrate how forage fish management measures used in another fishery management council might be adapted for the U.S. West Coast.

3.0 Status of the Affected Environment

3.1 Physical Environment

This action addresses species and fisheries of the U.S. portion of the CCE, 3-200 nm off the coasts of Washington, Oregon, and California. The physical environment is described in the following sections of the FEP, which are incorporated here by reference: Section 3.1.1, General Description and Oceanographic Features of the CCE; Section 3.1.2, Major Bio-Geographic Sub-Regions of the CCE; Section 3.3.1, Geological Environment; Section 3.3.2, Water Column and Chemical Regimes; Section 3.3.3, CCE Vegetation and Structure-Forming Invertebrates; Section 3.3.4, Human Effects on Council-Managed Species' Habitat; Section 4.3, Direct and Indirect Effects of Fishing on Biophysical Habitat, and; Section 4.5, Aspects of Climate Change Expected to Affect Living Marine Resources within the CCE.

3.2 Biological Environment

The larger biological environment of the CCE, including the roles and major species groups of lower trophic level CCE species, is also described within the FEP in the following sections, which are incorporated here by reference: Section 3.2, Biological Components and Relationships of the CCE; Section 3.3.3, CCE Vegetation and Structure-Forming Invertebrates; Section 4.1, Changes in Fish Abundance within the Ecosystem; Section 4.2, Changes in the Abundance of NonFish Organisms within the Ecosystem, and; Section 4.3, Direct and Indirect Effects of Fishing on Biophysical Habitat.

Beyond those FEP descriptions of the biological environment, Sections 3.2.1 through 3.2.7 of this Chapter discuss the life history characteristics of the species the Council identified as the subjects of this action:

- Round herring (*Etrumeus teres*) and thread herring (*Opisthonema libertate*)
- Mesopelagic fishes of the families *Myctophidae*, *Bathylagidae*, *Paralepididae*, and *Gonostomatidae*
- Pacific sand lance (*Ammodytes hexapterus*)
- Pacific saury (*Cololabis saira*)
- Silversides (family *Atherinopsidae*)
- Smelts of the family *Osmeridae*
- Pelagic squids (families: *Gonatidae*, *Ommastrephidae* except Humboldt squid, *Onychoteuthidae*, and *Thysanoteuthidae*)

3.2.1 Round (*Etrumeus teres*) and Thread Herrings (*Opisthonema* spp.)

Round and thread herrings are members of the widely distributed and often abundant group of fishes in the suborder *Clupeioidi*. This taxonomic group includes herrings, sardines, anchovies, sprats, shads and others. Clupeoid fishes are targets of commercial and subsistence fisheries worldwide and catches are substantial. Half of the worldwide catch of fishes comes from just sixty species of various groups, half of which are clupeoids (Whitehead 1985).

Round herring (*Etrumeus teres*) is a circumglobal, marine, pelagic species. In the Eastern Pacific Ocean, they are found from Southern California, throughout the Gulf of California, to Peru and in the Galapagos and Hawaiian islands (STRI 2013, Whitehead 1985). Within the U.S. EEZ, round herring have been taken off the U.S. West Coast from approximately Monterey Bay to the southern boundary with Mexico.

Round herring is a pelagic, schooling fish found mostly in nearshore waters. They range to depths as great as 200 meters, but are found mostly from about 12 meters to the surf zone. Round herring fall into the general category of lower trophic level fishes. The adults are planktivores, feeding on euphausiids and copepods and they, in turn, are fed upon by marine mammals, birds and higher trophic level fishes (e.g. see Abitia-Cardenas et al. 1997, Wilson 1985). Round herring are summer-to-fall spawners and their eggs and larvae are a common part of ichthyoplankton communities off southern California in summer and fall (Green-Ruiz and Acal-Sánchez 1987, Oozeki et al. 2007, Watson and Sandknop 1996).

Thread herrings (*Opisthonema* spp.) are schooling, pelagic fishes from tropical and subtropical coastal waters of the western Atlantic and eastern Pacific oceans. Deepbody thread herring (*O. libertate*) and middling thread herring (*O. medirastre*) are occasional visitors to southern areas of the U.S. EEZ, from approximately Port Hueneme, CA to the southern boundary (Coto et al. 2010a, b). They are opportunistic planktivores with a wide spectrum of prey ranging from diatoms to euphausiids, copepods, ostracods and polychaetes (Lopez-Martinez et al. 1999). They are preyed upon by marine mammals, birds and predatory fishes (Abitia-Cardenas et al. 1997). Thread herring spawn in the spring-to-fall period and their eggs and larvae are part of ichthyoplankton communities (Watson and Sandknop 1996).

3.2.2 Mesopelagic Fishes of the families *Myctophidae*, *Gonostomatidae*, *Paralepididae*, and *Bathylagidae*

Mesopelagic fish are a very large, yet lightly exploited, marine resource with wide distribution in the world oceans. Worldwide mesopelagic fish biomass has long been estimated at one billion tons (Tsarin 1997), but recent data indicate that the true biomass is closer to 10 billion tons (Kaartvedt et al. 2012, Irigoien 2014). For comparison, worldwide harvest of all marine capture fisheries was 82.4 million tons in 2011 (FAO 2013). Within the California Current region (770,000 km²) alone, there is an estimated mesopelagic fish biomass of 18.5 million metric tons or 24.0 g/m². This compares to less than 2 million tons for the combined stock of sardines and anchovies, the dominant epipelagic planktivores in the region (Davidson et al. 2013). Based on the abundance of larvae sampled annually from 1955 through 1960 in the CCE (Alstrom 1969), deep-sea pelagic fishes are predominantly of three kinds, myctophids (41.1%), gonostomatids (40.6%) and bathylagids (18.3%). However, bathylagids appear to be only a small portion of samples from studies of adult mesopelagic fishes in the CCE.

During daylight hours, mesopelagic fish are mostly found in the mesopelagic zone (between 200 m and 1,000 m deep) along the continental slopes and further out into the deep ocean. Many mesopelagic species are diel vertical migrators. They move upward into the epipelagic zone at night to feed and migrate back to the mesopelagic zone at dawn to avoid predation. Although occurring from Arctic to Antarctic seas, they are most abundant in tropical and subtropical seas (FAO 1997). Scattered evidence suggest that some micronektonic mesopelagic fishes may undertake spawning and feeding migrations of up to 1,000 km (Brodeur and Yamamura 2005). California Cooperative Oceanic Fisheries Investigations (CalCOFI) larval surveys in the southern portion of the CCE consistently found that myctophids (lanternfish), gonostomatids (lightfishes) and bathylagids (deep-sea smelts) made up 90% of the larvae of deep-sea pelagic fishes (Ahlstrom 1969). In this southern part of the CCE, the dominant myctophid is *Triphoturus mexicanus*.

Most mesopelagic fish are small, generally only growing to a few centimeters in length, and thus are considered to be part of the micronekton, which also includes larger-sized crustaceans, such as euphausiids, shrimps, mysids, and small squids, most of which dwell in the mesopelagic zone and undertake diel vertical migration. A significant portion of the fish biomass in the CCE is concentrated in micronektonic fishes, most of which are in the families *Myctophidae*, *Gonostomatidae*, *Bathylagidae*, and juvenile pelagic nekton (Suntov and Brodeur 2008).

3.2.2.1 *Myctophidae*

Myctophids are often the dominant component of micronektonic communities in the North Pacific, with very high abundances and biomass (Beamish et al. 1999, Brodeur and Yamamura 2005). Myctophids represent an important trophic link between phytophagous zooplankton such as copepods and euphausiids and higher trophic level organisms such as salmon, tuna, seabirds, and marine mammals (Brodeur and Yamamura 2005). They dominate the fish biomass in oceanic waters of the Northeast Pacific (Percy 1977, Gjøsæter & Kawaguchi 1980, Beamish et al. 1999), and their transport onto continental shelves represents an important flux of energy into these systems, as represented in food web models of the CCE (Field et al. 2006, Brodeur et al. 1999).

Worldwide, myctophids comprise at least 50% of all fish larvae taken in open-water plankton tows (Moser and Ahlstrom, 1974), and as adults, they comprise some 65% of all mesopelagic fishes (Stiassny 1997). Myctophids are the key members of mesopelagic fish communities and their total resource in the world oceans is estimated at 600 million tons. While distribution is worldwide, production appears to be highest in tropical and sub-tropical areas (FAO 1997). Myctophids account for about 75% of total global catch of small mesopelagic fishes (Vipin et al. 2011). Myctophids typically have a maximum size of 7-8 cm (standard length), with individuals in this size range weighing 2-6 g. A unique characteristic of the myctophids is the presence of non-bacterial bioluminescent organs that give myctophids their common name, lanternfish. Three lanternfish species (*Tarletonbeania crenularis*, *Stenobrachius leucopsarus*, and *Diaphus theta*) form the bulk of micronekton fishes found in the northern California Current. These three species account for two thirds of all fishes collected in Isaac-Kidd midwater trawl tows in the upper 200 m off Oregon, USA (Percy 1977, Suntssov and Brodeur 2008.)

The great majority of myctophid species undergo extensive vertical diurnal migrations and while average peak abundance during the day ranges between 300-1200 m, at night peaks are more usually between 10-100 m (at or around the surface mixing zone). Migratory disposition may depend on factors such as recency of last feeding, general condition, and reproductive state. Diel vertical migration of micronekton contributes significantly to the rapid vertical transport of organic material from epipelagic to mesopelagic zones, referred to as the biological pump. Through this biological pump, carbon fixed as living organic matter plus anthropogenic substances such as insecticides, butyltin and PCBs are transported to deep-sea ecosystems. Myctophids have been suggested as particularly good monitors of deep-sea pollution because they encounter a variety of water masses (of different origin) during their substantial diel vertical migrations (Brodeur and Yamamura 2005). In the Northeast Pacific Ocean, vertically migrating mesopelagic fish play an important role in the global carbon cycle and account for 15% to 17% of the carbon exported from the epipelagic zone down into the mesopelagic zone (Davidson et al. 2013).

Owing to their large mouths, relatively scarce and serrated gill rakers, well-developed stomach, and short intestine, myctophids consume predominantly actively moving prey (copepods, euphausiids, etc.). Among the micronekton, myctophids are believed to be the most important consumers of crustacean zooplankters, and act as competitors for prey with small pelagic fishes (such as sardine, anchovy, and saury) and the juveniles of various larger-sized oceanic fishes, such as tuna and salmon (Tyler and Percy 1975). Suntssov and Brodeur (2008) found that myctophids of the northern California Current primarily prey upon euphausiids, followed by hyperiid amphipods, planktonic tunicates and copepods.

In the sub-Arctic and transitional regions of the Northeast Pacific Ocean, fishes of the families *Myctophidae* and *Microstomatidae* are the most abundant by numbers and biomass, accounting for 80% to 90% of total micronektonic fish catch (Brodeur and Yamamura 2005). Off the U.S. West Coast, myctophids are known as prey for marine mammals, birds, and fish (Gjøsæter and Kawaguchi 1980, Brodeur 1990, Brodeur and Yamamura 2005). Groundfish consume mesopelagic prey, including myctophids (Pereyra et al. 1969). In the slope region of the Bering Sea, species from the families *Bathylagidae* and *Myctophidae*, along with

pollock, were important forage fish for groundfish predators (Yang and Livingstone 1986). In the Kamchatka and North Kuril Islands area, Pacific halibut (*Hippoglossus stenolepis*), Greenland turbot (*Reinhardtius hippoglossoides*) and Kamchatka flounder (*Atherestes evermanni*) all fed on myctophids (Orlov 1997). *S. leucopsarus* were recovered from stomachs of trawl-caught sockeye (*Oncorhynchus nerka*), pink (*O. gorbuscha*) and chum (*O. keta*) salmon and dolly varden trout (*Salvelinus malma*) in the Bering Sea (Nagasawa et al. 1997). Among marine mammal species, Dall's porpoise (*Phocoenoides dalli*) have been particularly documented to include myctophids in their diets and consume a significant portion of their biomass (Ohizumi et al. 2003).

There are few examples of commercial fisheries targeting mesopelagic fishes. A Soviet fishery for the myctophids *Diaphus coeruleus* and *Gymnoscopelus nicholski* (species considered edible) in the Southwest Indian Ocean and Southern Atlantic began in 1977, and catches by the former Soviet Union reached 51,680 t in 1992, after which the fishery ceased (Kock 2000). Despite this, the Commission for Conservation of Antarctic Marine Living Resources still permits a total allowable catch for this fishery of 200,000 t in its convention area. An industrial purse seine fishery for the myctophid *Lampanyctodes hectoris* in South African waters closed in the mid-1980s due to processing difficulties caused by the high oil content of the fish (FAO 1997). In the late 1970s and early 1980s, researchers investigated the feasibility of developing a commercial fishery for mesopelagic fishes in the northern Arabian Sea. These studies indicated that such a fishery might be commercially feasible, especially for *Benthosema pterotum* in the Gulf of Oman region (FAO 1997). After decades of studies and planning, with recommendations based on extensive research as to the best fishing seasons, areas and depths, trial catch rates were too low (<30 tons daily per boat) to support a commercially viable fishery (Valinassab et al. 2007).

3.2.2.2 *Gonostomatidae* (20 genera)

Fishes of this family have elongated bodies with adults ranging from 2 to 30 cm. They have a number of green or red light-producing photophores aligned along the underside of their head and bodies. Their common name, bristle mouths, comes from their equally sized bristle-like teeth. The genus *Cyclothone*, with 12 species, is thought to be the most abundant vertebrate genus in the world (Paxton and Eschmeyer 1998). Worldwide, fishes of the families *Myctophidae* and *Gonostomatidae* account for 60% to 90% of the total micronekton catch in both weight and number (Gjostaeter and Kawaguchi 1980).

CalCOFI larval fish sampling from in the transitional zone off Newport, OR and Crescent City, CA found densities (number/1000 m³) of 131.46 for *Myctophidae*, 1.58 for *Bathylagidae*, 0.07 for *Paralepididae* and 0.00 for *Gonostomatidae* (Auth 2009). In the subtropical eastern Pacific region, *Myctophidae*, *Gonostomatidae* and *Phosichthyidae* comprise most of the total mesopelagic fish (Brodeur and Yamamura 2005). Mesopelagic larvae sampled off California and Baja California annually from 1955 to 1960 were 39.4% Myctophids (mainly *Triphoturus mexicanus*, *Stenobrachius leucopsarus* and *Diogenichthys laternatus*), 37.9% Gonostomatids (*Vinciguerria lucetia*, *Cyclothone* spp., and *Ichthyococcus* spp.), 17.6% Bathylagids (*Leuroglossus stilbius*, *Bathylagus ochotensis*, and *Bathylagus wesethi*) and 5.2% other, which included very few Paralepidids (Ahlstrom 1969). The genus *Vinciguerria* is now in the family *Phosichthyidae*.

Most of the gonostomatid genus *Cyclothone* and some of the *Gonostoma* genus do not make vertical migrations, remaining in deep water. Non-migrants do not form dense (easily harvested) schools and have high wax contents. Fish with high wax contents are not considered suitable for human consumption (Brodeur and Yamamura 2005). For these reasons, the *Gonostomatidae* are considered to have little commercial fishery potential (Gjostaeter and Kawaguchi 1980).

3.2.2.3 *Paralepididae* (five genera)

Paralepidids are small to medium-sized (6 to 56 cm), very elongate and slender aulopiform fishes. The body cross-section is oval or compressed. The eye is medium to large, the snout very long and pointed with terminal mouth, but lower jaw projects as a fleshy process. They have alternately fixed and depressible fang-like teeth on the lower jaw and roof of mouth. The caudal fin is deeply forked. Their appearance is similar to that of barracuda, and for this reason their common name is barracudina. Barracudinas are found from polar to tropical regions worldwide, but are most common in the tropics. They can be found from the surface to about 800 m. Some species have separate sexes; others are synchronous hermaphrodites. They feed on small fishes. No fisheries exists, however, Paralepidids exist in large quantities in the waters off Nova Scotia and could possibly be used to as a replacement for sperm whale oil due to their high body lipid content (Ackman et al. 1972).

A 2005 diet study (Allain 2005) of four tuna species from the west and central Pacific found mesopelagic fish to be an important part of the diet of three of the species. The diet of big eye tuna was 36% mesopelagic fish of which *Paralepididae* were 22.3%. The bathypelagic Paralepidid, *Magnesudes indica* was 10% of the diet. Yellow fin tuna diet was 5% mesopelagic fish including 3% *Paralepididae*. Albacore diet was 47% mesopelagics, 25% of which were Paralepidids. Only skipjack tuna, which appears to be a diurnal, epipelagic feeder, did not have mesopelagic fish in its diet.

3.2.2.4 *Bathylagidae* (two genera)

Bathylagidae (deep-sea smelts, black smelts; subclass *Actinopterygii*, order *Salmoniformes*) is a family of small (15 cm) open-ocean fish with large eyes, a small mouth, and varying body shape, that probably undertake vertical migrations between different ocean depths. There are about 35 species (Allaby 1999). As stated above in the section on *Gonostomatidae*, Ahlstrom (1969) found that 37.5% of the mesopelagic fish larvae in CalCOFI surveys were Bathylagids. Bathylagid larvae exhibited a threefold range in relative abundance between years sampled, with greatest abundance when waters were cooler (Ahlstrom 1969).

3.2.3 Pacific sand lance, *Ammodytes hexapterus*

Pacific sand lance are an abundant nearshore species ranging from coastal California, northward to Alaska's Beaufort Sea, and westward to the Sea of Okhotsk and the water's off Japan's Hokkaido Island (Kitaguchi 1979, Craig 1984, Hashimoto 1984, Field 1988, Robards and Piatt 1999). *Ammodytes* species worldwide, commonly known as sand lances or sand eels, are similar to each other in their life histories and trophic roles. Pacific sand lance are strongly associated with sand and gravel bottom habitat in the 50-100 m depth range and shoreward (Macy et al. 1978, Field 1988, Ostrand et al. 2005). Off British Columbia, Pacific sand lance have been shown to particularly use shallow depth habitat (<80 m) featuring coarse sand particles of 0.25-2.0 mm diameter grains and relatively higher current speeds (Robinson et al. 2013). Sand lance species, *A. hexapterus* included, are known for a habit of alternating between burying themselves individually in sandy or pebbled substrate and forming pelagic swimming schools (Richards 1965, Meyer et al. 1979, Ostrand et al. 2005). Sand lance bury themselves both on a nightly basis during their active periods in spring through fall, and for prolonged periods during winter hibernation (Robards and Piatt 1999, Robards et al. 1999a).

Sand lance recruitment success appears to be temperature-related, such that when sea surface temperatures rise or fall beyond their preferred range, recruitment declines (Bertram et al. 2001, Arnott and Ruxton, 2002, Robards et al. 2002). Off the U.S. West Coast, the southern and warmer portion of the species' range, low sand lance recruitment in El Niño years has been shown to have notable negative effects on seabird nestling survival (Bertram et al. 2001, Hedd et al. 2006). In areas where sand lance fisheries occur, recruitment success has been shown to be inversely related to fisheries harvest levels (Furness 2002,

Frederiksen et al. 2004, Greenstreet et al. 2006). Interestingly, seabird consumption has similar effects on sand lance recruitment in areas where fisheries do not occur (Bertram and Kaiser 1993, Hedd et al. 2006).

Pacific sand lance are not targeted in U.S. or Canadian Pacific coast fisheries. As a result, sand lance data are not collected with the geographic and temporal regularity needed to estimate coastwide abundance for coastal North American populations. Existing studies tend to not discuss the species as a coastwide stock, but focus on populations in particular bays and estuaries, such as Puget Sound (West 1997, Quinn 1999, Penttila 2007), and the bays and islands of British Columbia (Bertram et al. 1993, Hedd et al. 2006, Haynes et al. 2007) and Alaska (Robards et al. 1999b, Bertram et al. 2001, Ostrand et al. 2005). Because sand lance lack swim bladders, their populations are not good subjects for acoustical surveys, unlike several other lower trophic level species or larvae with pelagic schooling habits (Thomas et al. 2002).

Pacific sand lance prey upon plankton throughout their lives, focusing on larger-sized zooplankton, particularly copepods, as adults (Field 1988, Allen 2008, Hipfner and Galbraith 2013). *A. hexapterus* grow to greater sizes in the northern portions of their range, reaching 270 mm (10.6 in) in the Bering Sea, but about 200 mm (7.9 in) off California (Robards et al. 1999a). Reaching maturity between their first and second years of life, none of the six *Ammodytes* species worldwide are long-lived. Pacific sand lance have been aged to 7 years, although individuals over age-3 are rarely found (Field 1988, Robards and Piatt 1999).

Off the U.S. West Coast, Pacific sand lance are known prey of marine mammals, seabirds, and fish (Hobson 1986, Litzow et al. 2000, Willson et al. 1999, Daly et al. 2013). Of particular relevance to the Council, Pacific sand lance have been shown to figure strongly in the diet and survival of juvenile salmon (*Oncorhynchus* spp.) in the northern California Current (Beacham 1986, Daly et al. 2013). Among seabird species, Rhinoceros auklet (*Cerorhinca monocerata*), tufted puffin (*Fratercula cirrhata*), and pigeon guillemot (*Cephus columba*) are known to particularly prey upon sand lance (Vermeer 1980, Bertram and Kaiser 1993, Davoren and Burger 1999, Bertram et al. 2001, Litzow et al. 2000).

3.2.4 Pacific saury, *Cololabis saira*

Pacific saury are a scomberesocid fish common throughout the epipelagic waters of the northern Pacific Ocean (Hubbs and Wisner 1980). They feed primarily on zooplankton, copepods, euphausiids and other small crustaceans, and reach a length of 12-13 inches. Major predators include yellowfin, bluefin, and albacore tuna, fur seals, sei whales, birds and squid (Kato 1992).

Pacific saury are distributed primarily between 20-25° N. lat. and the Gulf of Alaska. There are three distinct stock groups within this broad geographic area: the western Pacific (the largest), the central Pacific, and the eastern Pacific. Evidence suggests that the western and central stocks mix while the eastern Pacific population does not (Kato 1992). Within the water column, they are found from the surface down to approximately 230 m. Saury distribution is strongly influenced by sea surface temperatures (Tseng et al. 2013), with a preference for waters between 15-18 °C. As a result, Pacific saury make extensive migrations from the subtropical spawning regions to subarctic regions as temperatures change seasonally. This link between distribution and sea surface temperatures may also make Pacific saury susceptible to interannual and interdecadal environmental change (Tseng et al. 2013). For this reason, Pacific saury may be a useful indicator of changing oceanographic conditions (Brodeur et al. 2005b).

There has been debate regarding the lifespan of Pacific saury, but more recent research suggests it is 2 years with maturity reached after 1 year (Huang et al. 2007). Pacific saury spawn throughout the year in 2-4 month intervals with defined peaks (Love 2011). Females produce 500-2000 eggs per batch depending on size (Kato 1992). Within the eastern Pacific population, peak spawning first occurs in January off southern California. Saury spawning occurs off the coast of San Francisco in the spring, and then the population migrates northward, with saury eventually spawning off the Washington coast in August through October.

Recruitment success is determined by oceanographic conditions and therefore abundance and size composition exhibit large variations from year to year (Huang et al. 2007). Current population estimates for the eastern Pacific stock are unavailable, but past estimates put the entire eastern Pacific stock at 450,000 tons (Kato 1992).

The western Pacific saury stock is the largest and is fished heavily by Japan for food and fish meal. Additionally, it is a preferred baitfish in the longline fishery for tuna. The average annual catch in Japan is 258,000 mt (Huang 2007). No eastern Pacific saury fishery currently exists in U.S. waters. In the 1960s, the western Pacific saury stock reached record lows, which led to research by the Japanese into a potential fishery in the U.S. However, with catches not considered high enough for economical fishing and the rebound of the Western Pacific population, fishing efforts off the coast of the U.S. were abandoned in the 1970s (Kato 1992).

3.2.5 Silversides (family *Atherinopsidae*)

There are three species of silversides off the U.S. West Coast: jacksmelt, topsmelt, and grunion. “Smelt” is included in the common names of two of these species; however, silversides are not true smelts of the family *Osmeridae*. Osmerid smelts are described in Section 3.2.6. In 2010, the Council designated jacksmelt as an ecosystem component species of the CPS FMP to ensure monitoring of their landings in the fishery. A description of jacksmelt is provided here in case the Council also wishes to reconsider its placement of jacksmelt within the CPS FMP as part of this action.

3.2.5.1 Jacksmelt, (Atherinopsis californiensis)

Jacksmelt occur throughout the year in nearshore waters from the tip of Baja California, Mexico, to Yaquina Bay, Oregon. They are schooling fish, often found near kelp and other structures, as well as in most bays and estuaries south of Coos Bay, Oregon. Jacksmelt are rarely seen offshore and are most often found at depths ranging from 5-50 feet. They are a relatively fast growing species and can reach approximately five inches in their first year and up to eight inches in their second, with a maximum size of about 17 inches (Miller and Lea 1972, Clark, 1929). Jacksmelt are known to spawn several times during their October to April spawning season, and to lay their eggs on nearshore algae and eelgrass.

Jacksmelt is an important member of the coastal and estuarine marine community in California (Allen and DeMartini 1983), as both a consumer and as a prey species, however they are a relatively poorly studied species. Jacksmelt, like most atherinids, are omnivorous, feeding on algae, crustaceans, and detritus, with their diet varying based on their habitat (Horn 2006). In turn, they are eaten by a variety of nearshore and kelp forest piscivorous fishes such as yellowtail, kelp bass, California halibut and sharks among others. It is also eaten by some piscivorous birds such as brown pelicans, gulls, least terns and common murre and is likely eaten by other surface feeding birds as well as some marine mammals (Baxter 1960, Feder et al. 1974). Although jacksmelt are likely preyed upon by a variety of predators, little is known regarding their relative importance as a prey component of the nearshore environment.

As a commercial species along the U.S. West Coast, jacksmelt is of minor importance, showing up intermittently as incidental catch in some fisheries in California. Most commercial catch of jacksmelt over the years has been incidental to roundhaul/encircling net fisheries; however, some minor directed catch of jacksmelt, typically by gillnets in harbors and bays, has occurred historically with the fish marketed in fresh fish markets. Jacksmelt commercial landings have varied over the last 70 years with landings reaching a high in 1945 of approximately 1,000 mt (likely a result of the high sardine catches at the time). Since the mid-1990s, annual landings have varied between a high of approximately 18 metric tons to a low of less than a ton (CDFW 2001, CDFW 2011). From 2000 through 2009, average incidental catch in the coastal

purse seine fisheries was 5.79 mt, with most of the catch being landed in the Los Angeles area as incidental catch to the CPS fisheries (PFMC 2010). In California, jacksmelt are also commonly caught from piers and along the shoreline (Love 1996) and make up a significant portion of recreational landings in the state.

3.2.5.2 Topsmelt, (*Atherinops affinis*)

Similar to jacksmelt, topsmelt range from the Gulf of California, Baja California, Mexico, to the southern end of Vancouver Island, British Columbia; however, it is not common north of Tillamook Bay, Oregon (Emmett 1991). They are usually found near the surface and are common inhabitants of the nearshore coastal environment, typically found around kelp beds and along sandy beaches. Topsmelt are also often the most abundant pelagic fishes in many estuaries along the Pacific coast (Horn and Allen 1985) and like jacksmelt, are uncommon offshore. Most juvenile and adult topsmelt make seasonal movements between bay and estuarine environments and coastal kelp beds, being typically found in or close to bays in the spring and summer when they move to shallow water to spawn and coastal areas in the fall and winter (Wang 1986). During their first year of growth, topsmelt grow from 2.5 to 4 inches, adding another 2 inches during their second year, at which time most are sexually mature. They are thought to be able to live up to 8 years old, with the largest measured topsmelt reaching approximately 15 inches (Miller and Lea, 1972).

Topsmelt are omnivorous, with their prey and feeding habits varying depending on the habitat they are using. When occupying nearshore kelp and beach habitat, they typically feed on zooplankton near the surface, while primarily being herbivorous and feeding along the bottom when in shallow estuarine habitats (Horn 2006, Quast 1968). Topsmelt are likely relatively important forage species as they are known to be preyed upon by a variety of nearshore piscivorous fish, birds and marine mammals, including kelp and sand bass, California halibut, leopard sharks, cormorants, terns and sea lions (Feder et al. 1974).

As it relates to fishery exploitation, topsmelt are far less common as incidental catch compared to jacksmelt in commercial fisheries, possibly due to their smaller size and lower affinity for schooling. However, like jacksmelt, topsmelt make up a significant portion of the recreational pier and shore catch throughout California (CDFW 2001, CDFW 2011).

3.2.5.3 Grunion, (*Leuresthes tenuis*)

The primary range for California grunion is from the middle of Baja California to Point Conception, California. They are non-migratory and are most often found in shallow water (15-40 ft) very close to shore. Very little is known about the overall population status of the species, but it is not an abundant stock and the population is likely concentrated in southern California (Fritzsche 1985).

California grunion grow rapidly in their first year of life reaching 5 inches long by age one. At this point, they are capable of spawning and typically live only two more years. The most studied and well known aspect of the life history of California grunion is their unusual and unique spawning behavior. During spawning, they strand themselves on sandy beaches and they are the only California fish known to exhibit this behavior. Spawning occurs from early March through September during very specific lunar and tidal time periods. During the 3 or 4 nights following the full moon and only in the few hours immediately after high tide, the fish use waves to swim as high up onto the beach as possible and dig themselves into the sand to spawn. After spawning, they use the next wave to return to the ocean (Martin 2011). The fertilized eggs remain in the sand and incubate until the next high tide series, when they hatch. Females can produce up to 3,000 eggs every two weeks and spawn four to eight times a year (Byrne 2009).

California grunion are infrequently caught incidentally by the CPS fishery and have had no commercial interest over the years. However, they do support a very limited but important recreational fishery in southern California (CDFW 2001). During a limited time of the year, the fish may be taken by hand when

they are on the beach. Although not an abundant prey item, a variety of nearshore fish, bird and marine mammal predators are known to feed on grunion, primarily when they aggregate before and during spawning (Martin 2011).

3.2.6 Osmerid Smelts

Osmerid smelts found in U.S. West Coast estuarine and marine waters include: whitebait smelt (*Allosmerus elongatus*), capelin (*Mallotus villosus*), surf smelt (*Hypomesus pretiosus*), night smelt (*Spirinchus starksi*), longfin smelt (*Spirinchus thaleichthys*), and eulachon (*Thaleichthys pacificus*). Eulachon is listed as threatened under the ESA and is managed under that law; however, management measures for eulachon focus only on the nearshore and freshwater portions of its range. Eulachon occur within federal waters, but are not subject to directed fisheries there. This action to prevent the future development of fisheries for eulachon and other forage fish species in federal waters is consistent with eulachon recovery planning under the ESA (NMFS 2013). Therefore, eulachon is retained on the list of Osmerid smelts considered subject species for this action. Delta smelt (*Hypomesus transpacificus*), an Osmerid smelt that is listed as endangered under the ESA, is not eligible as a subject species for this action because it is a freshwater and estuarine species not found offshore of 3 nm (USFWS 2013).

Although various smelt species have been part of the diets of Native Americans for centuries (see Gustafson et al. 2010 for eulachon in human cultural history) and are still taken in small nearshore fisheries coastwide, they are not subject to offshore commercial fisheries off North America. As a result, there is little information on the marine life stages of these species and what data is taken on smelt found in marine waters often does not distinguish between the different species of smelt. Therefore, this section will discuss Osmerid smelts as a species group, with some references to particular species, but will not discuss each smelt species individually.

Like salmonids, Osmerid smelts of the northeastern Pacific Ocean are anadromous and smelt populations tend to be more strongly aggregated as they approach or arrive in their estuarine and freshwater ranges (Martin and Swiderski 2001, Rosenfeld and Baxter 2007, Vandeperre and Methven 2007, Arimitsu 2008, Therriault et al. 2009). Osmerid smelt species have similar life histories, varying from each other in the northern and southern extents of their ranges, and varying from each other in how far upriver they travel to spawn. Whitebait smelt, surf smelt, night smelt, longfin smelt, and eulachon are all broadly distributed along the U.S. West Coast, with surf smelt having the most southerly distribution (Hubbs 1925, Eschmeyer et al. 1983, Ilves and Taylor 2008, Gustafson et al. 2010, Love 2011). Capelin is a circumpolar species, with the southern end of its distribution occurring off northern Washington and in the Strait of Juan de Fuca (Brown 2002, Rose 2005, Dodson et al. 2007).

Osmerid smelts are short-lived, several with 2-3 year lifespans, and most living no longer than 8-9 years. Like other anadromous species, some smelt species, such as eulachon, breed once before dying (Macy et al. 1978, Christiansen et al. 2008, Gustafson et al. 2010). Most Pacific *Osmeridae* with marine life stages, as opposed to those that are almost exclusively freshwater species, spawn in estuarine waters and immediately seaward of the tideline. Of the *Osmeridae* of the northeast Pacific, eulachon travels the farthest upstream to spawn (Mecklenburg et al. 2002). Smelt eggs adhere to sand particle and both smelt eggs and the spawning adults are heavily preyed upon during the spawning through egg maturation periods.

Osmerid smelts are planktivorous and several studies have shown that adult-stage smelts rely heavily upon crustaceous zooplankton like krill (Miller and Brodeur 2007, Wilson 2009, Miller et al. 2010, Love 2011). Off the U.S. West Coast, Osmerid smelts are known prey of marine mammals, seabirds, and fish (Antonelis and Perez 1984, Hunt et al. 1999, London et al. 2002, Roby et al. 2003, Roth et al. 2008, Lance and Jeffries 2009, Strong 2010, Emmett and Krutzikowsky 2008). Of particular relevance to the Council, Osmerid smelts are parts of the diets of Chinook salmon (Hunt et al. 1999), Pacific whiting, rockfish, and jack

mackerel (Emmett and Krutzikowsky 2008). Smelts are taken as bycatch in the pink shrimp fishery (Hannah and Jones 2007) and in the groundfish fisheries (Al-Humaidhi et al. 2012).

3.2.7 Pelagic Squids other than Humboldt Squid

A broad variety of cephalopods serve as prey for the higher order predators of the CCE. The Ecosystem Workgroup reviewed available diet literature and databases (Drazen et al. 2001, Dufault et al. 2009, Preti et al. 2012, Field pers. comm., Wippel pers. comm.) as well as the Food and Agriculture Organization's catalogue of known *Myopsid* and *Oegopsid* squids (2010) to determine which pelagic squids are likely to be both the prey of CCE higher predators and the target of fisheries outside of the U.S. West Coast EEZ. Based on that review, the Workgroup recommends that the pelagic squids subject to this action include squids of the families *Gonatidae*, *Ommastrephidae*, *Onychoteuthidae*, and *Thysanoteuthidae*. Humboldt squid (*Dosidicus gigas*) is an Ommastrephid, but the Council has explicitly excluded that voracious predator species from this forage-focused action.

3.2.7.1 Gonatid squids

Many high seas squid species are distinguishable from each other only by subtle differences in the shapes of their mantles or configurations of their tentacles, some of which are only visible under magnification. Gonatid squids are known as “armhook squids” for having small hooks, rather than suckers, on some parts of some of their tentacles (FAO 2010). Gonatid squid are temperate and polar species that inhabit near-surface waters as juveniles, but descend to mesopelagic depths as they grow to adulthood. Of the squid families of the northeast Pacific Ocean, *Gonatidae* are the most abundant (Nesis 1997). Although *Gonatidae* are often found as prey within the stomachs of higher order predators, the delicacy of the bodies of most gonatid species makes collecting organisms difficult, complicating potential ecology and life history studies for these species (Jorgensen 2007). Except for one of the more demersal of the *Gonatidae*, *Berryteuthis magister*, gonatid squids are not the subject of target fisheries, but they can be taken incidentally in temporal and near-polar fisheries (Jorgensen 2007). *Berryteuthis magister* has been directly targeted in commercial fisheries off Russia and Japan since the 1960s, but is primarily taken as bycatch in demersal fisheries off northern North America (Nesis 1997). Although life history information for *Gonatidae* is minimal, they are thought to live for approximately 2 years, and to spawn throughout the year, with some periods of concentrated spawning (FAO 2010). Gonatid squid prey heavily upon euphausiids and other crustaceous zooplankters as juveniles, then descend in the water column as adults, where they feed broadly on other squids, fishes, and crustaceans. Their North Pacific predators include groundfish, Chinook salmon, albacore, and a wide variety of marine mammals and seabirds (Pearcy et al. 1988, Nesis 1997, Watanabe et al. 2004b).

3.2.7.2 Ommastrephid squids

Ommastrephids are known as “flying squids” for their habit of escaping predators by hurling themselves above the ocean's surface and skimming over the water for several meters at a time. According to the Food and Agriculture Organization (FAO), ommastrephids are “the most abundant, widely distributed and ecologically active family of cephalopods” (FAO 2010 at p. 269). The muscularity required for their flying habits make many ommastrephid species appealing for human consumption and they are important commercial fishery targets throughout the world (FAO 2010). As elsewhere in the world, ommastrephids are broadly distributed throughout the North Pacific Ocean. Like all squid species, ommastrephid species are short-lived, usually only living for one year. Humboldt squid (*Dosidicus gigas*) and neon flying squid (*Ommastrephes bartramii*) dominate commercial catches of North Pacific ommastrephids (FAO 2010). Neon flying squid was the subject of large high seas driftnet fisheries in the 1970s and 1980s, and has been studied by various scientists of North Pacific nations (Yatsu 1997, Bower and Ichii 2005, FAO 2010). Ommastrephids, particularly the larger-bodied species like neon flying squid and Humboldt squid, must be

voracious predators in order mature quickly and to attain their large sizes. Their high growth rates mean that their survival, abundance and distribution are all strongly dependent upon prey availability (FAO 2010). Bower and Ichii (2005) demonstrated that neon flying squid abundance is also strongly linked to water temperature and salinity, which may themselves be indicators of prey availability. Due to their rapidly changing body size, the prey favored by the larger-bodied ommastrephids varies considerably throughout their brief lives, ranging from the zooplankton and myctophids they favor as juveniles to larger fish they consume as adults (Yatsu 1997, Chen and Chiu 2003, Watanabe et al. 2004a, Bower and Ichii 2005, Xinjun et al. 2008, FAO 2010). Similarly, ommastrephids are prey for many different species of fish, mammals, and birds

3.2.7.3 Onychoteuthid squids

Like gonatids, the common name for squids of the family *Onychoteuthidae*, “clubhook” refers to apparatuses at the ends of their tentacles, which include suckers, hooks, and club-shaped tentacle ends. Onychoteuthids tend to inhabit open ocean areas of the temperate and tropical oceans, eschewing northern and southern polar waters. The two clubhook squid species that appear in the U.S. West Coast EEZ as both prey and predators, *Onykia robusta*, and *Onychoteuthis borealijaponicus*, have the one-year life spans of many squid species. Like neon flying squid and Humboldt squid, these Onychoteuthid squids are voracious, rapidly-growing predators that die after spawning. As juveniles, they are prey to a wide range species and adults, they prey on some of those same species (FAO 2010). Although experimental fisheries have been tried for *Onykia robusta*, the robust clubhook squid, its flesh is too ammonia-filled to be made palatable for human consumption (FAO 2010). Boreal clubhook squid, *Onychoteuthis borealijaponicus*, is caught in small numbers off the northern U.S. West Coast, and in larger numbers around northern Japan. The boreal clubhook squid appears to be less abundant in the northeastern Pacific than in the northwestern Pacific (Orlov 2007), making it less likely to support U.S. or Canadian fisheries. Scientific data and analyses for these species is somewhat slim; while their ranges within the North Pacific are generally known, clarity on their taxonomic classification is relatively new (Tsuchiya and Okutani 1991) and limited individual samples of these species makes describing their life histories challenging (Orlov 2007).

3.2.7.4 Thysanoteuthid squids

There is only one living Thysanoteuthid squid species, *Thysanoteuthis rhombus*, commonly known as “Diamond” or “rhomboid” squid for its broad diamond-shaped mantles. Diamond squid is widely distributed in a large belt of temperate and tropical waters throughout the world ocean. This species exclusively uses tropical waters for spawning and is one of the few squid species with egg masses known to float at the ocean’s surface (Nigmatullin et al. 1995). Off the U.S. West Coast, diamond squid is not common in the cooler waters off Oregon and Washington. Although capable of migrations to 650-800 meters in depth, diamond squid often drift fairly passively in upper ocean layers. Like other squid species, they feed on myctophids, small fishes and small squids (Bower and Miyahara 2005). Their varied vertical distribution makes them prey for a range of predators, from highly migratory tunas feeding near the surface, to sperm whales feeding at lower depths (FAO 2010). Like the other squid discussed in this section, diamond squid are highly fecund and have a one-year life cycle. Diamond squid tend not to aggregate in large numbers in much of their world habitat, making them more difficult to target in commercial fisheries. However, they do aggregate somewhat within the coastal waters of Japan, and are caught in relatively large numbers there (Miyahara et al. 2005, FAO 2010).

3.3 Socio-Economic Environment

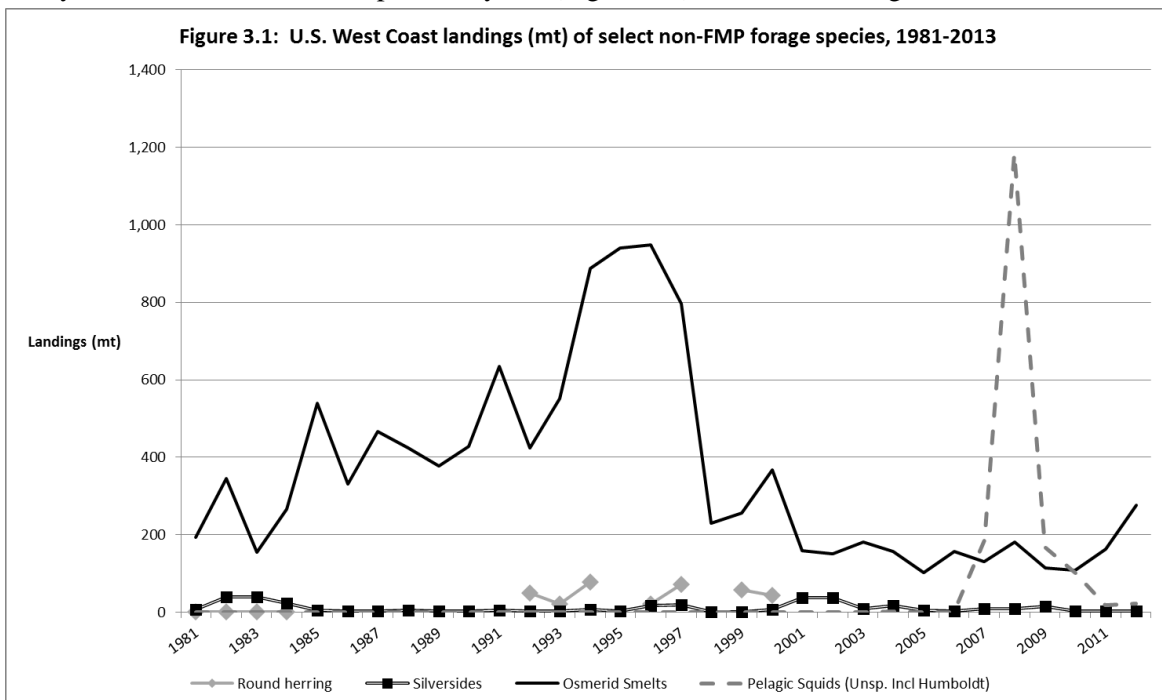
The larger socio-economic environment of the CCE, including the historical and current fisheries, descriptions of fishing communities, and fisheries management processes, is also described within the FEP in the following sections, which are incorporated here by reference: Section 3.1.3, Political Geographic and Large-Scale Human Demographic Features of the CCE; Section 3.4, Fisheries of the CCE; Section 3.5, Fisheries and Natural Resource Management in the CCE; Section 4.4, Changes in Fishing Community Involvement in Fisheries and Dependence Upon Fisheries Resources.

Beyond those FEP descriptions of the socio-economic environment, this chapter addresses: directed fisheries for the species subject to this action, if any (Section 3.3.1); incidental catch, where known, of the subject species (Section 3.3.2); and worldwide fisheries for lower trophic level species groups similar to the subject species (Section 3.3.3). For future drafts of this document, the Workgroup anticipates adding a Section 3.3.4 on non-fishing human activities that may affect the subject species.

3.3.1 Directed Fisheries for the Species Subject to this Action

The Workgroup was not able to identify any directed fisheries for the subject species in federal waters off the U.S. West Coast, 3-200 nm offshore. Sections 3.3.1.1 through 3.3.1.4, below, characterize directed state and tribal fisheries for these species, if any. When taken, most of the subject species or species groups have been taken in trace amounts. With the exception of some smelts, when directed landings of these species have occurred, there were often only one or two landings per year in any one state. Therefore, some landings could not be reported without violating data confidentiality requirements. Because there are significantly fewer data for these species than for fisheries-targeted species, there may be significant and unknown problems with the accuracy and precision of any catch amounts shown in this section and in Section 3.3.2, which discusses incidental take of the species subject to this action.

With the exception of the true smelts (*Osmeridae*), coastwide landings of the subject species have been relatively minimal or zero over the past 30+ years (Figure 3.1). Directed fishing for true smelts has largely



occurred within state coastal waters, where those species aggregate. Landings from the Columbia River or attributed to inland waters, areas where eulachon aggregate, were not included in Figure 3.1; therefore, no eulachon landings appear in Figure 3.1. The peak in landings of pelagic squids in the past ten years is likely attributable to Humboldt squid landings, rather than to the squid species subject to this action. However, squid are not reported by species except for market squid and Humboldt squid (California only). Confidentiality issues described above prevented displaying round herring landings in some years (refer to Section 3.3.1.3 for California landings.)

3.3.1.1 Washington directed fisheries for subject species

Table 3.3.1, below, summarizes known information about Washington-based commercial and recreational harvest of the subject species for this Initiative.

Table 3.3.1: Subject species in Washington fisheries	
Round and thread herring	
	Not known to occur in Washington area waters.
Mesopelagic fishes	
<i>Myctophidae</i> , <i>Bathylagidae</i> , <i>Paralepididae</i> , and <i>Gonosomatidae</i>	No known landings into Washington. Trace amounts observed as bycatch in the at-sea whiting fishery.
Pacific sand lance	
	<p><i>Commercial</i>: No known commercial landings. Trace amounts observed as bycatch in the at-sea whiting fishery.</p> <p><i>Recreational</i>: Limited harvest allowed under forage fish rules. Any harvest would most likely take place in state waters.</p>
Pacific saury	
	No known harvest in the state.
Silversides	
	No known harvest in the state.
Osmerid Smelts	
	Washington waters are home to several members of the smelt family including surf smelt, eulachon, longfin smelt, whitebait smelt, and night smelt. There is no commercial fishing authorized for these species in ocean waters off the Washington coast. Some recreational harvest is permitted but likely to occur within state waters. There is commercial and recreational harvest in Puget Sound primarily for sand smelt. Based on PacFIN reportings for marine waters statistical areas, as much as 50% of the unidentified smelt species landed into Washington ports in any one year over 1981-1990 may have been taken from Federal waters. This figure declined to about 20% for any one year over 1991-2001, but has been at 0% for 2002 through 2012.
Pelagic squids	
	Commercial landings of squid are not recorded to species in Washington. Large landings in 2008 were likely Humboldt Squid. Based on PacFIN reportings for marine waters statistical areas, less than 2% of the unidentified squid species landed into Washington ports in any one year over 1981-1990 may have been taken from Federal waters. This figure increased to about 7% for any one year over 1991-2000,

	but increased to 100% in 2001-2003, slightly decreased to about 78% in 2004-2005, and then returned to 100% in 2006 through 2012.
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3.3.1.2 Oregon directed fisheries for subject species

Under the general Oregon policy of marine fisheries being open unless specifically closed, commercial fishing for these species is allowed in marine waters off Oregon, with the exception of Osmerid smelts. Commercial fishing for osmerid smelts is prohibited and bycatch may not exceed 1% of the landing by weight (Oregon Administrative Rule 635-004-0545). Commercial fishing for eulachon may occur in the Columbia River if allowed under OAR 635-042-0130. For federally managed species, Oregon Department of Fish and Wildlife (ODFW) regulations for state waters automatically conform to federal regulations (see OAR Division 004, Commercial Fisheries Other Than Salmon and Shellfish). Any federal regulations developed to protect these forage species in the FMPs would automatically apply to state fisheries and waters.

Current commercial fisheries do not appear to target any of these species in marine waters but may land small amounts as bycatch, with no commercial value. With the exception of eulachon from the Columbia River and unspecified squid species, which are likely Humboldt squid, the annual ex-vessel revenue from Oregon landings of all these species has been zero for the past decade. During the mid-1980s, landings of unspecified smelt species peaked at 33 mt with an ex-vessel value of \$21,000. Landings of unspecified smelt species declined to less than 1 mt in most years after 1989. (ODFW commercial codes identify only whitebait smelt, surf smelt and Eulachon. Other smelt and unidentified smelt are coded as smelt species).

In recent years, bycatch of these species, excluding unspecified squid species and eulachon, have been taken primarily in the whiting fishery, pink shrimp fishery, and groundfish trawl fishery. For example, recent annual landings of barracudina, a mesopelagic fish species, are very small (<0.1mt) and taken as bycatch in the whiting fishery. In the pink shrimp fishery, some of these forage species are commonly taken and are discarded at sea. Myctophids are a common bycatch in shrimp trawls at depths greater than about 90 fathoms; whitebait smelt are common in trawls inside of about 65 fathoms; and Pacific sand lance are rarely encountered (Bob Hannah, ODFW, personal communication). Eulachon are very commonly taken in shrimp trawls and can be a large component of the bycatch that remains after biological reduction devices have excluded the majority of fishes.

For recreational fisheries, fishing for all these forage species is allowed, with the exception of Eulachon. Targeting is rare, but does occasionally occur for surf smelt near or from shore. Occasionally, Pacific sand lance may be incidentally taken while fishing for herring.

Table 3.3.2, below, summarizes known information about Oregon-based commercial and recreational harvest of the subject species for this Initiative.

Table 3.3.2: Subject species in Oregon fisheries	
Round and thread herring	
	Not known to occur in Oregon area waters.
Mesopelagic fishes	
<i>Myctophidae</i> , <i>Bathylagidae</i> , <i>Paralepididae</i> , and <i>Gonosomatidae</i>	No landings into Oregon, except trace amounts of barracudinas taken as bycatch in the at-sea whiting fishery. Myctophids are a common bycatch in shrimp trawls at depths greater than 90 fathoms and are discarded at sea.

Pacific sand lance	
	<p><i>Commercial:</i> No known commercial landings. Trace amounts observed as bycatch in the at-sea whiting fishery. No commercial code in fish ticket system.</p> <p><i>Recreational:</i> Limited harvest allowed. No known harvest since 2000. Any harvest would most likely take place in state waters, incidental to fishing for herring.</p>
Pacific saury	
	No known harvest in the state. (commercial: one fish landed in 2012).
Silversides	
	<p><i>Commercial:</i> No known commercial landings.</p> <p><i>Recreational:</i> No reported harvest. Harvest, if any, from ocean and estuary sampling was most likely topsmelt reported as jacksmelt.</p>
Osmerid Smelts	
	<p>Oregon waters are home to several members of the smelt family including surf smelt, eulachon, longfin smelt, whitebait smelt, and night smelt.</p> <p><i>Commercial:</i> There is no commercial fishing authorized for these species in ocean waters off the Oregon coast. Smelt landings of unspecified species during the early 1980s were taken with bait shrimp pumps and bait net gear, primarily from the southern Oregon coast. Landings ranged from 10 to 33 mt during 1984-1987 and declined rapidly to low levels until prohibited. A small amount of whitebait smelt was landed in 1989. Eulachon landings are from fisheries in the Columbia River, with the exception of a trace amount of bycatch taken in the whiting fishery in 2013.</p> <p>Smelt are taken as bycatch in the pink shrimp fishery and are discarded at sea. Eulachon are very commonly encountered in Oregon shrimp trawls and can be a large component of the bycatch that remains after bycatch reduction devices have excluded the majority of fishes (in some years). Whitebait smelt are commonly encountered when shrimpers trawl inside of about 65 fathoms.</p> <p><i>Recreational:</i> Since 2000, trace amounts of unspecified smelts have been harvested in estuary waters.</p>
Pelagic squids	
	Commercial landings of squid are not recorded to species in Oregon, with the exception of market squid. Commercial landings of all other squids were zero until 2007, when 103 mt were landed. Landings peaked in 2008 at 351 mt and have declined rapidly to 20 mt or less since 2010. These landings were likely Humboldt Squid.

3.3.1.3 California directed fisheries for subject species

Of the proposed list of forage species, there are only directed commercial fisheries for some of the Osmerid smelts in California waters. There may be some directed landings of jacksmelt, although the landings of this species primarily occur incidental to other fisheries. Bait fisheries are allowed for the smelts, but it is not clear what portion of total landings are for bait purposes. Historically, there have been limited efforts to target Pacific saury or round herring, but reported landings of these species have been minimal or

nonexistent over the past 30 or 12 years, respectively. While it is difficult to determine whether these fisheries take place in state or federal waters, it appears that for the most part, any existing directed fisheries are occurring primarily or exclusively within state waters. For federally managed species of groundfish and CPS, California Department of Fish and Wildlife (CDFW) commercial regulations for state waters automatically conform to federal regulations (see Fish and Game Code Sections 159 and 189, California Code of Regulations). Thus, any federal regulations developed to protect these forage species in the CPS or Groundfish FMPs would automatically apply to California's state fisheries and waters.

Information on bycatch of the subject species in other species is also limited. The West Coast Groundfish Observer Program (WCGOP) data indicate there have been some limited interactions among the proposed forage species and some California fisheries including: smelts and round herring with the California halibut trawl fishery and possibly Osmerid smelts in the pink shrimp fishery (although the data do not specify state of occurrence.) Table 3.3.3, below, summarizes known information about California-based commercial and recreational harvest of the subject species for this Initiative.

Table 3.3.3: Subject species in California fisheries	
Round and thread herring	
Round herring	<p><i>Commercial:</i> Round herring landings were reported for about ten years during the 1990s, which exceeded 170,000 pounds in 1994, but no landings have been reported since 2001. Most of the reported landings were from the Los Angeles port complex using net gear. Regulations regarding the commercial take of herring are not specific, but generally apply to Pacific herring.</p> <p><i>Recreational:</i> While the recreational take of herring is allowed, from 1980 to 2003 the estimated catch was minimal or none. Catch from 2004 on have been trace or zero.</p>
Thread herring	<p><i>Commercial:</i> There have been no reported landings of thread herring.</p> <p><i>Recreational:</i> While both herring species may be taken in the recreational fishery, there was no estimated catch of thread herring.</p>
Mesopelagic fishes	
<i>Myctophidae, Bathylagidae, Paralepididae, and Gonosomatidae</i>	<p><i>Commercial:</i> Although there are no regulations preventing or allowing the take of mesopelagics, there have been no reported landings of these groups.</p> <p><i>Recreational:</i> There were no catch estimates of mesopelagics from 1980 to the present. It is likely they occur too deep to be taken in the recreational fishery.</p>
Pacific sand lance	
	<p><i>Commercial:</i> There is no market category for Pacific sand lance, and there are no landings.</p> <p><i>Recreational:</i> A fishery is allowed, but they are not targeted. Occasionally they may be taken accidentally while fishing for [Pacific] herring. Anecdotal information indicates historically they were taken in or around river mouths off northern CA (pers comm, K. Oda, CDFW).</p>
Pacific saury	
	<p><i>Commercial:</i> Pacific saury may be taken commercially, but they are not targeted. Historically, there have been several attempts to initiate saury fisheries. In 1931, 1,300 pounds were delivered in Monterey; later, Hovden cannery experimented with canning them in 1947 and produced a product "...highly satisfactory...superior to</p>

	<p>sardines in taste and appearance...” (Cox, 1949). Another fishery was initiated in the 1950s following the collapse of the sardine fishery and further attempted primarily by the Japanese in the 1960s after the decline of the western Pacific stocks; the highest landing was 3,600 tons in 1970 (Kato, 1992). Since 1980, there have been trace (<100 pounds) to no reported landings. Earlier landings were likely primarily if not all in federal waters. Anecdotal information suggests that they do not school as well as the western Pacific stock, and thus there is less incentive to initiate a fishery (pers comm, S. Moore.)</p> <p><i>Recreational:</i> A recreational fishery is allowed, but saury are not targeted; catch estimates were minimal or zero from 1980 through present. Anecdotal information suggests that they may be taken in the recreational fishery incidentally to HMS species (pers com, C. Valle, CDFW).</p>
Silversides	
Topsmelt	<p><i>Commercial:</i> They are allowed to be taken in the commercial fishery, although there have been zero to trace landings since 1980.</p> <p><i>Recreational:</i> Topsmelt are allowed to be taken in the recreational fishery; almost all the catch occurs in state waters.</p> <p><i>Marine Aquaria Trade:</i> They are allowed to be taken in the marine aquaria trade with the appropriate permit.</p>
Grunion	<p><i>Commercial:</i> Grunion has a closed commercial season between April and May. There have been no or trace (\leq1000 pounds) commercial landings since 1980.</p> <p><i>Recreational²:</i> Grunion are targeted at night at high tides on beaches mostly in southern CA. However, due to the state’s daytime and boat-based sampling priorities for its recreational fisheries, there are no reliable estimates of catch.</p> <p><i>Marine Aquaria:</i> They are allowed to be taken in the marine aquaria trade with the appropriate permit.</p>
Osmerid Smelts	
	<p>In general, there have been significant commercial landings of “smelt” from 1980 to the present ranging from almost 500,000 pounds to over 2 million pounds in the 1990s. However, landings were primarily reported as the more general “true smelt” or as “whitebait smelt” until the mid-1980s, and there was no sampling program to validate coding to various market categories. Beginning in 1990, landings of the “true smelt” category dropped to about 5,000 pounds, then to less than 2,000 pounds in more recent years. About the same time, landings of “whitebait smelt” dropped from an annual average of almost 400,000 pounds from 1978 to 1989 to 52,675 pounds in 1990, then in 1993 dropped below 10,000 pounds. The last reported landings of whitebait smelt were in 2001. While landings of “true”; and “whitebait” smelt were declining, landings of “night” and “surf” smelt began increasing; declines observed in landings of these species around 1999 and 2000 are likely regulatory in nature. The majority of smelt is landed using A-frame nets from the beach or dip nets (assumed because the primary gear categories included brail+other+unk). Then trucks are used on the beach to collect and hold the smelt and transport them to markets; so vehicle access to beaches constrain development of fisheries. [The update of the Redwood State Park Management Plan restricts vehicle access to some “smelt beaches” at this time.] Smelts are allowed to be taken in parts of the state for live bait. [Fish and Game Code (FGC), California Code of Regulations (CCR), Sections: 8780 - 8780.1]</p>

Eulachon	<p><i>Commercial:</i> There have been zero to trace landings since 1980.</p> <p><i>Recreational:</i> Recreational fishing is not allowed.</p>
Night smelt	<p><i>Commercial:</i> There have been significant landings of “smelt” from 1980 to the present, and reported landings of night smelt averaged about 335,000 pounds annually from 1980 to 2012.</p> <p><i>Recreational:</i> Night smelt may be recreationally taken. However, due to the state’s daytime and boat-based sampling priorities for its recreational fisheries, there are no reliable estimates of catch since the fishery primarily occurs at night.</p>
Surf smelt	<p><i>Commercial:</i> Surf smelt reported annual landings have averaged about 200,000 pounds since 1980. Regulations and gear information for night smelt also apply to surf smelt.</p> <p><i>Recreational:</i> Recreational fishing for surf smelt is allowed. There is occasional targeting of surf smelt from or near shore; almost all catch occurs in state waters and often on the same beaches where night smelt spawn and are fished (pers com, K. Crane, CDFW).</p>
Whitebait smelt	<p><i>Commercial:</i> Many early landings were attributed to “whitebait smelt” from 1980 to 1989, although there was no sampling to verify these landings. Whitebait smelt landings annually averaged 327,000 pounds until 1993 when the reported landings totaled 8,863 pounds. After 1993 landings dwindled and there have been no reported landings since 2001.</p> <p><i>Recreational:</i> Whitebait smelt may be taken in the recreational fishery.</p>
Pelagic squids	
	<p><i>Commercial:</i> There were no landings for any species, nor are there any market codes, other than for Humboldt squid.</p> <p><i>Recreational:</i> There were no recorded landings, although the state’s recreational sampling program does not routinely collect catch information on squids, other than Humboldt squid.</p>

3.3.1.4 Tribal directed fisheries for subject species

There are no directed tribal fisheries for the subject species in federal waters. There is some limited harvest of Osmerid smelts at shoreline and estuary locations. The fisheries are limited to hand seines and dipnets used from shore. These are mostly personal-use fisheries, although some commercial sales occur in years of relatively high abundance. Availability of these fish varies considerably from year to year and annual total harvests can vary from zero to approximately 40 mt. In Puget Sound, there are directed tribal fisheries for surf and longfin smelts. Again, these are primarily personal-use fisheries but some commercial sales occur when the stocks are very abundant.

Table 3.3.4: Subject species in Treaty Tribal fisheries	
Round and thread herring	
	Not known to occur in Washington, Treaty Area waters.

Mesopelagic fishes	
<i>Myctophidae</i> , <i>Bathylagidae</i> , <i>Paralepididae</i> , and <i>Gonosomatidae</i>	No directed fisheries. Trace amounts taken as bycatch in the at-sea whiting fishery.
Pacific sand lance	
	No directed fisheries. Trace amounts likely taken as bycatch in the at-sea whiting fishery.
Pacific saury	
	No directed fisheries. Bycatch unlikely.
Silversides	
	No directed fisheries. Bycatch unlikely.
Osmerid Smelts	No directed fisheries in federal waters. Trace amounts taken as bycatch in the at-sea whiting fishery. Eulachon and Surf Smelt are targeted in small fisheries limited to beaches and estuarine shorelines. These are usually personal-use fisheries but include some commercial sales in years of relatively high abundance.
Pelagic squids	
	No directed fisheries. Trace amounts as bycatch in at-sea whiting fishery.

3.3.2 Incidental Take of Species Subject to the Action

Some state and federal monitoring programs are conducted to investigate the interactions of target fisheries with other species. The Workgroup looked at information from some of these programs for possible insights into the encounter rates of the subject species with FMP fisheries. To gauge current catch levels of the subject species, the Workgroup used a dataset primarily used under the Council's Groundfish FMP and compiled by NMFS's WCGOP. The WCGOP dataset combines commercial landings data with available data taken by observers aboard commercial fishing vessels. The dataset focuses on the Groundfish FMP commercial sectors and other commercial sectors monitored because of their bycatch of Groundfish FMP stocks, such as the state pink shrimp trawl fisheries. While not covering all commercial fishing activities in the EEZ, these fishery sectors would be some of the most likely to have incidental catch of the subject species. In addition, the Workgroup also reviewed information the CPS management team assembled for use during that FMP's Amendment 13 process, as well as information from the 2011 CPS Stock Assessment and Fishery Evaluation (SAFE, PFMC 2011) document, and HMS background documents on incorporating EC species into that FMP.

Catch estimates for the species subject to this action are shown in Table 3.3.5. The mesopelagic species group includes many taxonomic groups, so those shown in Table 3.3.5 may not include all species in the dataset. Incidental catch of the subject species appears to be tens of pounds and less per year, except for smelts and squid. Catch of American Shad over 2003-2012 was highly variable but averaged 44 mt per year. The squid catch reported in Table 3.3.5 is not identified to the species level, but much of the catch weight is likely Humboldt Squid, which is not a species subject to this action.

Species level allocation of the catch is an issue for most if not all of the species considered here. There are two basic ways that fisheries catch is accounted for in commercial fisheries, through landings records and through observer data. Fish retained and brought into port are recorded on landings receipts, also known as "fish tickets." Landings are reported to differing levels of specificity for species and taxonomy, because regulations governing the reporting of fish landings do not require many species to be identified

to the species, or even higher taxonomic, level. For example, Washington State's regulations would only require mesopelagics to be reported as miscellaneous marine fish together with a wide range of other species.

Onboard fishery observers will record catch amounts, but they typically focus on the fish that are discarded at sea. Species subject to this action likely have been lower priority for sampling relative to species managed under FMPs and other higher priority species like marine mammals. Sampling coverage levels were less than 100 percent in many sectors and for much of the 2003-2012 period, which meant that the Workgroup had to expand available data to produce the estimates in Table 3.3.5: therefore, the accuracy and precision of the estimates in Table 3.3.5 reflects the fishery coverage levels and estimation methodologies for unmonitored species. As the Council develops FEP Initiative 1, it may wish to review the feasibility and utility of requiring further speciation of landings reports. Some of the subject species may be identifiable at the species level, which could improve catch or bycatch estimate accuracy for those subject species. However, these species may also occur so infrequently or in such trace amounts that requiring greater specificity in landings reporting may provide more questions than answers for future fishery monitors and managers.

A review of incidental and bycatch data reported in the CPS SAFE (PFMC 2011 at Section 6) indicated incidental catch and bycatch of the subject species in low or extremely low amounts in CPS fisheries. Information was based on a review of logbooks, landing receipts and observer or sampling records and found that there was no documented incidental catch or bycatch of Pacific saury, Pacific sand lance, whitebait smelt or myctophids based on logbooks, fish tickets or observer data. Smelts, except for jacksmelt, were infrequently observed in California's CPS fisheries (less than 1% frequency in landings from 2004-2008 based on bycatch observations and even less for California grunion). Smelts were not observed in Washington or Oregon CPS fisheries (CPS FMP Amendment 13, 2010). A review of the observed incidental landings of California's sardine and Pacific mackerel fisheries from 2006 – 2010 were similar: listed percent frequencies of California grunion, surf smelt, silversides, true smelts and top smelt did not exceed 0.7 in any year, and jacksmelt did not exceed 3.9 percent frequency (Table 6-5, 2011 CPS SAFE, Appendix A). Logbook data and observed catches from the Oregon sardine fishery from 2006 – 2010 did not include any of the subject species (PFMC 2011 at Table 6-9, Appendix A.)

For HMS fisheries, none of the species subject to this action are known to be taken as bycatch. When considering designation of EC species in 2010, the HMSMT (Agenda Item G.2.b., HMSMT Report, April 2010) tabulated 2000-2008 commercial catches for many monitored species, specifically listed in the FMP at the time. Pacific saury was the only subject species on the monitored list and there were no reported landings during this period. Observer records for the drift gillnet fishery during this period also showed no observations of any of these forage species. Pacific saury was not designated an EC species and is no longer an HMS FMP species.

Table 3.3.5. Bycatch (metric tons) of the Initiative 1 species and species groups in the Groundfish FMP commercial sectors and other sectors monitored for their bycatch of Groundfish FMP stocks (source: Groundfish Mortality Multiyear Data Product, ver. 23-Dec-2013, WCGOP).

Species and Sectors	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	Total
Round Herring											
California Halibut	--	0.01	--	--	--	--	--	--	--	--	0.01
Thread Herring											
--	--	--	--	--	--	--	--	--	--	--	--
Pacific sandlance											
Bottom trawl	--	--	--	--	--	--	0.02	--	--	--	0.02
At-sea whiting trawl	--	--	--	--	--	--	--	--	0.00	--	0.00
Pacific Saury											
Bottom trawl	0.01	--	--	--	0.00	--	0.02	0.00	0.00	0.00	0.04
Pink Shrimp	--	0.00	--	--	0.00	--	--	0.00	0.00	0.01	0.01
At-sea whiting trawl	--	--	--	--	--	0.00	--	0.00	0.00	0.00	0.00
Nonnearshore Fixed Gear	--	--	--	--	--	--	--	--	--	0.00	0.00
SILVERSIDES											
Jack Smelt											
Nearshore Fixed Gear	--	--	--	0.00	0.00	1.26	0.01	--	--	--	1.28
Bottom trawl	--	--	0.00	--	--	--	--	--	--	--	0.00
California Halibut	--	--	--	0.00	--	--	--	--	--	--	0.00
Top Smelt											
Nonnearshore Fixed Gear	--	--	--	--	--	0.01	--	--	--	--	0.01
PELAGIC SQUIDS											
Squid Unid. (includes Humboldt)											
At-sea whiting trawl	101.96	1,123.56	680.43	93.35	66.25	85.24	43.50	76.31	78.26	93.69	2,442.56
Shoreside Hake	0.16	0.17	0.06	0.37	166.19	880.95	3.09	98.79	16.26	22.53	1,188.57
Bottom trawl	52.95	76.97	46.74	74.25	53.67	116.69	113.04	29.22	6.73	7.80	578.06
Tribal Shoreside	--	--	0.01	0.16	5.26	265.76	100.03	0.00	0.54	0.25	372.01
Pink Shrimp	0.10	7.63	5.59	--	5.47	5.11	1.21	14.50	39.44	79.11	158.15
Nonnearshore Fixed Gear	0.56	0.15	1.06	0.44	3.07	1.97	8.57	2.28	0.20	0.25	18.52
Tribal At-Sea Hake	0.04	0.04	0.05	0.00	0.01	0.59	0.76	0.03	1.16	0.00	2.69
California Halibut	0.07	0.25	0.03	0.02	0.01	0.02	--	0.04	0.07	0.05	0.56
Nearshore Fixed Gear	--	--	0.01	--	--	0.02	0.08	--	0.00	0.14	0.24
OSMERID SMELTS											
Capelin											
Bottom trawl	--	--	--	--	--	--	0.03	--	--	--	0.03
Pink Shrimp	--	--	--	--	0.02	--	--	--	--	--	0.02
Long fin Smelt											
California Halibut	--	--	--	--	--	--	0.00	--	0.01	0.00	0.01
Smelt Unid.											
Pink Shrimp	0.00	68.99	22.87	--	6.37	27.30	0.57	2.54	15.21	23.88	167.71
Bottom trawl	0.12	0.85	0.15	0.03	0.01	0.02	0.00	0.02	0.03	0.10	1.33
Nearshore Fixed Gear	0.10	0.11	0.04	0.03	0.04	0.01	0.00	--	0.00	--	0.34
Nonnearshore Fixed Gear	0.01	0.14	0.02	0.13	--	0.00	--	0.01	0.00	0.02	0.32
California Halibut	--	--	--	0.00	--	--	--	--	0.00	0.00	0.01
At-sea whiting trawl	0.00	0.00	0.00	0.00	--	0.00	0.00	--	0.00	0.00	0.00
Tribal At-Sea Hake	0.00	--	--	--	--	--	--	--	--	--	0.00
Shoreside Hake	--	--	--	--	--	0.00	--	--	--	--	0.00
Tribal Shoreside	--	--	--	--	--	--	--	--	--	0.00	0.00
Smelt/Herring Unid.											
At-sea whiting trawl	--	--	--	--	0.00	0.04	--	--	--	--	0.04
Surf Smelt											
Pink Shrimp	--	--	1.91	--	--	0.20	--	0.00	0.01	--	2.11
California Halibut	--	--	--	--	--	--	--	0.00	--	--	0.00
Bottom trawl	--	--	--	--	--	--	0.00	--	0.00	--	0.00
Whitebait Smelt											
Pink Shrimp	--	0.21	1.73	--	0.00	0.05	6.66	3.42	20.06	71.56	103.70
Bottom trawl	--	--	--	--	--	--	0.00	--	0.00	0.00	0.00
California Halibut	--	--	--	--	--	--	--	--	0.00	0.00	0.00

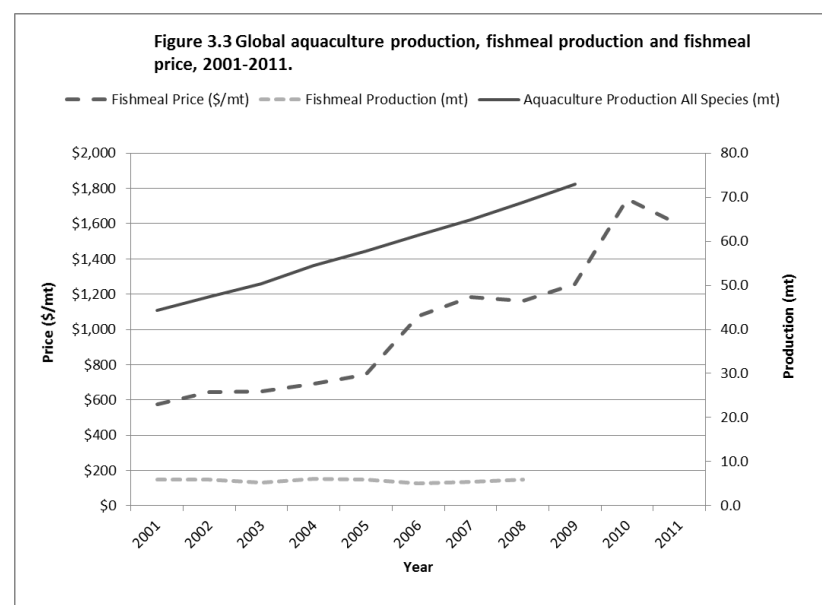
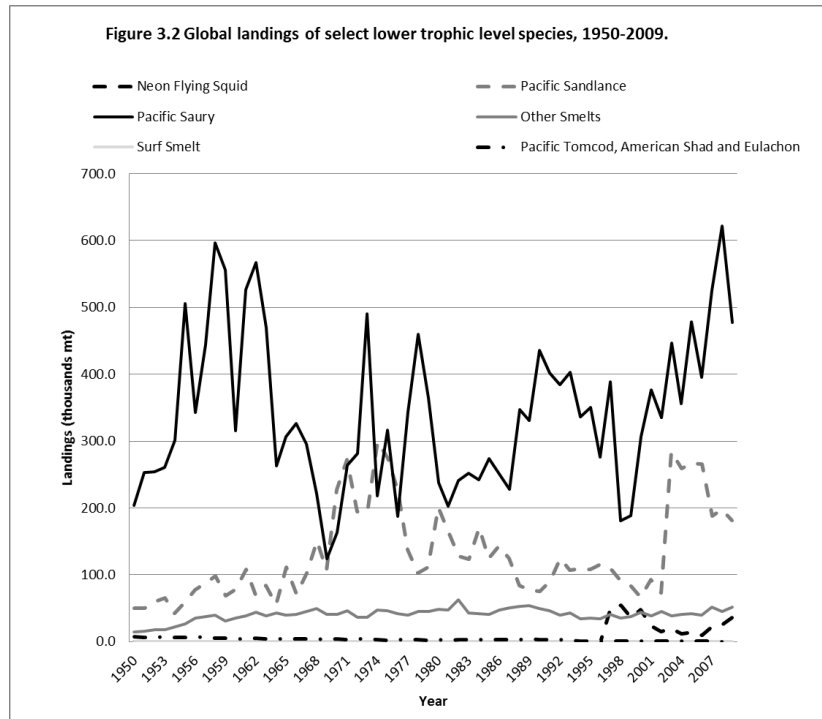
Table 3.3.5 cont'd.

Species and Sectors	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	Total
MESOPELAGIC SPECIES											
Argentine Unid.											
NonTribal At-Sea Hake	--	--	--	--	0.00	0.00	--	0.00	--	--	0.00
Barracudina Unid.											
NonTribal At-Sea Hake	0.01	0.09	0.14	0.02	0.04	0.04	0.02	0.05	0.83	0.01	1.26
Bottom trawl	0.00	--	0.00	--	--	0.00	0.00	0.01	0.00	0.00	0.01
Pink Shrimp	--	--	--	--	0.00	--	--	--	0.00	--	0.00
Blackchin Unid.											
Bottom trawl	--	--	--	--	--	--	--	--	0.00	--	0.00
Blackdragon Unid.											
Bottom trawl	--	--	--	--	--	--	--	0.00	0.00	0.00	0.00
Nonnearshore Fixed Gear	--	--	--	--	--	--	--	--	0.00	--	0.00
Blacksmelt Unid.											
NonTribal At-Sea Hake	--	--	--	--	--	0.01	--	--	0.07	--	0.08
Bristlemouth Unid.											
Nonnearshore Fixed Gear	--	--	--	--	--	--	--	--	--	0.01	0.01
Bottom trawl	--	--	--	--	--	--	--	0	--	0	0
Lanternfish Unid.											
NonTribal At-Sea Hake	0.00	0.01	0.02	0.08	0.27	0.37	0.10	0.08	0.95	0.16	2.04
Tribal At-Sea Hake	--	--	--	--	--	--	--	0.00	0.00	0.00	0.00
Pink Shrimp	--	0.06	0.01	--	0.86	0.06	0.07	0.01	0.06	0.04	1.16
Bottom trawl	0.00	0.00	0.03	0.01	0.02	0.03	0.05	0.03	0.01	0.01	0.19
Nonnearshore Fixed Gear	--	--	--	--	--	--	--	--	0.00	--	0.00
Lightfish Unid.											
Pink Shrimp	--	0.00	0.00	--	--	0.05	--	--	--	0.00	0.05
Longfin Dragonfish											
NonTribal At-Sea Hake	--	--	0.00	--	0.01	0.01	--	--	0.00	--	0.03
Bottom trawl	--	--	--	--	--	0.00	--	--	0.00	--	0.00
Nonnearshore Fixed Gear	--	--	--	--	--	--	--	--	0.00	--	0.00
Longnose Lancetfish											
NonTribal At-Sea Hake	0.00	0.01	0.01	0.12	0.53	1.86	0.13	0.07	0.41	0.02	3.16
Bottom trawl	--	0.01	0.03	0.01	0.02	0.09	0.08	0.05	0.01	0.00	0.30
Myctophidae											
NonTribal At-Sea Hake	--	--	--	--	--	--	--	--	0.00	0.00	0.00
Pacific Argentine											
Pink Shrimp	--	0.45	--	--	--	0.00	0.00	0.02	0.01	0.00	0.49
Bottom trawl	0.00	--	0.01	--	0.00	--	--	--	--	0.00	0.01
Pacific Viperfish											
Bottom trawl	0.01	0.00	0.01	0.00	0.01	0.00	0.00	--	0.00	0.00	0.03
Nonnearshore Fixed Gear	0.00	--	--	--	--	--	--	--	--	0.00	0.00
Pink Shrimp	--	--	--	--	0.00	--	--	--	--	--	0.00
NonTribal At-Sea Hake	--	--	0.00	0.00	--	0.00	--	--	--	--	0.00
Tubeshoulder Unid.											
NonTribal At-Sea Hake	0.00	0.00	0.01	0.00	0.02	0.06	0.02	0.02	0.14	0.04	0.31
Bottom trawl	--	0.00	0.00	0.00	0.13	0.02	0.11	0.01	0.00	0.00	0.28
Pink Shrimp	--	--	--	--	0.00	--	--	--	--	--	0.00
Tribal At-Sea Hake	--	--	--	--	--	--	--	--	0.00	--	0.00
Viperfish Unid.											
NonTribal At-Sea Hake	--	0.00	0.00	0.00	0.02	0.06	0.01	0.03	0.14	0.01	0.27
Bottom trawl	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.03	0.01	0.01	0.08
Pink Shrimp	--	--	--	--	0.00	--	--	--	0.00	--	0.00
Nonnearshore Fixed Gear	--	--	0.00	--	--	--	--	0.00	0.00	0.00	0.00
Silvery Hatchetfish											
NonTribal At-Sea Hake	--	--	--	--	--	0.00	--	--	--	--	0.00
White Barracudina											
NonTribal At-Sea Hake	--	--	--	--	0.00	0.01	0.00	0.00	0.02	0.01	0.05

3.3.3 Fisheries for Similar Lower Trophic Level Species Worldwide

Although the subject species are not targeted in commercial fisheries within the CCE, those same species or similar species, are taken in the fisheries of other nations (Figure 3.2). Harvests of forage species are converted into various commodities through value added production processes (Herrick et al. 2009). Based on Food and Agriculture Organization (FAO) fisheries commodities, production and trade data from 1976-2009, most of the reported lower trophic level species commodities production was in the fishmeal and fish oil category. During that period, commodities in the fishmeal and fish oil category increased to well over 50% of total annual lower trophic level species commodities production. The growing importance of these minor species in global fishery landings may reflect their increasing use as ready substitutes in the production of fishmeal and fish oils.

Demand for these species in the production of fishmeal has mainly been driven by the spectacular growth of global aquaculture, which is expected to continue into the foreseeable future (Tacon and Metian 2008, Shamshak and Anderson 2008, Herrick et al. 2009), see Figure 3.3. The production of many aquaculture species depends on forage species fisheries to supply the raw ingredients in today's aquafeeds. In the recent boom in capture-based aquaculture, demand has increased for whole live/fresh/frozen forage species for pen fattening aquaculture operations (Zertuche-Gonzales et al. 2008). All these feed requirements pose a potential sustainability problem for the aquaculture industry, because at present, unlike fishmeal use in livestock production, there are limited opportunities to replace lower trophic level species, either in fresh or in fishmeal form, with cost effective protein substitutes. Given limited potential for increased fishmeal production from traditional lower trophic level species prices for fishmeal and fish oil will continue to rise. This makes the prospect for fisheries developing on the minor forage species all that more attractive,



since higher fishmeal prices are sure to translate into higher exvessel prices for the raw ingredients.

From an ecosystem perspective, the benefits resulting from commercial exploitation of forage species will have to be balanced against the full range of benefits these resources provide when considering their total economic value (Hannesson et al. 2009). In terms of ecosystem impacts, more intense use of lower trophic level species for fishmeal and fish oil will incur economic costs associated with the role those species play as prey for numerous finfish species targeted by higher trophic level fisheries, as well as economically valuable seabirds and marine mammals.

3.3.4 Non-Fishing Human Activities Affecting Lower Trophic Level Species

To be completed in a future iteration of this document.

3.4 Connections of Subject Species to Council FMPs

Table 3.4.1 provides the connections the species or species groups subject to this action may have to FMP fisheries or species. Each FMP has a column in the table marked the symbols “B”, “P”, or “G” for each of the subject species or species groups. Where the subject species or species group is thought to be taken incidentally or as bycatch in at least one of the FMP’s fisheries, the table is marked with a “B”. Where the subject species or species group has been documented as prey to one or more of the species within the FMP, the table is marked with a “P”. Where the subject species or species group has the potential to be harvested in a fishery using one of the gears authorized by the FMP, the table is marked with a “G”. Boxes left blank indicate that the Workgroup has not found any connection between the species or species group and the FMP fisheries or species.

All of the connections listed in Table 3.4.1 are based on what is known about the interactions between these species and Council-managed species or fisheries, or about gear used elsewhere in the world. For Council managed species with rigorously-studied diets, such as Chinook salmon, many of the species subject to this action appear in Table 3.4.1 as prey. The subject species may appear as prey in the table because Chinook have a wide-ranging and well-studied diet, but may not appear as prey for other Council-managed species because the diets of other species are less well studied. Similarly, more is known about bycatch in the groundfish fisheries because more bycatch data are collected for those fisheries. The species subject to this action appear as bycatch in the groundfish fisheries, as confirmed by data collected from those fisheries. Bycatch data collected in other Council-managed fisheries is strongly focused on larger body-sized species than those subject to this action; therefore, sampling methods may not be adequate to fully capture whether the subject species occur in non-groundfish Council-managed fisheries. “G” marks indicating which subject species could be taken by Council-approved gear authorized under the FMPs are pure speculation on the part of the Ecosystem Workgroup. Worldwide, the mesopelagic species have only been subject to experimental fisheries and attempts at commercial fisheries for those species have not proved economically feasible (See Section 3.2.2). Other species may be taken in other fisheries worldwide, but the Workgroup does not have adequate data on those fisheries to assess whether the exact gear configurations required by the Council’s FMPs would be appropriate to commercial fisheries for the subject species.

Table 3.4.1: Connections between the subject species and FMP species or fisheries, if any (B = Bycatch in FMP's fishery; P = Prey of FMP species; G = Gear <i>could</i> be used to harvest in future fishery)				
	CPS	Groundfish	HMS	Salmon
Round and thread herrings	B ¹ , G ¹⁴		P ⁹	
<i>Myctophidae</i> , <i>Bathylagidae</i> , <i>Paralepididae</i> , <i>Gonosomatidae</i>	P ⁴	B ² , P ⁴ , G ¹⁵	P ⁷	P ⁵
Pacific sand lance	P ⁴	P ^{4,8}		P ^{5,8}
Pacific saury	P ⁴ , G ¹¹	P ⁴	P ⁷ , G ¹¹	P ⁵
Silversides	B ³ , G ¹³	B ²	P ⁶	P ⁶
Osmerid smelts	B ³ , P ⁴ , G ¹⁰	B ² , P ⁴		P ⁵
Pelagic squids, except Humboldt		B ² , P ⁴	P ⁷ , G ¹²	P ⁵ , G ¹²
<p>1 – PSMFC data: round herring landed concurrently with CPS species in 1990s, see Table 3.3.3</p> <p>2 – WCGOP data, see Table 3.3.5.</p> <p>3 – PFMF 2011: minimal recorded bycatch in California CPS fisheries</p> <p>4 – Brodeur et al. 1987, Buckley et al. 1999, Emmett and Krutzikowsky 2008, Dufault et al. 2009</p> <p>5 – Hunt et al. 1999, Percy et al. 1988, Brodeur and Percy 1990, Glaser 2010</p> <p>6 – Love 2011</p> <p>7 – Kato 1992, Watanabe et al. 2004, Allain 2005, Preti et al. 2012</p> <p>8 – Beacham 1986, Willson et al. 1999, Daly et al. 2013</p> <p>9 – Abitia-Cardenas et al. 1997</p> <p>10 – FAO capelin fact sheet identifies cast nets and small purse seine gear: http://www.fao.org/fishery/species/2126/en</p> <p>11 – Japanese Pacific saury gear, offshore dipnets (Makino 2011), does not fit well with any of the Council's FMPs; gillnets are also a possibly saury gear, although not the large-mesh gillnets used in the Council's HMS fishery (Hajar et al. 2008).</p> <p>12 – Pelagic squid gear does not fit well with any of the Council's FMPs, although offshore pelagic jigging has some commonalities with hook-and-line gear used in the HMS and salmon fisheries.</p> <p>13 – Where fisheries for silversides exist, they are commonly taken in rivers and estuaries with dipnets or trapnet gear (e.g. FOC 2009). None of the Council's FMPs authorize gear compatible with these fisheries, although the net gear used in the Council's CPS fisheries has some commonalities with net gear used in silversides fisheries.</p> <p>14 – FAO round herring fact sheet identifies purse seine gear: http://www.fao.org/fishery/species/2902/en; Atlantic thread herring purse seine fishery, see Smith 1994.</p> <p>15 – experimental pelagic trawling: Valinassab et al. 2007</p>				

4.0 Recommendations on Incorporating Forage Species into the FMPs

Among other assignments, the Council directed the Ecosystem Workgroup to provide recommendations for this April 2014 meeting on which existing FMPs would be best suited to incorporate the species subject to this action. Section 3.4 summarizes the connections that the subject species have to the Council's FMP. This Chapter 4 focuses on the process of amending multiple FMPs and the Workgroup's recommendations for moving FEP Initiative 1 forward.

The Ecosystem Workgroup recommends that the Council incorporate the species subject to this action in more than one of its FMPs, choosing one of the pathways under Alternative 2, described in Section 2.2. Although the Council has limited experience amending multiple FMPs simultaneously (see Amendment 12 to the Salmon FMP/Amendment 10 to the Groundfish FMP), several other fishery management councils nationwide use this practice for issues that apply to more than one of their FMPs. This section describes how the Council process could work for a multiple-FMP amendment under FEP Initiative 1, based on the required processes discussed in Section 1.3.

At this April 2014 meeting, the Council should review the range of alternatives in Chapter 2 and provide direction on which of the alternatives it would like forwarded for analysis. The Ecosystem Workgroup is next tentatively scheduled to report back to the Council at its September 2014 meeting. For its next report, the Workgroup proposes to revise Chapters 1-3 of this document in accordance with the Council's April 2014 direction, and to draft a new Chapter 4 to analyze the potential effects of the alternatives. The Workgroup could also provide the Council, its advisory bodies, and the public with draft amendatory language for each of the FMPs to be amended.

Following the Council's September 2014 (tentatively scheduled) meeting, the Council would send the draft amendatory language and analysis out for public review, and would plan to receive comments at its fourth (as yet unscheduled) meeting for this initiative. If the Council finds the analysis and amendatory language acceptable at its fourth meeting, it could adopt the amendatory language at that meeting and the fourth meeting could conclude the Council process for FEP Initiative 1. As discussed in Section 1.3, the Council could also schedule a fifth meeting on this issue if it finds that it needs an additional round of public review and comment.

Once Council staff transmits the FMP amendment package to NMFS on behalf of the Council, NMFS would handle the amendments to the multiple FMPs as a single regulatory package. The agency would plan to publish a single Notice of Availability in the *Federal Register* for a comprehensive amendment to multiple Pacific Council FMPs, followed by a single proposed rule and single final rule, handling all to-be-amended FMPs simultaneously.

5.0 Sources

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6.0 Appendix

At its April 2013 meeting, the Council adopted its FEP and FEP appendix. The FEP appendix considers a series of potential cross-FMP ecosystem-based management initiatives that the Council could consider for future action. This document discusses initial alternatives and provides background information in support of FEP Initiative 1: Protecting Unfished and Unmanaged Forage Fish Species. As discussed in Chapter 2, Alternatives, the FEP appendix provides the Council's policy on the development of new fisheries for unfished species within the U.S. West Coast EEZ. That policy is found at Section A.1.1 of the FEP Appendix and is repeated here for reference:

A.1.1 Council Policy on the Development of New Fisheries for Unfished Species

Under Title II of the MSA, there is no allowable level of foreign fishing for species currently unfished within the U.S. West Coast Exclusive Economic Zone (EEZ). Fishing vessels and fish processors of the U.S. have the capacity to harvest and process the levels of optimum yield of all species subject to Council FMPs.

U.S. citizens wishing to initiate new fisheries for West Coast EEZ species that are not subject to Council FMPs, nor explicitly permitted by the list of fisheries described in the Magnuson-Stevens Fishery Conservation and Management Act (MSA) at 16 U.S.C. §1855 and in federal regulations at 50 CFR 600.725(v), are urged to approach the Council with an application for an Exempted Fishing Permit (EFP,) accompanied by a science plan for that EFP fishery, describing the data to be collected by the EFP fishery and the likely analyses needed to assess the potential effects of converting the fishery to an FMP fishery over the long-term. EFP fishery data and analyses should, at a minimum, assess: the amount and type of bycatch species associated with the EFP gear, including protected species, such as marine mammals, sea turtles, sea birds, or species listed as endangered or threatened under the Endangered Species Act (ESA); how the gear will be deployed and fished, and its potential effects on EFH, including the portions of the marine environment where the gear will be deployed (surface, midwater, and bottom). The Council and its advisory bodies will review the results of the EFP to assess whether the information provided is adequate to determine the potential effects of the fishery on the Council's conservation and management measures. Depending on the quality of information received, and on the potential effects of the fishery on the Council's conservation and management measures, the Council will either reissue the EFP, or discontinue the EFP and initiate development of an FMP, FMP amendment, or regulatory amendment process to either prohibit the new fishery from the EEZ, or introduce the new fishery to the EEZ.

U.S. citizens wishing to bypass the EFP process to initiate new fisheries for West Coast EEZ species that are not subject to Council FMPs, nor explicitly permitted by the list of fisheries described in the MSA at 16 U.S.C. §1855 and in federal regulations at 50 CFR 600.725, may do so by following the Council notification process described at 50 CFR 600.747. However, that notification is required to be reviewed by the Council and NMFS for the potential effects of new fisheries on the Council's conservation and management measures for, at a minimum, FMP species, protected species, and for the habitat of managed and protected species. A review conducted in the absence of the scientific data that could be provided by an EFP would be necessarily precautionary.

Whether introduced via the EFP process, or via the notification process at 50 CFR 600.747, the Council would view new fisheries as having the potential to affect its conservation and management measures if those fisheries had an effect on:

- *Any Council-managed species;*
- *Species that are the prey of any: Council-managed species, marine mammal species, seabird species, sea turtle species, or other ESA-listed species;*
- *Habitat that is identified as EFH or otherwise protected within one of the Council's FMPs, critical habitat identified or protected under the ESA, or habitat managed or protected by state or tribal fishery or habitat management programs;*
- *Species that are subject to state or tribal management within 0-3 miles offshore of Washington, Oregon, or California;*
- *Species that migrate beyond the U.S. EEZ.*

ECOSYSTEM WORKGROUP SUMMARY REPORT ON PROTECTING UNFISHED AND UNMANAGED FORAGE FISH SPECIES INITIATIVE

At its September 2013 meeting, the Pacific Fishery Management Council (Council) directed the Ecosystem Workgroup (Workgroup) to draft alternatives for preventing future fisheries from developing without advance scientific assessment for forage species that are currently unfished and unmanaged in the U.S. Exclusive Economic Zone (EEZ, 3-200 nm offshore). Our main report, Agenda Item I.1.a., Attachment 1, includes the following:

Chapter 1, *Introduction*, provides the Purpose and Need statement that the Workgroup recommended and the Council adopted at its September 2013 meeting in Section 1.2. The Workgroup recommends that the Council consider slightly revising that statement. At its September 2013 meeting, the Council adopted a list of species as potential subjects of this action. Subsequent to that meeting, the Workgroup researched available background information on those species, and on their fisheries off the U.S. West Coast and worldwide. At its meeting in February 2014, the Workgroup reviewed the Purpose and Need statement and discussed whether that statement should be revised in light of what the Workgroup had learned about these species and their fisheries. Section 1.2 of the Workgroup's main report provides both the September 2013 version of the Purpose and Need statement and the following revision to that statement, which the Workgroup thinks more directly addresses the Council's intent for this action:

The purpose of this action is to prohibit new directed commercial fishing in Federal waters on unmanaged, unfished forage fish species until the Council has had an adequate opportunity to both assess the scientific information relating to any proposed directed fishery and consider potential impacts to existing fisheries, fishing communities, and the greater marine ecosystem. This action is needed to proactively protect unmanaged, unfished forage fish of the U.S. West Coast EEZ in recognition of the importance of these forage fish to the species managed under the Council's FMPs and to the larger CCE.

Chapter 2, *Description of the Alternatives*, provides suggested alternatives for review by the Council, its advisory bodies, and the public. Alternative 1 is the No Action Alternative, using the List of Authorized Fisheries and Gear at 50 CFR 600.725 to prohibit the use of certain gear types without advance Council consultation. Under Alternative 2, the action alternative, fishing for any species subject to this action would be prohibited until and unless the Council has adequate scientific information available that supports allowing a fishery for the species to occur. This April 2014 draft provides three pathways for prohibiting directed fisheries for the subject species within Federal waters. These pathways are not separate alternatives that the Workgroup is suggesting for future analysis. Rather, they are different ways of thinking about how the subject species may be connected to the Council's Fishery Management Plans (FMPs). The Workgroup recommends that the Council choose one of these pathways for Alternative 2 before assigning the Workgroup to analyze the potential effects of that alternative. Alternative 2 would bring these species into the Council's FMPs and make them subject to Federal regulation under those FMPs. The Workgroup recommends that the Council not choose a "mix-and-match"

approach to the pathways under Alternative 2, because doing so could raise alternative regulatory requirements for species managed under the different pathways.

Chapter 3, *Status of the Affected Environment*, provides background information on the species subject to this action and on fisheries, if any, for those species within state waters off the U.S. West Coast. Chapter 3 also provides information on bycatch of these species, if known, and on worldwide fisheries for these species. Section 3.4 is a summary of connections between the species subject to the action and the Council's FMP species or fisheries. There is little available information for some of the species subject to the action and none of the species have been subject to large-scale or persistent fisheries off the U.S. West Coast. As a result, some of the connections between the subject species and the FMPs are tentative or speculative. The Workgroup would appreciate comments from the Council and its advisory bodies on whether there are other or better connections to be drawn between the subject species and the FMPs.

Chapter 4, *Recommendations on Incorporating Forage Species into the FMPs* suggests, as above, that the Council choose a pathway for Alternative 2, and consider a process for amending multiple FMPs simultaneously in its development of Initiative 1. Chapter 4 also suggests a work plan for the Workgroup's next report to the Council, tentatively scheduled for September 2014:

For its next report, the Workgroup proposes to revise Chapters 1-3 of this document in accordance with the Council's April 2014 direction, and to draft a new Chapter 4 to analyze the potential effects of the alternatives. The Workgroup could also provide the Council, its advisory bodies, and the public with draft amendatory language for each of the FMPs to be amended.

The states of Oregon and California both have fishery management programs that automatically bring state regulations into conformance with Federal regulations. Washington has conforming regulations as well for some fisheries, but at this time does not see conflicts with this Initiative. FMP amendatory language and Federal regulations would have to be carefully crafted to ensure that Federal regulations to prohibit the directed take of the species subject to this action do not inadvertently result in the closure of state waters fisheries. Depending on the pathway the Council chooses for Alternative 2, the Workgroup plans to review how state and Federal management programs would intersect for these species as part of its next report to the Council.

HIGHLY MIGRATORY SPECIES ADVISORY SUBPANEL REPORT ON ECOSYSTEM WORKGROUP ACTIVITIES

At the March 2014 meeting, the Highly Migratory Species Advisory Subpanel (HMSAS) received a briefing from Ms. Cyreis Schmidt of Oregon Department of Fish and Wildlife on the work being performed in the Ecosystem Work Group. Because the HMSAS is not meeting at the April Council meeting, we drafted this report at the March Council meeting.

The HMSAS is very concerned about potential changes to the HMS Fishery Management Plan (FMP). The HMSAS unanimously agreed that the Ecosystem FMP and associated changes to the HMS FMP should be adaptive and not prescriptive as is the case in the Inter-American Tropical Tuna Commission ecosystem component on tuna management. The HMSAS would like to be fully involved with any discussions of potential changes to the HMS FMP, including those that may involve consideration of ecosystem components.

PFMC
03/24/14

**CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE COMMENTS ON THE
UNMANAGED FORAGE FISH INITIATIVE**

California Department of Fish and Wildlife (CDFW) recommends adding a sentence to the very end of the “Purpose and Need” statement as it appears at the bottom of page 4 in Agenda Item I.1.a, Attachment 1 (April 2014), as follows:

“This action is not intended to apply to, supersede or otherwise affect fishery management in state waters for these species.”

CDFW is concerned that the Ecosystem Initiative I document does not explicitly state or describe this intent. Although the “Reader’s Guide to the Ecosystem Workgroup Report on FEP Initiative 1” webinar and the Ecosystem Workgroup Summary Report (Agenda Item I.1.a, April 2014) make reference to state regulations and small-scale or incidental state fisheries for some of these species, the Initiative I document itself speaks only to the purpose of prohibiting new directed commercial fishing in federal waters on unmanaged, unfished forage fish species.

With very rare exception, it is the practice of CDFW and the California Fish and Game Commission to ensure consistency between state and federal fisheries rules in state waters and in the EEZ off California. Consistency of rules in adjacent waters allows for ease of enforcement, minimizes confusion, and allows for a comprehensive approach to resource management. However, in this instance, CDFW would not wish any prohibition on fishing in federal waters to automatically apply in state waters as a matter of conformance.

COASTAL PELAGIC SPECIES ADVISORY SUBPANEL REPORT ON PROTECTING UNFISHED AND UNMANAGED FORAGE SPECIES INITIATIVE

The Coastal Pelagic Species Advisory Subpanel (CPSAS) has closely followed the Council Initiative to protect unmanaged forage fish species. We commend the Ecosystem Workgroup for their hard work and thoughtful analysis of how to progress Initiative One.

A summary of the Ecosystem Workgroup Report on Protecting Unfished and Unmanaged Forage Fish Species Initiative was presented by Ms. Cyreis Schmitt during a joint meeting with the Coastal Pelagic Species Management Team (CPSMT). After reviewing the schedule and process for Initiative One, the CPSAS recommends the following issues be included as research priorities along with the alternatives the Council forwards for additional analysis:

- Accounting for bycatch of unmanaged forage fish species in existing fisheries.
- Addressing catch of these species in current State and recreational fisheries.
- Transitioning species from an Ecosystem Component Species (EC) to an Fishery Management Unit (FMU).

The CPSAS points out that the revised List of Fisheries once amended, will provide additional protections and improve the Council's ability to regulate fishing on these species. As the Council begins Initiative One it is important to recall that the intention of this process was not to prohibit fishing on unmanaged forage fish species outright, but to develop a more formal process should interest arise to develop a commercial fishery on these species. Likewise, the focus is on the establishment of NEW fisheries, not to eliminate small coastal fisheries that currently land some of these species, or to constrain those fisheries in which bycatch occurs incidentally.

The CPSAS highlights these distinctions because there is concern that state fisheries could be unintentionally affected by this Initiative or a roadblock established for developing a new fishery in the future. The CPSAS notes there is no known interest or intention to develop a fishery on these species currently. Regardless, it is important the Council establish an explicit process for developing a new fishery, which should include a clear and well-defined mechanism for transiting species from an EC to an FMU, as appropriate.

Of the alternatives presented for Initiative One in Agenda Item I.1.a, Attachment 1, the CPSAS prefers to see two options under Alternative 2 forwarded for further review and analysis: 2.2.1 Ecosystem Trophic Role Pathway and 2.2.2 Bycatch and Gear Pathway. Alternative 2.2.1 provides a holistic and balanced approach for protecting unmanaged forage species across all of the fishery management plans without requiring additional assessment of species and gear-interactions. Meanwhile, analysis of Alternative 2.2.2 could provide valuable information on current or potential interactions these forage species have with Council managed fisheries. If the Council intends to select a preferred alternative at this juncture, the CPSAS would support selection of Alternative 2.2.1 Ecosystem Trophic Role Pathway.

COASTAL PELAGIC SPECIES MANAGEMENT TEAM REPORT ON PROTECTING UNFISHED AND UNMANAGED FORAGE FISH SPECIES INITIATIVE

The Coastal Pelagic Species Management Team (CPSMT) and the Coastal Pelagic Species Advisory Panel (CPSAS) jointly received a briefing by Cyreis Schmitt concerning the Ecosystem Workgroup Report “Ecosystem Initiative 1: Protecting Unfished and Unmanaged Forage Fish Species.” The CPSMT commends the Ecosystem Workgroup (EWG) for the concise, yet thorough, report.

The CPSMT notes the EWG proposes a revised Purpose and Need statement that more clearly articulates the intent to prohibit the development of new fisheries for unfished and unmanaged forage fish species absent Council evaluation under Ecosystem Initiative 1. The CPSMT agrees with the revised statement and recommends its approval.

The EWG report presents two alternatives to achieve protection of unmanaged forage fish for Council consideration. The CPSMT recognizes Alternative 2, which would place subject species in Fishery Management Plans (FMPs) as ecosystem component species, is consistent with the Initiative’s Purpose and Need to prohibit fishery development.

Regarding the specific pathways under Alternative 2, the CPSMT finds each to be a reasonable option for public review. While recognizing merits of each, the CPSMT recommends the Ecosystem Trophic Role (2.2.1) pathway. One benefit of the Ecosystem Trophic Role (2.2.1) pathway is that it may accomplish the objective of incorporating species into FMPs more efficiently. The other pathways, Bycatch and Gear (2.2.2) and Predator-Prey (2.2.3), realize this same objective but may require additional work to determine the appropriate placement of species or species groups into FMPs. Determining under which FMP a species is to be managed might be better addressed if and when a new fishery is proposed. With such an approach, the species and gear would be identified, and thus the linkages to a particular FMP would be more readily evaluated.

Currently, jacksmelt are an EC species in the CPS FMP and should remain so regardless of which pathway is implemented. This does not mean that all other silversides group species could not be added to either the CPS or other FMPs under this Initiative.

During development of Amendment 13, the CPSMT reviewed logbook, fish ticket, and observer data to assess bycatch of forage fish species in CPS fisheries and generally found that incidental catch and bycatch of subject forage fish species was minimal or sporadic, and depending on the species information, was generally lacking as a result. The CPSMT isn’t aware of any other sources of information that the EWG should consider.

ECOSYSTEM ADVISORY SUBPANEL REPORT ON PROTECTING UNFISHED AND UNMANAGED FORAGE FISH SPECIES INITIATIVE

The Ecosystem Advisory Subpanel (EAS) reviewed the Ecosystem Workgroup's (Workgroup) report (Agenda Item I.1.b, Ecosystem Workgroup Summary Report) regarding Fishery Ecosystem Plan Initiative 1 and have the following observations and suggestions to offer the Council.

The EAS commends the Workgroup for developing this report, which is thorough, informative and well organized. The Workgroup report outlines the purpose and need, the schedule and process, and alternatives for protecting unfished, unmanaged forage fish.

1. List of species. The Council identified "pelagic squid," with the exception of Humboldt squid, as forage fish species to be subject to Initiative 1. The Workgroup chose to interpret that direction to include four families of squid. Public comments have argued that three additional families: *Cranchiidae* (glass squids), *Octopoteuthidae* (octopus squids), and *Histioteuthidae* (cock eyed squids) should also be included. The EAS supports that recommendation on the basis that species in these families are also likely to be forage species for fish managed by the Council.

2. Purpose and need statement. The Workgroup recommends revising the purpose and need statement to more clearly define the action being taken under Initiative 1. The EAS supports the Workgroup's recommended language because it does clarify the intent of the management action you are now considering.

3. Other references to purpose. There are several references in the Workgroup report to the purpose and need for Initiative 1 that omit the language clarifying future conditions under which the Council would consider new, directed fishing on the subject species: "...until the Council has had an adequate opportunity to assess the scientific information relating to any proposed fishery and to consider potential impacts to existing fisheries, fishing communities, and the greater marine ecosystem." These casual references to prohibiting new fisheries may indicate to some that Initiative 1 actions are intended to permanently prohibit fisheries on these species. The paragraph at the top of page 5, just above section 1.3, includes a prominent example. While it would be burdensome to read the entire purpose language each time prohibiting fisheries is mentioned, perhaps a more specific phrase can be used in future documents, such as: "prohibiting new, directed commercial fisheries *until adequate assessments of the science and impacts have been made.*" Or, a footnote referencing the Council's purpose might be used to draw the reader's attention to the full language.

4. Schedule and process. If the Council and Workgroup can enable the Fishery Management Plan (FMP) language associated with Initiative 1 to be reviewed and approved at the Council's November 2014 meeting, then the Council will have completed its work on this Initiative. Arriving at that milestone would support moving to considerations of future ecosystem initiatives at the March 2015 meeting.

5. Preliminary Preferred Alternative. The EAS supports identifying Alternative 2 as a preliminary preferred alternative. Alternative 2 appears to be most in line with the Council's decisions to advance the Initiative, and it will provide significant additional protection for the subject species.

6. Potential pathways to Alternative 2. The EAS favors the Ecosystem Trophic Role Pathway (2.2.1) but suggests that the arguments presented in the Predator-Prey Pathway should also be incorporated into the FMPs in cases where information is adequate to support those arguments. We favor 2.2.1 because a) it articulates the most inclusive view of the importance of the subject species to the ecosystem, b) it makes assigning species and species groups to FMPs very straightforward (all species listed in all FMPs), and c) it will be robust with respect to changes in the ecosystem and trophic relationships. The Ecosystem Trophic Role Pathway acknowledges the indirect effects of predation, which can be important but difficult to track or measure. Scientists on our subpanel noted that trophic relationships are complex and can shift in response to many factors, particularly environmental and ecosystem conditions.

The EAS suggests that Pathway 2.2.2, the Bycatch and Gear Pathway, should not be pursued. It does not explicitly rely on the ecological importance of the subject species as an argument for action, and it assumes the subject species can be correctly classified according to their vulnerability as bycatch in a particular fishery or gear.

7. Rejected alternatives. The EAS supports the Workgroup's suggestion to reject Alternatives 2.3.1 (Bring All Subject Species into the CPS FMP as fishery management unit species) and 2.3.2 (Convert the FEP to an ecosystem FMP). The Workgroup and the Science and Statistical Committee made good arguments to reject 2.3.1 on the basis that available data are insufficient to develop harvest specifications. As the Workgroup pointed out, the Council has previously considered and rejected the option represented by 2.3.2.

8. Impacts on other fisheries. The Workgroup's report flags the potential for Initiative 1 actions to impact certain state and Federal fisheries if the FMP amendments are not carefully crafted (Section 2.0, page 8; Sections 3.3.1 & 3.3.2, pages 23-31). The EAS agrees strongly with the Council's earlier stated intent that this Initiative should not curtail fisheries in state waters or fisheries in Federal waters that have incidental catch of the subject species.

PFMC
04/09/14

GROUND FISH ADVISORY SUBPANEL REPORT ON PROTECTING UNFISHED AND UNMANAGED FORAGE FISH SPECIES INITIATIVE

The Groundfish Advisory Subpanel (GAP) received an overview from Mr. Corey Niles of Washington Department of Fish and Wildlife. GAP discussion was centered on information contained in the Ecosystem Initiative 1 (Agenda Item I.1.a, Attachment 1).

After reviewing the list of species, the GAP found it to be adequate for this stage of the process.

The GAP reviewed the range of two alternatives contained in the aforementioned document. The first is no action and the second contained three sub-options. Most of the ensuing discussion concerned the potential cost and benefit of the three sub-options for alternative #2.

The GAP offers the following recommendations and rationale.

Recommendations:

The GAP recommends adoption of alternative #1 (2.1) and the alternative #2 sub option, Ecosystem Trophic Role Pathway (2.2.1)

Rationale:

The GAP concludes that alternative #2 (2.2.1) provides adequate unfished forage fish protection with minimal potential disruption to existing fisheries. This sub-option would allow review of any new proposed fisheries by all of the advisory bodies through inclusion in their respective Fishery Management Plans. The GAP was advised that should unanticipated bycatch impacts of unfished forage species be realized, it would not result in enforcement actions nor constrain the affected fishery. Instead it would trigger a Council review. This advice was the major factor in support of this alternative.

PPMC

04/09/14

HABITAT COMMITTEE REPORT ON ECOSYSTEM-BASED MANAGEMENT

The Habitat Committee (HC) reviewed the report by the Ecosystem Workgroup on pathways for protecting unmanaged forage fish. Essential fish habitat (EFH) designations consider prey as a component of EFH, and the ecosystem-based management concept is broadly consistent with other topics the HC regularly reviews.

In this respect, the HC recommends the Ecosystem Trophic Role pathway (2.2.1) because it is consistent with an ecosystem-based management approach and improves flexibility for the Council to invoke protections and enact other management actions. As noted in the report, these unmanaged forage fish are of questionable marketability, so Alternative 2.1 (the no action alternative) and others may be sufficient to protect unmanaged forage fish stocks. We also note that designating unmanaged forage species as ecosystem component species would allow for bycatch reduction measures. The report noted low bycatch for most species except smelt (in the pink shrimp trawl fishery) and squid (in several fisheries). In this respect, the HC points to the Pew comment on keeping three additional families of squid in the definition of unmanaged forage fish. The public comments on unmanaged forage fish were voluminous, commending the Council for proactively pursuing this issue. The HC recommends the Council select a preliminary preferred alternative at this meeting so that they can finalize this issue.

PPMC
04/05/14

HIGHLY MIGRATORY SPECIES MANAGEMENT TEAM REPORT ON
RECOMMENDATIONS OF THE ECOSYSTEM WORKGROUP REGARDING
INITIATIVE I: “PROTECTING UNFISHED AND UNMANAGED FORAGE FISH SPECIES”

We appreciate the work of the Ecosystem Workgroup (EWG) in preparation of their report on Initiative I “Protecting unfished and unmanaged forage fish species.” The Highly Migratory Species Management Team (HMSMT) concurs with the EWG regarding the importance of forage species to the health and sustainability of fishery management unit species included in the Highly Migratory Species Fishery Management Plan (HMS FMP).

The HMSMT reviewed the pathways and the associated lists of forage species proposed for addition as Ecosystem Component (EC) Species to the HMS FMP, as described under Alternative 2. Forage species identified as connected to the HMS FMP through either gear or trophic interactions included round and thread herrings, *Myctophidae*, *Bathylagidae*, *Paralepididae*, *Gonosomatidae*, Pacific saury, Silversides, and pelagic squids, except Humboldt. All of these species are documented as prey for one or more species within the FMP. Pacific saury and pelagic squid are additionally identified as potentially harvestable by HMS FMP gear. However, bycatch interactions with non-HMS species, including forage species, were previously considered in the development of HMS FMP Amendment 2 (Agenda Item G.2.b, HMSMT Report, April 2010). Regarding Pacific saury and pelagic squid designated for the Bycatch and Gear pathway, historically observed bycatch or landings were negligible or nonexistent by any HMS fishery. Therefore, the HMSMT recommends the Council avoid the Bycatch and Gear Pathway.

The HMSMT sees value in having select EC species included in the HMS FMP to provide some certainty that new fisheries do not compromise food web interactions between these species which represent the prey base for management unit species in the HMS FMP. To accomplish this we support advancing the recommendations of the EWG identified in Alternative 2 pathways wherein these species are recognized for their importance within the ecosystem as a whole. We believe that either the Ecosystem Trophic Role or Predator Prey pathways provide an appropriate nexus for inclusion in the HMS FMP. To accomplish this, the HMSMT offers to collaborate with the EWG in the development of potential amendatory language for the HMS FMP, according to Council direction.

PFMC
4/1/14

SALMON ADVISORY SUBPANEL REPORT ON PROTECTING UNFISHED AND UNMANAGED FORAGE FISH SPECIES INITIATIVE

The Salmon Advisory Subpanel (SAS) recognizes the importance of forage fish to a wide variety of Pacific Fishery Management Council (Council) managed species, including salmon, and to the greater marine ecosystem. The SAS supports prohibition of new directed fishing on currently unmanaged, unfished forage species in Federal waters until the Council has adequately assessed scientific information relative to any proposed fishery and considered potential impacts to existing fisheries, fishing communities and the marine ecosystem.

Catch of the Initiative 1 forage species within the Exclusive Economic Zone (EEZ) currently is mostly bycatch. However, worldwide demand for forage species is growing rapidly to supply the expanding aquaculture industry. Given limited potential for increased fishmeal production from traditional lower trophic level species, prices for fishmeal and fish oil will continue to rise, making the prospect for fisheries developing on the minor forage species more attractive.

The SAS wants to ensure that the Council evaluates the ecological, social and economical costs and benefits of developing a new forage fish fishery before deciding whether to authorize a long-term fishery.

Therefore, the SAS recommends adopting Alternate 2.2.1 (from Agenda Item I.1.a, Attachment 1) in which all of the subject species would be identified in all four fishery management plans (FMPs) as ecosystem component species. This would provide recognition that, as a group, these species serve as prey for many higher order California current ecosystem (CCE) predators, including marine mammals, seabirds and many fish species including those in the Council's FMPs.

Under alternative 2.2.1 (the Ecosystem trophic Role Pathway), should a request for an exempted fishing permit be presented to the Council, consideration would be given as to how a new fishery for that species would affect species within each FMP. Stakeholders representing each FMP would provide comments to the Council that support or disapprove of the new fishery. As an example, a proposed forage fish fishery off Washington's coast might heavily affect salmon and groundfish, but have little effect on most coastal pelagic species (CPS). Alternatively, a proposed forage fishery off the southern California coast would have no impact on salmon but might directly influence CPS and highly migratory species (HMS). Fishery, social, and economic analyses relative to the newly proposed forage fish fishery should focus on impacts to the potentially affected FMPs.

SCIENTIFIC AND STATISTICAL COMMITTEE REPORT ON PROTECTING UNFISHED
AND UNMANAGED FORAGE FISH SPECIES INITIATIVE

The Scientific and Statistical Committee (SSC) reviewed the Ecosystem Initiative 1: Protecting Unfished and Unmanaged Forage Fish Species report (Agenda Item I.1.a, Attachment 1) along with the associated Ecosystem Working Group (EWG) report (Agenda Item I.1.b). Mr. Mike Burner provided a briefing and answered questions from the SSC.

For most of the species under consideration (i.e., those listed in Section 3.2 of the report), the available data are insufficient to develop management reference points as would be required under any of the pathways designating them as fishery management unit (FMU) species. Even if such data were available, developing such guidelines for all of these species would require a very large investment of time and resources.

PFMC
04/07/14

91560 Hwy. 101
Florence, OR. 97439
U.S.A.



541.547.3111
fax 541.547.3545
sealioncaves.com

To: The Pacific Fishery Management Council
7700 NE Ambassador Place, Suite 101
Portland, OR 97220-1384

RECEIVED

From: Sea Lion Caves
91560 Hwy 101
Florence, OR. 97439

MAR 18 2014

PFMC

Pacific Fishery Management Council,

Greetings from Sea Lion Caves, a privately owned wildlife preserve and wildlife sanctuary centrally located on our beautiful Oregon Coast just 11 miles north of Florence and America's largest sea cave. First of all, we want to thank the Council for setting limits on existing already-managed fisheries. As the competition for our depleted fisheries continues to wage between man and animal, limiting human access is a vital component to allow our fisheries to rebound and further allow the marine animals that depend on these fisheries for their survival, too recover from the devastating loss of over 80% of the sea lions along the Pacific rim during the 80s and 90s.

As a business, Sea Lion Caves' mission, since 1932, has been and will continue to be to preserve and protect the marine mammals locally and advocate for all marine mammals along the Pacific coast. Having observed the adverse environmental changes affecting the marine mammals locally, we ask and support the permanent protection of the ecological role played by forage fish in the Fish Management Plan for unmanaged forage fish. These fisheries play a vital role in the health and vitality of marine mammals as well as all animals along the Pacific coast.

We urge the Council to fully implement the Fishery Ecosystem Plan & Ecosystem-based Initiative #1.

Thank you,

Gerald Duane Wright
General Manager, Sea Lion Caves

A handwritten signature in black ink, appearing to read "G. Wright", is written over the printed name of Gerald Duane Wright.

The following email is exemplary of several received at the Council office:

From: <Danpinps@aol.com>

Date: Wed, Jan 29, 2014 at 6:59 PM

Subject: (no subject)

To: pfmc.comments@noaa.gov

To Whom it May Concern,

Please fulfill your September 2013 **commitment** to prohibit unregulated fishing on forage fish species such as sand lance, saury, and lanternfish that are not currently managed or monitored.

Dan Perdios

March 31, 2014

Pacific Fishery Management Council
Dorothy M. Lowman, Chair
7700 N.E. Ambassador Place, Suite 101
Portland, Oregon 97220-1384

Re: Agenda Item I.1. Ecosystem—Unmanaged Forage Fish Initiative

Dear Chair Lowman and Council Members:

Thank you for the opportunity to comment on the Pacific Fishery Management Council's (Council) report, "Ecosystem Initiative 1: Protecting Unfished and Unmanaged Forage Fish Species." Audubon Washington and many of our 25 chapters are part of an emerging Pacific Flyway marine bird initiative focused on ensuring adequate food supplies during all stages of their life history needs. As our overwintering marine bird populations have decreased dramatically in recent decades, we have begun to focus our efforts on protecting the bird species that rely on the rich food resources that thrive in our dynamic marine environment. Forage fish are the cornerstone of the marine food ecosystem, providing an energy-rich food source essential for the survival of our marine birds.

As part of the Pacific Flyway marine bird initiative, Audubon Washington supports fisheries policies and management actions that recognize the value of forage fish in the context of the Pacific Flyway marine ecosystem. We would like to **thank the Council** for adopting the Fishery Ecosystem Plan last year, with the purpose of scaling management to the ecosystem level, and for your continued efforts to see it implemented.

Because Audubon is deeply concerned with the status of forage fish species in the Pacific Flyway, we recently reviewed the above-mentioned report by the Council's Ecosystem Working Group. The report is well done and we would like to commend you on your efforts to-date to conserve this critical resource.

We write today to express **our strong support for Alternative 2** (Subject Species and their Connections to FMP Species via Three Potential Pathways). Alternative 2 will provide protection for the food web to support our ecosystem that includes not only marine birds, but marine mammals and larger fish. Alternative 2 also provides an opportunity for the Council to take measurable steps in achieving its goal of prohibiting new forage fisheries until it has the science and management framework in place to evaluate the effect of continued prey-base removal from the ecosystem. Alternative 1 – which is a no action alternative – we feel strongly to be unsatisfactory, and we trust that the Council will not seriously consider this alternative that would do little to protect the status of our forage fish stocks.

Of the three potential pathways outlined under Alternative 2 in the EI-1 report, **we urge your selection of option 2.2.1 as the preferred option**. This option – Ecosystem Trophic Role Pathway – recognizes not only the value of the entire ecosystem, but specifically acknowledges the role forage fish play within the marine ecosystem. This approach is superior to the other two pathways (Bycatch and Gear; Predator-Prey), which are more limited in their scope. This is an issue worthy of the larger scope addressed in option 2.2.1.

The complex suite of threats facing marine birds makes identifying feasible conservation actions a challenge. While many naturally occurring and human-driven factors are potentially responsible for declining population trends, the diminished status and health of forage fish prey are recognized to be of particular conservation concern. Given their ecological and economic function in supporting larger fish such as salmon, marine mammals and birds, and their relatively diminished abundance within the California Current Ecosystem and associated inland waters¹, we must manage forage fish using a precautionary approach until there is evidence to the contrary. Option 2.2.1 provides the best option for managing our forage fish given current knowledge constraints.

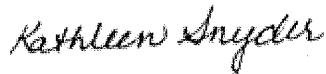
As part of the Pacific Flyway, Audubon Washington is working alongside its Audubon partners in Oregon, California and Alaska to help facilitate the protection of marine birds and their forage fish food resources at the flyway-ecosystem scale. We recognize the intrinsic value of forage fish to marine birds and other top predator marine life and urge the Council to take action related to the protection of forage fish.

Thank you for the opportunity to comment.

Sincerely,



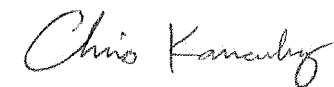
Gail Gatton, Executive Director
Audubon Washington



Kathleen Snyder, President
Pilchuck Audubon Society



Andy McCormick, President
Eastside Audubon Society



Chris Karrenberg, Conservation Chair
Seattle Audubon Society

Randall Smith, President
Vashon-Maury Island Audubon Society

George Exum, Incoming President
Willapa Hills Audubon Society

Richard A. Jahnke, President
Admiralty Audubon Society

Janine Schutt, President
Kitsap Audubon Society

Pam Borso, President
North Cascades Audubon Society

Jim Gift, President
Olympic Peninsula Audubon Society

Ron Force, President
Palouse Audubon Society

Barbara Jensen, President
San Juan Audubon Society

Philip Wright, President
Skagit Audubon Society

Frances Haywood, President
Spokane Audubon Society

Ann Casey, President
Whidbey Audubon Society

Deb Nickerson, President
Black Hills Audubon Society

¹ Ainley, D., P. Adams, and J. Jahnke. 2014. Towards ecosystem based-fishery management in the California Current System – Predators and the preyscape: a workshop. Unpublished report to the National Fish and Wildlife Foundation. Point Blue Conservation Science, Petaluma, California. Point Blue contribution number 1979.



Truckee River Chapter of Trout Unlimited
Chapter #103

March 24, 2014

Submitted Electronically to: pfmc.comments@noaa.gov

Re: Forage Fish

Dear Chair Lowman and Council Members,

We are writing you today on behalf of the Truckee River Chapter of Trout Unlimited, located in Truckee, CA. The Council has made steady progress over the past two years in laying the groundwork for establishing regulatory protections for currently unmanaged forage fish species. Today, I ask that you select alternative 2.2.1 as the preliminary preferred option for protecting currently unmanaged forage fish by incorporating them into all of the council's existing fishery management plans as ecosystem component species.

During your meeting in April, I encourage you to pick alternative 2.2.1 as the preliminary preferred option and release the range of alternatives for public comment. The Council's Ecosystem Working Group has delivered a new report justifying your decision to conserve these forage species, because of their importance to the health of our salmonids sport fishery recovery, California Current ecosystem and because of growing worldwide demand to catch them.

These steps will ensure that the Council achieves its goal of basic management protections for unmanaged forage fish. In so doing, you will fulfill the first initiative of the Council's Fishery Ecosystem Plan, a visionary document that the council approved unanimously a year ago.

By protecting forage fish as a key link in the marine food web, we can maintain a healthy marine ecosystem, including the valuable sustainable fisheries we rely upon. Each year we spend countless hours and dollars working on inland habitat issues for trout and salmon, protecting those fish they eat in the open ocean is a simple cost effective method to ensure our work on land pays off for those fish as they return to their ocean habitat.

Thank you for your continued commitment to maintain a healthy and productive Pacific Ocean, and please don't hesitate to contact us directly at any time.

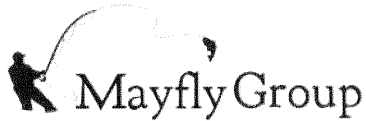
Sincerely,

John Jewett
Truckee River Chapter #103; President
10356 Donner Pass Rd. Suite B
Truckee, CA 96161
(530) 587-7110

Trout Unlimited: America's Leading Coldwater Fisheries Conservation Organization

Truckee River Trout Unlimited: 10356 Donner Pass Rd. Truckee, CA 96161

Direct: (530) 587-7110 • www.tahoetroutbun.org • www.facebook.com/#!/TruckeeTU • www.tu.org



Wednesday, April 02, 2014

Pacific Fishery Management Council
7700 NE Ambassador Place, Suite 101
Portland, Oregon 97220-1384

Re: Support for Adoption of Alternative 2.2.1 as Preferred Option for Currently Unmanaged Forage Fish Species

Dear Members of the Pacific Fisheries Management Council,

Mayfly Group, including its affiliate companies, has been in the fly fishing industry since 1973. We own and operate some of leading brands in the sport and have been active in protection of wildlife and fishing habits.

In this spirit, we request that you act during your April 2014 meeting to better protect forage fish species, and the salmonids (salmon, steelhead, and sea-run trout) that depend on them during their ocean life stage.

The Council has made steady progress over the past two years in laying the groundwork for establishing regulatory protections for currently unmanaged forage fish species. Please institutionalize this progress by selecting Alternative 2.2.1 as the preliminary preferred option for protecting currently unmanaged forage fish by incorporating them into all of the Council's existing fishery management plans as ecosystem component species.

The Council's Ecosystem Working Group has delivered a new report justifying your decision to conserve these forage species, because of their importance to our salmonid populations and the sport and commercial fisheries that depend on them, their critical role in the California Current ecosystem, and because of growing worldwide demand to harvest forage fish.

The steps laid out in Alternative 2.2.1 will ensure that the Council achieves its goal of basic management protections for currently unmanaged forage fish. By protecting forage fish as a key link in the marine food web, we can sustain a healthy marine ecosystem and the fishing heritage and economies that depend on this ecosystem.

Each year Trout Unlimited spends hundreds of thousands of volunteer-hours and millions of dollars to conserve, protect and restore inland habitat for trout and salmon. Protecting their primary food source in the open ocean is a sensible, cost-effective tactic to ensure our work on land delivers its full promise: self-sustaining runs of wild salmon and steelhead in their native watersheds.

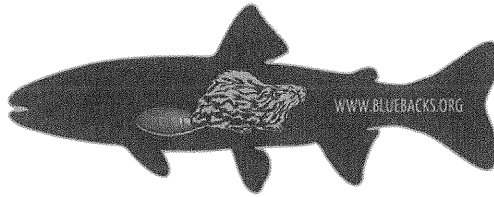
Thank you for your commitment to keeping the Pacific Ocean healthy and productive.

Sincerely,

A handwritten signature in dark ink, appearing to read "D. C. Dragoo", with a stylized flourish at the end.

David C Dragoo

President



Bluebacks Trout Unlimited Chapter #196
900 NW Kings Blvd.
Corvallis, Oregon 97330
(541)230-1716
bluebacksTU@gmail.com
www.bluebacks.org

Re: Forage Fish

Dear Chair Lowman and Council Members,

We are writing you today on behalf of the Truckee River Chapter of Trout Unlimited, located in Truckee, CA. The Council has made steady progress over the past two years in laying the groundwork for establishing regulatory protections for currently unmanaged forage fish species. Today, I ask that you select alternative 2.2.1 as the preliminary preferred option for protecting currently unmanaged forage fish by incorporating them into all of the council's existing fishery management plans as ecosystem component species.

During your meeting in April, I encourage you to pick alternative 2.2.1 as the preliminary preferred option and release the range of alternatives for public comment. The Council's Ecosystem Working Group has delivered a new report justifying your decision to conserve these forage species, because of their importance to the health of our salmonids sport fishery recovery, California Current ecosystem and because of growing worldwide demand to catch them.

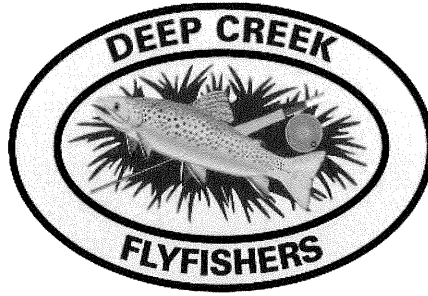
These steps will ensure that the Council achieves its goal of basic management protections for unmanaged forage fish. In so doing, you will fulfill the first initiative of the Council's Fishery Ecosystem Plan, a visionary document that the council approved unanimously a year ago.

By protecting forage fish as a key link in the marine food web, we can maintain a healthy marine ecosystem, including the valuable sustainable fisheries we rely upon. Each year we spend countless hours and dollars working on inland habitat issues for trout and salmon, protecting those fish they eat in the open ocean is a simple cost effective method to ensure our work on land pays off for those fish as they return to their ocean habitat.

Thank you for your continued commitment to maintain a healthy and productive Pacific Ocean, and please don't hesitate to contact us directly at any time.

Sincerely,

Kyle Smith, President of Blueback's Trout Unlimited Chapter 196
PO Box 238
Corvallis, OR 97339



Pacific Fishery Management Council
7700 NE Ambassador Place, Suite 101
Portland, Oregon 97220-1384

March 28, 2014

Re: Support for Adoption of Alternative 2.2.1 as Preferred Option for Currently Unmanaged Forage Fish Species

Dear Members of the Pacific Fisheries Management Council,

Deep Creek FlyFishers, Inc. requests that you act during your April 2014 meeting to better protect forage fish species, and the salmonids (salmon, steelhead, and sea-run trout) that depend on them during their ocean life stage.

The Council has made steady progress over the past two years in laying the groundwork for establishing regulatory protections for currently unmanaged forage fish species. Please institutionalize this progress by selecting Alternative 2.2.1 as the preliminary preferred option for protecting currently unmanaged forage fish by incorporating them into all of the Council's existing fishery management plans as ecosystem component species.

The Council's Ecosystem Working Group has delivered a new report justifying your decision to conserve these forage species, because of their importance to our salmonid populations and the sport and commercial fisheries that depend on them, their critical role in the California Current ecosystem, and because of growing worldwide demand to harvest forage fish.

The steps laid out in Alternative 2.2.1 will ensure that the Council achieves its goal of basic management protections for currently unmanaged forage fish. By protecting forage fish as a key link in the marine food web, we can sustain a healthy marine ecosystem and the fishing heritage and economies that depend on this ecosystem.

Each year Trout Unlimited spends hundreds of thousands of volunteer-hours and millions of dollars to conserve, protect and restore inland habitat for trout and salmon. Protecting their primary food source in the open ocean is a sensible, cost-effective tactic to ensure our work on land delivers its full promise: self-sustaining runs of wild salmon and steelhead in their native watersheds.

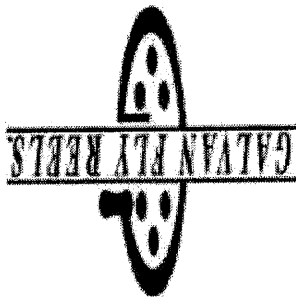
Thank you for your commitment to keeping the Pacific Ocean healthy and productive.

Sincerely,

Robin A. Johnson

President

Deep Creek FlyFishers, Inc.



21103 Longeway Rd., Sonora CA, 95370

Pacific Fishery Management Council
7700 NE Ambassador Place, Suite 101
Portland, Oregon 97220-1384

Date: April, 2 2014

**Re: Support for Adoption of Alternative 2.2.1 as Preferred Option for
Currently Unmanaged Forage Fish Species**

Dear Members of the Pacific Fisheries Management Council,
We, Galvan Fly Reels, request that you act during your April 2014 meeting to better protect forage fish species, and the salmonids (salmon, steelhead, and sea-run trout) that depend on them during their ocean life stage.
The Council has made steady progress over the past two years in laying the groundwork for establishing regulatory protections for currently unmanaged forage fish species. Please institutionalize this progress by selecting Alternative 2.2.1 as the preliminary preferred option for protecting currently unmanaged forage fish by incorporating them into all of the Council's existing fishery management plans as ecosystem component species.

The Council's Ecosystem Working Group has delivered a new report justifying your decision to conserve these forage species, because of their importance to our salmonid populations and the sport and commercial fisheries that depend on them, their critical role in the California Current ecosystem, and because of growing worldwide demand to harvest forage fish.

The steps laid out in Alternative 2.2.1 will ensure that the Council achieves its goal of basic management protections for currently unmanaged forage fish. By protecting forage fish as a key link in the marine food web, we can sustain a healthy marine ecosystem and the fishing heritage and economies that depend on this ecosystem. Each year Trout Unlimited spends hundreds of thousands of volunteer-hours and millions of dollars to conserve, protect and restore inland habitat for trout and salmon. Protecting their primary food source in the open ocean is a sensible, cost-effective tactic to ensure our work on land delivers its full promise: self-sustaining runs of wild salmon and steelhead in their native watersheds.

Thank you for your commitment to keeping the Pacific Ocean healthy and productive.

Sincerely,

Bonifacio Galvan, Carmen Galvan, Veronica Anderson, Lou Galvan, Marcos Galvan and Rachelle Galvan



Pacific Fishery Management Council
7700 NE Ambassador Place, Suite 101
Portland, Oregon 97220-1384

April 7, 2014

Re: Support for Adoption of Alternative 2.2.1 as Preferred Option for Currently Unmanaged Forage Fish Species

Dear Members of the Pacific Fisheries Management Council,

We, the Golden State Flycasters Chapter of Trout Unlimited, request that you act during your April 2014 meeting to better protect forage fish species, and the salmonids (salmon, steelhead, and sea-run trout) that depend on them during their ocean life stage.

The Council has made steady progress over the past two years in laying the groundwork for establishing regulatory protections for currently unmanaged forage fish species. Please institutionalize this progress by selecting Alternative 2.2.1 as the preliminary preferred option for protecting currently unmanaged forage fish by incorporating them into all of the Council's existing fishery management plans as ecosystem component species.

The Council's Ecosystem Working Group has delivered a new report justifying your decision to conserve these forage species, because of their importance to our salmonid populations and the sport and commercial fisheries that depend on them, their critical role in the California Current ecosystem, and because of growing worldwide demand to harvest forage fish.

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Each year Trout Unlimited spends hundreds of thousands of volunteer-hours and millions of dollars to conserve, protect and restore inland habitat for trout and salmon. Protecting their primary food source in the open ocean is a sensible, cost-effective tactic to ensure our work on land delivers its full promise: self-sustaining runs of wild salmon and steelhead in their native watersheds.

Thank you for your commitment to keeping the Pacific Ocean healthy and productive.

Sincerely,

Wayne Johnson
President – Golden State Flycasters Trout Unlimited



3815 Old Topanga Canyon Road
Calabasas, CA 91302
Tel: 818-591-1701
mrtrust@mountainstrust.org
www.mountainstrust.org

A California Public
Benefit Corporation
To Preserve, Protect and
Enhance the Natural
Resources of the
Santa Monica Mountains

April 7, 2014

Pacific Fishery Management Council
7700 NE Ambassador Place, Suite 101
Portland, Oregon 97220-1384

**Re: Support for Adoption of Alternative 2.2.1 as Preferred Option
for Currently Unmanaged Forage Fish Species**

Board of Directors

Tracy Bunetta
Marika Erdely
Nancy Helsley
Steve Hess
James Hughes
Jo Powe
Robert K. Wayne

Staff

Debra Sharpton
Executive Director
Crystal Anderson
Rachel Burnap
Emmanuel Gomez
Tom Hayduk
Jo Kitz
Ben Medley
Nancy Miret
Anders Reimer
Wyatt Rovera
Betsey Scheets
Kyle Troy

Dear Members of the Pacific Fisheries Management Council,

Mountains Restoration Trust, a nonprofit public benefit organization in the Santa Monica Mountains, focuses a great deal of effort on restoring streams for the endangered southern steelhead. I respectfully request that you act during your April 2014 meeting to better protect forage fish species, and the salmonids (salmon, steelhead, and sea-run trout) that depend on them during their ocean life stage. Ensuring the local forage fish is a critical component to restoring historic spawning grounds.

Please institutionalize your wonderful work over the past two years by selecting Alternative 2.2.1 as the preliminary preferred option for protecting currently unmanaged forage fish by incorporating them into all of the Council's existing fishery management plans as ecosystem component species.

The Council's Ecosystem Working Group has delivered a new report justifying your decision to conserve these forage species, because of their importance to our salmonid populations and the sport and commercial fisheries that depend on them, their critical role in the California Current ecosystem, and because of growing worldwide demand to harvest forage fish.

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Thank you for your commitment to keeping the Pacific Ocean healthy and productive.

Regards,

Debra Sharpton
Executive Director



March 31, 2014

Pacific Fishery Management Council
7700 NE Ambassador Place, Suite 101
Portland, Oregon 97220-1384

Re: Support for Adoption of Alternative 2.2.1 as Preferred Option for Currently Unmanaged Forage Fish Species

Dear Members of the Pacific Fisheries Management Council,

We, the South Coast Chapter of Trout Unlimited, request that you act during your April 2014 meeting to better protect forage fish species, and the salmonids (salmon, steelhead, and sea-run trout) that depend on them during their ocean life stage.

The Council has made steady progress over the past two years in laying the groundwork for establishing regulatory protections for currently unmanaged forage fish species. Please institutionalize this progress by selecting Alternative 2.2.1 as the preliminary preferred option for protecting currently unmanaged forage fish by incorporating them into all of the Council's existing fishery management plans as ecosystem component species.

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Each year Trout Unlimited spends hundreds of thousands of volunteer-hours and millions of dollars to conserve, protect and restore inland habitat for trout and salmon. Protecting their primary food source in the open ocean is a sensible, cost-effective tactic to ensure our work on land delivers its full promise: self-sustaining runs of wild salmon and steelhead in their native watersheds.

Thank you for your commitment to keeping the Pacific Ocean healthy and productive.

Sincerely,

Robert Blankenship, B.A.
President – South Coast Chapter Trout Unlimited



March 31, 2014

Pacific Fishery Management Council
7700 NE Ambassador Place, Suite 101
Portland, Oregon 97220-1384

Re: Support for Adoption of Alternative 2.2.1 as Preferred Option for Currently Unmanaged Forage Fish Species

Dear Members of the Pacific Fisheries Management Council,

We, the South Coast Chapter of Trout Unlimited, request that you act during your April 2014 meeting to better protect forage fish species, and the salmonids (salmon, steelhead, and sea-run trout) that depend on them during their ocean life stage.

The Council has made steady progress over the past two years in laying the groundwork for establishing regulatory protections for currently unmanaged forage fish species. Please institutionalize this progress by selecting Alternative 2.2.1 as the preliminary preferred option for protecting currently unmanaged forage fish by incorporating them into all of the Council's existing fishery management plans as ecosystem component species.

The Council's Ecosystem Working Group has delivered a new report justifying your decision to conserve these forage species, because of their importance to our salmonid populations and the sport and commercial fisheries that depend on them, their critical role in the California Current ecosystem, and because of growing worldwide demand to harvest forage fish.

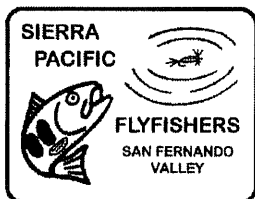
The steps laid out in Alternative 2.2.1 will ensure that the Council achieves its goal of basic management protections for currently unmanaged forage fish. By protecting forage fish as a key link in the marine food web, we can sustain a healthy marine ecosystem and the fishing heritage and economies that depend on this ecosystem.

Each year Trout Unlimited spends hundreds of thousands of volunteer-hours and millions of dollars to conserve, protect and restore inland habitat for trout and salmon. Protecting their primary food source in the open ocean is a sensible, cost-effective tactic to ensure our work on land delivers its full promise: self-sustaining runs of wild salmon and steelhead in their native watersheds.

Thank you for your commitment to keeping the Pacific Ocean healthy and productive.

Sincerely,

Robert Blankenship, B.A.
President – South Coast Chapter Trout Unlimited



Sierra Pacific Flyfishers
P.O. Box 8403
Van Nuys, CA 91409

April 7, 2014

Pacific Fishery Management Council
7700 NE Ambassador Place, Suite 101
Portland, Oregon 97220-1384

Re: Support for Adoption of Alternative 2.2.1 as Preferred Option for Currently Unmanaged Forage Fish Species

Dear Members of the Pacific Fisheries Management Council,

Sierra Pacific Flyfishers (SPFF) request that you act during your April 2014 meeting to better protect forage fish species, and the salmonids (salmon, steelhead, and sea-run trout) that depend on them during their ocean life stage. SPFF works with partner agencies and nonprofits to bring back the spawning grounds of the endangered southern steelhead, we need you to protect its forage food in the ocean.

The Council has made steady progress over the past two years in laying the groundwork for establishing regulatory protections for currently unmanaged forage fish species. Please institutionalize this progress by selecting Alternative 2.2.1 as the preliminary preferred option for protecting currently unmanaged forage fish by incorporating them into all of the Council's existing fishery management plans as ecosystem component species.

The Council's Ecosystem Working Group has delivered a new report justifying your decision to conserve these forage species, because of their importance to our salmonid populations and the sport and commercial fisheries that depend on them, their critical role in the California Current ecosystem, and because of growing worldwide demand to harvest forage fish.

The steps laid out in Alternative 2.2.1 will ensure that the Council achieves its goal of basic management protections for currently unmanaged forage fish. By protecting forage fish as a key link in the marine food web, we can sustain a healthy marine ecosystem and the fishing heritage and economies that depend on this ecosystem.

Thank you for your commitment to keeping the Pacific Ocean healthy and productive.

Sincerely,

William O'Kelly
President



April 7, 2014

Pacific Fishery Management Council
7700 NE Ambassador Place, Suite 101
Portland, Oregon 97220-1384

Re: Support for Adoption of Alternative 2.2.1 as Preferred Option for Currently Unmanaged Forage Fish Species

Dear Members of the Pacific Fisheries Management Council,

The Southwest Council of the International Federation of Fly Fishers (SWC-IFFF) is a 4,000+ member council of clubs in the southern California region. As conservation vice-president of SWC-IFFF, I respectfully request that you act during your April 2014 meeting to better protect forage fish species, and the salmonids (salmon, steelhead, and sea-run trout) that depend on them during their ocean life stage. We are working hard to return the southern steelhead to our waters, insuring the local forage fish is a critical component to restoring historic spawning grounds.

Please institutionalize your wonderful work over the past two years by selecting Alternative 2.2.1 as the preliminary preferred option for protecting currently unmanaged forage fish by incorporating them into all of the Council's existing fishery management plans as ecosystem component species.

The Council's Ecosystem Working Group has delivered a new report justifying your decision to conserve these forage species, because of their importance to our salmonid populations and the sport and commercial fisheries that depend on them, their critical role in the California Current ecosystem, and because of growing worldwide demand to harvest forage fish.

The steps laid out in Alternative 2.2.1 will ensure that the Council achieves its goal of basic management protections for currently unmanaged forage fish. By protecting forage fish as a key link in the marine food web, we can sustain a healthy marine ecosystem and the fishing heritage and economies that depend on this ecosystem.

Thank you for your commitment to keeping the Pacific Ocean healthy and productive.

Regards,

A handwritten signature in dark ink, appearing to read "Debra Sharpton". The signature is fluid and cursive, with a long horizontal stroke at the end.

Debra Sharpton
Conservation Vice President
196 Stonehaven Lane, Oak Park, CA 91377



April 9, 2014

Re: Forage Fish

Dear Chair Lowman and Pacific Fisheries Management Council Members,

We are writing you today on behalf of the Tualatin Valley Chapter of Trout Unlimited, located in Portland, OR. The Council has made steady progress over the past two years in laying the groundwork for establishing regulatory protections for currently unmanaged forage fish species. Today, I ask that you select alternative 2.2.1 as the preliminary preferred option for protecting currently unmanaged forage fish by incorporating them into all of the council's existing fishery management plans as ecosystem component species.

During your meeting in April, I encourage you to pick alternative 2.2.1 as the preliminary preferred option and release the range of alternatives for public comment. The Council's Ecosystem Working Group has delivered a new report justifying your decision to conserve these forage species, because of their importance to the health of our salmonids sport fishery recovery, California Current ecosystem and because of growing worldwide demand to catch them.

These steps will ensure that the Council achieves its goal of basic management protections for unmanaged forage fish. In so doing, you will fulfill the first initiative of the Council's Fishery Ecosystem Plan, a visionary document that the council approved unanimously a year ago.

By protecting forage fish as a key link in the marine food web, we can maintain a healthy marine ecosystem, including the valuable sustainable fisheries we rely upon. Each year we spend countless hours and dollars working on inland habitat issues for trout and salmon, protecting those fish they eat in the open ocean is a simple cost effective method to ensure our work on land pays off for those fish as they return to their ocean habitat.

Thank you for your continued commitment to maintain a healthy and productive Pacific Ocean, and please don't hesitate to contact us directly at any time.

Sincerely,

Erle Norman
President, Tualatin Valley Chapter of Trout Unlimited
6152 SW Nevada Ct.
Portland, OR 97219

Washington Council of Trout Unlimited

P.O. Box 2652 Issaquah, WA 98027



March 28, 2014

Dear Chair Lowman and Council Members,

EXECUTIVE BOARD

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The Washington Council of Trout Unlimited is very mindful of the importance of forage fish in our marine waters to our native salmon and steelhead. We greatly appreciate the steps you are taking to help protect this important corner stone of the food web and Pacific NW ecosystem. The steps you take to protect and properly manage these resources have far reaching effects well inland.

The Council has made steady progress over the past two years in laying the groundwork for establishing regulatory protections for currently unmanaged forage fish species. Today, we ask that you select alternative 2.2.1 as the preliminary preferred option for protecting currently unmanaged forage fish by incorporating them into all of the council's existing fishery management plans as ecosystem component species.

During your meeting in April, we encourage you to pick alternative 2.2.1 as the preliminary preferred option and release the range of alternatives for public comment. The Council's Ecosystem Working Group has delivered a new report justifying your decision to conserve these forage species, because of their importance to the health of our salmonids sport fishery recovery, California Current ecosystem and because of growing worldwide demand to catch them.

These steps will ensure that the Council achieves its goal of basic management protections for unmanaged forage fish. In so doing, you will fulfill the first initiative of the Council's Fishery Ecosystem Plan, a visionary document that the council approved unanimously a year ago.

By protecting forage fish as a key link in the marine food web, we can maintain a healthy marine ecosystem, including the valuable sustainable fisheries we rely upon. Each year we spend countless hours and dollars working on inland habitat issues for trout and salmon, protecting those fish they eat in the open ocean is a simple cost effective method to ensure our work on land pays off for those fish as they return to their ocean habitat.

Thank you for your continued commitment to maintain a healthy and productive Pacific Ocean.

Respectfully

A handwritten signature in black ink, appearing to read "Rosendo", written over a light blue horizontal line.

Rosendo Guerrero
Chairman/ Washington Council of Trout Unlimited
Email: rosendo.tu@gmail.com



April 4, 2014

Dorothy Lowman, Chair
Pacific Fishery Management Council
7700 NE Ambassador Place, Suite 101
Portland, OR 97220-1384

Dear Chair Lowman and Council Members,

As founder and chairman of West Marine, I am proud to be associated with a business that started in my garage in Sunnyvale more than 40 years ago to become one of the largest boating supply companies in the world today. Knowledgeable and hard-working employees have built the company into a go-to source for boating and fishing equipment serving customers in more than 150 countries around the world.

Yet I also realize that this business depends on healthy marine ecosystems. That's why I am encouraging the Council to follow through on the commitment you made in June of 2012, when you vowed to prohibit new fisheries targeting currently unmanaged forage fish until you have a chance to evaluate the effect on other fisheries and fishing communities. Now is the time to follow through with binding protections on the water.

I encourage you to move this process forward during your meeting this week by approving a range of alternatives to protect currently unfished forage species, and selecting alternative 2.2.1 from the Ecosystem Workgroup report as your preliminary preferred alternative. The workgroup's report noted that the spectacular growth of the global aquaculture industry will raise the likelihood for fishing to begin on unmanaged West Coast forage species sooner or later. That's why I believe it is important for the council to put itself in position to take final action on this matter as soon as possible, preferably no later than the end of this year.

Here on the West Coast, we know that an abundance and diversity of forage fish isn't just good for the environment but it's also good business. In California alone, a productive marine food web generates \$43 billion annually in ocean-dependent revenue, according to a study cited back in 2006 by the West Coast Governors Alliance of Ocean Health.

I appreciate the fact that the Council has taken on this issue, and I urge you to follow through by making sure we put in place basic conservation protections for forage fish that aren't yet being targeted.

Thank you for your time and stewardship of a healthy Pacific marine ecosystem.

Sincerely,

A handwritten signature in black ink that reads 'Randy Repass'.

Randy Repass
Chairman

RR/lis

Bear Creek Watershed Group
Carl Weidert, Chair
7577 Sparky Lohr Lane
Shingletown, CA 96088

Pacific Fishery Management Council
Dorothy Lowman, Chair
7700 N.E. Ambassador Place, Suite 101
Portland, OR 97220-1384

Dear Chair Lowman and Council Members,

The Bear Creek Watershed Group (BCWG) was formed twelve years ago as part of the state biodiversity and CALFED efforts. One of our projects has been to obtain data on the salmonid fish numbers and stream conditions. We have had a watershed study prepared, conducted redd surveys, a creek barrier survey, macro invertebrate surveys and three years of video fish counts in Bear Creek. We are currently conducting a three-year survey of baseline water parameters.

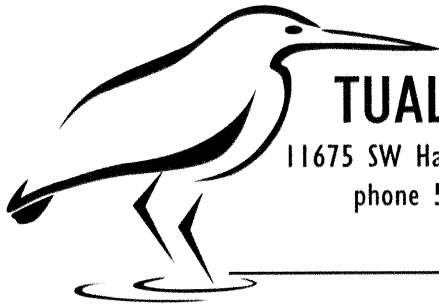
All of these efforts being the foundation to evaluate the stream for future salmon and steelhead enhancement projects because the populations are much reduced from historical levels or have been lost.

The barrier survey found no man made barriers over a 26 mile reach and only a partial natural barrier at mile 20 for salmon but not steelhead. The stream health surveys showed good stream health. This suggests that a reduction of numbers to 6 to 250 during the video counts and steelhead numbers in the 100 range are not because of stream conditions but are related to ocean and or transit river conditions.

The BCWG feels that ocean forage fish numbers must be maintained at the highest numbers to help prevent the loss of fish in streams with low salmonid population numbers. We hope that you will accept option 2.2.1 from the Council's Ecosystem Working Group's report as the preferred alternative in the draft management plan.

Sincerely,

Carl Weidert



TUALATIN RIVERKEEPERS®

11675 SW Hazelbrook Road • Tualatin, Oregon 97062

phone 503-218-2580 • fax 503-218-2583

www.tualatinriverkeepers.org

Ms. Dorothy M. Lowman, Chair
Pacific Fishery Management Council
7700 NE Ambassador Place, Suite 101
Portland, Oregon 97220-1384

Dear Chair Lowman and council members,

I write on behalf of Tualatin Riverkeepers, a non-profit organization dedicated to protection of the Tualatin River and its tributaries. We represent 650 members in Washington County and beyond, and our members understand that clean water links the economy, human health, and ecology. Our watershed hosts incredible biodiversity, including ocean-going coho salmon and steelhead trout—who depend upon forage fish for their survival.

The council has made steady progress over the past two years in laying the groundwork for regulatory protections of unmanaged forage fish species. Tualatin Riverkeepers asks the council to approve a range of alternatives to extend basic protections to these species by bringing them into existing Fishery Management Plans through selecting option 2.2.1 as the preferred preliminary option.

Thank you for your progress on preventing unregulated industrial-scale fishing on forage species that aren't yet fished or managed. The council's commitment to this important issue enables us to continue enhancing sustainable management of the Tualatin watershed, and your work is as important upriver as it is at sea.

Sincerely,

Mike Skuja
Executive Director
Tualatin Riverkeepers

Agenda Item I.1
Unmanaged Forage Fish Initiative
Pacific Fishery Management Council
10 April 2013

Chair Lowman and Council Members:

Thank you for the opportunity to speak with you today. My name is Jay Withgott. I'm a textbook author in environmental science, a Board member of the Audubon Society of Portland, and a naturalist with a keen interest in the coastal marine life of the Pacific.

I would like to thank the Council for its recent work in adopting the Fishery Ecosystem Plan and approving the Plan's Initiative #1. And I would like to thank you for your efforts in considering the extension of protection to the currently unmanaged forage fish that play such key roles in marine food webs. Since your meeting a year ago in Portland, a great deal of progress has been made, and I am encouraged that your continued actions will have strong positive impacts on restoring and maintaining the marine and coastal fisheries and ecosystems that we all benefit from.

Over the years I have helped to show hundreds of people the seabirds and other wildlife along the Oregon coast and in its pelagic waters. I can't tell you how many people have been thrilled at the sight of thousands of Common Murres jostling in their crowded breeding colonies atop seastacks. Or of colorful Tufted Puffins peering out from their nest holes and then plummeting down and out over the water like a football with wings. Or of Pigeon Guillemots, with their cherry-red feet and shrill whistling screams, shuttling from beachcliff nesting sites to the ocean and back. Or of flocks of Sooty Shearwaters wheeling and crisscrossing over the waves. Or of the braying hordes of seals and sea lions gathered together at a place like Cape Arago.

All these sights that thrill, surprise, and delight us are attractions that inspire people to come to the coast and go out on the sea, spending tourism dollars and supporting our coastal economies along the way. And they all depend crucially on the continued abundance of those little fish low on the food chain.

Assuring protection for low-trophic-level fish such as herring, smelt, anchovies, and sardines is vital to the integrity of our marine ecosystems and fisheries. As forage fish come under increasing harvesting pressure, we need policies that will ensure that we conserve healthy, thriving populations of these fish.

This is why I would urge you to approve and release for public comment a range of alternatives for the protection of forage fish, and to select **Alternative 2.2.1, the Ecosystem Trophic Role Pathway**, as your preferred alternative. This alternative, along with meaningful measures implemented to limit harvests, would go a long way toward protecting our ecosystems and our fisheries.

Thank you for your time today, and thank you very much for your efforts in this regard.

Jay Withgott
Textbook author in environmental science
Portland, Oregon

April 9, 2014

Pacific Fisheries Management Council
Dorothy M. Lowman, Chair
7700 N.E. Ambassador Place, Suite 101
Portland, Oregon 97220-1384

Agenda Item I.1. Unmanaged Forage Fish Initiative

Dear Chair Lowman and Council Members:

Thank you for giving me a minute to submit my comments during this morning's Council meeting. I'm Rennie Ferris. I was born and raised in Newport, Oregon. I did however, get away long enough to appreciate the great bounty our West Coast has to offer. As an avid marine angler from an early age I still fish whenever I can. I earned my way through a BS in Fisheries Science from Oregon State working as a Field Tech, on the Oregon Coast and in Kodiak. Professionally I worked on aquaculture ventures in Louisiana, Florida and Long Island. I returned to the Oregon Coast in 1975 and have been in business as a landscape contractor since.

Throughout my life I have had a keen interest in what is going on with our fisheries resources. Various members of my family and many friends have or are involved in fishing commercially. I have seen and studied ups and downs in various commercial fisheries over the years and it is with that background that I thank you for supporting the conservation of forage fish as a critical food source for so many marine species. I whole-heartedly support option 2.2.1 as advocated by others before me. That option incorporates currently unmanaged forage fish into existing fishery management plans, where basic conservation measures can be put in place. Getting out front with management measures only make sense as worldwide demand for our resources increase.

As an over-committed natural resource volunteer I applaud your service on this council, and for most of you, other councils and committees as well.

Thank you so much.

Rennie Ferris
Ferris Landscaping
renferris@charter.net
541-270-3786



NATIVE FISH SOCIETY

Advancing the Recovery of Native, Wild Fish in Their Homewaters

April 10th, 2014

Ms. Dorothy Lowman, Chair
Pacific Fishery Management Council
7700 NE Ambassador Place, Suite 101
Portland, Oregon 97220-1384

Re: Agenda Item I.1, Protecting Un-fished and Unmanaged Forage Fish Initiative

Dear Chairman Lowman and Council members:

As the Native Fish Society's River Steward Coordinator for the North Oregon Coast I would like to voice our continued support to protect currently unmanaged forage fish. The Native Fish society is a regional conservation organization concerned about the health, abundance, biological diversity, and resilience of native fish. Our priorities are to form lasting solutions for people and species that depend on healthy ecosystems and to actively support fisheries based restoration.

During the past two years the council has laid a solid foundation for establishing regulatory protections for currently unmanaged forage species including, but not limited to herrings, smelt, and mesopelagic fishes. We ask that you select alternative 2.2.1 as the preliminary preferred option, which integrates forage fish as an ecosystem component species into all of the council's existing fishery management plans.

Personally, I have experienced abundances of forage fish, as well as the resilient array of other species they support, while running a remote field camp in southwest Alaska. During my time with the Fisheries Research Institute I witnessed schools of sand-lance that were best measured in acres as well as documented eulachon in ecosystems they were not previously found. The development of new directed commercial fisheries without a strong science and management framework cannot utilize these types of data without them first being established. Since returning home to work in fisheries conservation in the Pacific Northwest I have not experienced anything similar to the forage fish abundance and diversity in the Gulf of Alaska.

Recognizing food web interactions and incorporating them into management is a preemptive strategy to combat threats such as climate change and human population growth. Conservation is most successful where actions are aimed at protecting ecosystems before the damage is done. We applaud the council for its proactive approach and for integrating science, public policy, and management concerning this initiative.

Thank you for considering our comments.

Sincerely,

A handwritten signature in black ink that reads "Conrad Gowell". The signature is written in a cursive style with a large, looping 'C' at the beginning and a long, sweeping tail that extends to the right.

Conrad Gowell
North Oregon Coast Regional River Steward Coordinator
Native Fish Society
221 Molalla Ave. Ste. 100
Oregon City, OR 97045



International Game Fish Association Fishing Hall of Fame & Museum

300 Gulf Stream Way, Dania Beach, Florida, 33004 U.S.A.

Phone: 954-927-2628 • Fax: 954-924-4299 • Museum Fax: 954-924-4220

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Pacific Fishery Management Council

Dorothy Lowman, Chair

7700 N.E. Ambassador Place, Suite 101

Portland, Oregon 97220-1384

Dear Chair Lowman and Council Members,

The International Game Fish Association (IGFA) represents 22,203 members in 157 countries, all of whom have a stake in healthy and productive marine ecosystems around the world. We appreciate the steps the Council has taken to protect forage fish as the cornerstone of a vibrant food web along the West Coast of the United States, underscored by the fact that protecting forage fish is first initiative of the Council's new Fishery Ecosystem Plan.

We encourage the PFMC to continue the momentum during the April meeting by approving, and releasing for public comment, a range of alternatives to protect forage fish species that aren't yet being directly targeted for commercial fisheries. The Council's Ecosystem Workgroup provides solid foundation for the Council to take the next step. Of the four alternatives suggested in the workgroup's report which includes a no-action alternative, IGFA encourages the PFMC to select option 2.2.1 as the preliminary preferred option for conserving forage fish. The "Ecosystem Trophic Role Pathway" alternative not only recognizes the importance of unmanaged forage species, but also a wide variety of ocean wildlife, including marine mammals, seabirds, and commercially and recreationally important predator fish such as salmon, tuna, and lingcod.

As we have stated in previous correspondence, we are aware that there is increasing global pressure to pull forage fish from wild marine ecosystems in order to create high-volume products such as bait for industrial tuna longline fishing or food to fatten pen-raised tuna. The Ecosystem Workgroup's new report reiterates the fact that the "spectacular growth" of the global aquaculture industry is likely to increase the possibility of new fisheries developing on forage species that aren't yet being fished directly on the West Coast. The PFMC would be wise to take final action by the end of this year, by approving a range of alternatives by selecting option 2.2.1 as the preliminary preferred option during the April meeting.

Our members are dedicated anglers who know that the future of our sport, and the economic activity it generates, depends on responsible management today. We would like to thank the PFMC for their attention to this issue and for the steps already taken to maintain a healthy and productive Pacific marine ecosystem.

Sincerely,

Jason Schratwieser

IGFA Conservation Director

The International Game Fish Association is a not-for-profit organization committed to the conservation of game fish and the promotion of responsible, ethical angling practices through science, education, rule making and record keeping.

Email: hq@igfa.org • Website: www.igfa.org



March 28, 2014

Dear Chair Lowman and Council members:

As a conscientious chef that seeks to serve the highest quality ingredients, I write in support of your efforts to manage forage fish that are an important food source for the salmon and other high-value fish that I serve in my restaurant. I opened Mother's Bistro & Bar in 2000 and have been serving comfort food to Portlanders and visitors ever since.

At Mother's, we take traditional homemade favorites and refine them with classical cooking techniques, so they're like mom's cooking, only a bit better. Slow-cooked foods that take hours to prepare—hand-made dumplings, stews, roasts and braised dishes. We make everything from scratch, using the best possible ingredients including Pacific Northwest wild salmon. Those salmon spend a good portion of their life in their ocean where forage fish serve a dual purpose as both prey and providing cover from other predators of ocean-bound smolts.

I would love to serve Pacific sardines at my restaurant, but the unfortunate truth is they are very hard to find. Almost all of the sardines harvested off our coast are not used for high-value human consumption and are instead sent overseas to feed pen-raised tuna or reduced into fishmeal and turned into cat food, fertilizer, and feed for livestock.

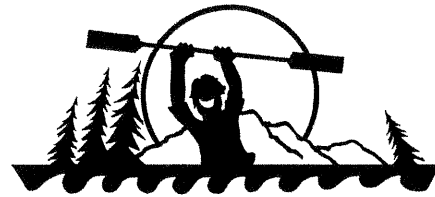
We need to leave these little fish in the ocean so there is enough food for predatory fish, marine mammals, birds and all the other creatures that depend on them. I hope you continue to move forward with protections for forage fish by approving the range of alternatives in the Ecosystem Working Group's report and selecting a preferred alternative for managing those species by incorporating them into fishery management plans through the ecosystem trophic role pathway. The role these species play in the ocean ecosystem cannot be overstated and that needs to be considered in our fishery management decisions.

Thank your for allowing me the opportunity to comment. I hope you'll stop in and have some of our popular salmon hash next time you find yourself in Portland!

Sincerely,

Lisa Schroeder
Owner & Chef
Mother's Bistro & Bar

March 28, 2014



Ms. Dorothy Lowman, Chair
Pacific Fishery Management Council
7700 NE Ambassador Place, Suite 101
Portland, Oregon 97220-1384

South Coast Tours LLC
27436 Hunter Creek Rd.
Gold Beach, OR 97444
www.southcoasttours.net
541-373-0487

Dear Chair Lowman and Council Members:

As a coastal resident and business owner, I am writing today to express my support for the management of currently unmanaged and unfished forage fish. I have weighed in on this issue and ecosystem-based management of our Pacific ocean over the several years and I am encouraged by the Council's leadership and forward-thinking approach to fisheries management. The Fishery Ecosystem Plan adopted last April laid the groundwork for future Council action on many important issues and I'm glad to see it is not sitting idly on a shelf, but having a real impact on the way we manage our west coast fisheries.

In the Pacific Northwest we have dedicated a significant amount of resources to the protection and rebuilding of our Salmon and Steelhead stocks. Watershed councils, conservation groups, agencies and others have spent a vast amount of time and energy working on these highly popular and resilient heritage fish. Sometimes I'm amazed that we still have fishing opportunity considering how much habitat loss and depletion these fish have endured. Protecting prey that salmon, steelhead, and other predatory fish depend on is critical to ensure fishing opportunity is available for generations to come. However, we cannot stop there. We must also consider the role these fish play as food for many other species, including those that do not have direct commercial value as catch.

Whales, seabirds, marine mammals, and other sea life have economic value that is not easily measured. As a kayak fishing and wildlife viewing business on the southern Oregon coast, I see first hand the immense biodiversity offered by the California Current Large Marine Ecosystem and I directly benefit from visitors that wish to experience our ocean wildlife firsthand. So many of the species we see depend on an abundance of oil-rich forage fish and protecting them is a logical step toward ensuring a healthy ocean ecosystem that drives so much of our coastal economy.

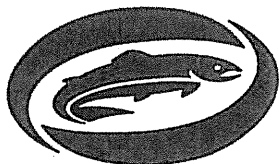
When deciding how to manage forage fish, the Council should take into account the many different trophic roles these species play. Therefore, I suggest the Council not only approve the list of alternatives detailed by the Ecosystem Working Group, but also select an alternative that best takes into account the important role these species play in the broader ecosystem. Option 2.2.1, the Ecosystem Trophic Role Pathway, appears most

suited for this task and I recommend the Council move forward with amending fishery management plans thorough this pathway.

I appreciate the opportunity to comment. Please continue to build on the good work toward ecosystem-based management the Council has done over the past few years.

Respectfully,

Dave Lacey
Owner
South Coast Tours, LLC



Tillamook Estuaries Partnership
A National Estuary Project

613 Commercial Street, PO Box 493, Garibaldi, OR 97118

Phone (503) 322-2222 Fax (503) 322-2261

March 30, 2014

Pacific Fisheries Management Council
Dorothy M. Lowman, Chair
7700 N.E. Ambassador Place, Suite 101
Portland, Oregon 97220-1384

Re: Agenda Item J.1. Ecosystem -- Unmanaged Forage Fish Initiative

Dear Chair Lowman and Council Members:

The Tillamook Estuaries Partnership (TEP) is writing to respond to the above referenced agenda item. The Tillamook Estuaries Partnership is part of the National Estuary Program, created through Section 320 of the Clean Water Act and overseen by the EPA. In adopting the Tillamook Bay Comprehensive Conservation and Management Plan, our guiding document, the community identified four key areas that we focus on: 1) key habitat loss, 2) water quality, 3) minimizing flood impacts, and 4) citizen involvement. Understanding our ecosystem and the many complex interactions between habitat, fish and wildlife, and water quality are critical to our planning efforts.

We appreciate your approval last September of the list of forage fish species needing additional protection. It is important that we understand how, where, and when these species interact within the ecosystem and how harvesting affects that ecosystem.

We encourage the Council to approve and release for public comment a range of alternatives to protect currently unmanaged forage fish with a focus on alternatives that work to gather the necessary science to create a strong management framework.

These small, little understood fish play a significant role in the health of fish and wildlife, our ocean, and our estuaries. Again, we strongly support the Council in opening up the range of alternatives for public comment to guide the Council in creating a sustainable management structure that protects forage fisheries and the fish and wildlife that depend on them.

Please feel free to contact me at either 503-322-2222 or lhipps@tbnep.org

Sincerely,

Lisa M. Phipps
Executive Director

Opinion

Time for fishery leaders to pay attention to little fish

Guest column by Brett Sommermeyer

For those of us who live on the Oregon Coast or make a living from the sea, the Pacific Ocean seems immense. Everything about it is big. Huge waves crash against coastal headlands, vast distances challenge every search and rescue operation.

Thus, it may come as a bit of a shock to realize that so much of our iconic marine life – whales, sea lions, seabirds, salmon and tuna – depends on something so little as a sardine.

West Coast fishery leaders are about to give these little fish some much-deserved attention.

Scientists and fishermen are increasingly coming to realize that little fish like smelt, sardines, anchovies and herring are in fact a crucial component of a healthy and productive Pacific marine ecosystem. These and other species of so-called "forage fish" cumulatively form a crucial link in marine food webs. They eat tiny plants and animals drifting near the surface, then form huge "bait balls" of protein that are consumed by everything else above them on the food web – including commercially valuable species of groundfish, salmon and tuna that sustain our coastal fishing economy.

Many forage fish species are also targeted by industrial-scale fisheries, including sardines that famously collapsed in the 1950s and appear to be on a serious cyclical decline once again. That is not the only reason you may have a tough time finding sardines or anchovies on grocery shelves.

Worldwide, about 90% of forage fish caught are not used for direct human consumption, but are instead

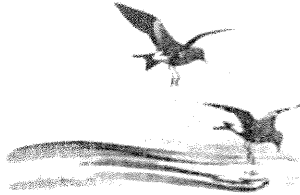
reduced to fishmeal or fish oil for purposes such as feeding chicken or farmed fish.

This week, the Pacific Fishery Management Council will gather in Vancouver, Wash. to make important decisions about forage fish species that are not yet being fished at all. The Council, which includes representatives from Oregon, as well as California, Washington and Idaho (given that ocean-going salmon migrate there), will consider new protections for forage fish like saury, sand lance and various types of smelt that are not yet being fished.

Why bother to protect fish that we are not yet harvesting? Many of the species in question have been targeted by large-scale fisheries elsewhere in the world, and the Council's own Ecosystem Workgroup cites the "spectacular growth" of global aquaculture as raising the likelihood for new forage fisheries here on the Pacific coast. The Council would be wise to put some basic conservation measures in place as soon as possible, rather than waiting until nets are already in the water to rein in a new fishery.

By putting in place measures to maintaining an abundance and diversity of forage species along our coast now, the Council will help to maintain the vibrant ocean ecosystem we all care about.

Brett Sommermeyer is an environmental consultant living in Lincoln County. He can be reached at Conbioconsulting@gmail.com



Ram Papish
750 Meadow Hill Dr.
Toledo, OR 97391

April 5, 2014

Dear Chair Lowman and Council Members:

I am writing to support the Pacific Fisheries Management Council's preferred alternative and to encourage further research, monitoring and progress toward conserving forage fish. The council is to be commended for acknowledging this issue and praised for its efforts thus far.

As a longtime coastal resident, the health of our marine ecosystem is very important to me. As a wildlife photographer and birdwatcher I enjoy the annual spectacle of seabirds nesting at Yaquina Head, Haystack Rock and other colonies along the coast. It's important to me that the prey species these seabirds depend on be protected in the future.

Just as forage fish are essential to the health of the ecosystem, a healthy ecosystem is essential to our local economy. High quality fisheries including salmon and are part of the lifeblood of our economy. As you know these species too depend on abundant and healthy populations of forage fish.

I have worked as a research assistant on several seabird studies in Alaska. As I am sure you are aware, many studies, including those I have been part of, have repeatedly demonstrated the lipid or fat content of high quality forage fish including smelt, sand lance and squid lead to greater reproductive success for seabirds over lower quality food sources. To ensure the future of our seabird populations, we must protect these high-quality forage fish.

With so many uncertainties affecting the marine environment in the future including climate change, increasing human populations and greater demands for fish meal, it is important to implement sound management and protection policies now.

I urge you to choose option 2.2.1 as the preferred option as presented by the council's Ecosystem Working Group. Thank you for taking this matter seriously and addressing the issue while forage fish stocks are still healthy enough to recover and be managed appropriately for us and for our future generations of fishermen and women, nature enthusiasts, and wildlife populations.

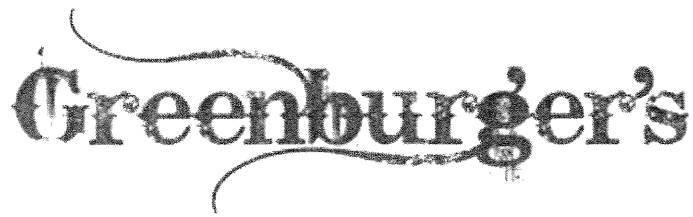
Ram Papish

/s/

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Ms. Dorothy M. Lowman
Chair
Pacific Fishery Management Council
7700 NE Ambassador Place, Suite 101
Portland, Oregon 97220-1384

RE: Agenda Item J.1. Unmanaged Forage Fish Initiative

Dear Chairman Lowman and Council Members:

I am writing on behalf of Greenburger's, a restaurant that prides itself on the use of sustainably sourced, local products to create classic American fare. At Greenburger's, we aim to be as eco-conscious as possible, paying special attention to every detail, from the décor, to the condiment bar, to the hand soap in the bathroom made from glycerin derived from recycled kitchen grease. Through our continued commitment to sustainability, we've gained an understanding of the importance of sustainable fishing advocacy and the need to maintain a healthy and productive Pacific Ocean.

In accordance with our views, I urge you to build upon the work you have done over the last two years to make the Fishery Ecosystem Plan (FEP) a reality. It is necessary to continue to make progress towards an ecosystem-based management approach that takes into consideration all of the important networks in the marine food web. Therefore, I encourage you to select alternative 2.2.1 as the preliminary preferred option for protecting currently unmanaged forage fish, the cornerstone of the food web. I look forward to seeing the Council further its agenda of responsible, sustainable fisheries management at April's meeting.

Thank you for your time and attention to this matter. We appreciate your stewardship of our marine resources and the work you do to maintain healthy oceans and sustainable fisheries.

Respectfully Submitted,

Stefanie Greenberg, CEO
Greenburger's



Ms. Dorothy M. Lowman
Chair
Pacific Fishery Management Council
7700 NE Ambassador Place, Suite 101
Portland, Oregon 97220-1384

RE: Agenda Item J.1. Unmanaged Forage Fish Initiative

Dear Chairman Lowman and Council Members:

I am grateful for the Council's work over the past two years in laying the groundwork for establishing regulatory protections for currently unmanaged forage fish species. The approval of a Fishery Ecosystem Plan takes into account the interconnected nature of our oceans, and promises to ensure that forage fish, the cornerstone of a healthy ocean, are fully protected.

I am writing on behalf of the Balboa Angling Club, a family of fishing men, women and children who all love the outdoors, the strike of a fish and the satisfaction of the catch or release. We encourage conservation and are closely affiliated with many conservation groups including United Anglers of California, International Game Fish Association, Billfish Foundation, and the Pacific Fisheries Enhancement Foundation in conjunction with Hubbs/Seaworld Research Institute, where we operate and manage the White Seabass grow out pens in Newport Beach, California. It is therefore in our interest to partner up with like-minded initiatives that signal a keen commitment towards fishery management, sustainable commercial fishing, and sustainable sportfishing.

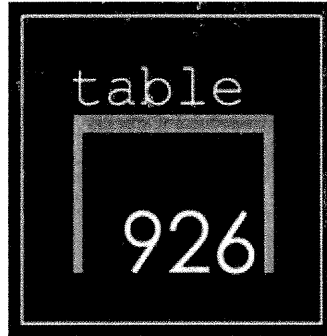
That is why we believe that it is vital to select alternative 2.2.1 as the preliminary preferred option for protecting currently unmanaged forage fish. Unmanaged forage fish must be incorporated into all of the Council's existing fishery management plans as ecosystem component species.

During your meeting in April, it is our hope that you fulfill the first initiative of the Council's Fishery Ecosystem Plan, which was approved unanimously a year ago. Maintaining a healthy marine ecosystem by protecting a key link in the marine food web should remain a priority.

Thank you for considering our comments and for your continued commitment to a productive and sustainable marine environment

Respectfully Yours,

John Doughty, President
Jeff Clary, Past President
Balboa Angling Club



926 Turquoise St, San Diego, CA 92109 858.539.0926 Fax 858.539.2126
www.table926.com

Ms. Dorothy M. Lowman
Chair
Pacific Fishery Management Council
7700 NE Ambassador Place, Suite 101
Portland, Oregon 97220-1384

RE: Agenda Item J.1. Unmanaged Forage Fish Initiative

Dear Chairman Lowman and Council Members:

I am thankful for the work the Council does to promote responsible, sustainable management of our fisheries.

I am writing as the executive chef and owner at Table 926, a Southern California restaurant in a coastal community near La Jolla, where we strive to create an ever-evolving menu that focuses on highlighting seasonal flavors that are local to San Diego. Table 926 is committed to serving sustainable, local, and organic foods whenever possible. By sourcing the finest and freshest ingredients, we are able to offer the best food, from farm to plate. Through my promotion of sustainability at Table 926, I have become exceedingly aware that maintaining a healthy and productive Pacific Ocean is a collaborative effort. I understand that forage fish play a crucial role as the middle link in the ocean food web, as essential nutrition for species of fish that the customers at Table 926 love to eat.

That is why I urge the Council to move forward with their Fishery Ecosystem Plan (FEP) and select alternative 2.2.1 as the preliminary preferred option for protecting currently unmanaged forage fish. The Council should proceed by incorporating unmanaged forage fish into all of the existing fishery management plans.

The Council's Ecosystem Working Group has delivered a new report justifying your decision to conserve these forage species, both because of their importance to the California Current ecosystem and because of growing worldwide demand to catch them. Given these findings, I ask that you follow through on your unanimous approval of the FEP from a year ago, by fulfilling the first initiative.

I look forward to the Council continuing to make strides at April's meeting. I appreciate the opportunity to offer my comments, as well as your continued commitment to ensure a balanced, productive, and sustainable Pacific Ocean.

Respectfully yours,

Matt Richman, Executive Chef & Owner
Table 926

Ms. Dorothy M. Lowman
Chair
Pacific Fishery Management Council
7700 NE Ambassador Place, Suite 101
Portland, Oregon 97220-1384

RE: Agenda Item J.1. Unmanaged Forage Fish Initiative

Dear Chairman Lowman and Council Members:

I am grateful of the Council's steady progress over the past couple of years in laying the groundwork for establishing regulatory protections for unmanaged forage fish species. This signals a step in the right direction by taking into account all aspects of the marine food web.

I am a second generation Marine Ecologist- my father, Garth I Murphy, was the founding coordinator of POFI and instrumental in introducing the word ECOLOGY into fisheries management. I worked for two years on the Marine Life Protection Act Initiative South Coast project. At 69 I have personally witnessed drastic falls in populations of all species, and especially those commercially harvested by seining and other net sets. Land and sea are directly connected, and in order to get the ocean ecosystem responsibly managed, we have to consider the terrestrial interactions and demand pressures. We need immediate cross-ecosystem action in order to halt and reverse the steady, but not inevitable decline of the natural abundance of marine ecosystems and the California Current.

During your meeting in April, I encourage you to select alternative 2.2.1 as the preliminary preferred option for protecting currently unmanaged forage fish. It is important to proceed by incorporating them into existing fishery management plans. These steps will ensure that the Council continues its work to make the Fishery Ecosystem Plan a priority. By protecting forage fish as a key link in the marine food web, we can maintain the valuable sustainable fisheries we rely upon.

The stronger an ecosystem management stance you take, the more efficient and productive your management efforts will be, and the quicker the general marine ecosystem will revert to its historic natural state of abundance, which I presume is the goal of the PFMC.

Thank you for considering my comments and for your continued commitment to a permanently productive marine fisheries ecosystem.

Sincerely,

Garth Murphy, Marine Ecologist/Founder
Integrated Ecosystems Management
649 South Vulcan Avenue
Encinitas, CA 92024

April 6, 2014

Dear Chair Lowman and Council Members :

Please accept these thoughts regarding Agenda item I.1. Unmanaged Forage Fish Initiative.

Please accept my thanks to the council for taking measures to conserve forage fish as a critical link in our marine ecosystems. For the past thirty years I have been a chef here in Oregon focused on local, sustainable food sources. First for ten years as the executive chef at Portland's Heathman Hotel and subsequently for twenty years here at my own restaurant, Higgins - both closely linked to serving the finest PNW seafood from our well managed fisheries. Through our close ties with both the fishing and the conservation communities I've come to know and learn about the important role of PFMC and other regulatory and advisory organizations.

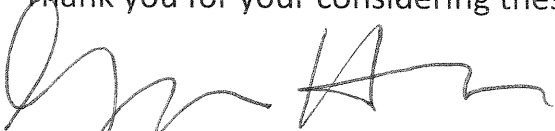
There are obvious concerns regarding the ever increasing global demands for inexpensive fish meal to supply both the aquaculture and poultry & livestock industries. This clearly shows the need for better measures to protect existing stocks of forage species which are not currently targeted off the west coast. If we don't take precautions to protect these unmanaged stocks they are likely to soon be depleted with disastrous ramifications for the rest of our marine ecosystem including marine mammals, seabirds and fish throughout the entire pyramid. The council should clearly recognize the vital linkage these species serve in the overall health of our ocean's food web. This role has been clearly highlighted by the work of such groups as the Lenfest Forage Fish Task Force and of course, Pew Environmental Trust.

"Forage fish serve an important ecological role in the food webs of many coastal and marine ecosystems. They form an essential link between microscopic plants (phytoplankton) and animals (zooplankton) and top predators (large fish,

marine mammals and birds). Scientists estimate that total consumption of forage fish by the world's marine mammals can amount to 20 million tons a year" (pewenvironment.org)

As a restaurant owner and a chef that has dedicated my career to educating my customers, peers and friends about making sound, sustainable food choices I ask you to continue your efforts to protect these forage fish by advancing alternative 2.2.1 as your preferred alternative. This is the precautionary step needed to be proactive in a sustainable management approach that will result in a healthy ocean for all that depend on it. It's crucial that that a broad holistic strategy be utilized to assess the ecological role of forage fish throughout the food chain with regards to the setting of catch limits.

Thank you for your considering these comments,

A handwritten signature in black ink, appearing to read 'Greg Higgins', with a stylized, cursive script.

Greg Higgins

Chef/Owner

Higgins Restaurant & Bar

Portland, Oregon 97205

503-222-9070

www.higginsportland.com



In Our View: Small Forage Fish a Big Deal

Proactive protection efforts being studied could have an effect on entire food chain

April 8, 2014

The Pacific Fishery Management Council is expected to have a big conversation this week about some small things. Well, small in size but large in importance.

As part of a weeklong series of meetings, council members are scheduled Thursday morning to tackle the issue of “forage fish” — small creatures such as sardines, smelt, anchovies and lantern fish that don’t grab headlines like salmon or tuna but play a crucial role in the food chain. As environmental consultant Brett Sommermeyer wrote in an opinion piece for The News Guard in Lincoln City, Ore., “They eat tiny plants and animals drifting near the surface, then form huge ‘bait balls’ of protein that are consumed by everything else above them on the food web.”

In other words, a depletion of forage fish can negatively impact large commercial fish, which influences both the food supply for humans and a crucial aspect of the local economy. According to The Pew Charitable Trusts: “Forage fish are a big deal because they’re a critical food source for countless other animals that people love to watch, catch, or eat.”

The Pacific Fishery Management Council includes representatives from Washington, Oregon, California and Idaho (because ocean-going salmon migrate there), and its members are tasked with the nearly impossible challenge of managing fishing concerns and ensuring that a local industry is sustainable for further generations. The PFMC has adopted a Fisheries Ecosystem Plan that was put forth last year, and it now is looking to adopt concrete measures for implementing the plan.

Among the suggested avenues is providing protection for forage fish, a rather novel approach considering that there is little active harvesting of such fish. According to Sommermeyer, about 90 percent of the forage fish caught worldwide are

reduced to fishmeal or fish oil for feeding chicken or farmed fish.

This often can leave the creatures as an afterthought when it comes to discussions of conservation, but the time has come for a firm action plan to be put into place. As Sommermeyer writes: “Many of the species in question have been targeted by large-scale fisheries elsewhere in the world, and the Council’s own Ecosystem Workgroup cites the ‘spectacular growth’ of global aquaculture as raising the likelihood for new forage fisheries here on the Pacific coast. The Council would be wise to put some basic conservation measures in place as soon as possible, rather than waiting until nets are already in the water to rein in a new fishery.”

Given the difficulty in balancing existing fisheries with conservation concerns (consider the ongoing debate over gillnetting), the need to be proactive regarding forage fish is clear.

Last year’s Fisheries Ecosystem Plan provided a unique approach to fishery management. Tim Roth, a deputy project leader for the federal Columbia River Fisheries Program in Vancouver, stressed at the time that previous management efforts failed to take a big-picture view of the issues involved. “As they were developed,” he told The Columbia, “they didn’t really look across the broad complexities of species and how they interacted.”

But, as most people can remember from their fifth-grade science classes, the food chain is a story of interaction between species. Tiny plants are eaten by tiny animals which are consumed by larger animals and so on. If any link is broken, the chain falters, and the creatures down the chain suffer. Protection of the animals near the front of the chain is crucial for the protection of all creatures, and the PFMC would be wise to act on that knowledge.

Paul T. Hoofe
242 E. 19th Street
Costa Mesa, CA 92627
949-230-8291
fishvortex24@gmail.com

Ms. Dorothy M. Lowman
Chair
Pacific Fishery Management Council
7700 NE Ambassador Place, Suite 101
Portland, Oregon 97220-1384

RE: Agenda Item J.1. Unmanaged Forage Fish Initiative

Dear Chairman Lowman and Council Members:

Thank you for your time and effort regarding the Council's Conservation minded direction of a sustainable bait fish fishery. Last years approval of the (FEP) was a positive direction for all anglers. I prefer to select alternative 2.2.1 as the preliminary preferred option for protecting currently unmanaged forage fish.

I am writing to you as a recreational angler who has enjoyed the Southern California fishing community for almost forty years and International Game Fish Association (IGFA) representative for Orange County California.

In the early 70's I started out fishing just to have fun. Over the years it turned into a lifestyle of great memories and friends. To continue the legacy of sport fishing it is going to require sacrifices from commercial and sport fishermen to allow others to have their own memories and enjoyment on the waters that we all take for granted.

Thank you for allowing the sport fishing community to participate in this public process, and for your commitment to responsibly and sustainably managing our marine environment.

Sincerely,
Paul T. Hoofe
IGFA Representative
Orange County, CA
Tuna Club Member
Laguna Niguel Billfish Member
Balboa Angling Club Member



ESTABLISHED 1971

Ms. Dorothy M. Lowman
Chair
Pacific Fishery Management Council
7700 NE Ambassador Place, Suite 101
Portland, Oregon 97220-1384

RE: Agenda Item J.1. Unmanaged Forage Fish Initiative

Dear Chairman Lowman and Council Members:

Thank you for your leadership as Council Chair to make steady progress over the past two years in laying the groundwork to establish regulatory protections for currently unmanaged forage fish species. This initiative rightly takes into account the many inter-connected networks in the ocean food web.

I am writing on behalf of the Environmental Action Committee (EAC) of West Marin, a grassroots environmental advocacy organization committed to the appreciation and protection of the wildlife, wilderness, wild lands, watersheds, and rural character of West Marin. EAC's mission is to protect and enhance the natural environment of West Marin— a mission we have been carrying out for over 40 years, since 1971. We have set out to foster a wider understanding of the unique qualities of West Marin, and that would be impossible without taking into account the immense impact that forage fish have on the entire ocean ecosystem.

As you look toward future regulations at your meeting in April, I encourage you to select alternative 2.2.1 as the preliminary preferred option for protecting currently unmanaged forage fish. The Council should incorporate them into existing fishery management plans as ecosystem component species.

The Council's Ecosystem Working Group findings presented in a new report

justify the decision to conserve these forage species, both because of their importance to the California Current ecosystem and because of growing worldwide demand to catch them. Thus, it makes sense to proceed with the first initiative of the Fishery Ecosystem Plan. This vital component of the ocean food web must be responsibly managed.

I look forward to hearing that the Council moves forward and continues to take positive action on this matter. Thank you for the opportunity to comment on this matter and to participate in this important public decision making process.

Respectfully yours,

A handwritten signature in black ink, appearing to read "Amy Trainer", with a long horizontal flourish extending to the right.

Amy Trainer, Executive Director
Environmental Action Committee of West Marin



COMMUNITY SUPPORTED FISHERY

Pacific Fishery Management Council
Dorothy Lowman, Chair
7700 N.E. Ambassador Place, Suite 101
Portland, OR 97220-1384

Dear Chair Lowman and Council Members,

I write to you today as a business owner and sustainable seafood advocate who benefits directly from a healthy Pacific marine ecosystem. I encourage you to continue the great work you've done to maintain a productive ocean and move expeditiously to put in place binding protections for currently un-fished forage species on the Pacific coast. The council should do everything it can to maintain an abundance and diversity of forage fish to support larger species fish, like salmon, tuna and groundfish, that my customers love to catch and eat.

During your meeting in April, I urge you to approve a range of alternatives and to select option 2.2.1 as your preliminary preferred option to protect currently un-fished forage species.

As owner and founder of the business Community Supported Fishery, I provide the connection between the small-boat commercial fishermen on the Oregon coast and retailers and consumers who appreciate fresh, local seafood they know is caught sustainably. In addition, I operate FishingGear.com, which provides fishing gear to recreational fishermen targeting game fish like tuna and salmon that are fattened and sustained by forage fish in the California Current marine ecosystem.

All of my customers - whether they fish directly or enjoy wild seafood caught by our commercial fleet - depend directly on the council forging ahead with basic conservation measures for forage fish that aren't yet being targeted. The council would be wise to put protections in place as soon as possible. The Ecosystem Workgroup's new report cites the "spectacular growth" of the global aquaculture industry, which will raise the likelihood for new fisheries to begin on West Coast forage species that aren't yet being targeted directly. I encourage the council to move ahead and fulfill your objective to prevent the development of new forage fisheries in the U.S. Exclusive Economic Zone until you first have a chance to determine the effect on existing fisheries and fishing communities here on the Pacific coast.

Sincerely,

Jeff Wong
Owner, Community Supported Fishery
Founder and CEO, FishingGear.com



Marbled Murrelet and forage fish by PH Jones

Pacific Fishery Management Council
Dorothy M. Lowman, Chair
7700 N.W. Ambassador Place Suite 101
Portland, OR 97220

April 7, 2014

Dear Chair Lowman and Council Members,

I am writing to support **Alternative 2, Option 2.2.1.** as the best choice for the much-needed study, management, and protection of our Pacific forage fisheries.

This alternative and option will support many species of forage-fish-dependent marine birds, including the federally threatened marbled murrelet (*Brachyramphus marmoratus*).

My concern for the marbled murrelet stems from my 15-year-long relationship with this imperiled species, which began in 1999 when I began writing *Rare Bird: Pursuing the Mystery of the Marbled Murrelet*, a non-fiction book that describes this seabird's biology, behavior, and primary threats to its survival. According to the latest scientific report published by the U.S. Fish and Wildlife Service in 2009, one of those threats is the depletion of populations of forage fish the murrelet diet is based on.

This robin-sized seabird lives in the coastal waters of the Pacific from Alaska's Aleutian Islands to south-central California. A marbled murrelet's main prey items include Pacific sand lance (*Ammodytes hexapterus*), northern anchovy (*Engraulis mordax*), smelt (*Osmeridae*), immature Pacific herring (*Clupea harengus*), capelin (*Mallotus villosus*) are the most common. Marbled murrelets will also feed on immature salmon smolts (*Oncorhynchus* spp.), immature rockfish (*Scorpaenidae*), and eulachon (*Strongylura exilis*).ⁱ

Several scientific studies have indicated that decreased prey availability and lower prey quality increases forage effort for marbled murrelet adults and results in reduced adult body condition, which may have a negative effect on the murrelet's reproductive success. While adult murrelets may supplement their fish-based diets with invertebrates (squid, mysid shrimp, euphausiids, and pelagic amphipods), murrelets feeding at these lower trophic levels may forgo breeding altogether.

Murrelets that are able to breed successfully may not succeed at raising their chick to fledging stage. During their month-long development on the nest, chicks are fed whole fish 1-8 times a day. Adult murrelets carry these fish as far as 50 miles inland to their nest in the mature forests of the Pacific coast.

Between 2001 and 2010, murrelet populations dropped 29% across Washington, Oregon, and Californiaⁱⁱ despite the fact that the murrelet has been listed as a threatened species under the Endangered Species Act since 1992. While efforts are being made to reduce threats from logging, oil pollution, and gill-netting, there is a critical need for rigorous, scientific assessment of forage fish populations so that these fisheries can be wisely managed for the marbled murrelets and other marine life.

Sincerely,

Maria Mudd Ruth
Olympia, Washington

ⁱ U.S. Fish and Wildlife Service (USFWS). 2009. Marbled Murrelet (*Brachyramphus marmoratus*): 5-year review. Washington Fish and Wildlife Office, Lacey, WA.

ⁱⁱ Miller, S. et al. Recent Population Decline of the Marbled Murrelet in the Pacific Northwest. In *The Condor* 114 (4): 771-781. The Cooper Ornithological Society, 2012.



Dear Pacific Fishery Management Council:

As fishing guides that spend much of our life thinking about Oregon steelhead, we write to support the Council's effort to protect unmanaged forage fish as they are of critical importance to our salmon and steelhead that spend a good portion of their life feeding in the ocean.

The return of smelt to the Sandy River over the last few weeks brings back memories of my childhood; dip netting for the herring sized fish with ease with my family in the late 70s. It also reminds us of the rich and diverse ocean food web that is so crucial to steelhead survival. Salmon and steelhead spend 3 or 4 years feeding in the ocean and rely on an abundance of oily, protein-rich forage fish like smelt to survive their long journey back to their spawning grounds.

A healthy ocean ecosystem is important to anyone who fishes the many salmon bearing streams and rivers in Oregon. Unfortunately, we are not always aware of what's happening outside of the river system. Forage fish are dynamic species and many factors affect their abundance including water temperature, fishing pressure, and shoreline development. We need to be proactive in managing these species and ensure we are leaving enough in the water healthy and abundant ocean wildlife.

The smelt have been noticeably absent over the past few years. It's not uncommon for these fish to disappear for years and then return in huge numbers. This year's run looks to be at least 20-miles-long containing millions of smelt. Many anglers are reporting partially digested smelt in the stomachs of spring Chinook and we've witnessed sturgeon in the Sandy feeding on the smelt buffet as well as bald eagles and other birds of prey. It is one of the most incredible sights to see.

As you meet this week in Vancouver, we urge you to move forward with protecting unmanaged and unfished forage species by approving the range of alternatives put forward by the Ecosystem Working Group and select a preliminary preferred alternative of the Ecosystem Trophic Role Pathway (Alternative 2.2.1). This pathway best encompasses an ecosystem-based approach and takes into account the importance of forage fish to a wide array of predators including the salmon and steelhead that are our

livelihood. We are lucky to live in a place where so many people make a living from our bountiful ocean resources. We hope to see that tradition carry on for generations to come and thank you for the work you are doing to move management of our resources toward a more holistic and ecosystem-based approach.

We look forward to the Council taking final action later this year to protect forage species and appreciate the opportunity to comment on this important issue.

Sincerely,

Marty & Mia Sheppard
Owners
Little Creek Outfitters

SUPPLEMENTAL PUBLIC COMMENT SUMMARY ON PROTECTING UNFISHED AND
UNMANAGED FORAGE FISH SPECIES INITIATIVE

As of the March 30, 2014 supplemental public comment period, the following comments were received at the Council office in support of Fishery Ecosystem Plan Initiative I, specifically; the majority of the comments were supportive of the alternative described in Section 2.2.1 of Agenda Item I.1.a, Attachment 1:

- Three petitions submitted by the PEW Charitable Trusts with over 4,000 combined signatures.
- Over 50 letters and emails.

The letters and emails are included in their entirety along with the list of signatory parties to the petitions under [Agenda Item I.1.c, Supplemental Public Comment 2 \(Electronic Only\)](#) which is available electronically on the Council web page under the April Council Meeting Briefing Book.

PPMC
03/31/14



POB 3237
Santa Rosa, CA 95402
redwoodempiretu.org

Dear Chair Lowman and Council Members,

The Council has made steady progress over the past two years in laying the groundwork for establishing regulatory protections for currently unmanaged forage fish species. Today, on behalf of the Redwood Empire Chapter of Trout Unlimited, I ask that you select alternative 2.2.1 as the preliminary preferred option for protecting currently unmanaged forage fish by incorporating them into all of the council's existing fishery management plans as ecosystem component species.

During your meeting in April, I encourage you to pick alternative 2.2.1 as the preliminary preferred option and release the range of alternatives for public comment. The Council's Ecosystem Working Group has delivered a new report justifying your decision to conserve these forage species, because of their importance to the health of our salmonids sport fishery recovery, California Current ecosystem and because of growing worldwide demand to catch them.

These steps will ensure that the Council achieves its goal of basic management protections for unmanaged forage fish. In so doing, you will fulfill the first initiative of the Council's Fishery Ecosystem Plan, a visionary document that the council approved unanimously a year ago.

By protecting forage fish as a key link in the marine food web, we can maintain a healthy marine ecosystem, including the valuable sustainable fisheries we rely upon. Each year we spend countless hours and dollars working on inland habitat issues for trout and salmon, protecting those fish they eat in the open ocean is a simple cost effective method to ensure our work on land pays off for those fish as they return to their ocean habitat.

Thank you for your continued commitment to maintain a healthy and productive Pacific Ocean.

Sincerely,

Richard Jorgensen
RETU V.P.



PFMC Comments - NOAA Service Account <pfmc.comments@noaa.gov>

RE: J.1. Unmanaged Forage Fish Initiative

mvsweede@hotmail.com <mvsweede@hotmail.com>

Mon, Mar 24, 2014 at 10:32 AM

To: pfmc.comments@noaa.gov

Dear Chair Lowman and council members:

The Pacific Fishery Management Council has made steady progress over the past two years in laying the groundwork for regulations to protect currently unmanaged forage fish species. Today, I ask that you select alternative 2.2.1 as the preliminary preferred option for protecting such fish by incorporating them into all of the council's existing fishery management plans as "ecosystem component species."

During your meeting in April, I encourage you to pick this preliminary preferred option and release the range of alternatives for public comment. The council's Ecosystem Working Group has delivered a new report that justifies your decision to conserve these forage species, because of their importance to the California Current ecosystem and growing worldwide demand to catch them.

These steps would ensure that the council achieves its goal of basic management protection for unmanaged forage fish. In so doing, you would fulfill the first initiative of the council's Fishery Ecosystem Plan.

By protecting forage fish as a key link in the California Current's marine food web, we can maintain a healthy ecosystem, including the valuable sustainable fisheries we rely upon.

Thank you for your continued commitment to preserve a healthy and productive Pacific Ocean.

Sincerely,

Annika Miller
Mill Valley
CA
94941

**E-Mail Campaign. One Sample of over
4,000 e-mails received at the Council
office before the Supplemental Public
Comment deadline.**

March 30, 2014

Dorothy Lowman, Chair
Pacific Fishery Management Council
1100 NE Ambassador Place, #101
Portland, OR 97220

RE: Agenda Item I.1 (Unmanaged Forage Fish Initiative)

Dear Chair Lowman and Council Members:

We write to express our support for the Pacific Fishery Management Council's (Council) ongoing efforts to protect unfished and unmanaged forage fish species through the Fishery Ecosystem Plan's (FEP) Ecosystem Initiative 1 (EI-1). We appreciate the Council's proactive work over the past several years towards establishing regulations to prevent the development of new directed fisheries on forage fish species absent a robust science and management framework.

We also appreciate the fine work of the Council's Ecosystem Workgroup (EWG) in producing its new report, *Ecosystem Initiative 1: Protecting Unfished and Unmanaged Forage Fish Species of the U.S. Portion of the California Current Large Marine Ecosystem* (EWG Report).¹ This report constitutes a significant and productive step forward on implementing EI-1, and we are largely supportive of the conclusions and recommendations it contains.

We respectfully request that the Council endorse this report and continue to move ahead with implementation of EI-1, with a goal of completing Council action this year to incorporate select forage fish species into the Council's existing Fishery Management Plans (FMP's). Between this report and the foundation set by previous Council decisions, we believe the Council is well-positioned to select a preliminary preferred alternative and begin soliciting public comment on the range of alternatives in an expeditious manner. On the following pages we offer our recommendations, summarized as follows:

- Adopt the range of alternatives from the EWG report for analysis and public comment, with Alternative 2.2.1 (Ecosystem Trophic Role Pathway) as the Council's preliminary preferred alternative.
- Adopt the revised *purpose and need statement* as recommended by the EWG.
- Adopt the list of potential species to be added to FMP's, but modify the EWG recommendations on pelagic squids to include three additional taxa.²

¹ See PFMC report entitled [*Ecosystem Initiative 1: Protecting Unfished and Unmanaged Forage Fish Species of the U.S. Portion of the California Current Large Marine Ecosystem*](#), March 2014

² We request that pelagic squids of the families *Cranchiidae* (glass squids), *Octopoteuthidae* (octopus squids), and *Histioteuthidae* (cock eyed squids) are included in the proposed action for further evaluation, along with the four families recommended by the EWG (*Gonatidae*, *Ommastrephidae*, *Onychoteuthidae*, and *Thysanoteuthidae*). See pages 4-5 for additional detail.

- Adopt a process and schedule for further development of FMP amendments, including:
 - Request that the EWG develop draft FMP amendatory language (to incorporate the subject species into the Council's four FMP's and describe the management measures to be implemented for those species) for Council review, approval, and release for public comment in September 2014
 - Request that the EWG revise Chapters 1-3 of their report and draft a new Chapter 4 (analysis of effects), as proposed by the EWG on page 37 of the EWG Report
 - Schedule EI-1 for final Council action (selection of final preferred alternative and adoption of FMP amendatory language) as soon as possible, preferably at the November 2014 Council meeting

Adopt the range of alternatives in the EWG report for analysis and public comment, with 2.2.1 as the preliminary preferred alternative.

The EWG report provides the Council with a strong range of alternatives and the necessary information to choose a preliminary preferred alternative for public comment. The ranges of alternatives, or pathways, recommended by the EWG represent a thoughtful approach to the issues and are structured in a way that will facilitate a thorough analysis of the effects of the proposed action. At the same time, the alternatives are consistent with the Council's policy objective of prohibiting new directed fishing in the absence of basic stock information and management measures, as recognized by the fact that all the action alternatives would utilize the Ecosystem Component (EC) species designation. New directed fishing would require an FMP amendment to transition the target species into the Fishery Management Unit (FMU), and develop management measures such as harvest specifications, Essential Fish Habitat (EFH) identifications and protections, etc.³

The EWG Report recommends incorporation of the species subject to this action into more than one Council FMP, and that the Council choose one of the three pathways under Alternative 2 as a preliminary preferred alternative.⁴ **We agree that incorporation into multiple FMP's is the appropriate and best course of action, and are supportive of Alternative 2.2.1 (Ecosystem Trophic Role Pathway) as the preferred option.** This omnibus approach is most consistent with a holistic, ecosystem-based approach to fishery management, and combines all the best attributes of the other two pathways (Bycatch and Gear Pathway, Predator-Prey Pathway).

For instance, one potential benefit of the Bycatch and Gear Pathway the EWG discusses is that in the event a new fishery or a fishery expansion on one of these species develops, the species will already be in an FMP that would be used to manage the species as a fished, rather than an unfished, species.⁵ But under the Ecosystem Trophic Role Pathway, the same would be true, and the species in question could easily be transitioned to the FMU of the FMP most appropriate for active management of a new fishery through the FMP amendment that is developed to authorize any new fishery. At that time, it could be removed from the EC species category in the other

³ *Ibid*, at page 9

⁴ *Ibid*, page 37

⁵ *Ibid*, at page 9

FMP's through an omnibus action, or it could remain as an EC species in the other plans if the Council deemed that appropriate.⁶

Alternative 2.2.1 also best recognizes the broad, and in many cases not yet fully understood, role of these species collectively as key components of the ecosystem. As the EWG states, this pathway is designed to recognize that “as a group, these species serve as prey for many higher order [California Current Ecosystem] predators, including FMP species.”⁷ It out-performs the Predator-Prey Pathway in this regard because it more effectively captures the full array of known and potential trophic interactions, including those involving non-FMP species like marine mammals and seabirds, than does an alternative based more narrowly in known predation by specific FMP species.

We also support the EWG recommendation to move Alternative 2.3.1 (Bring All Subject Species into the Coastal Pelagic Species FMP as FMU species) to the considered but rejected section of the document. We further suggest that the Council clarify more broadly that the use of the FMU species designation in this action will not be considered under any of the other alternatives either, consistent with the EWG recommendation.⁸ Use of the EC species designation is well-suited to the task at hand, and is supported by the National Standard 1 Guidelines.⁹ It is also consistent with recent precedent, having been used for essentially the same purpose by the North Pacific Fishery Management Council (NPFMC) when it updated and reaffirmed its preclusion on new forage fisheries through recent amendments to its groundfish fishery management plans.¹⁰

Adopt the revised purpose and need statement as requested by the EWG.

We are supportive of the proposed revisions to the statement of purpose and need outlined in the EWG report.¹¹ The revisions appear to be consistent with the Council's intent as expressed in its June 2012¹² and September 2013 actions on EI-1¹³, and a constructive improvement to better describe the proposed action. Further, we support these changes because they are responsive to suggestions made by the National Oceanic and Atmospheric Administration's Fisheries Service (NOAA Fisheries) West Coast Region (WCR) National Environmental Policy Act (NEPA) Coordinator at the February 3-4, 2014 work session.

⁶ Incorporation into the FMU of one FMP does not necessarily preclude designation as an EC species in another FMP or FMP's. See [NPFMC Final Environmental Assessment for Amendment 96 to the BSAI GF FMP and Amendment 87 to the GOA GF FMP](#) page 32

⁷ See [EWG Report](#), at page 9

⁸ *Ibid*

⁹ 50 CFR §600.310(d)(5)

¹⁰ See NPFMC [Arctic FMP](#), at page 17, and [NPFMC Final Environmental Assessment for Amendment 96 to the BSAI GF FMP and Amendment 87 to the GOA GF FMP](#) page 8

¹¹ See [EWG Report](#), at page 4-5

¹² PPMC. June 2012. [Supplemental REVISED Council Action](#). Agenda Item G.1.d

¹³ See PPMC, [Decision Summary Document](#), September 12-17, 2013, page 5

Adopt the list of potential species to be added to FMP's, but modify the EWG recommendations on pelagic squids to include three additional taxa

The EWG report indicates that at the April meeting the Council should review the list of potential species to be added to FMP(s), and various data (ecological, etc.) on those species.¹⁴ With one exception (detailed below), we support the list of species proposed by the EWG for inclusion in EI-1, due to its consistency with the previous Council action in September 2013 and with the Council policy objective adopted in June 2012.

We do request that the Council modify the list of pelagic squid taxa proposed for inclusion in Section 3.2.7 (Pelagic Squids other than Humboldt Squid) of the EWG Report. The EWG recommends that this category be narrowed to only squids of the families *Gonatidae*, *Ommastrephidae*, *Onychoteuthidae*, and *Thysanoteuthidae*.¹⁵ However, the Council's September 2013 motion identified all pelagic squids other than Humboldt squid as "species needing additional protection against development of new unmanaged fisheries" and thus eligible for inclusion in EI-1.¹⁶

Pew has collaborated with the Farallon Institute for Advanced Ecosystem Research to synthesize existing peer-reviewed literature into a comprehensive predator diet database for the California Current. This database, the California Current Predator Diet Database (CCPDD), contains data from published and technical articles and theses of predator food habits over the past century and includes information on 121 predator species representing over 14,000 predator-prey links based on 201 citations.¹⁷ A query of this database to assess whether the proposed narrowing of the pelagic squid category would exclude any known prey species of predators in the California Current Ecosystem (CCE) returned information that several important species would be excluded.

Specifically, pelagic squids of the families *Cranchiidae* (glass squids), *Octopoteuthidae* (octopus squids), and *Histioteuthidae* (cock eyed squids) collectively appear to be of broad importance to a wide diversity of CCE predators. A search of the synthesized dietary information in the CCPDD returned 29 peer-reviewed literature sources documenting 2,265 samples (stomachs, bill loads, scats, etc.), from 24 different predators, which showed consumption of these three squid families.¹⁸ The predators include groundfish (e.g. sablefish), highly migratory species (e.g. albacore), seabirds (e.g. Laysan albatross) and marine mammals (e.g. sei whale).¹⁹ These squids appear to be important prey of some marine mammals, with one species of octopus squid being the most common prey sampled in a northern elephant seal diet study conducted in the 1980's.²⁰

¹⁴ See [EWG Report](#), at page 5

¹⁵ See [EWG Report](#), at page 21

¹⁶ See PFMC, [Decision Summary Document](#), September 12-17, 2013, page 5

¹⁷ Julie Thayer, personal communication, March 19, 2014

¹⁸ Amber Szoboszlai, personal communication, March 24, 2014 re: CCPDD query performed on 3/24/14; primary literature sources available upon request

¹⁹ *Ibid*

²⁰ See Le Boeuf, Burney J., and Richard M. Laws, editors [Elephant Seals: Population Ecology, Behavior, and Physiology](#) Berkeley: University of California Press, 1994. pages 213-215

We suggest that there is sufficient information available indicating that these squids may be an important component of the unmanaged forage base in the CCE, and as such we request they remain included in the action for further evaluation.

Adopt a process and schedule for further development of FMP amendments.

Section 1.3 of the EWG Report indicates that at this April meeting the Council should review, and update as necessary, the process and schedule for development of FMP amendment(s) moving forward.²¹ To that end, we suggest that the Council should take several steps in April. First, request that the EWG develop draft FMP amendatory language for Council review, approval, and release for public comment in September 2014. Second, request that the EWG revise Chapters 1-3 of their report and draft a new Chapter 4 (analysis of effects), as proposed by the EWG.²² Finally, we request that the Council schedule EI-1 for final Council action (selection of final preferred alternative and adoption of FMP amendatory language) as soon as possible, preferably at the November 2014 Council meeting.

In conclusion, we greatly appreciate the Council's ongoing attention to this issue and to ecosystem-based fishery management in general. We found the utilization of the Council's Fishery Ecosystem Plan (FEP) as source material (incorporated by reference) for several sections of the EWG Report²³ to be an excellent example of a demonstrated return on investment in ecosystem-based fisheries management, with the Council's FEP supporting other Council actions in an operational, analytical, administrative and scientific capacity. This is to the Council's credit. And we again acknowledge the excellent work of the EWG on this new report. We look forward to further participation in this important initiative.

Sincerely,



Tom Rudolph
Officer, U.S. Oceans
The Pew Charitable Trusts
trudolph@pewtrusts.org



Steve Marx
Senior Associate, U.S. Oceans
The Pew Charitable Trusts
smarx@pewtrusts.org

²¹ See [EWG Report](#), at page 5

²² *Ibid*, at page 37

²³ See [EWG Report](#) Sections 3.1 (Physical Environment), 3.2 (Biological Environment) and 3.3 (Socio-Economic Environment), at pages 12 and 23



Mar. 28, 2014

Dorothy Lowman, Chair
Pacific Fishery Management Council
7700 N.E. Ambassador Place, Suite 101
Portland, OR 97220-1384

RE: Agenda Item I.1.c – Unmanaged Forage Fish Initiative

Dear Ms. Lowman and Council Members,

The Pew Charitable Trusts has collected 3,392 comments, of which 2,249 comments were from California, Idaho, Oregon, and Washington. Signatories encourage the council to pick alternative 2.2.1 as the preliminary preferred option and release the range of alternatives for public comment.

The petition includes the names and cities of individual signers who were gathered as of March 28, 2014. The council may continue to receive additional comments in the days ahead. Please include the enclosed signatures in the supplemental briefing book.

Thank you,

Phaedra T. Booth
The Pew Charitable Trusts

Dear Chair Lowman and council members:

The Pacific Fishery Management Council has made steady progress over the past two years in laying the groundwork for regulations to protect currently unmanaged forage fish species. Today, I ask that you select alternative 2.2.1 as the preliminary preferred option for protecting such fish by incorporating them into all of the council's existing fishery management plans as "ecosystem component species."

During your meeting in April, I encourage you to pick this preliminary preferred option and release the range of alternatives for public comment. The council's Ecosystem Working Group has delivered a new report that justifies your decision to conserve these forage species, because of their importance to the California Current ecosystem and growing worldwide demand to catch them.

These steps would ensure that the council achieves its goal of basic management protection for unmanaged forage fish. In so doing, you would fulfill the first initiative of the council's Fishery Ecosystem Plan.

By protecting forage fish as a key link in the California Current's marine food web, we can maintain a healthy ecosystem, including the valuable sustainable fisheries we rely upon.

Thank you for your continued commitment to preserve a healthy and productive Pacific Ocean.

Sincerely,

First Name	Last Name	City	State
Chris	Worcester	Truckee	CA
Francis	Lee	San Bruno	CA
Fred	Sayre	Sacramento	CA
Ivan	Womboldt	Palm Springs	CA
LJ	Tanaka	SB	CA
Dominick	Falzone	Los Angeles	CA
darynne	jessler	valley village	CA
Candice	Barnett	Santa Monica	CA
Jason	Brock	Los Angeles	CA
Laurel	Scott	San Diego	CA
Claire	Jones	Hanford	CA
Ronald	Maxson	L.A.	CA
Linda	Jones	Ontario	CA
Kathryn	Santana	Bradbury	CA
Ben	Ruwe	Felton	CA
Randall	Esperas	Cupertino	CA
Joe	Buhowsky	San Ramon	CA
Debra	Cunningham	Encinitas	CA

michael	sarabia	stockton	CA
Bridgett	Heinly	San Diego	CA
Ronald	Warren	Glendale	CA
Susan	Wilkinson-Bacchi	Pilot Hill	CA
Mark	Cappetta	Rancho Mirage	CA
Laurie	Bramlage	Sunnyvale	CA
Dudley and Candace	Campbell	Valley Glen	CA
dennis	barrett	sunnyvale	CA
Heather	Clough	Ventura	CA
Vincent	Young	Upland	CA
jon	longsworth	aptos	CA
Robert	Miller	Aliso Viejo	CA
Paul	Vesper	Berkeley	CA
Ellen	Segal	Palm Springs	CA
Siamak	Vossoughi	San Francisco	CA
rebecca	koo	san jose	CA
charlotte	cook	sacramento	CA
Saran	Kirschbaum	Los Angeles	CA
Svetha	S-	Los Angeles	CA
paula	pruner	north hollywood	CA
ROBERT	PARKER STELLATO	REDWOOD CITY	CA
Jo	Chen	Los Angeles	CA
Michelle	Wong	South Pasadena	CA
Kathleen	Rogers	Paramount	CA
Urmila	Padmanabhan	Fremont	CA
Frances	Onesti	Lawndale	CA
Caryn	Cowin	South Pasadena	CA
Michael W	Evans	Los Angeles	CA
Kristine	Andarmani	Saratoga	CA
Mary Ellen	Strote	Calabasas	CA
Richard	Mayer	Santa Rosa	CA
Roberta	LaFrance	San Leandro	CA
Kristina	Fukuda-Schmid	Culver City	CA
Karynn	Merkel	Eureka	CA
Jane	Merkel	Eureka	CA
Barbara	Lafaver	Concord	CA
MaryKay	Rodarte	Phelan	CA
Jan	Kampa	Soquel	CA
Lanier	Hines	SAN FRANCISCO	CA
Katherine	Nolan	Cupertino	CA
Edwin	Aiken	Sunnyvale	CA

James	Patton	Los Altos	CA
Richard	Harvey	Paso robles	CA
Willa	O'Connor	Kensington	CA
Mary	Levendos	San Jose	CA
Ann	Rennacker	Ft Bragg	CA
Anthony	Stratton	Elk Grove	CA
Judith	Little	Arcata	CA
Doug	Thompson	Morongo Valley	CA
Laura	Jones-Bedel	San Diego	CA
Patrice	Summers	Santa Barbara	CA
Gabriel	Sheets	Merced	CA
Mala	Wingerd	San Diego	CA
Rob	Johnson	El Cajon	CA
Robert	Mammon	Richmond	CA
Vladimir	Strugatsky	Sebastopol	CA
Steve	Robey	Berkeley	CA
Nadya	Tichman	Oakland	CA
karen	toyohara	La Mesa	CA
Sandy	Stuhaan	Ridgecrest	CA
Laura	Kohn	Hillsborough	CA
Margaret	Buck	San Clemente	CA
Jay	Rice	Novato	CA
Janet	Olson	Glen Ellen	CA
Richard	Dimatteo	San Diego	CA
Carolyn	Pettis	Santa Clarita	CA
Carolyn	Lilly	San Diego	CA
Ramsey	Gregory	Elk Grove	CA
Dean	Frick	San Francisco	CA
dale	riehart	san francisco	CA
Marcella	Hammond	Spring Valley	CA
Gerald	Orcholski	Pasadena	CA
Carlos	Nunez	Reseda	CA
Michael	Tomczyszyn	San Francisco	CA
Gloria Linda	Maldonado	Redwood City	CA
Ina	Mitchell	Van Nuys	CA
terry	badger	paso robles	CA
Frank	Ackerman	Walnut Creek	CA
Robert	Reed	Lake Elsinore	CA
James	Haig	San Rafael	CA
Douglas	McCormick	Trabuco Canyon	CA
diana	kliche	long beach	CA

Joe	Futterer	Topanga	CA
Wendy	Wittl	Santa Barbara Ca	CA
jovinita	meisenbach	Crescent Citty	CA
Candace	Rocha	Los Angeles	CA
Alan	Haggard	San Diego	CA
Ray	Morris	Bakersfield	CA
Marijeanne	Sarraille	Pittsburg	CA
Frank	Seewester	Fairfield	CA
Patrick	Lewis	Emeryville	CA
Gustavo	Sandoval	San Mateo	CA
Ruth	Ungar	Oakland	CA
Ann	Bein	Los Angeles	CA
Steve	Purvis	Santa Monica	CA
Carol	Mock	Fremont	CA
Jeffery	Garcia	Mendocino	CA
eleanor	cuevas	Sonoma	CA
Natalie	Alexander	Irvine	CA
Donna	Kowzan	Moorpark	CA
Thomas	Gallagher	Millbrae	CA
Mary	Markus	Garden Grove	CA
Dennis	Trembly	Los Angeles	CA
Michael	Mitsuda	Fremont	CA
betty	winholtz	morro bay	CA
Bonnie Margay	Burke	San Diego	CA
Christina	Roe	Fresno	CA
jan	salas	kentfield	CA
Robert	Wilkerson	San Diego	CA
Vic	Bostock	Altadena	CA
Dave	Anderson	Berkeley	CA
Damian	James	Oakland	CA
Michael	Rotcher	Mission Viejo	CA
Marisa	Strange	Long Beach	CA
joie	winnick	Sherman Oaks	CA
c	hendrickson	los angeles	CA
Doug & Karen	Lenier	Valley Glen	CA
Joe	Glaston	Desert Hot Springs	CA
Christine	Stewart	Escondido	CA
Dean	Monroe	No. Hollywood	CA
Kenneth	Tabachnick	West Hills	CA
Eric	Ericson	PACIFIC PALISADES	CA
Gail	McMullen	Los Angeles	CA

Lisa	Krausz	Tiburon	CA
Dr. Mha Atma S.	Khalsa	Los Angeles	CA
Polly	O'Malley	Los Angeles	CA
Craig	Cook	Santa Rosa	CA
Gilda	Fusilier	Sacramento	CA
Richard	Rosenthal	LA	CA
V.	Zamora	Torrance	CA
Celeste	Hong	L.A.	CA
Kent	Minault	Sherman Oaks	CA
Elaine	Livesey-Fassel	Los Angeles	CA
Gerald	Haslam	Penngrove	CA
Claire	Chambers	Murrieta	CA
Camile	Getter	Sacramento	CA
Guy	Zahller	aptos	CA
Charles	Wolfe	Sylmar	CA
Catherine	Lanzl	Encinitas	CA
Raymond	Shaw	San Jacinto	CA
Kyle	Bracken	Los Angeles	CA
courtney	dubois	san francisco	CA
joe and mary	volpe	Ventura	CA
Sean	Corrigan	Trinity Beach	CA
Paul	Ryan	Napa	CA
gary	hennemuth	San Francisco	CA
rex	franklyn	Tiburon	CA
Sandy	Levine	Pasadena	CA
Zoe	Harris	San Anselmo	CA
Anthony	Arcure	Fresno	CA
Judy	Alter	Los Angles	CA
Jayna	Williams	Pomona	CA
Barbara	T	Angwin	CA
Robert	Frcek	Los Angeles	CA
Candy	Bowman	Sacramento	CA
Dirk	Beving	Los Angeles	CA
jewels	stratton	San Francisco	CA
Ted	Fishman	San Jose	CA
Dalia	Zatkin	Oakland	CA
Nancy	Freedland	Big Bear City	CA
Lois	Bacon	Freedom	CA
Rachel	Kelley	Santa Monica	CA
Allen	Royer	San Jose	CA
Fran	Watson	Spring Valley	CA

andy	tomsky	san marcos	CA
Andrea	Byers	Oakland	CA
Elisabeth	Zenker	Arcata	CA
Vicki	Maheu	San Diego	CA
Judy	Johnson	Hayward	CA
Donna	Brown	Sausalito	CA
Nancy	Kelly	Fresno	CA
June	Abner	San Diego	CA
Julie	Smith	Los Osos	CA
John	Montgomery	San Rafael	CA
Diane	Marks	Bass Lake	CA
Dollie	Spinks	Antioch	CA
Bryce	Beal	San Francisco	CA
Julie	Sasaoka	Concord	CA
Natalie	Kovacs	San Clemente	CA
Stanley	Peterson	Los Banos	CA
Larry	Lapuyade	San Anselmo	CA
Regina	Flores	Lake Elsinore	CA
Steven	Sugarman	Malibu	CA
Jon	Silver	Portola Valley	CA
Jess	Graffell	Yucaipa	CA
Maria	Muldaur	Mill Valley	CA
carol	majors	Northridge	CA
Mark	Weinberger	San Francisco	CA
Sally	Liu	Foster City	CA
Mark	Reback	Los Angeles	CA
Cathie	Serletic	San Francisco	CA
Dee	Randolph	Chico	CA
Edward	Sullivan	San Francisco	CA
MICHAEL	TOOBERT	GRASS VALLEY	CA
James	Rutford	Anaheim	CA
Lacey	Kammerer	Fresno	CA
anthony	montapert	venturA	CA
Marjorie	Streeter	Alameda	CA
Eleanor	Thomas	Livermore	CA
ERNEST	SCHOLZ	SAN FRANCISCO	CA
Charlene	Root	Whittier	CA
Cheryl	Albert	Freedom	CA
Michael	Sullivan	San Diego	CA
Ray	Bustos	Fullerton	CA
James R	Monroe	Concord	CA

Suzanne	a'Becket	Cupertino	CA
Long	Pham	Westminster	CA
George F.	Klipfel II, CLS, MT(ASCP)	Cathedral City	CA
Caryn	Graves	Berkeley	CA
Dana	Wullenwaber	Redding	CA
Darrell	Wilson	Hayward	CA
bruce	hirayama	los angeles	CA
victor	c	Pacifica	CA
Simone	Oliver	Santa Rosa	CA
Michael	Watson	Sonoma	CA
Christine	Sepulveda	Anaheim	CA
jen	bradford	Spring Valley	CA
Laura	Salanitro	Newport Beach	CA
Rhea	Damon	Calabasas	CA
Heidi	Trinkle	Monterey	CA
CT	Bross	Walnut Creek	CA
Judy	Perry	Fremont	CA
Cathe	Dietrich	Berkeley	CA
Mary	Prubant	San Jose	CA
Amber	Tidwell	Los Angeles	CA
Rob	Myers	Anaheim	CA
Melissa	Sunderland	Sherman Oaks	CA
Marco	Aguilera	Carlsbad	CA
Meghan	Tracy	Long Beach	CA
Leigh Ann	DiCarlo	Winchester	CA
ed	atkins	boulder creek	CA
Kathryn	Carroll	Oakland	CA
Donita	Sparks	Los Angeles	CA
Cathy	Holden	Sacramento	CA
Rosalind	Bresnahan	San Bernardino	CA
Carlos	Townsend	Fountain Valley	CA
STACIE	CHARLEBOIS	Sebastopol	CA
Sandi	Covell	San Francisco	CA
Linda	Lyerly	CArdiff by the Sea	CA
Jane	Kelsberg	Antioch	CA
Tatiana	Torres	Los Angeles	CA
Persephone	Maywald	Orinda	CA
Lin	Heidt	San Diego	CA
Georgia	Lynn	Bakersfield	CA
Jorge	De Cecco	Ukiah	CA
Linda	Riebel	Lafayette	CA

Jill	Bittner	San Francisco	CA
Russell	Weisz	Santa Cruz	CA
Christina	Heon	Arroyo Grande	CA
Terrell	Rodefer	Van Nuys	CA
c	s	sdiego	CA
Charles	Warner	Fontana	CA
Ela	Gotkowska	LODZ	CA
Ken	Greenwald	Santa Monica	CA
Junko	Card	Exeter	CA
chris	seaton	Santa Barbara	CA
Karl	Koessel	Blue Lake	CA
Bob	Rosenberg	kentfield	CA
Frank	Eichenberg	Santa Barbara	CA
Nona	Weiner	San Jose	CA
Rodolfo	Scarpati	Castro Valley	CA
Sheila	Silan	Somerset	CA
katrina	child	san francisco	CA
Debra	Floyd	Coronado	CA
Francis	Palmer	Sacramento	CA
Alicia	Jackson	Vallejo	CA
Nancy	Brenner	Murrieta	CA
Cary	Frazee	Eureka	CA
Amber Coverdale	Sumrall	Soquel	CA
Jessie	Osborne	Vista	CA
Robert	Hicks	Long Beach	CA
Anita	YOuabian	BH	CA
susanne	madden	playa del rey	CA
Rob	Seltzer	Malibu	CA
Lawrence	Thompson	Livermore	CA
Maria	Bustamante	Albany	CA
mark & susan	glasser	LA	CA
Walt	Kleine	Oakland	CA
Roberta	Heist	Fort Bragg	CA
Kamal	Prasad	Santa Rosa	CA
Percy	Severn	Newbury Park	CA
Shaun	Levin	Redwood City	CA
MARY	ROJESKI	SANTA MONICA	CA
Lauren	Murdock	Santa Barbara	CA
Stephanie	Linam	Benicia	CA
Karla	Devine	Manhattan Beach	CA
Glenn	Gallagher	Simi Valley	CA

Kermit	Cuff	Mountain View	CA
Laila	Noori	San Jose	CA
Margaret	Rogers	Redwood City	CA
Alex	Gallipeau	Redondo Beach	CA
Brian	Mc Credie	1032 S Farragut, Ridgecrest	CA
Gail	Koza	Half Moon Bay	CA
dinda	evans	san diego	CA
Scott	Nelson	Bethel Island	CA
nancy	riggleman	Tollhouse	CA
Maria	Nowicki	San Francisco	CA
Steven	Standard	Bellflower	CA
Julie	Slater-Giglioli	West Hollywood	CA
Paul	Hunrichs	Santee	CA
laura	collins	sacramento	CA
Sandy	Commons	Sacramento	CA
Karen	Ratzlaff	Santa Rosa	CA
Marjorie	Moss	Del Mar	CA
lorraine	yee	san francisco	CA
J. Holley	Taylor	Penn Valley	CA
Elizabeth	Jackson	Elk Grove	CA
Cheriel	Jensen	Saratoga	CA
Steve	Walworth	La Crescenta	CA
Clare	Hooson	Belmont	CA
Babette	Bruton	Los Gatos	CA
Tina	Pirazziq	Long beach	CA
Rob	Roberto	Santee	CA
Gemma	Geluz	Fairfield	CA
Gail	Overton	Winterhaven	CA
RACHEL	CLARKEROBERTS	RIVERBANK	CA
Julie	Gengo	Alameda	CA
Barbara	Robbin	Studio City	CA
Alysha	Zgrabik	Thousand Oaks	CA
George	Hague	Moreno Valley	CA
Joseph	Steinberger	San Francisco	CA
Paula	Hawkins	San Diego	CA
Pec	Indman	San Jose	CA
Etta	Robin	Bakersfield	CA
Bonnie	Thompson	Los Osos	CA
Valerie	Guinan	Cupertino	CA
Jon	Boyden	Long Beach	CA
Patricia	Rogers	Concord	CA

VERA	Brown	Redwood City	CA
marie	henley	aptos	CA
Connie	Stomper	Santa Barbara	CA
Claude	McDonald	San Jose	CA
Joseph	Boone	San Luis Obispo,	CA
Martha	Carrington	Santa Cruz	CA
Misti	Reif	San Francisco	CA
Susan	McReynolds	San Leandro	CA
Robin	Reinhart	San Diego	CA
Bill	Britton	Livermore	CA
Rebecca	Harper	Los Angeles	CA
kay	von tress	menlo park	CA
desiree	kisselburg	los angeles	CA
Jered	Cargman	Los Angeles	CA
gail	bedinger	rio vista	CA
Jim	Bell	San Diego	CA
Tonya	Dysart	San Diego	CA
Robert	Chirpin	Northridge	CA
Susan	Hathaway	Pico Rivera	CA
Celia	Kutcher	Capistrano Beach	CA
Gregg	Sparkman	Palo Alto	CA
tim	woods	santa cruz	CA
Alina	Levinson	Placentia	CA
Alice	Neuhauser	Manhattan Beach	CA
Thomas	Conroy	Manhattan Beach	CA
Julian	Siminski	Studio City	CA
Patricia	Anderson	Roseville	CA
Malcolm	Groome	Topanga	CA
Sheri	Duren	Anaheim	CA
Vickie	Chandler	San Jose	CA
Sidney J.P.	Hollister	San Francisco	CA
Michael	Merz	San Rafael	CA
Leanne	Friedman	Davis	CA
Greg	Korelich	Santa Rosa	CA
Karen	Ornelas	San Pedro	CA
Scott	Rubel	Los Angeles	CA
Dan	Silver	Los Angeles	CA
Callie	Riley	Citrus Heights	CA
Brandy	Schumacher	Citrus Heights	CA
Christa	Neuber	W. Hollywood	CA
Barbara	Ginsberg	Santa Cruz	CA

Frank	Kap	Burbank	CA
Bob	Alders	Mountain View	CA
Mark	Mulder	San Jose	CA
Judith	Butts	Mountain View	CA
Chris	MacKrell	Long Beach	CA
Arlene	Wiltberger	San Carlos	CA
John	Steponaitis	San Francisco	CA
Lee	Smith	California Hot Springs	CA
Gerald	Stratman	Glen Ellen	CA
Paul	Ramos	Solvang	CA
Kathlyn	Grabenstein	Costa Mesa	CA
Shawna	Watson	Ontario	CA
Robin	Van Tassell	San Rafael	CA
Eric	Dynamic	Oakland	CA
Patricia	Wilson	Spreckels	CA
Pat	Blackwell-Marchant	Castro Valley	CA
Roger	Overton	Winterhaven	CA
Casee	Maxfield	los angeles	CA
Kate	Buckner	El Cerrito	CA
sue	davies	Philo	CA
Karen	w	Santa Cruz	CA
Donna	Crane	Anderson	CA
Alice	Polesky	San Francisco	CA
Annette	Raible	Petaluma	CA
Dan	Kuklo	Berkeley	CA
Stephen	Bohac	Twain Harte	CA
Jeanne	Schuster	West Covina	CA
Marilyn	Jasper	Loomis	CA
O	Medzihradsky	S Lake Tahoe	CA
Sarah	Lehrer-Graiwer	Los Angeles	CA
Joanne	Crandall-Bear	Sacramento	CA
Joseph	Rissetto	Chula Vista	CA
Grace	Padelford	Los Angeles	CA
Michelle	Fox	Downey	CA
Rollin	Odell	Orinda	CA
Mike	Rolbeck	Placerville	CA
Felicia	Chase	Encino	CA
James	Provenzano	Los Angeles	CA
ROLLIN	BLANTON	Los Angeles	CA
Erica	Griffin	San Francisco	CA
James	Hubbard	Los Angeles	CA

Lorna	Farnum	Rossmoor	CA
Heather	Hanly	Oakland	CA
jayne	pitchford	santa monica	CA
Jonathan	Dirrenberger	San Francisco	CA
Ali	Van Zee	Oakland	CA
VICTORIA	WIERIG	SAN DIEGO	CA
Jennifer	Martinez	Sunnyvale	CA
Randall	Hartman	Torrance	CA
Carmen	Dello Buono	San Jose	CA
Michael	Marchessault	Santa Cruz	CA
Sheri	Kuticka	Concord	CA
Olivia	Lim	Fremont	CA
Lucy	Horwitz	Los Angeles	CA
Jinx	Hydeman	Trabuco Canyon	CA
David	Bott	Sacramento	CA
Darcy	Skarada	Middletown	CA
AG	Gilmore	Walnut	CA
Priscilla	Rocco	Costa Mesa	CA
Lisa	Hammermeister	Granada Hills	CA
David	Camp	Burbank	CA
Joseph	Shulman	San Diego	CA
Andrea	Kaufman	Guerneville	CA
Andrea	Bonnett	Altadena	CA
Paul	Burks	San Rafael	CA
Kate	Sky	Gualala	CA
Bonnie	Tilly	Escondido	CA
Arleen	Weiss	San Lorenzo	CA
Jamie	Castaneda	Claremont	CA
Cathy	McPeck	Palm Springs	CA
Barbara	Viken	San Francisco	CA
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Sheilagh	Creighton	Fairfax	CA
Barbara	Cohn	Carlsbad	CA
Julie	Heath Elliott	Los Angeles	CA
annie	belt	san jose	CA
Sandip	Dasgupta	Pasadena	CA
Dena	Schwimmer	Los Angeles	CA
Jackie	Pomies	San Francisco	CA

Sondra	Boes	1640 Manton Ct.	CA
Steven	Hibshman	Foster City	CA
Jeff	Salvaryn	Redondo Beach	CA
Linda	Doebel	Marina del Rey	CA
Samuel	Durkin	Fairfield	CA
Peter	Bedard	Los Angeles	CA
Maritza	Cabezas	Tarzana	CA
doris ann	wilcox	Burbank	CA
Emma	Ausman	Toluca Lake	CA
Nancy	Peterson	Scotts Valley	CA
Jaime	McGrath	Aliso Viejo	CA
Paul	Bechtel	Redlands	CA
Nancy	Amodeo	Los Angeles	CA
dean	weiss	topanga	CA
Daren	Black	Los Angeles	CA
Victoria	Lewis	San Francisco	CA
K.	Winnick	Beverly Hills	CA
Dominic	Perello	San Luis Obispo	CA
Morgan	Anae	Hanford	CA
Scott	Coahran	Los Banos	CA
Joseph	Hardin	santa monica	CA
Nancy	Cohn	Atascadero	CA
Ralph	Sanchez	Santa Cruz	CA
Jen	Rios	San Jose	CA
Julie	Spickler	Menlo Park	CA
Sondra G	Adam	Walnut Creek	CA
Cathleen	O'Connell	Boulder Creek	CA
Angie	Bahris	Santa Monica	CA
James	Brown	Los Angeles	CA
Michele	Leschi	Monrovia	CA
Joseph	Szabo	Los Angeles	CA
Timothy	Taylor	Los Angeles	CA
James	Perkins	Costa Mesa	CA
Gene	Fox	Encinitas	CA
Lorraine	Lowry	Sacramento	CA
Valerie	Romero	Quincy,	CA
Blaze	Bhence	Cypress	CA
nancy	ellestad	el cajon	CA
Regina	Flores	Lake Elsinore	CA
Kristen	Renton	Valencia	CA
Cindy	Tejeda	Los Angeles	CA

Rene	McIntyre	San Francisco	CA
James	Ferguson	Fallbrook	CA
Lora	Elstad	Los Angeles	CA
Heidi	Hartman	Simi Valley	CA
Barbara	Orr	Northridge	CA
Uly	Silkey	Oakland	CA
marsha	armstrong	los gatos	CA
Wayne	Steffes	Redding	CA
kay	bushnell	palo alto	CA
Glenn	Webb	Pinole	CA
John	Edman	Morgan Hill	CA
Don	Saito	San Jose	CA
V and B	Jones	Torrance	CA
Lionel	Ortiz	Bayside	CA
Ron	McGill	Irvine	CA
Randi	Nielsen	Richmond	CA
Val	Hongo-whiting	Laguna Niguel	CA
K	R	SF	CA
Julie	Jumonville	San Francisco	CA
Beth	Bennion	McKinleyville	CA
Lynette	Ridder	Concord	CA
Todd	Fisk	San Diego	CA
Robert	Gondell	Woodacre	CA
Greg	Rosas	Castro Valley	CA
Donna	Toward	Palm Springs	CA
Antoinette	Wilcox	Sunnyvale	CA
colleen	rodger	San Francisco	CA
myrna	brown	rosemead	CA
Lauren	Schiffman	El Cerrito	CA
Bianca	Molgora	San Francisco	CA
Pela	Tomasello	Santa Cruz	CA
Elaine	Russell	Long Beach	CA
Mark	Beckwith	Berkeley	CA
Geraldine	Card-Derr	Exeter	CA
alyssa	halcomb	san diego	CA
Laura	Divenere	Los Angeles	CA
Bret	Smith	Santa Cruz	CA
Ron	Stock	Paso Robles	CA
rita	santos	long beach	CA
Joseph	Razo	Camarillo	CA
bert	greenberg	san jose	CA

ernest	medeiros	forestville	CA
Deborah	Veneziale	San Mateo	CA
Kim	Stribling	Scotts Valley	CA
Carrie	Staton	Santa Cruz	CA
Beth	Shafer	Huntington Beach	CA
Sheila	Kothari	Palo Alto	CA
Michael	Ballot	Stockton	CA
Cierna	Ritts	Garden Grove	CA
Regina	DeFalco Lippert	Martinez	CA
William	Callahan	San Rafael	CA
Ted	Cheeseman	Saratoga	CA
Lisa	Butterfield	Eureka	CA
kx	bx	lanc	CA
Mija	Gentes	Saratoga	CA
Russell	Blalack	Cupertino	CA
Barry	Hottle	Roseville	CA
john	contos	n/a	CA
Vicki	Vincent	Valencia	CA
char	laughon	montara	CA
K	Burch	Oakhurst	CA
Ronit	Corry	Santa Barbara	CA
Hillary	Melin	Culver City	CA
Susan	Kurcz-Easom	Pittsburg	CA
Ronald	Calvisi	Toluca Lake	CA
Stephanie	Sponsel	Campo	CA
Eileen	Massey	Oakland	CA
Rohana	McLaughlin	San Anselmo	CA
Joseph	Golinveaux	Berkeley	CA
Tenaya	Tabler	Santa Barbara	CA
Ken	Windrum	Los Angeles	CA
Michael	Souza	San Diego	CA
Grace	Feldmann	Santa Barbara, CA	CA
Linda	Straussburg	El Segundo	CA
Bernie	Gonzales	Caruthers	CA
Sharma	Gaponoff	Grass Valley	CA
Laura	Overmann	Burlingame	CA
Steve	Hanlon	Los Angeles	CA
Pat	Tobias	Los Angeles	CA
Elizabeth	Bettenhausen	Cambria	CA
Douglas	Estes	San Francisco	CA
Mark	Hein	Topanga	CA

Tina	Overland	encinitas	CA
Wm	Laestadius	san diego	CA
Holly	McDuffie	Los Angeles	CA
judy	stanton	dana point	CA
Rosa	Baeza	Reseda	CA
Julie	May	Los Angeles	CA
adolfo	bermeo	Topanga	CA
Lisa	Gee	La Crescenta	CA
Arlene	Zimmer	Rancho Palos Verdes	CA
Alicia	Kern	Palos Verdes Peninsula	CA
Donald	Mackay	South Pasadena	CA
Molly	Mendez	Oakley	CA
Lee	Kaplan	encino	CA
Lillian	Mejia	Ontario	CA
Marsha	Malone	Chino	CA
Joan	Hunnicut	Citrus Heights	CA
Julie	Brickell	Fullerton	CA
Darcy	Bergh	San Diego	CA
Sarah	Goldbaum	San Francisco	CA
TinaMarie	King	Paradise	CA
Karen	Parlette	Eureka	CA
Robert	Cassinelli	Sacramento	CA
victor	Afanasiev	La Grange	CA
Holly	Rose	Alameda	CA
Heather	Berk	Fountain Valley	CA
Mark J.	Fiore	San Francisco	CA
Grant	Foerster	Albany	CA
Angela	Sirmenis	Northridge	CA
Nancy	Gowani	Woodland Hills	CA
gary	jones	san marino	CA
Erin	Clancy	San Diego	CA
Camille	Cardinale	Los Angeles	CA
Kris	Head	Garden Grove	CA
Lesley	Hudak	Orinda	CA
Jason	Bowman	Placerville	CA
Mary F	Platter-Rieger	San Diego	CA
Jeffrey	Beckers	Oakland	CA
Alan	Gonzalez	Long Beach	CA
Scott	Clements	Davis	CA
Adolfo	Miralles	San Dimas	CA
elizabeth	darovic	Monterey	CA

James	Gonsman	Occidental	CA
Scott	Barlow	Sunnyvale	CA
Martha	Shogren	Sebastopol	CA
Karen	Bien	Fresno	CA
steve	holzberg	folsom	CA
susanna	sorin	helendale	CA
Suzanne	Peña	Fullerton	CA
Phyllis	Mottola	Bishop	CA
Michael	Hoover	Los Angeles	CA
Rachel	Sonnenblick	Santa Cruz	CA
Donna	Lewis	Van Nuys	CA
Boyer c.	August	Hayward	CA
Sibyl	Sanchez	Petaluma	CA
Barbara	Tacker	Camarillo	CA
Maira	Memmi	Daly City	CA
Michael	Garden	Sacramento	CA
Yvette	Dominguez	Hacienda Heights	CA
Carol	Wiley	Victorville	CA
Jo	Sebern	Fallbrook	CA
edwin	wise	sacramento	CA
Rick	Luttmann	Rohnert Park	CA
Jacques	Talbot	Oakland	CA
Tiffany	Story	Summerland	CA
s	peril	chico	CA
Michael	Moeller	Hemet	CA
Karla	Morales	Valley Village	CA
brigitte	greener	San Jose	CA
Joelle	Porter	Susanville	CA
Catherine	Loudis	San Anselmo	CA
Twikie	Simms	Anaheim	CA
William	Hewes	Simi Valley	CA
Carol	Patton	Kensington	CA
Patricia	Re	Penngrove	CA
Ken	Meersand	Shell Beach	CA
Annalee	Pineda	San Francisco	CA
Kristen	Lowry	Sacramento	CA
jeri	pollock	Altadena	CA
Mark	Gotvald	Pleasant Hill	CA
Pat	Marriott	Los Altos	CA
James	Hampson	SAN FRANCISCO	CA
Andrea	Lieberman	Los Angeles	CA

Laurie	Carr	Mira Loma	CA
Beverly	Poncia	Lower Lake	CA
Robert	Platt	San Rafael	CA
mika	Stickford	nevada city	CA
Vincent	Weis	sacramento	CA
Victoria	De Goff and family	Berkeley	CA
James	Noordyk	San Diego	CA
Frank	Huttinger	Pasadena	CA
Margaret	DeMott	Sacramento	CA
Susan	Telese	los angeles	CA
Robert	Anger	Santa Monica	CA
Victoria	Brandon	Northridge	CA
Michael	Cardoza	Los Angeles	CA
Richard	Sherman and family	Berkeley	CA
Madeline	Wright	Los Angeles	CA
Bill	Herman	Oceanside	CA
William	Wallin	Richmond	CA
anne	perkins	santa monica	CA
Kevin	Branstetter	Applegate	CA
Elizabeth	Adan	Carmichael	CA
Jeannie	Pollak	Oxnard	CA
Susan	Trivisonno	San Jose	CA
Helen	Bierlich	Los Angeles	CA
Abigail	Bates	Los Angeles	CA
Constance	Franklin	Los Angeles	CA
Greg	Goodman	Concord	CA
wayne	sheridan	San Francisco	CA
enrico	verga	seal beach	CA
Melva	Mills	Sacramento	CA
Erika	Whitton	Irvine	CA
Nina	Sagheb	San Diego	CA
Christine	Freytag	Nipomo	CA
Kim	King	Nevada City	CA
Chris	Dawson	Playa Del Rey	CA
George	Lewis	Los Osos	CA
Jolino	Beserra	Los Angeles	CA
Karen	Connell	Harbor City	CA
Dan	Perdios	Palm Springs	CA
Susie	Shapira	San Rafael	CA
Abby	Hamilton	Woodland	CA
Scott	Warwick	Monrovia	CA

David	Soares	Pollock Pines	CA
Erin	Lynch	Los Angeles	CA
Richard and Carolyn	Robinson	Big Bear City,	CA
Holly	Still	Menlo Park	CA
Kathy	Balcom	Los Angeles	CA
Karen	Malley	Anaheim	CA
Mary	Able	McArthur	CA
Fran	Larson	Pacifica	CA
roz	goldstein	greenbrae	CA
Megan	Malone-Franklin	Brea	CA
Jed	Fuhrman	Topanga	CA
elaine	huff	san francisco	CA
Regina	Phillips	winnetka	CA
jamila	garrecht	Petaluma	CA
Michelle	Morgan	Coronado	CA
Shanna	Brandow	Marina Del Rey	CA
Kari	Dougherty	Palo Alto	CA
Deborah	Marks	Santa Cruz	CA
Kelly	Erwin	Palm Spings	CA
Dian	Hardy	Sebastopol	CA
Ellen	Shively	San Diego	CA
Frances	Carne7y	Encinitas	CA
Kevin	O'Brien	Laguna Beach	CA
Mark	Tolson	Laguna Niguel	CA
Louisa	Leavitt	Santa Rosa	CA
Patricia	Quimby	Los Angeles	CA
Barbara	Taps	Laguna Niguel	CA
Linda	Eberle	Venice	CA
Sherry	Vatter	Los Angeles	CA
Joni	Grisham	Benicia	CA
Cipra	Nemeth	Los Angeles	CA
melissa	miller	pleasant hill	CA
Pam	Brown, MFT	Willits	CA
Vickie	Rozell	Menlo Park	CA
Robert-Harry	Rovin	Woodacre	CA
Sandra	Nealon	Laguna Beach	CA
Rosemary	Jewkes	Laguna woods	CA
Kathleen	Kuczynski	Lake Forest	CA
Joan	Weaver	Chatsworth	CA
matthew	tyson	concord	CA
Daryl	Lev	Calabasas	CA

Tawny	McLellan	Ojai	CA
Lisa	Lashaway	Montrose	CA
Carol	Fusco	Berkeley	CA
Susan	Cadman	Vista	CA
Maryann	LaNew	San Clemente	CA
jami	tolpin	sherman oaks	CA
Nancy	Slanger	Piedmont	CA
nanette	cronk	truckee	CA
dee	gee	north hollywood	CA
Ken	Hedges	Lemon Grove	CA
Joanne	Zimblar	Los Angeles	CA
Steve	Downing	Santa Barbara	CA
Rebecca	Merkley	Santa Rosa	CA
Vance	Jason	Livermore	CA
Robert	Conner	Big Bear City	CA
M	Lee	Stockton	CA
J	Lane	Sebastopol	CA
Verona	Murray	Oroville	CA
Rachael	Alvarez-Jett	Torrance	CA
Bill	Leikam	Palo Alto	CA
Penelope	Prochazka	Simi Valley	CA
elizabeth	foree	san francisco	CA
Rosy	Morales	Rancho Palos Verdes	CA
Brad	Steele	Springville	CA
Sherrill	Futrell	Davis	CA
Jennifer	Muir	La Canada	CA
Julie	Ostoich	Sacramento	CA
Debi	Bergsma	Fontana	CA
Jeanie	Streit	Los Angeles	CA
Joel	Graves	Topanga	CA
Renee	Hutchins	Pittsburg	CA
Jean	Gladstone	Eureka	CA
Cathy	Thornburn	Los Angeles	CA
Sherrell	Cuneo	Los Angeles	CA
sue	harrington	piedmont	CA
lynn	kullas	twentynine palms	CA
Deborah	Hirsch	Palm Springs	CA
Lori	Caudill	Los Osos,	CA
Peter	Kuhn	San Diego	CA
Debra	Atlas	Redding	CA
Diana	Madoshi	Rocklin	CA

Deborah	Taylor	San Jose	CA
Susan	Lilly	Winnetka	CA
Julie	Arnold	Penryn	CA
pam	wright	pasadena	CA
David	Osterhoudt	Rancho Santa Margarita	CA
Liesl	Okuda	Stevenson Ranch	CA
jena	reid	temecula	CA
Martha	Dingilian	Santa Barbara	CA
David	Scharf	Los Angeles	CA
Annika	Miller	Mill Valley	CA
Patricia	Zylius	Santa Cruz	CA
Cara	Barnhill	Coarsegold	CA
Ann	Tubbs	SF	CA
Brian	Florian	Beverly Hills	CA
Dara	Gorelick	Van Nuys	CA
Roberto	Romo	San Francisco	CA
mickey	mccarthy	san francisco	CA
Sue	Andarmani	Cupertino	CA
Marilyn	Livote	Buena Park	CA
Katrina	Zaleski	corona	CA
David	Adams	Penn Valley	CA
Jillana	Laufer	Studio City	CA
Sherri	Gillespie	Los Gatos	CA
Gina	Crane	Tehachapi	CA
Gabriela	Till	San Diego	CA
Catherine	McCoy	Murrieta	CA
Richard M	Vartanian	Pasadena	CA
Sheila	Peterson	Fallbrook	CA
Miranda	Todd	Redondo beach	CA
ketzia	jacoby	san francisco	CA
Karen	Good	Lafayette	CA
James	Bigger	San Diego	CA
Lisa	Annecone	Santa Rosa	CA
Stephen	Thompson	Ben Lomond	CA
Mark	Crane	Los Angeles	CA
Kleomichele	Leeds	Santa Barbara	CA
Phillip	Randall	Woodland Hills	CA
Geoffrey & Linda	Symcox	Pacific Palisades	CA
mary	tindukasiri	fullerton	CA
Dr. George B.	Kauffman	Fresno	CA
Angela	Black	Seal Beach	CA

barbara	graham	san diego	CA
samuel	popailo	west hollywood	CA
April	Singh	Fresno	CA
Bonnie	Lowery	los angeles	CA
Kurt	Gross	San Diego	CA
Michele	Coakley	Rancho Cordova	CA
David	Broadwater	Atascadero	CA
scott	rail	san jose	CA
W	Lynch	Los Angeles	CA
Malc	Moore	Portola	CA
Jacki	Hunter	Hollywood	CA
linda	pink	westlake village	CA
Nancy	Goldberg	Los Angeles	CA
Stefanie	Sellars	Simi Valley	CA
Phyllis	Krystal	Madera	CA
Sasha	Martinez	upland	CA
Joli	Bennett	Pacifica	CA
Susan	Paulson	Castro Valley	CA
Becci	Greene	Petaluma	CA
Christina	Gibson	San Diego	CA
Leslee	McPherson	San Mateo	CA
Valerie	Truong	San Diego	CA
R	Larrison	Riverside	CA
Nancy	Miller	Santa Maria	CA
Charles	Almack	Calexico	CA
Joe	Hughes	Willits	CA
Chyrl A.	Russell	Blue Jay	CA
Marina	Munoz	Van nuys	CA
Rosemary	Byrne	Altadena	CA
Janet	Williams	Oakland	CA
w.g.	wallin	Thousand Oaks	CA
jitka	valkova	san francisco	CA
Lynda	Harrison	Sacramento	CA
Elizabeth	Dill	San Bruno	CA
jay	Patel	San Jose	CA
Sharon	Trott	Big Bear Lake	CA
diane	hestich	colton	CA
Vinit	Allen	Hidden Valley Lake	CA
Gus	diZerega	Sebastopol	CA
MARTIN	ANSELL	WEST HOLLYWOOD	CA
Mildred	Gordon	Oceanside	CA

Teri	Norris	Vallejo	CA
Sarah	Murdoch	Pacific Palisades	CA
Anne	Kobayashi	San Diego	CA
Caroll	Fowler	Hayward	CA
Jennifer	Doob	Alameda	CA
Brett	Holland	Los Angeles	CA
Christine	Walker	Stanton	CA
Tami	Phelps	Redding	CA
Robert	Duckson	Hemet	CA
Donna	Murray	Los Angeles	CA
Robert	Davis	San Diego	CA
Thomas	Gourley	San Francisco	CA
Valerie	Stone	Norfolk	CA
Charlotte	Vrooman	Los Angeles	CA
Ernest	Ely	San Francisco	CA
Jennifer	Bass	Venice	CA
Nina	Diamante	Los Angeles	CA
Cecilia	Brown	Oakland	CA
Gail	McCredie	Aptos	CA
Joe	Colgan	San Lorenzo	CA
Cynthia	Flewelling	Cool	CA
c	G	SD	CA
james	roberts	Sugarloaf	CA
lyn	ward	frazier park	CA
Gerald	McKelvey	Manteca	CA
Mary	Tullock	ROHNERT PARK	CA
Shoshanah	McKnight	Santa Cruz	CA
Jennifer	Holien	Millville	CA
Paul	Maeding	Mendocino	CA
Rich	Panther	Bodega Bay	CA
Jon	Darke	LA	CA
Philip	Johnston	Scotts Valley	CA
Cleo	Borac	Pacifica	CA
Hugh	Moore	Hawthorne	CA
j	angell	rescue	CA
A. Joan	Gravel	Oceanside	CA
Chris	Mills	NEEDLES	CA
carolyn	silvers	Crescent City	CA
patty	cornell	los angeles	CA
jennifer	parker	los angeles	CA
John	Sutton	Los Angeles	CA

Karen	Cappa	Rohnert Park	CA
Kirstyn	Kay	Riverside	CA
Randy	Herz	San Jose	CA
Valerie	Hill	Long Beach	CA
Lauri	Provencher	Los Angeles	CA
Cheryle	Steele	La Habra	CA
A.L.	Hern	Los Angeles	CA
Brian	Kelly	Fullerton	CA
Cynthia	Fernandez	Point Richmond	CA
KATHRYN	GALLAGHER	San Anselmo	CA
Karen	Bennick	Oceanside	CA
Gabriella	Turek	Pasadena	CA
Steve	Roth	Santa Rosa	CA
Cindy	Psareas	Irvine	CA
Joan	Walker	Bishop	CA
Virginia	Macy	Apple Valley	CA
Linda	Knight	Kenwood	CA
FRANK	DIXON	Perris Ca	CA
David	Arnson	Los Angeles	CA
Dina	Monaghan	Coarsegold	CA
Norma Faith	Rockman	LOS ANGELES	CA
Theresa	Acerro	Chula Vista	CA
Tatjana	Patitz	Los Olivos	CA
John	Fuhrer	Newport Beach	CA
James	Berkheimer	Fremont	CA
Andy	Philpot	Solvang	CA
Michele	Leff	Sherman Oaks	CA
Mary	Riblett	Culver City	CA
Peter	Slattery	Salinas	CA
Thomas	Masterson	Chico	CA
MIKE	CLIPKA	LATHROP	CA
Terelle	Terry	Sacramento	CA
Katie	Sellmann	Petaluma	CA
Patrice	Anita	Los Angeles	CA
George	I.	rancho santa margarita	CA
Sandra	Walker	RSM	CA
Susan	Van Horn	Chico	CA
Jennifer	Fraissl	222 lime ave	CA
Henry	Kielarowski	San Francisco	CA
James	Mickle	Sacramento	CA
claudia	bordin	sacramento	CA

FELIPE	OLARTE	medellin-colombia	CA
Maggie	Connolly	Santa Barbara	CA
Teresa	Edmonds	Carmel Valley	CA
Tristan	Celayeta	Mill Valley	CA
Alice	May	Sonoma	CA
Dana	Lauritsen	San Jose	CA
Johanna	Simmons	Brentwood	CA
glenn	embrey	redondo bch	CA
scott	woker	san diego	CA
miriam	gruver	ukiah	CA
Marcella	Raya	Orange	CA
Deborah	Walden	La Verne	CA
Jim	Leske	NoHo	CA
Carole	Miller	North Hollywood	CA
Miriam	Neff	Dana Point	CA
Deidre	Brookman	Huntington Beach	CA
lynne	pateman	los Angeles	CA
Joan	Andersson	Topanga	CA
Jennifer	Will	Morgan Hill	CA
Kimberly	Saxelby	Upland	CA
Sharie	Foster	Tujunga	CA
Elizabeth	Cotton	Encinitas	CA
Liz	Fowler	Richmond	CA
Paul	Meyer	El Sobrante	CA
Ruth	Feldman	Fair Oaks	CA
Rosalind	Milliken	Indio	CA
Kathleen	Taughar	Sonoma	CA
Paul	Jacobson	Willits	CA
Mary	Sullivan	Aptos	CA
Carolyn	Boyles	Cotati	CA
vicki	kopinski	menifee	CA
Robert	Banever	Duarte	CA
William	Harrison	Tarzana	CA
Linda	McCalister	vacaville	CA
Renee	Boteilho	Los Angeles	CA
Janet	McCalister	Paradise	CA
Rev	D	Richmond	CA
leslie	r	los angeles	CA
Michael	Kast	Panorama City	CA
Darla	Sadler	Campbell	CA
Peggy	Loe	Magalia	CA

Valerie	Orner	San Mateo	CA
Robert	Pousman	Healdsburg	CA
Patricia	Trandal	San Diego	CA
Kay	Sundstrom	Los Angeles	CA
Merilie	Robertson	Canoga Park	CA
Joan	Weiner	San Anselmo	CA
Denise	Wright	Los Angeles	CA
Jo Ann	Henderson	Aptos	CA
Brian	Smalley	Oakland	CA
bruce	hirayama	los angeles	CA
Joanne	Harkins	VENICE	CA
HUGO	MIRA	LOS ANGELES	CA
Joyce	Gubelman	San Francisco	CA
Ruth	Valdez	Watsonville	CA
Michael	Decker	Los Angeles	CA
Susan	McMullen	Lemon Grove	CA
Alicia	Snow	San Francisco	CA
Elaine	Holder	Holder	CA
Carol	Newton	Los Angeles	CA
Dan	Nickerson	North Hollywood	CA
Barbara	Crane	Healdsburg	CA
Patrice	Curedale	Topanga	CA
Vladimir	Khait	San Francisco	CA
Natalie	McMahon	Woodside	CA
Stephen	Bartlett-Re	San Francisco	CA
Joe	Myers	Azusa	CA
Mary	Sodomka	Santa Barbara	CA
amanda	foulger	topanga, CA	CA
Jorge	Velez	san jose ca	CA
Diana	Day	Monterey	CA
Esther	Chavez	Northridge	CA
stacey	andre	benicia	CA
Anthony	Torres	Montebello	CA
John	Taylor	Soledad	CA
JENIFFER	Fuentes-Mishica	LONG BEACH	CA
virginia	sharkey	santa rosa	CA
Chris	Candell	Oakland	CA
Harold	Broadstock	Atwater	CA
Brandon	Jay	San Jose	CA
Robert	Blomberg	Berkeley	CA
BC	Macdonald	Albion	CA

Ann	M	Berkeley	CA
Linda	Stock	Cypress	CA
Debbie	Bolsky	Santa Monica	CA
anne mabel	ramis	santa monica	CA
Danielle	Hill	saugus	CA
Melinda	McBride	Winnetka	CA
william	doran	santa monica	CA
Malka	Essig	Oakley	CA
Melinda	Moros	Concord	CA
Candace	Batten	Los Angeles	CA
Christina	Burton	Apple Valley	CA
vera	sadkovsky	modesto	CA
David	Schendel	San Francisco	CA
Colin	Lindsly	Walnut Creek	CA
Scott	Devries	San Pedro	CA
Buckland	Sawyer	Oxnard	CA
Roya	Massih	Santa Monica	CA
Rita	Massih	Santa Monica	CA
Mitra	Malek	Santa Monica	CA
LYNN	FREUDENBERG	N. HOLLYWOOD	CA
Laurel	McClure	Mountain View	CA
Robin and Greg	Handgis	Highland	CA
Nancy	Kirk	clovis	CA
Mayra	Molina	Lebec	CA
shiela	Cockshott	belmont	CA
GLORIA	CHRISTY	MENLO PARK	CA
Susanne	Bader	Grass Valley	CA
Kelsey	Christiason	Santa Clarita	CA
Jon	Snyder	Rancho Cucamonga	CA
Vidya	Sims	Orick	CA
Bryan	Bergstrand	Fortuna	CA
Sabrina	Luis	Watsonville	CA
Art	McCue	Porterville	CA
kATHLEEN	Seeley	Yucca Valley	CA
Susan	Allen	Livermore	CA
Ben	Cachola	Union City	CA
Jose	Figuroa Jr	Fremont	CA
Sheridan Sonne	Rice	wrightwood	CA
Jane	Jolivette	Antioch	CA
Carol	Leuenberger	San Carlos	CA
Marcia C.	Hackett	Tustin	CA

Stephen	Shearer	San Francisco	CA
Larry	Lima	Campbell	CA
Karen	Benzel	Carmel by the sea	CA
Eva	genoves	valencia	CA
Steve	Graff	Los Angeles	CA
Trisha	Lim	Los Angeles	CA
Maureen	Burness	Sacramento	CA
Lourdes	Arvizu	Herald	CA
Vicki	Leeds	Point Reyes Station	CA
Jessica	Wodinsky	Los Angeles	CA
Larisa	Long	Fallbrook	CA
Phillip	Cripps	Cathedral City	CA
Alisa	Risso	Rancho Santa Margarita	CA
Robert C	Brown	San Carlos	CA
craig	rakela	sacramento	CA
li	ru	daly city	CA
wendy	denny	petaluma	CA
Sandra	Reynolds	Windsor	CA
Diane	Johnson	Escondido	CA
Deborah	Miller	Monterey	CA
gloria	garcia	whittier	CA
Elaine	Herzog	Thousand Oaks	CA
Holly	Mooney	Orange	CA
Nicole D.	Bilotti	San Francisco	CA
Laura	Thornton	Laguna Niguel	CA
Stan	Watt	San Jose	CA
Jennifer	H	Irvine	CA
Michelle	Davis	Vacaville	CA
Tony	Arn	West Hollywood	CA
Susan	Posner	Oceanside	CA
Tran	Nham	Long Beach	CA
Natasha	Weaver	San Diego	CA
Florence	ASSALIT	MONTEREY	CA
ethan	zachadnyk	la jolla	CA
Steven	Lamers	San Bernardino	CA
Audrey	Liverant	Los Angeles	CA
Alison	Barratt	Monterey	CA
Marian	Tarbox	La Mesa	CA
Dennis	Dougherty	San Rafael	CA
Judy	Marsh	Los Angeles	CA
derek & ann	legg	Richmond,	CA

Pat J	Harris	Redding	CA
Jessie	Root	Oceanside	CA
PAUL	STODDARD ESQ	RANCHO CUCAMONGA	CA
Josh	Wolf	Half Moon Bay	CA
Patti	Shea	Bay Point	CA
michael	levitt	Concord	CA
Katie	Gluck	Kensington	CA
Igor	Kryan	San Francisco	CA
Judith S	Anderson	Long Beach	CA
donna j	wagner	pacifica	CA
Q	Higgins	Pacifica	CA
Carmel	Ammon-Mulloli	Auburn	CA
Phoebe	Lenhart	Goleta	CA
Cat	Allen	LOS OLIVOS	CA
Brent	Riggs	Inglewood	CA
Holly	Luban	Atascadero	CA
Ryan	Brennan	San Rafael	CA
e	berman	Van Nuys	CA
Howard	Leonard	Petaluma	CA
Diane	McLaughlin	Culver City	CA
Jo Ann	Herr	Oakland	CA
Susanne	Schieffer	Thousand Oaks	CA
Patricia	Cross	San Jose	CA
Sharon	Vickery	Adelanto	CA
Raquel	Sanchez	Escondido	CA
Brenda	Arson	Los Angeles	CA
Mike	Tallmadge	San Jose	CA
Vic and Barby	Ulmer	Saratoga	CA
Pati	Moretto	Santa Rosa	CA
Rick	Burns	Petaluma	CA
Tom	Cohen	Los Angeles	CA
Lea-Ann	Refregier	San Jose	CA
Holly	Evans	Studio City	CA
Allan	Alessio	Long Beach	CA
Lenore	Roiz	San Francisco	CA
Richaed	Mercer	San Rafael	CA
michaela	de angelis	Los Angeles	CA
Kara	Braden	Santa Clarita	CA
tim	barker	santa monica	CA
Philip	Bouwsma	Guerneville	CA
patricia	neate	santa monica	CA

Jan	Sarvis	Fairfax	CA
Mrs Sonya M.	Garbutt	Davis	CA
KELLY	KRAMER	GARDEN GROVE	CA
Michael	Kobert	Escondido	CA
Ben	Nelson	Dixon	CA
Peggy	Graham	Sunnyvale	CA
julia richardson	richardson	Sacramento	CA
Richard	Santivong	Monterey Park	CA
alice	speakman	huntington bch	CA
Faith	Conroy	Calabaza as	CA
Alex	Anshus	Escondido	CA
Betsy	Eckstein	San Francisco	CA
Sydney	Schmidt	Riverside	CA
Linda	Currie	Berkeley	CA
Sonia	Vila	Emeryville	CA
Norma	Corey	Redwood City	CA
Andrea	Szeto	Berkeley	CA
Tama	Olver	Pacific Grove	CA
Julia	Voce	Seal Beach	CA
Jennifer	Cartwright	Costa Mesa	CA
Jodi	Frediani	Santa Cruz	CA
John	Cote	Woodland Hills	CA
Mike	Myers	Irvine	CA
Mary	Duncan	San Rafael	CA
Cynthia	Ratliff	Santa Cruz	CA
Lauren	Appling	Castro Valley	CA
JOSE	ARTEAGA	LOS ANGELES	CA
Terri	McIntyre	Sacramento	CA
Samar	Javid	Irvine	CA
Kevin	Price	Glendale	CA
Greg	Miller	Chico	CA
Karen	Madura	Santa Cruz	CA
Antonio	Ruiz de Alarcon	San Diego	CA
Jenny	Diehl	Pittsburg	CA
Myrna	Morales	Indio	CA
Marcia	Taylor	Yorba Linda	CA
Kaela	Gallagher	Paso Robles	CA
Edith	Duncan	Lancaster	CA
Alice	wang	saratoga	CA
Kathy	Iverson	Palmdale	CA
madelaine	Sutphin	STUDIO CITY	CA

sabina	caliguri	san diego	CA
Kristin	Whitelaw	Redondo Beach	CA
Julie	English	Sacramento	CA
Kathy	Tharp	Rancho Cucamonga	CA
Jim	Lansing	San Francisco	CA
Janina	Konopka	Castro Valley	CA
John	Teevan	Chula Vista	CA
Jeremy	Wakefield	Oakland	CA
Fred	Sokolow	santa monica	CA
Diane	Rooney	El Cerrito	CA
Deborah	Goncalves	West Hollywood	CA
Kathryn	Burton	San Diego	CA
Elena	Kermani	San Diego	CA
James	Howard	Sacramento	CA
walker	hibben	newport beach	CA
Meaghan	Simpson	Fortuna	CA
David	Hammond	Willits	CA
Antonia & Andreas	Chianis	Blue Jay	CA
Linda	Tabb	north Hills	CA
Richard	WlightmanCA	Arcadia	CA
m.	canter	Tiburon	CA
C	Hawker	San Jose	CA
Elaine	Wilson	Torrance	CA
Diane	Laskin	L.A.	CA
Sam	Romero	Stockton	CA
James	Doeppers	Mill Valley	CA
john	harris	bay point	CA
Charles	Hall	Nevada City	CA
Alex	Munguia	Daly City	CA
Sharon	Haywood	Laguna Beach	CA
tom	simonian	san francisco	CA
harvey	sternheim	Los Angeles	CA
Dan	O.	Menifee	CA
PETRUS	TOWNSEND	SAN LORENZO	CA
Yvette	Bishop	Chula Vista	CA
Kathleen	Siskron	Altadena	CA
william	cull	covelo	CA
Norma	McDonald	Crescent City	CA
e	perkins	talmage	CA
Sherry	Handy	Lincoln	CA
Jan	jordan	placentia	CA

John	Etter	Monterey	CA
Michael	Zagaris	San Francisco	CA
Donna	Duran	NORTHRIDGE	CA
Alice J.	Felix	WalnutCreek	CA
Gary	Naake	Nevada City	CA
Megan	Adams	PLACERVILLE	CA
christine	raffetto	healdsburg	CA
Chris	OMeaea Dietrich	San Jose	CA
Claire	Joaquin	Pollock Pines	CA
Gloriamarie	Amalfitano	San Diego	CA
Michael	Spadoni	Rail Road Flat	CA
John	Pham	Encintas	CA
Ana	Herold	Pacifica	CA
Diana	Goodman	San Francisco	CA
Dale	Noonkester	Potrero	CA
John	Ecklund	Thousand Oaks	CA
Marian	Cruz	Hollister	CA
Robert	Sullivan,MD	Sacramento	CA
Kira	Schabram	Valley Springs	CA
Roderick	Brown	San Diego	CA
Sudesh	Prasad	San Pablo	CA
sharon	lacy	Sebastopol	CA
Sarah	Hafer	Sacramento	CA
Alexis	Miller	Santa Monica	CA
Gwen	Romani	Castaic	CA
Mercy	Grieco	Fresno	CA
Allen	Rozelle	Santa Cruz	CA
William	Putnam	Vallejo	CA
Sharon	Laabs	La Jolla	CA
Marguerite	Shuster	Sierra Madre	CA
K	Krupinski	LA	CA
Nik	Kripalani	San Diego	CA
gus	gomez	San Francisco	CA
Michelle	Palladine	Palm Springs	CA
Howard	Rosenthal	San Mateo	CA
Eithne	Cunningham	Grass Valley	CA
Steve	Morris	Los Angeles	CA
Lindsay	Mugglestone	Berkeley	CA
J. Barry	Gurdin	San Francisco	CA
Mark	Schechter	Cayucos	CA
Jill	Blaisdell	La Canada	CA

Nada	Ballator	Redwood City	CA
Frank	Hill	North Hollywood	CA
joshua	krasnoff	Oak View	CA
frederique	joly	venice	CA
Evan	Shamoon	LA	CA
Molly	Huddleston	Santa Rosa	CA
judie	lewellen	Pearblossom	CA
Henry	Weinberg	Santa Barbara	CA
Robert	Ellis	Oakland	CA
Vivian	Penniman	LaQuinta	CA
Tim	Linerud	Belmont	CA
Christopher	Barhoum	Redondo Beach	CA
Abraham	Oboruemuh	Riverside	CA
Jeannie	Pascuzzi	Orange	CA
Patsy	Lowe	Simi Valley	CA
Clark	Davis	Los Osos	CA
Charles	Hochberg	Philo	CA
Cyril	Bouteille	MOUNTAIN VIEW	CA
Adriana	Guidi	Sherman Oaks,	CA
vance	arquilla	los angeles	CA
Christine	Hayes	Upland	CA
Martin	Marcus	San Diego	CA
Angie	Williams	Wishon	CA
wandis	wilcox	aptos	CA
Mal	Gaffney	Lompoc	CA
Lisa	Katter-Jackson	Encinitas	CA
Martin	Riley	Corona	CA
Paula	Johnson	Thousand Oaks	CA
Mary Etta	Moose	san francisco	CA
Lynne	Davies	San Francisco	CA
Jennifer	Toth	Santa Clarita	CA
William	Lawson	CALIMESA	CA
Allan	Chen	Alameda	CA
Nikki	Nafziger	Vallejo	CA
Mary	Thomas	Richmond	CA
Janine	Hurd-Glenn	La Mesa	CA
damon	colclough	san diego	CA
Rudy	Ramp	Arcata	CA
Siavash	Human	Santa Monica	CA
marita	mayer	san anselmo	CA
Eric	Carlson	Los Osos	CA

Sharon	Nicodemus	Sacramento	CA
Mich	Chen	Fremont	CA
Michelle	MacKenzie	San Carlos	CA
cathy	brandolisio	Sherman Oaks	CA
Gerald	Shaia	Sun Valley	CA
Grace	Tiessen	Pasadena	CA
Kelly	McVey	Anaheim	CA
Keith	Chambers	SACRAMENTO	CA
Christine	Gallagher	Palm Springs	CA
Carolyn	Boor	Rancho Cucamonga	CA
Herman	Waetjen	San Anselmo	CA
elise	mallove	topanga	CA
alejandra	menna	menna	CA
Nancy	Boyce	San Rafael	CA
Veronica	Herrera	Culver City	CA
Cynthia	Cleese	LA	CA
Peter	Corkey	San Francisco	CA
david	scott	Ontario	CA
David	Haskins	San Diego	CA
Michael	Stewart	Elk Grove	CA
arturo	giraldez	stockton	CA
k	olson	bodega bay	CA
Sara	MacKusick	Berkeley	CA
Joyce	Campbell	Torrance	CA
Sandi	Sternberg	Marina del Rey	CA
Carole	Garrett	Folsom	CA
JAKE	SCHWARTZ	PETALUMA	CA
Joy	Turlo	Redondo Beach	CA
Randy	Mills	Culver City	CA
Robert	Rippetoe	Rancho Mirage	CA
Tim	Barrington	San Jose	CA
Susan	Himes-Powers	San Francisco	CA
Elizabeth	Oliver	San Diego	CA
Stephen	Eklund	Salinas	CA
Marian	Fricano	San Jose	CA
V. Joseph	Klein	Benicia	CA
Ruth	Dyke	Foresthill	CA
Shannon	Hunter	San Jose	CA
julie	Kramer	san francisco	CA
Benita	Smith	Berkeley	CA
Harald	Conradi	Los Angeles	CA

o	lewis	los angeles	CA
leslie	spoon	los osos	CA
Don	Schwartz	Larkspur	CA
Pamela	Check	Chico	CA
thomas	lavigne	fremont	CA
Jamie	Zazow	Santa Monica	CA
Susan	Porter	Pasadena	CA
Constance	Sutton	Berkeley	CA
Michael	McMahan	Huntington Beach	CA
pete	childs	rancho mirage	CA
Rosiris	Paniagua	Altadena	CA
Jere	Springer	Glendora	CA
Michael	Darling	Frazier Park	CA
George	Sheridan	Garden Valley	CA
Janet	Kennington	Los Angeles	CA
Sharon	Rodrigues	Fremont	CA
Barbara	Root	McKinleyville	CA
David	Smith	Irvine	CA
Kevin	Reynolds	Hayward	CA
Gabriela	Velasquez	Hercules	CA
Chip	Phillips	LOS ANGELES	CA
Angee	Sylvester	Lancaster	CA
David	Perry	San Francisco	CA
Virginia	Mariposa	Santa Barbara	CA
Richard	Stewart	Westminster	CA
jacklyn	loughbom	manhattan beach	CA
Chris	Gillis	Oakland	CA
Paul	McDermott	Los Angeles	CA
Carolyn	Mone	Woodside	CA
Eric	Bratcher	Hayward	CA
rob	rondanini	roseville	CA
Steven	Henderson	Palm Springs	CA
KURT	CRUGER	LONG BEACH	CA
Robert	Field	LOS GATOS	CA
Cherie	Altevers	Lincoln	CA
Richard	Puaoi	Novato	CA
Michael	Bailey	Mission Viejo	CA
james	page	petaluma	CA
Zia	Islam	Winnetka	CA
Mary	McGann	Carmichael	CA
Ronald	Bogin	El Cerrito	CA

James	Kirks	Chico	CA
Nick	McNaughton	Los Angeles	CA
Mr. Michael C. Ford and	Dr. Richard B. Marks	Watsonville	CA
Norman	Kindig	Yorba Linda	CA
Katie	Zukoski	Chico	CA
Catherine	Sturgeon	Los Angeles	CA
Andrew	Jones	Fresno	CA
Martha	Lyons	Monterey Park	CA
Melissa	Saumur	Temecula	CA
Pamela	Gaskill	Alameda	CA
Yvonne	Davis	San Diego	CA
Katherine	Williams	Winnetka	CA
pamela	hamilton	sacramento	CA
vicki	leidner	san francisco	CA
Renee	Crump	Fallbrook	CA
Amy	Veloz	Van Nuys	CA
Sharlee	Moore	Los Angeles	CA
Sarah	Hall	Burbank	CA
Holly	Putman	Anaheim	CA
Christine	Angeles	Burlingame	CA
Vicki	Wiker	San Clemente	CA
India	Rance	Encino	CA
David	Miliotis	Encinitas	CA
Oliver	Begaj	Venice	CA
Jane	Pelton	Grass Valley	CA
Frank	Andrews	San Rafael	CA
Candi	Ausman	Fremont	CA
Dee	Warenycia	Roseville	CA
Mercedes	Benet	Carlsbad	CA
James	Foley	Simi Valley	CA
Victor	Magana	Fresno	CA
Richard	Steiger	Oakland	CA
amrit	khalsa	Redondo beach	CA
Eileen	Harrington	Albany	CA
Michael	Misqueuz	Pico Rivera	CA
Christine	Fluor	Corona del Mar	CA
cynthia	purdue	11123 outlaw way	CA
Kyle	Petlock	Los Angeles	CA
Leslie	Williams	El Cajon	CA
Jenny	Boris	FREMONT	CA
Terry	Kourda	Chula Vista	CA

Jack	Bartlett	Mill Valley	CA
James	Talbot	Granada Hills	CA
Warren	Gold	Mill Valley	CA
Tim	Swanson	Torrance	CA
Andrew	Olsen	Los Angeles	CA
Arthur	St. Clair	Santa Monica	CA
Brien	Hindman	Montrose	CA
Peter	Burchard	Fairfax	CA
Trish	Tuley	Idyllwild	CA
lynne	weiske	los angeles	CA
Walter	Ramsey	OAKLEY	CA
chris	hagen	sacramento	CA
Arthur	Connor	Idyllwild	CA
Dana	Lubin	Valley Village	CA
Jolianne	Baum	Santa Monica	CA
Holly	Hall	Temecula	CA
Daniel	Corral Jr	Hollister	CA
Herschel	Surdam	San Mateo	CA
Melynda	Quinn	Folsom	CA
John	George	Hemet	CA
Sharon	Johnson	Hemet	CA
Sean	Ray	Los Angeles	CA
karen	clarke	lancaster	CA
JASON	THOMAS	SHASTA LAKE	CA
Mikal	Baker	Arcata	CA
Roger	Levine	Los Angeles	CA
Chris	Fazio	San Mateo	CA
Francie	Mitchell	Alamo	CA
David	Ruger	Los Angeles	CA
Emilia	Bland	San Diego	CA
Sheryl	Brezina	San Dimas	CA
Kenneth	Miller	Topanga	CA
pam	johnson	sacramento	CA
Lynne	Harkins	Cambria	CA
Joyce	Aronson	Santa Barbara	CA
Charles	Richmond	Costa Mesa	CA
Denise	Berrian	Chula Vista	CA
Robert	Soto	La Quinta	CA
Terryll	Rainey	San Francisco	CA
Linda	Bruton	Saratoga	CA
Elizabeth	Davidson	claremont	CA

Jamie	Trask	MISSION VIEJO	CA
Eric	Rehnke	Lake Forest	CA
Erika	Vargas	Castro Valley	CA
Doenella	Martin	Clovis	CA
Ryann	Manalo	Rio Linda	CA
Martha	Muller	Long Beach	CA
Benjamin	Sawicki	Emeryville	CA
Wendy	Kupsaw	Oakland	CA
Carole	DaDurka	San Clemente	CA
Barbara	Harpe	Lomita	CA
ron	kutch	san jose	CA
Richard	Marchick	Orinda	CA
Juliette	Kelsey	Spring Valley	CA
Roxanna	Galvan	Oakland	CA
Lindsey	Mcmanus	Long Beach	CA
Marilyn	Shepherd	Trinidad	CA
Edith	Ogella	Santa Barbara	CA
Jana	Perinchief	Sacramento	CA
Brad	Rae	Lake Forest	CA
toni	Danielson	Temecula	CA
Karen	Burman	Felton	CA
Debra	Gley	Trabuco Canyon	CA
Mara	Johnson	Lafayette	CA
Florence	Cooley	Santa Barbara	CA
Michael	Harrington	Granite Bay	CA
Kyana	Jones	Berkeley	CA
Janet	McLaughlin	Rancho Santa Fe	CA
Elizabeth	Kiely	Winnetka	CA
Alan	Cunningham	Carmel Valley	CA
Eleanor	Comegys	West Hollywood	CA
Mark	Marshall	Palm Springs	CA
Stacy	Patyk	Aptos	CA
karl	knobler	Berkeley	CA
judy	pollner	los angeles	CA
Jana	Lalanne	Mountain View	CA
Benita	Cohen	Desert Hot Springs	CA
Melbourne	Delaney	laguna niguel	CA
Emerald	Lanto	Los Angeles	CA
Nathan	Myers	Davis	CA
Dana	Monroe	San Diego	CA
ronald	thomas	West Hollywood	CA

Sally	Berman	Grass Valley	CA
Janice	Dougall	Agoura Hills	CA
Willard	Simms	Woodland Hills	CA
Merlin	Hsu	Sunnyvale	CA
OLGA	Drobot	Fremont	CA
linda	b.	pasadena	CA
sheila	wyse	sherman oaks	CA
Jackelyne	Sanchez	Compton	CA
Daga	Krackowizer	Laguna Beach	CA
GINA	BILWIN	SANTA BARBARA	CA
Robert Bobby""	Fromer	Palmdale	CA
Sylvia	Valdez	Bishop	CA
Chip	Maguire	Santa Barbara	CA
Kimberly	Jannarone	San Francisco	CA
Mary Ann	Kono	Scotts Valley	CA
Barbara	Mastej	Venice	CA
Pete	Monreal	Azusa	CA
Daryl	Forman	.Santa Monica	CA
Megan	Coffey	Rohnert Park	CA
David	Bedel	San Diego	CA
Suzee	Quaid	Sacramento	CA
Lionel	Gazeau	Monte Rio	CA
Terry	Poplawski	Ukiah	CA
natalie	torre	beverly hills	CA
Maria	Perales	Alameda	CA
eugene tsui	Tssui	Emeryville	CA
Julita	Jones	Laguna Beach	CA
Nadine	Cano	Van Nuys	CA
J. Fairchild	Williams	Claremont	CA
TIFFANY	BOWERS	VISALIA	CA
Bruna	Barresi	San Francisco	CA
gregg	norman	santa monica	CA
Molly	Tuveson	San Rafael	CA
ROBERT	PARKER STELLATO	REDWOOD CITY	CA
Earth	Thunder	Boise	ID
Barb	Crumpacker	Coeur d'Alene	ID
Kenneth	Fisher	Pinehurst	ID
RONDA	REYNOLDS	IDAHO FALLS	ID
Adina	Kelley	Boise	ID
Bill	Ventre	Boise	ID
gustaf	sarkkinen	moscow	ID

Susan	Cicero	Driggs	ID
Jill	Hirschi	AF	ID
Sharon	Mueller	Idaho Falls	ID
Thomas	Rogers	Eagle	ID
Cindy	Henderson	Meridian	ID
Carmen	Chacon	Pocatello	ID
Grace	Himmelberger	Boise	ID
Martha	Foster	Potlatch	ID
Marina	Cappas	Eagle	ID
Peter	Brockett	Boise	ID
Susan	Mann	Boise	ID
Anne	Donnolo	Hayden	ID
Linda	Morgan	Caldwell	ID
Stephen	Hackney	Grangeville	ID
Mark	Weber	Twin Falls	ID
Amanda	Campbell	Meridian	ID
Richard	Rusnak	Nampa	ID
Heather	Rodman	Boise	ID
tom	Kovalicky	Grangeville	ID
marci	robinson	pocatello	ID
Ronald	Johnson	Post Falls	ID
Mrs. Jane A	Lemison	Caldwell	ID
Lea	Patten	Florence	OR
Rick	Ross	Sweet Home	OR
Anthony	Albert	Corvallis	OR
Ian	Shelley	Portland	OR
Jim	May	Depoe Bay	OR
Robert and Dolores	Scheelen	Medford	OR
Dave	Dunkak	Portland	OR
Amy	Danielson	Portland	OR
Eileen	Chieco	Ashland	OR
Martha	Perez	Portland	OR
Cynthia	Enlow	Albany	OR
Dean	Pryer	Eugene	OR
Gerald	Moss	Unity	OR
Karla	Long	Albany	OR
Dan	Sherwood	Portland	OR
Hector	Amaro	Salem	OR
wayne	kelly	Ashland	OR
phoebe	quillian	Talent	OR
Stephen	Oder	Corvallis	OR

Heather	Marsh	Lake Oswego	OR
James	Bernard	Portland	OR
Meryle A.	Korn	Portland	OR
William	Rizer	Carlton	OR
Eileigh	Doineau	Portland	OR
Casey	Schnaible	Medford	OR
SHARON	LEE	BEND	OR
Scott	Crockett	Florence	OR
O	Spencer	Gresham	OR
Melanie	Feder	Philomath	OR
Debora	Tramposh	Portland	OR
Dana	Bleckinger	Yachats	OR
Mauria	Mcclay	Portland	OR
Emilie	Marlinghaus	Bend	OR
Stuart R.	Shaw	Salem	OR
diana	kekule	Lincoln City	OR
Gary	Gilardi	Hood River	OR
Angie	Mason	Phoenix	OR
Cassandra	Browning	Salem	OR
Nicole	Staudinger	Portland	OR
Diane	Luck	Portland	OR
Cheryl	Fisher	Milwaukie	OR
russell	archer	portland	OR
Lori	Dennis	Eugene	OR
Marguery Lee	Zucker	Eugene	OR
Tony	DeFalco	Portland	OR
A.	Todd	Eugene	OR
Linda	Schwartz	Cannon Beach	OR
greeley	wells	jacksonville	OR
Patrick	Grady	Grants Pass	OR
Sandra	Joos	Portland	OR
William Lee	Kohler	Eugene	OR
Carol	Ampel	Medford	OR
Marie	Wakefield	Newport	OR
jessica	bannester	Portland	OR
Monica	Gilman	Estacada	OR
Jay	Humphrey	Estacada	OR
Margaret	Keene	White City	OR
CHERIE	REEVES	CENTRAL POINT	OR
Margaret	Quentin	Portland	OR
Karen	Sinclair	Grants Pass	OR

Ed	Davie	Forest Grove	OR
Chris	Moser	Corvallis	OR
Janette	Wells	Bend	OR
Ms. Karen	Deora	Portland	OR
Phil	Hanson	Portland	OR
Suasan	Lemer	Elmira	OR
Lars	Jefferson	Albany	OR
John	Goeckermann	Grants Pass	OR
Maria	White	Beaverton	OR
Lauren	Thompson	Oregon City	OR
Jody	Turner	Portland	OR
constance	kosuda	aloha	OR
stu	lips	eugene	OR
Philip	Ratcliff	Salem	OR
Wade	Stoddard	Portland	OR
Lauren	Kelley	Portland	OR
Matt	Freedman	Eugene	OR
Wendy	McGowan	Eugene	OR
Jeffrey	White	Forest Grove	OR
Randall	Nerwick	Milwaukie	OR
Claudia	Hall	Beaverton	OR
Susan	Wechsler	Corvallis	OR
Dave	King	Portland	OR
Jeannine	Mihalek	Beavercreek	OR
Debra	Saude	Sweet Home	OR
Emily	McGehee	Portland	OR
Donna	Steadman	Durham	OR
Rose	Wasche	Lake Oswego	OR
Mary	Peterson	Newport	OR
Danny	Dyche	Hillsboro	OR
Nancy	Hiser	Portland	OR
Ben	Earle	Portland	OR
Renee	Cote	Wolf Creek	OR
Tabitha	Donaghue	Portland	OR
Rob	Bodner	portland	OR
Mika	Gentili-Lloyd	Hillsboro	OR
Gina	Norman	Portland	OR
Alicia	Liang	Portland	OR
Karen	Nienkamp	Lincoln City	OR
Linda	Snyder	Salem	OR
Emlyn	Bruns	Eugene	OR

Bette	Koetz	Dexter	OR
Helen Logan	Hays	Oregon City	OR
Charlie	Graham	Hillsboro	OR
Laurie	Fisher	Tigard	OR
Diana	Anderson	Roseburg	OR
Lisa	Frech	Hillsboro	OR
Sharon	Holford	Milwaukie	OR
Dr. Steven J.	Prince	Eugene	OR
James	Gilmore	Portland	OR
Laura	Hanks, PA-C	Portland	OR
Serena	Wittkopp	Portland	OR
Geraldine	Stewart	Eugene	OR
Michael	Tribble	Coos Bay	OR
Robert	Miller	Portland	OR
Lon	Otterby	Marcola	OR
kaylee	Bray	Ashland	OR
EHREN	HOCK	TROUTDALE	OR
Deneen	Peckinpah	Ashland	OR
Wendy	McKee	Corvallis	OR
Mara	Seer	Eugene	OR
Clifford	Spencer	Portland	OR
Tiffany	McCleary	Portland	OR
Eva	Kendoll	Molalla	OR
William	O'Brien	Beaverton	OR
Emily	Vigue	Roseburg	OR
Ruth	Nelson	McMinnville	OR
Barbara	Green	Clatskanie	OR
Charles	Williams	The Dalles	OR
Tasha	Carpenter	Deer Island	OR
Dave	Plaehn	Corvallis	OR
Susan	Haywood	Portland	OR
Iorraine	foster	portland	OR
Dawn	Matsumoto	Hillsboro	OR
Osalyn	Houser	Albany	OR
Sheryl	Amen	Portland	OR
Therese	Cartwright	Klamath Falls	OR
Daniel	Saltz	Salem	OR
Rich	Mackin	Portland	OR
Karen	Bergen	Dallas	OR
Erin	Marshall	Portland	OR
Kathleen	Halberg	Eugene	OR

Evelyn	Pietrowski-Ciullo	Salem	OR
Ann	Bergmann	Corvallis	OR
Corinne	Meehan	Eugene	OR
Gretchen	Dennison	Lake Oswego	OR
Chad	Halsey	Salem	OR
Lois	White	Grants Pass	OR
Sara W/	Baker	Portland	OR
Regina	Galbick	Portland	OR
Shaina	Okalani	Ashland	OR
christopher a. mcGowan	christopher a. mcGowan	salem	OR
julie	gilbert	bend	OR
Berklee	Robins	Lake Oswego	OR
Terri	McFarland	White City	OR
Rod and Roseamary	Christensen	Eugene	OR
larry	keele	portland	OR
Ann	Tiedeman	Beaverton	OR
Jane	Wilson	Oregon City	OR
skylaar	amann	portland	OR
jan	nelson	Eugene	OR
Paul	Borcherding	La Grande	OR
sufi	olsen	eugene	OR
dale	jeffers	Damascus	OR
Alan	Eliason	Eugene	OR
Margalo	Ashley-Farrand	Portland	OR
Susan	Sankarshanan	Beaverton	OR
Gaylee	Goodrich	Corvallis	OR
Ellen	Furstner	Marcola	OR
Amanda	Larkin	Bend	OR
R S	Dorsey	Dexter	OR
amy	bright	portland	OR
David	Daley	Portland	OR
Sally J.	Jones	Rainier	OR
Jake	Crawford	Ashland	OR
Sarah	Wiebenson	Portland	OR
Arlene	Fromer	Portland	OR
Brayden	Criswell	Lincoln City, formerly Roads End	OR
Steve	Aydelott	Bend	OR
Jamie	Fillmore	Beaverton	OR
Jason	Chin	Portland	OR
Paul	Ordway	Springfield	OR

dody	H	jacksonville	OR
Barbara	Arlen	Corvallis	OR
Bruce	Hellemn	Portland	OR
Zachary	Nelms	PORTLAND	OR
David	Wilson	Myrtle Point	OR
Franklin	Kapustka	Aloha	OR
L.	Griffiths	Beaverton	OR
BOB	hammond	Sisters	OR
Maureen	O'Neal	Portland	OR
bruce	bauer	Medford	OR
patricia	carcasses	portland	OR
Keeley	Harding	Portland	OR
Paula	Eppler	Happy Valley	OR
Patty	Bonney	Portland	OR
Jaedra	Luke	Bend	OR
April	Theod	Milwaukie	OR
Claire	Cohen	Lake Oswego	OR
Shirley	White	Springfield	OR
Basey	Klopp	Bend	OR
Roger	Kofler	Portland	OR
Steve	Sheehy	Klamath Falls	OR
Shirley	Smith	Veneta	OR
Susanna	Askins	Portland	OR
G L	LeBlanc	Eugene	OR
Irene	Mills	Portland	OR
Jill	Haverland-Wilder	Astoria	OR
John M.	Long	Redmond	OR
Setsuko	Maruki-Fox	Grants Pass	OR
Rita	Castillo	Springfield	OR
Karen	Horton	Independence	OR
Gene	Gossett	Portland	OR
M.	W.	Brookings	OR
Laura	Fleming	Eagle Point	OR
Evan	Jackson	Philomath	OR
Robert	Spies	Portland	OR
Audrey	Shepard	Springfield	OR
Maria	Sause	Newport	OR
John	Tangney	Happy Valley	OR
Christine	Kleiman	Ashland	OR
Anna	Becker	Hillsboro	OR
Pam	Statz	Portland	OR

kendra	madden	elmira	OR
Catherine	Dishion	Cievwrr	OR
Donald	Dimock	Monmouth	OR
Mary	Cody	Ashland	OR
Diane	Liguori	Phoenix	OR
Katy	Carey	Portland	OR
Melinda	Spencer	Depoe Bay	OR
Jerry	Melton	Corvallis	OR
Terry	Ridge	Lakeview	OR
eva	thiemann	Jacksonville	OR
Michelle	Greither	Oregon City	OR
Jennifer	Elliott	Portland	OR
Joy	Mamoyac	Corvallis	OR
Sharon	Matticola	Eugene	OR
debra	poscharscky	Portland	OR
Randy	Harrison	Eugene	OR
M. Faye	Bennett	Portland	OR
LINDA	NIEDZIEJKO	Rogue River	OR
judi	warner	wilsonville	OR
Pamela	Thomas	Clackamas	OR
Morgan	Cole	Roseburg	OR
Avery	Leinova	Portland	OR
Andrea	LePain	Portland	OR
tonie	tartaglia	newport	OR
Bruce	McCullough	Estacada	OR
Jan	Golick	Eugene	OR
Veroune	Chittim	Selma	OR
Nancy	Carey	Roseburg	OR
J	Estep	Portland	OR
Barbara	Jansen	Albany	OR
Nancy	Schroeter	Lake Oswego	OR
Melda	Montgomery	Yamhill	OR
Hazel	Wheeler	Portland	OR
John	Rudolph	Bend	OR
Jeremy	Spencer	Portland	OR
Per	Fagereng	Portland	OR
Gary	Myers	Salem	OR
Jeff	Acree	Portland	OR
Douglas	Richardson	Bend	OR
Suzanne	Lazaro	Corvallis	OR
Elizabeth	Dawson	Port Hadlock	WA

Donna	Hanson	Pullman	WA
Linda	Woodall	Kennewick	WA
terri	sharpe	seattle	WA
Emily	Owens	Bainbridge Island	WA
Ruth	Darden	Seattle	WA
Jeffrey	Panciera	Seattle	WA
Nathaniel	Harrison	Seattle	WA
Nick	Page	Ferndale	WA
David	Arntson	Bothell	WA
Brian	Reid	Spokane	WA
Robert Gabriel	Robert Gabriel	Olympia	WA
john	eschen	grand coulee	WA
Nick	Barcott	Lynnwood	WA
Ardeth L.	Weed	Edmonds	WA
Glen	Zorn	Seattle	WA
Linda	Swan	Snohomish	WA
Chad	Evans	Seattle	WA
Brandie	Deal	Bothell	WA
Charlene	Lauzon	Lynnwood	WA
Jack	Stansfield	Stanwood	WA
Thomas	Swoffer	Ravensdale	WA
S	Davis	Olympia	WA
Dan	Schneider	Seattle	WA
Albert	Bechtel	Seattle	WA
Jeff	Guay	Chewelah	WA
Gill	Fahrenwald	Olympia	WA
Ai	McCarthy	Redmond	WA
kathy	kestell	Spokane	WA
Zandra	Saez	Spokane	WA
Trish	Davis	Tacoma	WA
Ronlyn	Schwartz	Langley	WA
Patricia	Meeks	White Salmon	WA
Luther E.	Franklin	Issaquah	WA
Dale	Birdsell	Bothell	WA
Mr. Shelley	Dahlgren, PhD	Issaquah	WA
Scott	Cecile	Everett	WA
Linda	Ellsworth	Eastsound	WA
Jamie	Caya	Vancouver	WA
Mike	Smith	Seattle	WA
Shary	B	Seattle	WA
Carolyn	Eden	Bainbridge Island	WA

Elena	Rumiantseva	Seattle	WA
dan	stabel	aberdeen	WA
Marie	Weis	Fox Island	WA
John B	Pearce Sr	Seattle	WA
Alice	Tobias	Seattle	WA
John	Saul	Kirkland	WA
Lozz	Kay	Warrington	WA
Melissa	Rees	SPOKANE	WA
April	Atwood	Seattle	WA
Brenda	Michaels	Issaquah	WA
Eliza	Duncan	Tacoma	WA
Ardith	Arrington	Seattle	WA
Patricia	Layden	SeaTac	WA
steve	durbin	coupeville	WA
marilyn	evenson	tacoma	WA
Teresa	Allen	Deming	WA
Delphi	Locey	Seattle	WA
Saab	Lofton	Seattle	WA
Brookie	Judge	Seattle	WA
Adina	Parsley	Ferndale	WA
Sammy	Low	Ferndale	WA
k	g	orting	WA
Ronda	Snider	Gig Harbor	WA
James	Roberts	Palouse	WA
Joyce	Grajczyk	Kent	WA
Scott	Washburn	Seattle	WA
Scott	Widdas	Silverdale	WA
Galen	Davis	Seattle	WA
Summer	Kozisek	Bonney Lake	WA
Lura	Irish	Lakebay	WA
Ken	Zontek	Yakima	WA
James	Mulcare	Clarkston	WA
Kate	Frangos	Vancouver	WA
Mondonna	Danesh	Port Orchard	WA
Diane	Weinstein	Issaquah	WA
Mark	Kidd	South Bend	WA
Ann	Stockdale	Gig Harbor	WA
madelaine	moir	sequim	WA
Jessica	Schiffman	Seattle	WA
WILLIAM	ULICH	seattle	WA
Tim	Burns	Federal Way	WA

jennifer	wheeler	gold bar	WA
Werner	Bergman	Stanwood	WA
Stephen	Eichelberger	Tacoma	WA
Buzz	Marcus	Langley	WA
Taen	Scherer	Seattle	WA
Norman	Baker	Sequim	WA
Helena	Fantin	Snohomish	WA
Amy	Collins	Seattle	WA
Dorothy	Parshall	Langley	WA
Brian	Baltin	Seattle	WA
Lora	Lehner	Port Orchard	WA
Eileen	Deutsch	Port Townsend	WA
Del E.	Domke	Bellevue	WA
Brandon	Juhl	Mercer Island	WA
Karol	Rice	Spokane	WA
Clayton	Jones	Shoreline	WA
Roger	Darden	Vancouver	WA
Michaelene	Manion	Port Orchard	WA
Michelle	Hamilton	Marysville	WA
Sergey	Galushko	Edmonds	WA
Lynne	Bannerman	Seattle	WA
Penny	Derleth	Deer Park	WA
Jeff	Steenbergen	Seattle	WA
Randall	Kuhns	Seattle	WA
nate	marino	bellingham	WA
Darcey	Snow	Spokane	WA
Katherine	Nelson	Kent	WA
Adam	Blumenthal	Seattle	WA
Patrick	Conn	Kent	WA
don	dicken	ellensburg	WA
Stephen	Friedrick	Steilacoom	WA
Michael	Hill	Elbe	WA
Gayle	Janzen	Seattle	WA
James	Day	Lyle	WA
Barbara	McKee	Vancouver	WA
Rebecca	Buell	Yakima	WA
Joe	Neumann	Seattle	WA
June	MacArthur	Port Orchard	WA
Ron	MacArthur	Port Orchard	WA
Suzanne	Scauzillo	Seattle	WA
Blair	Kangley	Seattle	WA

saliha	abrams	carson	WA
Elyette	Weinstein	Olympia	WA
Holly	Delphinidae	Bainbridge Island	WA
Robert	Bamford	Seattle	WA
Randall	Collins	Seattle	WA
Patricia	Rodgers	Kirkland	WA
Steve	Uyenishi	Seattle	WA
Sandra Cole	Cole	Vancouver	WA
Johni	Prinz	Ocean Shores	WA
Lael	Bradshaw	Camano Island	WA
Howard	Zimmerman	Lacey	WA
Lisa	Ayala	Tumwater	WA
chrystyne	braaten	oak harbor	WA
Jo	Harvey	Pacific	WA
ali	mosa	Poulsbo	WA
Tatiana	Korry	Seattle	WA
Anna	Blake	Seattle	WA
tonya	stiffler	shoreline	WA
Angela	Smith	Seattle	WA
Larry	Franks	Issaquah	WA
Carolyn	Hall	Renton	WA
jon	noggle	bellingham	WA
laurie	geller	camas	WA
Scott	Species	Seattle	WA
FORREST	RODE	SEATTLE	WA
eve	chen	seattle	WA
Wesley	Banks	Vancouver	WA
Dorothy	Jordan	Lynden	WA
Amy	Heyneman	Bainbridge Island	WA
Elizabeth	Taylor	Seattle	WA
Leslie	Smith	Bellingham	WA
g	g	orting	WA
Mike	Conlan	Redmond	WA
z	encinas	kenmore	WA
Joanne	Luongo	Kettle Falls	WA
Rand	Guthrie	Snohomish	WA
Julie	Holtzman	Snohomish	WA
Nancy Enz	Lill	Spokane	WA
Liz	Marshall	Bellingham	WA
Jenny	Clark	Bothell	WA
Lloyd	Hedger	Tacoma	WA

Nancy	Jacques	Bainbridge Island	WA
Mai	Hermann	Mercer Island	WA
Amanda	Rudisill	Olympia	WA
Joe	Thompson	Kalama	WA
Robert	Brown	Fircrest	WA
kat	thomas	seattle	WA
Adam	Levine	Seattle	WA
Carol	Whitehurst	Tacoma	WA
Kevin	Darcy	Bellingham	WA
Rosemary	Donaghue	Seattle	WA
Renee	Milkie	mercier island	WA
Ray	Ballweg	Bellingham	WA
Debi	Aldrich	Covington	WA
Florence	Harty	White Salmon	WA
sally	windecker	clinton	WA
Joan	Poor	Edmonds	WA
Barb	Scavezze	Olympia	WA
Jeriann	Schriner	Olympia	WA
Kathleen	Wolfe	Des Moines	WA
Evelyn	Harrison	Edmonds	WA
Hugh	Lentz	Olympia	WA
Christine	McLean	Gig Harbor	WA
Raelyn	Michaelson	Seatac	WA
Esmeralda	Espinaco	Bellevue	WA
Walter	Hoesel	Duvall	WA
Angela	Anderson	Snohomish	WA
Ruth	Pyren	Ferndale	WA
Pat	Rasmussen	Olympia	WA
Kathleen	Procter	Vancouver	WA
Samantha	Rich	Seattle	WA
Gary	Carone	Vancouver	WA
Chester	Lusk	Seattle	WA
JoAnn	Polley	Poulsbo	WA
Mary-Margaret	O'Connell	Olympia	WA
Austin	Boese	Wenatchee	WA
Barbara	DelGiudice	Burien	WA
Elisabeth	Perrin	Seattle	WA
Evan	Guest	Spokane	WA
Sandra	Smith	Seattle	WA
Diana	Covington	Tacoma	WA
Robin	Hirsch	Orcas	WA

Gerry	Martin	University Place	WA
Sally	Sheck	Seattle	WA
Gary	Albright	Snohomish	WA
John	Ballard	Woodinville	WA
Mike	Schuhow	EVERETT	WA
Kay	Thompson	Sumner	WA
john	seeburger	lakewood	WA
Mary	Masters	Orcas	WA
Matthew	Nelson	Kent	WA
Jack	Zektzer	Seattle	WA
Harriet	Allen	Olympia	WA
Joan	Peter	GIG HARBOR	WA
Glenn	Eklund	Oak Harbor	WA
James	Ranstrom	Vashon	WA
Kari	Wilson	Mill Creek	WA
Lorrree	Gardener Milne	Olympia	WA
K.	Youmans	Roslyn	WA
Laurie	Black	Seattle	WA
james	rechetnick	Everett	WA
Spencer	Selander	Castle Rock	WA
Ashley	Fowler	Seattle	WA
PATRICK	ALLEN	Poulsbo	WA
Don	Thomsen	Spokane	WA
Juli	Johnson	Kent	WA
Sally	Hodson	Olga	WA
Kay	Luzik	Port Orchard	WA
John	Vinson	Olympia	WA
Larry	Fox	Freeland	WA
Jean	Waight	Bellingham	WA
Anita	Woodruff	Seattle	WA
Michael	Boyd	Mercer Island	WA
Patricia	Panitz	Shoreline	WA
Phil	Joyner	Kenmore	WA
Steve	Gibbs	Seattle	WA
Thomas	Adams	Kennewick	WA
Claire	Keeble	medical lake	WA
Lisa	Thomas	Issaquah	WA
Angela	Coryell	Gig Harbor	WA
Gloria	Sting	Burien	WA
Thomas	Libbey	Seattle	WA
Marianne	Larkins-Strawn	Vancouver	WA

martha	shade	Seattle	WA
Linda	Miller	Bow	WA
Lisa	Hammer	Oak Harbor	WA
david	Ludden	Seattle	WA
Dr. Darlene	Townsend	Spokane	WA
DEBORAH	RUSH	SPOKANE	WA
JOHN	RUSHTON	OLYMPIA	WA
Lisa	Silverman	Bellingham	WA
Sue	Scott	Sequim	WA
Sharon	Ronsse	Monroe	WA
Donald	Munn	Everett	WA
Richard	Polley	Richland	WA
Conor	Corkrum	Seattle	WA
Isabel	Campbell	Gig Harbor	WA
Paige	Garberding	Seattle	WA
Elicia	Spotts	Spokane	WA
Ivy	Sacks	Vashon	WA
Diana	Sonne	Seattle	WA
Heather	Nicholson	Friday harbor	WA
Heather	McFarland	Auburn	WA
Karen	Leifker	Nine Mile Falls	WA
Amber	Heath	Seattle	WA
Dawn	Owings	vancouver	WA
Eleanor	Dowson	Mill Creek	WA
matt	remle	seattle	WA
Deborah	Duffy	Marysville	WA
Patricia	Johnson	Sequim	WA
Todd	Sandell	Seattle	WA
Mark	Krukar	Seattle	WA
Victoria	Bean	Shoreline	WA
Travis	Sorensen	Seattle	WA
Barbara	Rousseau-Osborn	Shoreline	WA
Tim	Durnell	Rice	WA
shannon	gregor	bothell	WA
Jerry	Johannes	Bellevue	WA
Rose	Best	Olympia	WA
Dakota	Vogel	Elbe,	WA
Steve	Foster	Vancouver	WA
Susan	Saul	Vancouver	WA
Diane	Anicker	Vancouver	WA
eric	greene	vancouver	WA

Ken	Klaas	Washougal	WA
Ashley	Fowler	Seattle	WA
DA	Lean	Kenmore	WA
gwen	Burmeister	Puyallup	WA
Kim	Stanley	Bainbridge Island	WA
P.E.	Crawford	Stevenson	WA
kendra	bench	mt vernon	WA
Diane	Gladu	Seattle	WA
Ardeth L.	Weed	Edmonds	WA
Janet	Meredith	Friday Harbor	WA
Ashley	Sullivan	Lacey	WA
Anne	Schreibe	Burien	WA
Susan	Morse	Vancouver	WA
B. Sage	Ringsage	Washougal	WA
Carole	Huelsberg	Port Townsend	WA
Geri	Kromminga	Vancouver	WA
Charles	Sarin	Bellingham	WA
Betty	Chan	Shoreline	WA
margaret	hashmi	BELLINGHAM	WA
Richard	Johnson	Bellingham	WA
Antoinette	Bonsignore	Kirkland	WA
Douglas	Risedorf	Concrete	WA
Elizabeth	Hickman	Auburn	WA
Tom & Patricia	Moreland	Port Townsend	WA
Maradel	Gale	Bainbridge Island	WA
William	Howald	Marysville	WA
Marcia	Clarke	Bothell	WA
Lee Ann	Greaves	Spokane	WA
Robert	Lindberg	Vancouver	WA
John	Bremer	Bellingham	WA
Nadine	LaVonne	Seattle	WA
Brad	Carlquist	SEATTLE	WA
Baker	Smith	Burien	WA
Hiroko	Patterson	Silverdale	WA
Patti	Wright	Bellingham	WA
Nancy	White	Spokane Valley	WA
Bonnie	Gretz	Coupeville	WA
Jan	Weisel	Woodinville	WA
Lisa	Critchlow	Lummi Island	WA
Seth	Snapp	Bellingham	WA
delia	gerhard	seattle	WA

Linda	Mcphee-Zitter	Sammamish	WA
Teri	Sahm	Fall City	WA
Thelma	Follett	Bellingham	WA
Jerry	Nokes	Newman Lake	WA
Cami	Cameron	Vancouver	WA
Darlene	St. Martin	Mount Vernon	WA
Keith	Comess	Bellingham	WA
Susan	Wilson	kent	WA
John	Miller	Bellingham	WA
Isabela	Duncan	Kirkland	WA
Chris	Gossard	Seattle	WA
Michael	O'Neill	Tacoma	WA
Roy	Conner	Puyallup	WA
K	Lyle	Gig harbor	WA
David	Young	Seattle	WA
Stephen	Green	Mount Vernon	WA
Stuart	Gilmore	Seattle	WA
Jonathan	Raney	Bellingham	WA
Kathleen	McKeehen	Indianola	WA
Kandace	Loewen	Seattle	WA
Claire	Mikalson	Farmington	WA
Timothy	Coleman	Republic	WA
Paula	Shafransky	Sedro Woolley	WA
Barbara	Rosenkotter	Deer Harbor	WA
Stephen	Wille	Vancouver	WA
Kristin	Jensen	Seattle	WA
Liz	Campbell	Seattle	WA
Jane	Metcalfe	Seattle	WA
Eileen	Bryant	Seattle	WA
Kerry	Moore	Toledo	WA
William	Sneiderwine	Vancouver	WA
Jerry	Chilson	Enumclaw	WA
Kathleen	Malley	Tacoma	WA
Mark	Wirth	Seattle	WA
pamela	wimp	lacey	WA
Christian	Bookter	Goldendale	WA
Mark	Beringer	Bothell	WA
Karen	Chestney	Camano Island	WA
Sandra	Carr	Mountlake Terrace	WA
KIMBERLY	SHAFFER	DES MOINES	WA
Charles	Gadway	White Salmon	WA

Kelly	Ragsdale	longview	WA
Gordon	Wood	Seattle	WA
David	Blair	Bellingham, Washington	WA
Laura	Craig	Lakewood	WA
Marc	DeLateur	Spokane	WA
paul	granquisat	everett	WA
Yael	Dragwyla	Seattle	WA
Jeannie	Park	Seattle	WA
Di	Agee	Shelton	WA
Tony	Cowan	Issaquah	WA
Rick	Barrett	Seattle	WA
Domingo	Hermosillo	Seattle	WA
Mayellen	Henry	Bellevue	WA
paula	rose	seattle	WA
Candace	Davis	Seattle	WA
Dean	Windh	Lakewood	WA
Margi	Barsamian	Edmonds	WA
sharon	saunders	tacoma	WA
Sybil	Kohl	Brush Prairie	WA
James	Patterson	Vancouver	WA
Gwen	Nakano	Kent	WA
Fay	Payton	Carnation	WA
Leslie	Slater	Homer	AK
deirdre	downey	Fairbanks	Ak
Susan	Vogt	Fairbanks	AK
Jonathan	Mitchell	Madison	AL
Karen	Spradlin	Jacksonville	AL
Evelyn	McMullen	Montgomery	AL
Uta	Cortimilia	Fort Payne	AL
Debbie	Williamson	Mountain Home	AR
Selva	Carnevale	Villa Gobernador Galvez	Argentina
Waltraud	Usahanun	Wien	Ã–sterreich
AniMaeChi	Drabic	Adelaide	Australia
Roger & Gayle	O'DONAHOO	Wantirna	AUSTRALIA
Cheryl	Hughes	Melbourne	Australia
Rachael	Moore	Mildura	Australia
Anne-Marie	Monarovic	Melbourne	Australia
Monika	Huber	Vienna	Austria
John	Nowlin	Scottsdale	AZ
Annie	McMahon	Clarkdale	AZ
Susan	Garcia	Phoenix	AZ

Ashley	Schutt	Surprise	AZ
Teresa	Mays	Glendale	AZ
Richard	Arthur IV	Phoenix	AZ
Terry	Tedesco-Kerrick	Phoenix	AZ
Patricia	Orlinski	Sun City	AZ
Ted	Sebastian	Surprise	AZ
Robert	Racine	Mesa	AZ
Drena	LaPointe	Scottsdale	AZ
Cristina	Sanchez	Glendale	AZ
MICHAEL	SCHUESSLER	TUCSON	AZ
Dennis	Yee	Scottsdale	AZ
Dianne	Douglas	Phoenix	AZ
Kyle	Schmierer	Phoenix	AZ
Carrie	Darling	Phoenix	AZ
Annabelle	Herbert	Tucson	AZ
Linda	Bescript	Tucson	AZ
west	ruck	arivaca	AZ
Duncan	Brown	Tucson	AZ
Ruth	Bescript	Tucson	AZ
Alan	Little	Vail	AZ
Marcella	Crane	Phoenix	AZ
Dianne	Douglas	Phoenix	AZ
kenneth	bolton	tucson	AZ
James	Moran	Glendale	AZ
Charles	Zimmerman	TUCSON	AZ
Bob	Burton	Phoenix	AZ
Dona	LaSchiava	Tucson	AZ
Douglas	Russell	Scottsdale	AZ
Natalie	Van Leekwijck	Deurne	Belgium
Melissa	Devijver	Mol	Belgium
Danny	Madzhurova	Parvenets	Bulgaria
Joan	McAllister	Vancouver	Canada
MARIE-ANDR��E	MICHAUD	HUDSON	Canada
Alfredo	Barroso Ruiz	Montreal	Canada
Karen	Fagan	Surrey	Canada
janet	fenton	harrowsmith	Canada
Elizabetth	Mitchell	Morinville, Alberta	Canada
r	bays	pickering	Canada
Sara	Bostic	Ottawa, Ontario	Canada
Rodger	Ricker	Vancouver	Canada
Karey	Materi	Ottawa, Ontario	Canada

Janeene	Porcher	Golden	CO
Jill	Crouch	Colorado Springs	CO
Ingrid	Rochester	Elbert	CO
Kristyn	MacPhail	Littleton	CO
George	Hartman III	Louisville	CO
Sharon	Balzano	Wheat Ridge	co
Adam	Sloan	Denver	CO
Kathy	Durrum	Aurora	Co
Richard	Mckee	Longmont	CO
Bobbie	Knight	Denver	CO
Shannon	Milhaupt	Denver	CO
elizabeth	kelson	evergreen	co
Nancy	Morgan	Fort Collins	CO
s	peirce	lyons	CO
Douglas	Nelson	Broomfield	CO
Lawrence	Crowley	Louisville	CO
Rebecca	Savage	Boulder	CO
Wilbur	Little	Denver	CO
Bjoern	Mannsfeld	Denver	CO
Ricki	Newman	Aspen	CO
Christine	Boisse	Colorado Springs	CO
margaret	Lohr	commerce city	CO
Heidi	Baruch	Boulder	CO
Holly	Kennedy	Arvada	CO
Eldridge	Hardie	Denver	CO
Lanelle	Lovelace	Crestone	CO
Joanne	Dixon	Colorado Springs	CO
Amanda	Rose	San Luis	CO
Teresa	Collins	Louisville	CO
paul	dopp	boulder	co
Martha W D	Bushnell	Boulder	CO
Ken	Calkins	Greeley	Co
RE	Wolinsky	Denver	CO
Rochelle	Cohen	Denver	CO
Ronald	Harden	Loveland	CO
Jackie	Dow	Ward	CO
Georgia	Mattingly	Longmont	CO
Sue	Holtz	Boulder	CO
Ginny	Griffin	Breckenridge	CO
Bruce	Cratty	Denver	CO
Rosalyn	Rohloff	Golden	CO

Elliot	Mason	Loveland	CO
Alison	Sebesta	Black Forest	CO
Beth	Copanos	Arvada	CO
rachael	stalker	glen haven	CO
Rebecca	Pois	Greeley	CO
Nelly	Lopez	Bogota	Colombia
Ometh	Layton	Bogota	Colombia
Rocio	Salazar	Bogota	Colombia
Jelica	Roland	Buzet	Croatia
Ana	R	Zagreb	Croatia
Steven	Presley	Chaplin	CT
Alison	West	New Britain	CT
Kevin	Hughes	Newtown	CT
Gian Andrea	Morresi	Bridgeport	CT
Beverlee	Goynes	Ridgefield	CT
francis	mastri	West Haven	CT
Sara	Dodson	Chester	CT
leona	klerer	stamford	CT
Karen	Baouche	Ellington	CT
Marlene	Tendler	Bethel	CT
C.A.	Rose	Trumbull	CT
Linda	Wilscam	Rockville	CT
Mary	Guillet	Winsted	CT
Radha	Shenoy	Cromwell	CT
Tricia	Mattiello	Stamford	CT
Tiree	Withers	Ambleside	Cumbria
Brandon	Fuller	Washington	DC
Mary	Germano	Washington	DC
Steve	Smith	Washington	DC
Evelyn	Fraser	Washington	DC
Michael	Evans	Washington	DC
Shel	Grove	Washington	DC
Ramsay	Kieffer	Milford	De
Jared	Cornelia	Wilmington	DE
Gail	Heath	Wilmington	DE
Lisa	Faller	Wilmington	DE
Antonella	Nielsen	Copenhagen	Denmark
Christine	Hewitt	Burnley	England
Pia	Mustonen	Tampere	Finland
ron	silver	atlantic beach	FL
Colonel	Meyer	North Port	FL

Steven	Combes	St Augustine	FL
Kathy	Behl-Whiting	Plantation	FL
margaret	silver	atlantic beach	FL
Natalia	Arcila	St Petersburg	FL
Christeen	Anderson	Crestview	FL
angela	porsch	st petersburg	FL
Richard	Coveny	Elfers	FL
DEBRA	LANCIA	New Port Richey	FL
Robert	Parkinson	Fort Lauderdale	FL
Carole	Hartleb	LAKE HELEN	FL
Donald	Shaw	St. Petersburg	FL
Gloria	Diggle	Fort White	FL
troy	grant	pompano beach	FL
martha	burton	lakewood ranch	FL
Jennifer	Cuadra	Miami	FL
Pedro	Rodriguez	Miami	FL
Beverly	Lane	Palm Bay	FL
Val	Marjoricastle	Inverness	FL
s	Logan	Miami	FL
James	Miles	W. Palm Bch.,	FL
Doug	Landau	St Petersburg	FL
Lisa	Mazzola	Tampa	FL
Kris	Pagenkopf	Gainesville	FL
Erica	Coco	Palm Bay	FL
T	Holliday	Oviedo	FL
Joanna	Stalker	Margate	FL
Robert	O'Brien	Delray Beach	FL
Vicki	Anderson	Spring Hill	FL
Susan	Pelakh	Cocoa Beach	FL
hilary	capstick	Tallahassee	FL
Renee	Hardin	Sarasota	FL
Benjamin	Joannou Jr	Pinecrest	FL
Diane	Gentile	Lighthouse Point	FL
sam	shannon	jacksonville	FL
Quida	Jacobs	Miami Beach	FL
Barry Eshkol	Adelman	Vero Beach	FL
Ruth	Serra	Clearwater	FL
Jen	Odom	Lighthouse Pt	FL
Mark	Holmgren	St. Petersburg	FL
Linda	Ashton	Jacksonville	FL
Eric	Hensgen	Tampa	FL

A	Braswell	Bradenton	FL
Anders	Hengsteler jr	Dunnellon	FL
Gail	Stewart-Iles	Rockledge	FL
Mark and Felice	Shapiro	9927 NW 65 Court	FL
Virginia	Mendez	Miami	FL
Janis	Sawyer	Santa Rosa Beach	FL
Susan	Preston	La Crosse	FL
Laurel	Covington	Lutz	FL
Ruth & Robert	Fatur	Land O Lakes	FL
Leone	Newmark	Davie	FL
Judy	Moran	Panama City	FL
Jean	Cameron	Gainesville	FL
Michael	Richardson	Tampa	FL
Denise	Fox	Gainesville	FL
Lee	Schuster	Miami	FL
Lynn	Ponto	Fellsmere	FL
Walter	Graue	Panama City	FL
Dena	Leavengood	Tampa	FL
Charles	Davids	Daytona Beach	FL
Susan	Schlessinger	Port St. Lucie	FL
Patricia	McDonald	Winter Park	FL
Caroline	Miller	St Petersburg,	FL
Nicholas	Pappas	Delray Beach	FL
michael	chase	jacksonville	FL
Stephen	Grizzard	Tallahassee	FL
sandra	hazzard	riverview	FL
RAYA	ENGLER	MIAMI	FL
Linda K	Anderson	Punta Gorda	FL
Diane and Jerry	Tabbott	Jacksonville	FL
Renee	Levine	S.W. Ranches,	FL
Michael	DeLoye	Boynton Beach	FL
Kelly	Byrnes	sanibel	FL
Robin	Hudson	Tarpon Spring	FL
John Anthony	Leone	Margate	FL
Carol	Ohlendorf	Bradenton	FL
Michelle	Inere	Pensacola	FL
Steven	Gaber	Oldsmar	FL
Doran	Marold	Pinellas Park	FL
Bruce	Morris	Bradenton	FL
Paula	Dodson	Jacksonville	FL
Robert	Martineau	Melbourne	FL

Fritzi	Olson	Waldo	FL
valerie	gosselin	forch	forch
HervÃ©	BÃ©rard	Orsay	France
Dalila	OuaÃ	Paris	FRANCE
Aurore	Zimon Terzian	Orange	France
Caroline	SÃ©villa	Champs-sur-marne	France
VALERIE	VERDIER	Saint-Avertin	FRANCE
betty	almand	avondale est.	GA
Jacqueline	Robinson	Powder Springs	GA
Melissa	Bauer	Marietta	GA
Dan	Magee	Watkinsville	GA
Julaine	Roberson	Washington	GA
Penny	Gregorio	Albany	GA
Elaine	Eudy	East Point	GA
jennifer	see	gainesville	GA
Cheryl	Peppel	Smyrna	GA
s a	HEALY	SHARPSBURG	GA
Janet	Leavell	Atlanta	GA
Sue	Stoudemire	Atlanta	GA
Beth	Severance	Covington	GA
Doris	Warnstedt	Frankfurt	Germany
Dorothea	Stephan	Winzer	Germany
Maria	Schneider	Munich	Germany
M.	DÃ¼rrenberg	Hamburg	Germany
Heike	R	Cologne	Germany
gabriele	jefferson	bad mÃ¼nstereifel	Germany
holger	ochsner	niederkrÃ¼chten	germany
Heidi	Walderra	Verden	Germany
elke	mauer holler	mainz	germany
andreas	vlasiadis	athens	greece
sandra	arapoudis	rhodos	greece
Vicky	Moraiti	Athens	Greece
Marie-Helene	Zavras	pireaus	Greece
ynez	fernandez	Wailuku	HI
Fred	Luke	Honolulu	HI
Gayle	Lederman	Honolulu	HI
Alex	Oshiro	Honolulu	HI
Thomas	Tizard	Kailua	HI
Ruthie	Bernaert	Honokaa	HI
noenoe	barney-campbell	honolulu	hi
Julie	Mitchell	PO Box 139	HI

Bobbi	Lempert	Paia	HI
Carolynn	Griffith	Honolulu	HI
Harvey	Arkin	Honolulu	HI
frank	belcastro	dubuque	IA
James	Sliney	Robins	IA
Dan	Meier	Cedar Falls	IA
bernardo	Alayzamujica	surquillo	IA
Brandi	McCauley	Des Moines	IA
Deke	Gliem	Dawson	IA
John	Moellers	Ames	IA
Cornelius	Devlin III	East Peoria	IL
Georgia	Shankel	Chicago	IL
Mark	Brooker	CHICAGO	IL
rhonda	lawford	south wilmington	IL
Hope	Grable	Bourbonnais	IL
Carol	Johnson	Winfeid	IL
Mary Davidson	Stanton	Oak Park	IL
Moose	Gustafson	Chicago	IL
ANDRA	ADDIS	CHICAGO	IL
Sarah	Winblad	Chicago	IL
Ann	Siegel	Highland Park	IL
JANELL	SMITH	NEW DOUGLAS	IL
Pat Bryan	B	Lisle	IL
Jennifer	Cunningham	Aurora	IL
DAVID	LAIRD	ALTON	IL
Julie	Griffith	St. Charles	IL
Eric	Luu	Wilmette	IL
Arci	Jimenez	Chicago	IL
David	Westerfield	Glenview	IL
Danielle	Gutelius	Elwood	IL
mary	camardo	lake villa	il
Joanna	Kling	Urbana	IL
Rachel	Krucoff	Chicago	IL
Karen	O'Brien	Westmont	IL
jan	zanoni	glenview	IL
Marianne	Amann	Ingleside	IL
Ira	Abrams	Chicago	IL
Lori	Scheibe	Palos Hills	IL
Heidi	Bresilge	Plano	il
Rafael	Albarran	Bridgeview	IL
Candace	Gabriel	Chicago	IL

Tony	Jones	Carbondale	IL
Kathy	Ruopp	Chicago	IL
Mary	Mathews	Lake Forest	IL
Debbie	Neimark	Chicago	IL
Karen	Prena	Chicago	IL
SHARON	DAVIDSON	CHILLICOTHE	il
Heather	Ervin	Chicago	IL
Marion	Horton	Evanston	IL
renee	caputo	west chicago	IL
jeff	hopkins	Lindenhurst	IL
Matthew	Alschuler	Warren	IL
Karen	Koritko	Fox River Grove	IL
David	Elmendorf	Chicago	IL
Keith	Marx	Chicago Heights	IL
Jacqueline	Crow	Peoria	IL
Judy	Dufficy	Skokie	IL
mary	Hanley	Riverside	il
Dean	Peerman	Chicago	IL
Barbara	Zaha	St. Charles	IL
Eric	Edwards	West Chicago	IL
Cary	Moy	Oak Park	IL
Barry	Rabichow	OAK PARK	IL
J	Beverly	Urbana	IL
Bill	Brady	West Chicago	IL
M C	Kubiak	BMI	IL
John	Meeks	Chicago	IL
Margaret	Waltershausen	Urbana	IL
Jan	Barshis	Wilmette	IL
Randy	Juras	Homer Glen	IL
Julie	Stejskal	joliet	IL
Rochelle	Foran	Attica	IN
Mark	Hallett	Bloomington	IN
Maura	Buckley	Indianapolis	IN
Joseph	Hoess	Walkerton	IN
kim	english	logansport	in
Sandra	Miller	South Bend	IN
Dorothy	Wilson	Bloomington	IN
Danielle	Payne	Fort Wayne	IN
Kevin	Brown	Clarksville	IN
Lois	Baldrige-Roseberry	Marion	IN
Larry	Ulrey	Indianapolis	IN

Carla	Happel	Indianapolis	IN
Krista	Gremos	Indianapolis	IN
Bruce	Hlodnicki	INDIANAPOLIS	IN
Tom	Sunlake	Bloomington	IN
Carol	Gray	Bloomington	IN
William	Quance	Fort Wayne	IN
Susanna	Hinant	Bean Blossom	IN
Matthew Bauccho	Matthew Bauccho	Bloomington	IN
Monica	T	Manado	Indonesia
talila	stan	tel aviv	israel
Michael	Bruck	Maalot-Tarshicha	Israel
Bruno	Milone	Aci Catena	Italy
Antonello	Imborgia	Palermo	Italy
silvia	Bertano	Torino	Italy
Sara	Paoluzzi	Sacile	Italy
Davide	Defavari	PALERMO	italy
Carlo	Zucchi	Como	Italy
Daniela	Rossi	Pomezia (Roma)	Italy
paula	Carrier	Firenze	Italy
Barbara Silvia	Calamai	pisa	italy
anna maria	bini	varese	italy
Eva	Schmelzer	Duesseldorf	Keiner
Toni	Caldwell-clark	Kansas City	KS
Kathe	Garbrick	Manhattan	KS
William	Fast	Ozawkie	KS
Charles	Brumleve	Manhattan	KS
Mike	Vanlandingham	Shawnee	KS
Carol	Bischoff	Junction City	KS
J.B.	Johnson-Allen	Danville	KY
Carlene	Petty	Shepherdsville	KY
Stephen	Dutschke	Louisville	KY
Patricia	Nazzaro	Union	KY
Tony	Menechella	Frankfort	KY
David	COLLINS	Louisville	KY
Jacqueline	Valle	Nicholasville	KY
Brian K.	Sutton	Louisville	KY
Jacqueline	Newman	Greenville	KY
Brenna	Tinsley	Glasgow	KY
Steve	Sturgill	Louisville	KY
John	Jumonville	Baton Rouge	LA
Nicholas	Sherman	Schriever	LA

S	Parish	Bossier	LA
Valli	Sanstrom	Inopacan	Leyte
Peter	Reeves	Southampton	London
Sarah B.	Stewart	Cambridge	MA
LAUREN	STONE	Northfield	MA
Lynn	Lang	Randolph	MA
William	Parr	Weymouth	MA
Andrew	Woitkoski	Pittsfield	MA
Walt	Luerken	Seekonk	MA
Deborah	Spencer	Billerica	MA
Roxy	Gray	Canton	MA
Carole	Smudin	Bridgewater	MA
Dawn M	Bertelli	Lenox Dale	MA
Nilah M.	MacDonald	Scituate	MA
Paul	Henry	Stoneham	MA
Holly	Malarney	Chelsea	MA
Dennis	Rogers	Hubbardston	MA
susan	earle	cambridge	ma
MaryAnna	Foskett	Arlington	MA
Julie	Kennie	West Dennis	MA
C	Tracy	Canton	MA
Alice	McGough	Mashpee	Ma
Robert	Foley Jr	Attleboro	MA
Donald	Walker	Conway	MA
Vidya	Sivan	Boston	MA
D	M	Foxboro	Ma
Paul	Ezust	Cambridge	MA
JOANNA	CUTTING-BRADY	DRACUT	MA
Charles	Dunn	Lenox	MA
Teresa	Hill	Nahant	MA
Nancy	Woolley	Stoughton	MA
Carol	Walker	Winthrop	MA
Fred	Kozak	Marstons Mills	MA
Dorothy	Anderson	No Weymouth	MA
claire	nivola	newton Highlands	MA
CINDA	LAUTENSCHLEGAR	Webster	MA
Deirdre	Morris	Medford	MA
Linda	Waine	Taunton	MA
Megan	Hathaway	Mattapoisett	MA
Leslie	prouty	west hyannisport	MA
marina	sagardua	brighton	MA

Michelle	Wenderlich	Worcester	MA
Thomas	Yelton	Sudbury	MA
Gary	Thaler	Revere	MA
Gillian	Lake	Dartmouth	Ma
Carla	Herwitz	Fall River	MA
Christopher	Geraghty	Hanover	Ma
suzanne	searle	dedham	ma
Hessie	Rubin	Plympton	MA
Barbara	Fournier	Milton	MA
desiree	johnson	boston	MA
Stevan	Brown	Gloucester	MA
Delana	Hirschy	Cambridge	MA
toni	siegrist	boston	MA
Brian M.	Gagnon	Franklin	MA
Eleanor	Jones	Somerville	MA
Peter	Beves	Westminster	MA
Christine	Roane	Springfield	MA
Wendy	F	brighton	MA
William	Dearstyne	Salem	MA
Ed	Ellis	Boston	MA
Oscar	Revilla	San Sebastian de los Reyes	Madrid
Tara	Huber	Rockville	MD
Regina	Minniss	Baltimore	MD
Mary	Finelli	Silver Spring	MD
Gary	Herwig	Baltimore	MD
shirley	probst	owings mills	MD
Molly	Hauck	Kensington	MD
Kelly	Allison	Berlin	MD
Maarilyn	Gabor	Baltimore	MD
natasha	salgado	toronto	MD
Edward	Bielaus	Rockville	MD
Omar	Siddique	ELlicott City	MD
Nicole	Weber	Pasadena	MD
Henry	Parks	Adelphi	MD
Tracey	Smallwood	Waldorf	MD
jodi	wick	silver spring	MD
Rusty	Simpson	Baltimore	MD
linda	hunt	NORTH EAST	md
Lee	Bonini-Koch	Warwick	MD
Margaret	Loomis	Silver Spring	MD
Colleen	Roots	Columbia	MD

Donna	O'Berry	Owings	MD
Robert	Weber	Pasadena	MD
joseph	dimaggio	baltimore	md
Wilmalyn	Puryear	Timonium	MD
Douglas	McNeill	Greenbelt	MD
Jim	Long	Accokeek	MD
Wayne	Straight	Sykesville	MD
Dorothy	Tartaglia	Silver Spring	MD
April	Kohles	Annapolis	MD
Marnie	Bottesch	Norridgewock	ME
Tia	Simon	Gorham	ME
Lawrence	Fischman	Yarmouth	ME
Ingrdi	Scott	Castine	ME
Abigail	Gindele	South Berwick	ME
Debbie	McCarthy	Phillips	ME
Joan	Yates	Portland	ME
Leslie	Clapp	Blue Hill	ME
Patricia	Vazquez	Mexico City	Mexico
Craig	Caughlan	Mexico City	Mexico
Bobby	Belknap	Frankfort	MI
Carol	Sears	Grand Rapids	MI
Raymond	Keeling	Milford	MI
M	Leszczynski	Lapeer	MI
Daniel	Solano	Detroit	MI
Theresa	Kelly	Novi	Mi
Frank	Gonzales Jr.	Plymouth	MI
Theresa M.	Campbell	Madison Heights	MI
William	Gardner	Central Lake	MI
Dolores	Reynolds	Grand Junction	MI
gail	walter	kalamazoo	MI
Elizabeth	De Guise	Bloomfield	MI
Susan	Puscheck	Ypsilanti	MI
Gavin	Bornholtz	Grand Blanc	MI
David	Less	DeWitt	MI
Aubrey	Guilbault	Grand Blanc	MI
Lilly	Mahaney	Leland	MI
Pamela	Green	Kalamazoo	MI
Lawrence	Yox	Grandville	MI
Monique	Musialowski	CLinton Twp	MI
Christine	Franks	Cedar Springs	MI
Gloria	La Fleur	Dearborn Heights	MI

Lawrence	Farris	Kalamazoo	MI
Lynette	Smith	Zeeland	mi
Francine	Dolins	Ann Arbor	MI
mark	johnsen	Commerce Twp	MI
Nicole	Votta	Eastpointe	MI
Greg	Green	Holland	MI
Ronda	Mohr	Flint	MI
Becky	Butela	GRAND RAPIDS	MI
Twyla	Douaire	Livonia	MI
Marie	Leven	Flushing	MI
Karen	Hewelt	Chesterfield	MI
susan	pace	PRESTON	miss.
Cathie	Schneider	Squires	Missouri
Bobbie	Kuehl	Kansas City	Missouri
Jasmine	Martin	Springfield	Missouri
Paulette	Zimmerman	St. Louis	Missouri
Ingrid	Jones	Moberly	Missouri
Lopamudra	Mohanty	St.Peters	Missouri
Judi	Poulson	Fairmont	MN
Ordell	Vee	Madelia	MN
Doug	Westendorp	Minneapolis	MN
John	Viacrucis	Moorhead	MN
heidi lynn	ahlstrand	owatonna	MN
Joseph	Wenzel	Maplewood	MN
Wanda	Ballentine	St. Paul	MN
Richard	Fish	Minneapolis	MN
William	Nusbaum	Saint Louis Park	MN
Paul	Moss	White Bear Lake	MN
Janice	Hallman	St. Paul	MN
Maureen	McCullough	New Hope	MN
Eileen	Levin	Minnetonka	MN
Melissa	Cathcart	Minneapolis	MN
joel	kelly	montrose	mn
Harriet	McCleary	Minneapolis	MN
Sheila	Dillon	Willmar	MN
Michael	Rice	Minneapolis	MN
Joe	Renneke	Savage	MN
T	Bergeron	Saint Louis	MO
Marci	Kelley	St. Louis	MO
Kenneth	Robertson	Kansas City	MO
LINDA	BISHOP	EL DORADO SPRINGS	MO

Martha	Jaegers	St. Louis	MO
Robin	Rysavy	Lake Winnebago	Mo
Ray	Hawkins	Kansas City	MO
Cynthia	LaClair	ST. Louis	MO
Nancy	Black	Saint Charles	MO
Clinton	Sennett	Lewistown	MO
Ann-Marie	Little	bigfork	MO
Tracy S	Troth	Pearl	MS
jeanne	lebow	gautier	MS
Ashley	Trigg	Gautier	Ms
Allison	Anderson	Meridian	MS
Krystal	Weilage	Butte	MT
Cathy	Ream	Clinton	MT
Tristan	Sophia	Absarokee	MT
Mary	Knapp	Missoula	MT
Ronald	Clayton	Asheboro	NC
Henry	Smoke	Columbus	NC
Tony	McCarson	Durham	NC
Connie	Raper	Durham	NC
Joseph	Phillips	Kernersville	NC
Joe	Phillips	Colfax	NC
Janice	Phillips	Kernersville	NC
James	Thomas	Chapel Hill	NC
Martha	Spencer	Brevard	NC
Marie	Michl	Rocky Mount	NC
George	Neste	High Point	NC
Christi	Dillon	Mooresville	NC
betty	phillips	Pittsboro	NC
Heather	Payne	Chapel Hill	NC
Kim	Adams	Columbus	NC
Cathleen	Trimmer	Cary	NC
Marilyn K.	Coats	Asheville	NC
Della	Oliver	Charlotte	NC
Lynn	Elliott	Durham	NC
John	La Stella	charlotte	NC
Michelle	Lee	charlotte	NC
Giana	Peranio Paz	Hendersonville	NC
Susan	Yarnell	Chapel Hill	NC
Hal	Trufan	Charlotte	NC
mae	basye	fuquay varina	NC
Jennifer	Brandon	Lexington	NC

B.	Hearn	Asheville	NC
Adam	Versenyi	Carrboro	NC
Lawrence	Turk	Hendersonville	NC
Barbara	Good	Asheville	NC
Pamela	Kjono	Grand Forks	ND
doug	krause	fargo	ND
Susan	Harrie	Grand Forks	ND
Robert	Fuchs	Omaha	NE
Sarah	Bauman	Lincoln	NE
Heidi	Ludwick	Papillion	Nebraska
jeanne	schreurs	haelen	netherlands
Rita	Gentry	SantaFe	New Mexico
Reeve	Love	Albuquerque	New Mexico
Romola	Newport	Greymouth	New Zealand
rachel	duell	Dunedin	New Zealand
Grace	Burson	Plymouth	NH
Robert	Haile	Hampton	NH
Dominic	Libby	Milton	NH
Andrew	Dunbar	Peterborough	NH
Dan	Hubbard	Rochester	NH
Kenneth	Ruby	Salem	NH
Kellie	Smith	Deering	NH
Robert	Sargent	Salem	NH
Barbara	Beierl	Nashua	NH
Jan	Pendlebury	Manchester	NH
Linda	McKillip	Erial	NJ
chris	hazynski	bordentown	NJ
Lorraine	Blaszczak	Oakland	NJ
Marie	Curtis	Oakhurst	NJ
Carroll	Arkema	Pompton Lakes	NJ
Patricia	Soteropoulos	Chatham	NJ
Kim	Newhart	New Providence	NJ
Ellen	Murphy	East Brunswick	NJ
fred	fall	cherry hill	NJ
Helen	Schafer	Jackson	NJ
John	Richkus	Jersey City	NJ
MR. & MRS. BRUCE	REVESZ	CEDAR GROVE	NJ
Winifred	Johanson	New Providence	NJ
Robert	Keller	Parsippany	NJ
Christi	DeMark	Hoboken	NJ
robert	wood	asbury park	NJ

Joshua	Maizel	Tinton Falls	NJ
Terry	Vaccaro	Plainfield	NJ
Jeffrey	Rattner	Lake Hopatcong	NJ
M. Cecilia	Correia	Elizabeth	nj
Dennis	Morley	Old Bridge	NJ
Matthew	Franck	New Brunswick	NJ
Carolyn	Marion	Neptune	NJ
Erica	Johanson	Hopewell	NJ
Debra	Berlan	garfield	NJ
Shirley	Bensetler	Cresskill	NJ
Warren	Grossman	Ventnor City	NJ
Allan	Yorkowitz	Colonia	NJ
O.	Ruiz	Clifton	NJ
Joann	Ramos	Iselin	NJ
William J	Bolen	Brick	nj
Jacob	Shirmer	Morristown	NJ
betsy	cousins-coleman	LEONIA	NJ
Rui	Moreira	Elizabeth	NJ
chris	carbone	camden	nj
JO	GILBERT	PITTSTOWN	NJ
Laura	Levey	Somerset	NJ
Jaimie	Gowatsky	Clifton	NJ
David	Valentino	Morganville	NJ
Alicia	Nayfield	Pennington	NJ
Kit	Champlin	Princeton	NJ
Jany's	Kuznier	Vernon	NJ
Mo	Kafka	New Brunswick	NJ
Lance	Michel	Jersey City	NJ
Joseph	Brigandi	Blackwood	NJ
John	McDonald	Newark	NJ
Patricia	sebastiano	Atco	NJ
Sharon	Tozzi	Yardville	NJ
Margaret M	Burns	Medford	NJ
D.	Lap	Clifton	nj
Beverly	Solomon	Haddonfield	NJ
De	Ru	Belmar	NJ
e	sto	Passaic	NJ
Edward	Lewis	Santa Fe	NM
Alan	Bixler	Sandia Park	NM
robert	man'na	hobbs	nm
Andrew	Gold	Santa Fe	NM

Doris	Vician	Albuquerque	NM
I.	Engle	Village Of Tularosa	NM
V	Alexander	Albuquerque	NM
Teresa	Hammond	Albuquerque	NM
R.	Kirkpatrick	Espanola	NM
Jan	McCreary	Silver City	NM
BARBARA	SWYDEN	Rio Rancho	NM
Mark	Walch	Albuquerque	nm
Karl	M	Jemez	NM
Jane	Wilken	Santa Fe	NM
Rebecca	Kraimer	Las Cruces	NM
Gretchen	Byrne	Albuquerque	NM
Michelle	McCaulley	Corrales	NM
Magdalena	Szaszowska	greenford	None
Anna	Szaszowska	WrocÅ,aw	None
MARINA	MURPHY	BARROW-IN-FURNESS	None
Lidia	Baltazar	Sabugal	None
Sergio	Padilla	Somoto	None
Phillip	Anderton	Poole	None
June	Bostock	Nottingham	None
h	Gebrier	Isla Mujeres	None
Cristina	Novelo	Veracruz	Not in US
Patricia	Baley	Las Vegas	NV
Clayton	Griffith	Reno	NV
Jessica	Nolan-Bowers	Incline Village	NV
Rikki	Hensley-Ricker	Reno	NV
Jenna	DiFeo	Incline Village	NV
John	Dalla	Las Vegas	NV
Ken	Gibb	Zephyr Cove	NV
Jennifer	Sumiyoshi	North Las Vegas	NV
Rosemary	French	Reno,	NV
Brandon	Parcell	Henderson	NV
Jill	Ransom	Reno	NV
Gary	Palmer	Las Vegas	NV
Roberta	Stedfield	Reno	NV
Lynne	Teplin	Bronxville	NY
Moraima	Suarez	Brooklyn	NY
Erma	Lewis	Brooklyn	NY
Joan-Marie	Bauman	Monticello	NY
Eric	Rose	Cambridge	NY
Mary-Alice	Shemo	Plattsburgh	NY

Sarah	Hamilton	Canastota	NY
Karlene	Gunter	Rochester	NY
William	Sharfman	New York	NY
Peter J.	Keiser	Manlius	NY
Marcia	Baltz	Massapequa	NY
Barbara	Reukauf	Lancaster	NY
Leslie	Just	Elma	NY
Kimberly	Wiley	Rochester	NY
Nyack	Clancy	Manhattan	NY
Melanie	Mahoney Stopyra	Syracuse	NY
Elisse	Antczak	Depew	NY
Elizabeth	Belasco	Massapequa	NY
Matt	Stedman	Montauk	NY
Barbara	Charles	New York	NY
Edyth	Dunne	Melville	NY
Marissa	Ferraro	Massapequa	NY
Emilie	Tropiano	Dix Hills	NY
Leslie	Pinilla	NY	NY
William G	Gonzalez	Suffern	NY
R	Martire	New York	NY
Thomas V.	Connor	Wallkill	NY
Carol	Ramo	West Babylon	NY
Vicky	Brandtv@mac.com	New York	NY
Frankie	DeMarco	New York	NY
Douglas	Kinney	Otego	NY
Beth	Darlington	Poughkeepsie	NY
Chuck	Donegan	Yonkers	NY
DoRi	Miles	Crown Point	NY
Rudolph	Ripp	Staten Island	NY
Devin	Henry	Nichols	NY
John	Catherine	New York	NY
Ronald	Lemmert	Peekskill	NY
Steven	Kostis	New York	NY
Jonathan	Nash	New York	NY
Kenneth	Ward	Gloversville	NY
Jennifer	Valentine	Massapequa Park	NY
Edith	Borie	New Paltz	NY
Cathleen	Kelly	Calverton	NY
Eric	Weaver	Highland	ny
Cristina	Fiorillo	NYC	NY
Elizabeth	Watts	Lynbrook	NY

Esther	Weaver	Highland	NY
David	Forjan	Barton	NY
Laurie	Puca	New City	NY
Donna	Lenhart	Poughkeepsie	NY
Nina	Garfinkel	Woodmere	NY
Timothy	Dunn	Babylon	NY
Carol	Hinkelman	Rochester	NY
Alexander	Danik	Brooklyn	NY
Pamylle	Greinke	Peconic	NY
August	Scheer	Ardsley	NY
William	Toner	mcgraw	ny
Harriet	Shalat	Forest Hills	NY
Judy	Rhee	Brooklyn	NY
Peter	Sweeny	Pleasantville	NY
Janet	Duran	New York	NY
Melissa	Bishop	Deposit	NY
Sean	Kilpatrick	New York	NY
Nicholas	Prychodko	Bridgehampton	NY
Rose Marie	Wilson	Wantagh	NY
janet	forman	New York	NY
tyler	harrington	schuyler falls	ny
Edward	Butler	New York	NY
Linda	Faulhaber	New York	NY
aron	shevis	brooklyn	NY
Sharon	Intilli	Warwick	NY
Sarah	Johnson	Nyack	NY
Donna	Knipp	New York	NY
Veronica	Cox	Canastota	NY
Marian	Meinen	New York	NY
Dawn	O'Donnell	Greenfield	NY
Thomas	Keane	Catskill	NY
Ruth	Mendes	Pound Ridge	NY
Linda	Rudman	N.Y.	NY
A	Shouse	Ithaca	NY
Amanda	Smock	Brooklyn	NY
Anna	Lukaszewicz	Blasdell	NY
Linda	DiGusta	New York	NY
James	Pfitzner	Lagrangeville	NY
Melissa	Ebbing	Delmar	NY
Sam	Miner	great neck	NY
John	Keiser	New York	NY

Patty	Gibbons	C. Islip	NY
deborah	beck	peekskill	NY
Emanuela	Levin	Rochester	NY
Kerry	Burkhardt	Kenmore	Ny
Kurt	Loffler	New York	NY
Pat	Pascual	Patterson	NY
rita	persichetty	staten island	ny
Jeffrey	Ward	New York	NY
Dara	Murray	New York	NY
Joe	Bongiorno	Valley Stream	NY
Peggy	Furminger-Haist	Akron	NY
Mari	Smet	woodhaven	NY
Caroline	Sun	Fresh Meadows	NY
Cristina	Lois	Jackson Heights	NY
maryellen	Todd	hisksville	NY
Alisha	BeGell	Savona	NY
Jenene	Garey	New York	NY
Amy	Harlib	New York	NY
Ned	Overton	Lake Grove	NY
Barbara	Vieira	Staten Island	NY
Aleksander	Lindemann	Krsko	NY
barbara	paolucci	nyc	NY
deborah	stedge	New City	NY
russell	relethford	Central Islip	NY
Dawn	Stanko	Dublin	O
Marla	Holbrook	Brookville	OH
Barbara	Bonfield	Newark	OH
amy	schumacher	Beavercreek	oh
Kimberly	Selvage	Ashley	OH
Duane	Baker	Powell	OH
Alice	Petersen	Toledo	OH
Diane	Wynne	Dayton	OH
Alice	Dugar	Independece	OH
jocelyne	lapointe	terrebonne	OH
Tracy	Johnson	Cincinnati	OH
Pam	Naylor	Canton	OH
Katherine	Cooper	Xenia	OH
MICHAEL	MELINCOFF	CLEVE	OH
R	Safron	N Ridgeville	OH
Stacy	Grossman	bexley	OH
David	Neuendorff	Toledo	OH

Kathleen	Morris	Columbus	OH
gayle	richardson	grove city	OH
Earl	Grove	East Canton	OH
Sandra	Cobb	Moreland Hills	OH
Keary	Missler	Dublin	OH
Tom	Bullock	Lakewood	OH
michael	quillin	parma heights	OH
John	Schmittauer	Chauncey	OH
Karen	Kindel	Canton	OH
James	Lovich	Eastlake	OH
Patty	Ridenour	Dayton	OH
Tracy	Leinbaugh	Athens	OH
terri	pigford	dayton	OH
MAX	FRAZIER	COLUMBUS	OH
Mary	Price	Cleveland	OK
Kenneth	Slade	Tulsa	OK
Marjorie	Hass	Hartshorne	OK
DEBORAH	SMITH	OKLAHOMA CITY	OK
Kenneth	Lapointe	Ottawa	Ontario
Lana	Fishkin	Bala Cynwyd	PA
sabrina	wojnaroski	Pittsburgh	PA
carol	broll	tunkhannock	PA
George	Mostoller	Philadelphia	PA
Carol	Dewees	Pottstown	PA
Jennifer	Zielinski	New providence	PA
Joan	Kyler	Philadelphia	PA
Michael	Miller Jr	Phila	PA
Anne	Pinkerton	Phoenixville	PA
Emile G.	Ilchuk	N. Catasauqua	PA
Linda	Myers	Petersburg	PA
Ioana	Iverson	Phoenixville	PA
Nezka	Pfeifer	Scranton	PA
Merry	Guben	Bryn Mawr	PA
Bill	Roseberry	Levittown	PA
Frank	Fredenburg	Milford	PA
Charlene	Rush	Allison Park	PA
Daniel	Mink	Harrisburg	PA
Robin	Schaef	Guys Mills	PA
Mark and Nancy	Wolfe	Pittsburgh	PA
Libby J.	Goldstein	Philadelphia	PA
Kathleen	Lawless	harleysville	PA

Janis	Kinslow	Aston	PA
Elizabeth	Seltzer	Parkside	PA
joe	shaw	quakertown	PA
daryl	bishop	quakertown	PA
Kim	Dieter	Devon	PA
Kris	Kalina	Johnstown	PA
Benita	Campbell	Burgettstown	PA
Dru Ann	Delgado	Munhall	PA
asher	atchick	king of prussia	PA
Linda	Huber	Hanover	PA
Henry	Berkowitz	Sabinsville	PA
edward	colerich	pittsburgh	PA
Julia	Amsler	Clarion	PA
Angela	Leventis	Philipsburg	PA
Beverly	Williamson-Pecori	mckees rocks	PA
Karla	McNamara	Baden	PA
Autumn	Sweeley	jersey shore	PA
Melinda	Richards	West Chester	PA
nicholas	mosunic	pocono pines	PA
Gerri	Baer	Malvern	PA
roberta	bunsick	east stroudsburg	PA
ashley	heffner	bradford	PA
Helmut	Hubner c/o Lindsey	Elizabethtown	PA
Kathy	Dabanian	Sellersville	PA
Stephan	Armstrong	Watsonstown	PA
Sidne	Baglini	Malvern	PA
k	danowski	pittsburgh	PA
Jack	Miller	Middleburg	PA
Bob	Hamburg	Glenside	PA
George	Erceg	Natrona Heights	PA
Bernice	Zazow	Philadelphia	PA
W. Andrew	Stover	Chambersburg	PA
Rande	Mandelblatt	Philadelphia	PA
Michelle	Schramm	Plains	PA
Marcia	Godich	Trafford	PA
David	Denning	Huanchaco	Peru
Bartlomiej	Tomczak	Lodz	Poland
Katarzyna	Weiss	Wodzislaw Slaski	Poland
Michael	Langlais	west warwick	RI
Sheffield	Corey	Saunderstown	RI
Deborah	Lipman	Providence	RI

Max	Salt	Woonsocket	RI
Zak	Mettger	Providence	RI
John	Doucette	Providence	RI
Aurora Margareta	Barabancea	Bucharest	Romania
Natalia	Urmakova	St.-Petersburg	Russia
mauricio	carvajal	Santiago	santiago
marilyn	shup	Beaufort	SC
Ginger	Hill	Lyman	SC
Lisa	Goldman	Mount Pleasant	SC
Nicole	Jessup	North Charleston	SC
Stanley	Charles	Fort Mill	SC
Catherine	Miller	Charleston	SC
tye	block	Cordova	SC
Hannah	Blakeman	Myrtle Beach	SC
Suzanne	Cole	Charleston	SC
Christy	Borriello	Charleston	SC
Vincent	Gormley	Sioux Falls	SD
Shelly	Blank	Rapid City	SD
Elizabeth	Waldron	Berkeley	Select a state
Leslene	Dunn	CAPE TOWN	SOUTH AFRICA
Elisenda	Toda	L'Escala	Spain
Margarita	Rosberg	Cabrils	Spain
Geisha	Garc�a	La Coru�a	Spain
Irene	Lorenzo	Madrid	Spain
Helmut	Hubner	Costa Adeje	Spain
margaret	runfors	�rebros	sweden
Andreas	Ehnbom	H�sselby	Sweden
Corinne	Musy	St-Legier	Switzerland
S	Jitreun	Ch	Thailand
Mary	Bristow	Brentwood	TN
Jeff	Martin	Knoxville	TN
Bettina	Bowers	Nashville	TN
Teresa	Iovino	Memphis	TN
Chris	Watson	Knoxville	TN
Jay	Armbruster	Knoxville	TN
Ann	Coz	Nashville	Tn
Annetta	Smith	Memphis	TN
James	Wilson	Nashville	TN
Sandy	Kemp	Goodlettsville	TN
Martin	Bernard	Fort Worth	TX
Carolyn	Riddle	Austin	TX

Greg	Holt	Houston	TX
Pat	Bowen	bastrop	TX
Peggy	Cope	Austin	TX
Margaret	Zoch	Spring	TX
Daniel	Partlow	Allen	TX
Bridget	Robertson	Richardson	TX
lisa	Fenstermacher	Garland	TX
Ted	Williams	Ralls	TX
Ed	Fiedler	Austin	Tx
Thomas	Nieland	Alamo	TX
Kimberly	Locke	Austin	TX
Evelyn	Adams	McKinney	TX
Cam	Krosnoff	Wills Point	TX
steve	lucas	austin	tx
rebecca	marshall	gainesville	TX
Annette	Pieniazek	Houston	TX
Joel	Perkins	Denton	TX
Karen	Kawzan	Spring	Tx
Patrice	Johnson	Lubbock	TX
Thomas	La Point	Denton	TX
Ellen	Gachesa	Dallas	TX
Diane	Ethridge	Conroe	TX
Kevin	Rolfes	Austin	TX
Ralph	Ward	Commerce	TX
Mary	Price	Houston	TX
David	Berkshire	Houston	TX
Grace	Payne	Austin	TX
DM	Degenhart	Fredericksburg	TX
H.	Guh	Addison	TX
Dallas	Windham	Dallas	TX
John	Blalock	San Antonio	Tx
Frank	Blake	Houston	TX
dian	wright	West Tawakoni	TX
t	logan	austin	TX
Geri	Cade	Plano	TX
Patricia	Brooks	Houston	TX
Malva	McIntosh	Georgetown	TX
Eren	Giles	Austin	TX
Nancy	Patumanoan	Houston	TX
Leslie	Fine	Willow Park	tx
JULIE	WADE	CAROLLTON	TX

LISA	HAMILTON	SCHERTZ	TX
daniel	mcgary	texas city	TX
Hillery	Earl	Joshua	TX
Trigg	Wright	Spring	Tx
wendy	browne	pearland	TX
Richard	Gill	San Antonio	TX
Izabella	Dabrowski	Austin	TX
Mollie	Smith	Chehalis	U.S.
Diann	MacRae	Bothell	U.S.
karin	mak	alhambra	u.s.
E. A.	Carden	San Fracisco	U.S.
Julie	Reiner	Santa Cruz	U.S.
Kitty	Craddock	Sacramento	U.S.
Kathleen Turner	Turner	Bradley Beach	u.s.
h	kirk	inverness	UK
Ruth	Griffiths	Llanfyllin	UK
Ali	Haines	Nottingham	UK
Anne-Marie	Hewitt	Bromsgrove	UK
Jan	Garen	Swansea	United Kingdom
Kathryn	Hughes	Malmesbury	United Kingdom
Lindsay	Hope Kern	Belfast	United Kingdom
Gail	Courtney	London	united kingdom
Dennis	Hartenstine	Birdsboro	US
Jennifer	Scott	Fort Myers	US
Daniel	Hawley	Ketchum	US
Richard	Kuntze	Monterey	US
Mark	Jones	Fremont	US
Carol	Becker	Sherman Oaks	US
Mauro	Ferrero	Los Angeles	US
Brian	Debasitis	San Jose	US
Glen	Carroll	Seattle	US
Martina	Sierra	Salem	US
Robert	Hinely	Sheridan	US
Laura	Manning	Goleta	US
Lynn	Carin	Woodland Hills	US
anne	veraldi	sf	US
jason	laberge	malibu	US
Nichole	Gutierrez	El Cajon	US
Maria R.	Holguin	Alhambra	US

Erika	Smith	South Gate	US
Deana	Graff	SD	US
Jennifer	Planeta	St. Thomas	US
g	robertson	clinton	US
antonina	licastri	NYC	US
David M.	Hagler	Salinas	US
Suzanne	Bores	Trumbull	US
m	s	hamburg	US
David	Rodriguez	Laredo	US
Digby	Diehl	Pasadena	US
Carla	L	Sandy	UT
Ya Hui	Shih	Draper	UT
Karen	Kummer	Salt Lake City	UT
Alan	Carter	Provo	UT
Gina	Paige	Glen Allen	VA
Kathy	Day	Richmond	VA
Adam	D'Onofrio	Petersburg	VA
Michael	King	Staunton	VA
Damon	Phillips	Alexandria	VA
Fred	Lavy	Harrisonburg	VA
James E	Shifflett Jr	Charlottesville	VA
Bryan	Trumble	Fredericksburg	VA
Judith	Shematek	Seaford	VA
Tracy	Brophy	Round Hill	VA
James	Jeffrey	Virginia beach	VA
Benita	Crow	Chesapeake	VA
Sara	Keesling	Chesterfield	VA
Theo	Giesy	Norfolk	VA
Scott	Burger	Richmond	VA
Betty	Stewart	Newport News	VA
Brent	Hepner	Norfolk	VA
Susan	Antoniewicz	Yorktown	Va
amber	hayes	spotsylvania	va
sonny	lester	fredericksburg	va
marilyn	gray	fredericksburg	va
Tracey	Aquino	VIRGINIA BEACH	VA
Dick	Reiss	Lexington	VA
Mark	Tretiak	McLean	VA
Matea	Leon	Virginia Beach	VA
lois	lommel	richmond	VA
Barbara	Oleksa-Reiss	Lexington	VA

Rob	Brodsky	Glen Allen	VA
Stephen	Graff	Herndon	VA
Deborah Ann	Welton	Brookneal	VA
Susan	Bradshaw	Leesburg	Va
Anka	Jhangiani	Reston	VA
Donna	Feirtag	Arlington	VA
sandy	rader	fredericksburg	VA
michael	rader	fredericksburg	VA
Pamela	Brown	Roanoke	VA
olivia	zorumski	Newport News	VA
Patricia	Quinn	Norfolk	VA
CÃ©cile	PontgÃ©lard	La CaillÃ©re-Saint-Hilaire	VendÃ©e
William	Anderson	St. Thomas	VI
Ralph	Palmer	Brattleboro	VT
Sue and John	Morris	Marshfield	VT
Phyllis	Erwin	Guilford	VT
lee	russ	bennington	VT
Nicholas	Sherman	Burlington	VT
cassandra	church	e. montpelier	VT
chris	ottosen	shell lake	WI
Robin	Pasholk	Neenah	WI
Bruce	Krawisz	Marshfield	WI
G Allen	Daily	Wauwatosa	WI
Nancy	Moore	Madison	wi
Carol	Steinhart	Madison	WI
C	K	Lake Geneva	WI
Holly	Smith	Wausau	WI
Jackie	Tryggeseth	Grand Marsh	WI
Roger	Packard	Lake Mills	WI
Gerald	Meslar	Edgerton	WI
Ellen	Gutfleisch	Sussex	WI
Stuart	Ross	Madison	WI
Andrew	Pagel	Wauwatosa	WI
Frank	Myers	Middleton	WI
Nancy	Florsheim	Milwaukee	WI
Susan	Romdenne	Two Rivers	WI
Barbara	DeCoursey	Milwaukee	WI
bob	ottosen	shell lake	wi
Linea	Anthony	racine	WI
Linda	Gruhlke	Sheboygan	WI
Bryan	Iwen	Algoma	WI

Nancy	Gathing	Madison	WI
Jill	Cleveland	Delavan	WI
Rose	Bertrand	Madison	WI
Marcia	Halligan	Viroqua	WI
Donald	Kosak	Menomonee Falls	WI
Ruth	Johnston	Hales Corners	WI
David	Skryja	Waukesha	WI
George	Boggs	Elkview	WV
James	Dixon	Terra Alta, West virginia	WV
*	Zentura	Casper	WY
Sandra	Materi	Casper	wy
Deborah	Richards	Burns	WY
Diane	Verna	Alta	WY
julia	waller	London	



Mar. 28, 2014

Dorothy Lowman, Chair
Pacific Fishery Management Council
7700 N.E. Ambassador Place, Suite 101
Portland, OR 97220-1384

RE: Agenda Item I.1.c – Unmanaged Forage Fish Initiative

Dear Ms. Lowman and Council Members,

The Pew Charitable Trusts has collected 754 comments from sportsmen, anglers, and outdoor enthusiasts at the 2014 Washington Sportsmen's Show in Puyallup, WA; the 2014 Pacific Northwest Sportsmen's Show in Portland, OR; the 2014 NW Fly Tyer and Fly Fishing Expo in Albany, OR, and others in support of advancing forage fish protection.

The petition includes the names and cities of individual signers gathered as of March 28, 2014. Please include the enclosed petition in the supplemental briefing book.

Thank you,

Phaedra T. Booth
The Pew Charitable Trusts

Dear Chair Lowman and council members:

As sportsmen, fishermen, and outdoor enthusiasts, we support the Pacific Fishery Management Council's efforts to protect the ocean food web by suspending the development of any new fisheries for forage fish until an ecosystem-based approach can be implemented that conserves the prey base for all marine life. We urge the Council to move forward by bringing unmanaged forage fish into a Fishery Management Plan and establishing regulations to prevent any new directed fisheries until science-based protections are in place to ensure adequate forage for dependent predators such as salmon, tuna, marine mammals and seabirds.

Sincerely,

First Name	Last Name	City	State
Gary	Bed	Whale Pass	AK
Frank	Casey	Clam Gulch	AK
Dave	Haas	Juneau	AL
Debbie	Overguard	Sundre	Alberta
Brad	Crouther	Mission	BC
Sue	Klasse	Sandspit	BC
Anna	Sehnslor	Vancouver	BC
Tom	Willms	Kamloops	BC
Morgan	Ellens	Bowser	BC
Lauren	Bernadett	Sacramento	CA
Joey	Billmaeel	San Jose	CA
Charolette	Cook	Sacramento	CA
Ryan	Cox	McKinleyville	CA
David	Dunham	Sonoma	CA
Pete	Farnworth	Maple Ridge	CA
Shana	Gabow	San Francisco	CA
Mario	Gomez	Happy Camp	CA
Gabriel	Hoyt	Beaumont	CA
Elise	Jones	Calgary	CA
Kaitlyn	Kalua	Davis	CA
Ernest	McLagan	Calgary	CA
Alam	Speakman	Bakersfield	CA
Joe	Valdez	Benicia	CA
Chris	Wray	Red Bluff	CA
Roy	Davis	Dener	CO
Roberta	Mooney	Denver	CO
RonJon	Eure	Daytona Beach	FL
Rick	Grover	Haleiwa	HI
Jim	Bruejems	Cottonwood	ID

Christine	Syth	Rathdrum	ID
Joy	Kettles	Dewitt	MI
Rosanne	Gidlow	Great Falls	MT
Nathan	Newcomer	Silver City	NM
Randy	Rust	Albequerque	NM
Gary	Palmer	Las Vegas	NV
Julie	Palmer	Las Vegas	NV
Katherine	Fielder	Elmsford	NY
Blaine	Ackley	Hillsboro	OR
Jeff	Acree	Hillsboro	OR
Jeff	Acree	Hillsboro	OR
Michelle	Alameda	Eugene	OR
Carry	Allen	Portland	OR
JA	Atwood	Portland	OR
Judy	Baeel	Happy Valley	OR
Mary	Baldwin	Salem	OR
Drew	Ballard	Sherwood	OR
Fran	Beely	Hillsboro	OR
Gary	Benson	Portland	OR
Lesa	Blard	Newberg	OR
Tanya	Bonghton	Eugene	OR
Paige	Book	Eugene	OR
Phaedra	Booth	Hood River	OR
John	Borowski	Philomath	OR
Chad	Braw	Portland	OR
Chad	Braw	Portland	OR
Laura	Breames	Sandy	OR
Sarah	Breshears	Newberg	OR
Lyden	Brown	Lebanon	OR
Danyel	Bryan	Kennewick	OR
Frank	Bryan	Clatskanie	OR
Bjorn	Budden	West Linn	OR
Lynn	Buerer	Beaverton	OR
Lori	Bush	Portland	OR
Amanda	Caffall	Portland	OR
Margaret	Carey	Eugene	OR
Margaret	Carey	Eugene	OR
Brenna	Chapman	Eugene	OR
Rodney	Chavez	Beaverton	OR
Linda	Chezem	Keizer	OR
Natalie	Chou	Happy Valley	OR

Marc	Constans	Hillsboro	OR
Bryan	Cook	Gaston	OR
Brian	Correll	Portland	OR
Samantha	Cropper	Milwaukie	OR
Dawn	Cross	Clackamas	OR
Margaret	Crow	Grants Pass	OR
Don	Crow	Grants Pass	OR
Kevin	Cunningham	Portland	OR
David	Daley	Portland	OR
Jason	Davis	Sandy	OR
Gary	Davis	Oregon City	OR
Phil	Davis	Oregon City	OR
Derek	Day	Milwaukie	OR
Fred	De Wolf	Milwaukee	OR
Kim	Denley	Albany	OR
Roger	Doll		OR
Randy	Dorsing	Boring	OR
Gerald	Ebeltaft	Bates	OR
Eva	Edelman	Eugene	OR
Seamus	Egan	Portland	OR
Mike	Egan	Portland	OR
Don	ench	Sandy	OR
Will	Ends	Salem	OR
Macke	Euell	Cove	OR
Ed	Fast	Portland	OR
Ed	Fast	Portland	OR
Michelle	Faubion	Portland	OR
James	Fenner	Lake Oswego	OR
Scott	Friderich	Sandy	OR
Brian	Gayell	Colton	OR
John	Geil	Lake Oswego	OR
Tim	Glanz	Portland	OR
George	Gomez	Hillsboro	OR
Corad	Gowell	Albany	OR
Steve	Grabinski	Milwaukie	OR
Jake	Haas	Portland	OR
Dominique	Hagg	Gresham	OR
Liz	Hamilton	Oregon City	OR
Bob	Hannigan	Corvallis	OR
James	Harc	Milwaukee	OR
Rick	Hard	Gresham	OR

Dave	Harding	Portland	OR
Domenica	Hayward	Tigard	OR
Jerad	Hayward	Portland	OR
Kasey	Heel	Cornelius	OR
Donna	Hekker	Portland	OR
Lee	Helm	Portland	OR
Tom	Hendrickson	Portland	OR
Mark	Henry	Salem	OR
Paul	Herigstad	Willamina	OR
Jeff	Hernandez	Portland	OR
Shanie	Hill	Keizer	OR
Clarence	Hill	Portland	OR
Gabriel	Hinman	Portland	OR
Jeff	Hoggatt	Gresham	OR
Dick	Hollenbeck	Estacada	OR
Caleb	Holt	Eugene	OR
Dan	Hough	Albany	OR
Kasey	Hul	Cornelius	OR
Kevin	Hus	Yamhill	OR
Carl	J	Aurora	OR
Shane	Johnson	Salem	OR
AE	Jones	Clackamas	OR
Scott	Kappes	Oregon City	OR
Kenny	Kiley	Oregon City	OR
Damian	Killmann	Estacada	OR
Jim	Kitzhaber	Gates	OR
Pete	Krebs	Portland	OR
Joel	LaFollette	West Linn	OR
John	Laing	Portland	OR
Bruce	Lane	Rhododendron	OR
Jason	Larson	Warren	OR
Rhett	Lawrence	Portland	OR
Ann	Lawson	Albany	OR
Benson	Lee	Damascus	OR
Craig	Lichtenthale	Portland	OR
Bart	Loam	Salem	OR
Darien	Loiselle	Portland	OR
Roy	Lorenz	Salem	OR
Mark	Lowny	St Helens	OR
Phil	Lyell	Silverton	OR
Casner	M	Albany	OR

Brad	MacDonald	Oregon City	OR
Chris	Machado	Portland	OR
Keny	Mackay	Corbett	OR
Erin	Madden	Portland	OR
Nick	Mancuso	Tigard	OR
Steve	Marosi	Portland	OR
Sam	Marsh	St Helens	OR
Andrew	Martin	Vernonia	OR
Erika	Martin	Milwaukee	OR
Katie	Maryl	St Helens	OR
Rick	Mc	Beaverton	OR
Lynn	Mcclune	Hillsboro	OR
Nellie	McConnille	Portland	OR
Mike	McCoy	Roseburg	OR
Katey	Meier-Smith	Clackamas	OR
Scott	Mengis	The Dalles	OR
Ben	Metts	Portland	OR
Dave	Michalec	Portland	OR
Gary	Middleton	Lebanon	OR
Isaac	Miller	Portland	OR
Keith	Miller	Portland	OR
Henry	Mills	Milwaukee	OR
Connie	Monroe	Tigard	OR
Karl	Morgan	Sheridan	OR
Rick	Morrell	Eugene	OR
Robert	Morton	Keizer	OR
Robert	Moshofsky	Willamina	OR
Derek	Mueller	Portland	OR
Traci	Mullins	Clackamas	OR
Chris	Myron	Ashland	OR
Nicole	Nava	Portland	OR
Lindsay	Nelson	Portland	OR
Ted	Nelson	Portland	OR
Scott	Newcombe	Portland	OR
Richard	Newell	Wilsonville	OR
Janice	Niang	Gresham	OR
Bruce	Night	Clackamas	OR
Danny	Palmerlee	Portland	OR
Joe	Patterson	Falls City	OR
Allen	Peek	Terrebonne	OR
Pat	Perkins	Milwaukie	OR

Wendy	Peyton	Portland	OR
Carol	Pfiefh	Tigard	OR
Rick	Phetteplace	Beaverton	OR
Jack	Piatt	Portland	OR
Alexa	Pinckard	Corvallis	OR
Kaili	Plummer-Slate	Eugene	OR
Sam	Pointer	Oregon City	OR
Catherine	Pruett	Lincoln City	OR
Nat	Puvher	Portland	OR
Nick	Puvher	Portland	OR
Calvin	Querada	Springfield	OR
Amy	Raven	Eugene	OR
Brandon	Re	Gresham	OR
Stefanie	Re	Portland	OR
Tim	Reardon	Milwaukee	OR
Dave	Reggiani	West Linn	OR
Robert	Reynolds	Lake Oswego	OR
Richard	Ribar	Portland	OR
Tamara	Rooke	Cornelius	OR
Nino	Rosa	Springfield	OR
Dalton	Rose	Hillsboro	OR
Terese	Rowe	Blue River	OR
Ric	Salata	Oregon City	OR
Rick	Salata	Oregon City	OR
Joe	Sanchez	Lebanon	OR
Warren	Sanders	Lake Oswego	OR
Warren	Sanders	Lake Oswego	OR
Jim	Sarekz	Lebanon	OR
Stephen	Schulmerich	Portland	OR
Alex	Schwidt	Pacirid City	OR
Russ	Scott	Bend	OR
Barb	Shanet	Allegany	OR
Maryue	Shephaed	Eugene	OR
John	Sherman	Newport	OR
John	Shmilenko	Portland	OR
Jake	Siddall	Portland	OR
Yoko	Silk	Portland	OR
Brad	Siri	Milwaukee	OR
Melissa	Slough	Willamina	OR
Daniel	Smith	West Linn	OR
Kevin	Smith	oregon city	OR

Gordy	Smith	Portland	OR
Charles	Smith	Hillsboro	OR
Douglas	Snader	West Linn	OR
Brett	Sommermeyer	Lincoln City	OR
Dim	Song	Eugene	OR
Troy	Sorelan	Bend	OR
Jay	Spasson	Portland	OR
Gary	Spencer	Portland	OR
Aaron	Spencer	Monmouth	OR
Gary	Spencer	Portland	OR
Wayne	Spicer	Roseburg	OR
Rick	Stark	Sandy	OR
Gary	Stephens	Lake Oswego	OR
Gary	Stephens	Lake Oswego	OR
Jon	Strock	Portland	OR
Richard	Stroud	North Bend	OR
Nick	Swift	Gresham	OR
Steve	Telfer	Wilsonville	OR
Kirk	Thirs	Corvallis	OR
Jim	Thomason	Merlin	OR
Jim	Thurber	Portland	OR
Jim	Townsend	Portland	OR
Nicoth	Traeger	Mt Angel	OR
Ricky	Tshander	Oregon City	OR
Keith	Urwin	Columbia City	OR
Lee	Van Speybrock	Troutdale	OR
Tim	Vandyke	Cornelius	OR
David	Vang	Gresham	OR
Nathan	Vanhorn	Newberg	Or
Rick	Vansant	Tigard	OR
Dennis	Vavrosky	Portland	OR
Paul	Vu	Beaverton	OR
Bob	Walker	Silverton	OR
Jacob	Wall	Albany	OR
Marie	Walls	Portland	OR
John	Warren	Portland	OR
Curtis	Warring	Portland	OR
Brook	Weer	Portland	OR
Daniel	Weisshaar	Portland	OR
Kim	Wilder	Gold Hill	OR
George	Wilson	Beaverton	OR

Isaisah	Wise	Corvallis	OR
Jerry	Witt	Oregon City	OR
Gal	Wolcott	Corvallis	OR
Jeff	Wong	Portland	OR
Charlie	Woods	Portland	OR
Suskenski	Yang	Fairview	OR
Helen	Yi	Eugene	OR
Nathan	Younce	Beavercreek	OR
Sam	Younce	Beavercreek	OR
Susan	Young	Fairview	OR
Carol Ann		Lakeview	OR
	Gerding	Richboro	PA
Sam	Rodriguez	Fort Worth	TX
Carmen	Rodriguez	Fort Worth	TX
Pam	Hanson	Monticello	Utah
Tom	Madsen	Tacoma	W
Rudy	Adams	Milton	WA
Steve	Adams	Auburn	WA
Bryan	Adams	Vancouver	WA
Michael	Akers	Puyallup	WA
Alisha	Akers	Puyallup	WA
Jon	Akers	Emulclan	WA
Patrick	Allen	Poulsbo	WA
Cheryl	Allen	Moxee	WA
Jim	Allison	Steilacoom	WA
Tanner	Allzhin	Ellensburg	WA
Andrew	Anastasiou	Kennewick	WA
Bret	Anderson	Olympia	WA
Gary	Anderson	Vancouver	WA
Colin	Armes	Vancouver	WA
Douglas	Arnold	Everett	WA
Paul	Arnold	Vancouver	WA
Dan	Asetz	Kent	WA
Scott	Atkinson	Amboy	WA
Scott	Atrinson	Amboy	WA
Tom	Auberry	Duvall	WA
Jack	Bacon	Washougal	WA
Russell	Bagley	University Pl	WA
Brad	Bahm	Camas	WA
Missy	Baier	Salkum	WA
Leo	Bailey	Auburn	WA

Mike	Baines	Tacoma	WA
Jack	Balow	Washougal	WA
Greg	Banks	Lynnwood	WA
Brad	Bantilan	Seattle	WA
Robert	Barett	Tacoma	WA
Bob	Barkley	Puyallup	WA
Timothy	Barnes	Kelso	WA
Harold	Barnett	Lakewood	WA
Cathy	Bates	Spanaway	WA
Cathy	Bates	Stanwood	WA
Gerard	Bautiste	Renton	WA
Cecil	Beavers	Eatonville	WA
Art	Beckmark	Bremerton	WA
Bold	Bedey	Puyallup	WA
Curt	Beesin	Puyallup	WA
June	Bennison	Puyallup	WA
Wells	Benson	Olympia	WA
Sean	Bersgsma	Renton	WA
Mike	Betcher	Puyallup	WA
Jon	Bial	Woodland	WA
Richard	Bidwell	Buckley	WA
Philip	Bishop	Federal Way	WA
Jeffrey	Bivens	Vancouver	WA
Aaron	Biyen	Gig Harbor	WA
Katherine	Bodin	Rochester	WA
Brian	Boew	Elma	WA
Gary	Bohot	Puyallup	WA
Mary	Bolster	Auburn	WA
Dick	Bonesbi	Brush Prairie	WA
Carl	Boush	Auburn	WA
Jim	Brauch	Everett	WA
John	Brauer	Kent	WA
Mike	Brenneman	Kent	WA
Joe	Brenneman	Hoquiam	WA
Barry	Brigham	Battleground	WA
Jeff	Brough	Camas	WA
Dallas	Browning	Battle Ground	WA
Jeff	Brydson	Spanaway	WA
Annette	Buchanan	Auburn	WA
Brian	Buchanan	Poulsbo	WA
Sonny	Buck	Rochester	WA

Stephen	Burns	Poulsbo	WA
Sean	Burns	Des Moines	WA
Ken	Burson	Edmonds	WA
Tony	Busch	Port Orchard	WA
Christina	Bush	Yelm	WA
March	Bush	Yelm	WA
Joe	Calpito	Puyallup	WA
Ray	Carlton	Auburn	WA
Cassandra	Carniker	Aberdeen	WA
Mike	Carrington	Shelton	WA
Lorilea	Casey	Vancouver,	WA
Chip	Cather	Poulsbo	WA
Louise	Caynor	Spanaway	WA
Bill	Chaddock	Puyallup	WA
Mike	Chambers	Whidbey Island	WA
Ed	Charlske	Renton	WA
Janis	Chenan	Port Orchard	WA
Shane	Cherry	Sumner	WA
Josh	Cherry	Graham	WA
Jerry	Childs	Quilcene	WA
Chris	Clark	Puyallup	WA
Jay	Clement	Kent	WA
Ed	Cole	Olalla	WA
Scott	Collier	Lakewood	WA
Carsten	Collins	Vancouver	WA
Darrell	Cotes	Camas	WA
John	Craig	Olympia	WA
Grant	Croumer	Seatac	WA
Marty	Crow	Bellingham	WA
Ken	Culver	Westport	WA
Chad	Cundiff	Kingston	WA
Dustin	Cundiff	Kingston	WA
Tom	Curran	Gig Harbor	WA
Scott	D_____	Ridgefield	WA
Lacey	Dahlman	Longview	WA
Mike	Darnell	Olympia	WA
David	Davis	Sumner	WA
Martin	Deak	Tacoma	WA
Mike	Dean	Vancouver	WA
Robert	Deble	Lake Tapps	WA
Arron	Deleon	Bonney Lake	WA

Jeff	Delp	Tacoma	WA
Steven	Delpt	Tacoma	WA
Terri	Dickinson	Camas	WA
Dennis	Dodson	Edmonds	WA
Dave	Dohman	Vancouver	WA
Paul	Dorn	Poulsbo	WA
Spud	Downie	Centralia	WA
Barry	Dubum	Kent	WA
J	Dydell	Puyallup	WA
Adam	Echholt	Clinton	WA
Dave	Elder	Covington	WA
Mike	Ellis	Richland	WA
Ady	Emmitt	Lake Tapps	WA
Frank	Emrich	Pacific	WA
Robert	Epoch	Edmonds	WA
Greg	Ericksen	Vancouver	WA
Doug	Erickson	Marysville	WA
Rebecca	Erickson	Marysville	WA
Bill	Eryle	Burten	WA
Michael	Evans	Renton	WA
Ralph	Fahsholtz	Lakebay	WA
Timothy	Fay	Des Moines	WA
HC	Felstad	Issaquah	WA
Kevin	Fink	Lacey	WA
Paul	Fischer	Everett	WA
Troy	Fisher	Gig Harbor	WA
Nicholas	Fitzsimmons	Lyle	WA
George	Flowers	Poulsbo	WA
David	Forler	Enumclaw	WA
Travis	Forsluml	Puyallup	WA
Mark	Foster	Spokane	WA
Todd	Fowler	Monroe	WA
Dalton	Fry	Battle Ground	WA
Patrick	Gagan	Seattle	WA
Doug	Gardner	Seattle	WA
Chris	Garley	White Salmon	WA
Travis	Gause	Vancouver	WA
Philippe	Gayte	Renton	WA
Jerry	Gelley	Ken	WA
Bronx	Gibbs	Olympia	WA
Bronx	Gibbs	Olympia	WA

Keith	Gibson	Vancouver	WA
Stan	Graham	Shelton	WA
Alan	Granat	Washougal	WA
Jim	Greenfeather	Auburn	WA
Larry	Greenwood	Puyallup	WA
Mitch	Griffin	Easton	WA
Scott	Griffis	Mckenna	WA
David	Groves	Olympia	WA
Keith	Halzh	Ridgefield	WA
Deon	Hanft	Kenmore	WA
Richard	Hauser	Vancouver	WA
David	Hawley	University Pl	WA
Patrick	Hecoy	Rainier	WA
Wayne	Heinz	Richland	WA
Christina	Helton	Tacoma	WA
Chuck	Hemphill	Bonney Lake	WA
Nancy	Henderson	Steilacoom	WA
Todd	Henne	Bonney Lake	WA
Todd	Hiatt	Auburn	WA
Tyler	Hicks	Ridgefield	WA
Ron	Higgin	Enumclaw	WA
Dan	Hoaas	Puyallup	WA
Gary	Hoch	Port Orchard	WA
Bill	Hodge	Centralia	WA
Janet	Hodge	Olympia	WA
Jason	Hoffman	Issaquah	WA
Paul	Hoffman	Port Orchard	WA
David	Hoggatt	Vancouver	WA
Todd	Holtzclaw	Puyallup	WA
Jen	Holtzclaw	Puyallup	WA
Jack	Hopkins	Bothell	WA
Dan	Horey	Kennewick	WA
Bryce	Hovey	Kennewick	WA
Brant	Hubbard	Camas	WA
Jim	Huckabay	ellensburg	WA
Bruce	Hunter	Woodland	WA
Ken	Ives	Kent	WA
Gene	Jackson	Auburn	WA
Jeremy	Jenkin	Shelton	WA
Brad	Jesterby	Vancouver	WA
Larry	Johnson	Tacoma	WA

Mike	Johnson	Burien	WA
David	Johnson	Ridgefield	WA
David	Johnston	Puyallup	WA
Kim	Jomson	Burien	WA
Bob	Jones	Camas	WA
Larry	Jordan	Seattle	WA
Joseph	K	Olympia	WA
Earl	Karper	Des Moines	WA
Colette	Keenan	Puyallup	WA
Norm	Kepple	Graham	WA
Chuch	Kim	Edgewood	WA
Gary	kipfer	Seattle	WA
Michael	Kizer	Marysville	WA
Steven	Klopp	Longview	WA
Joseph	Koczur	Lakewood	WA
Karl	Kohagen	Lynnwood	WA
Jaren	Koistener	Woodland	WA
Kevin	Koski	Elma	WA
Brian	Krizek	Puyallup	WA
John	Kroll	Puyallup	WA
Robert	LaFontaine	Seabeck	WA
Dan	Laizure	Walla Walla	WA
Dan	Laizure	Walla Walla	WA
Van	Lang	Hemsville	WA
Mike	Lano	Monstano	WA
Loren	Leapaldt	Edgewood	WA
Keith	Lehts	Battle Ground	WA
Kody	Lehts	Battle Ground	WA
John	Lentz	Bothell	WA
Nick	Licata	Lynnwood	WA
Deborah	Lindal	Brier	WA
Howard	Lindsay	Puyallup	WA
K Tom	Lines	Des Moines	WA
Joe	Lockhar	Lakewood	wA
Leslie	Loper	Vancouver	WA
Martin	Loper	Vancouver	WA
Juan	Lopez	Milton	WA
John	Lowe	Castle Rock	WA
Jod	Lowe	Longview	WA
Terill	lueck	Auburn	WA
Suzy	Lumley	White Swan	WA

Bryan	Lundgaard	Tacoma	WA
Lucas	Luttermosr	Tumwater	WA
Charles	Mack	Seattle	WA
Dianna	Mahnke	Spanaway	WA
Glade	Mansfield	Olympia	WA
Joey	Marn	Seattle	WA
David	Marshall	Buckley	WA
D	Masek	Tukwila	WA
Debra	Mathis	Everett	WA
Donald	Matson	Battle Ground	WA
Cathy	Matz	Olympia	WA
Kim	McCarthy	Centralia	WA
Michael	McCauley	Kent	WA
Jim	McCoard	Bothell	WA
Miles	Mcdonald	Des Moines	WA
Bob	McEvoy	Colville	WA
Steve	Mcfall	Poulsbo	WA
Callum	Mclaren	Vancouver	WA
Tim	Mclery	Salkum	WA
Ron	McNeal	Poulsbo	WA
Jeff	Mcquillen	Buckley	WA
Pam	McSorroy	Cle Elum	WA
Marc	Medlin	Washougal	WA
David	Meinert	Mt Vernon	WA
Greg	Merose	Kirkland	WA
Chris	Merritt	Castle Rock	WA
Sheila	Merritt	Chehalis	WA
Dan	Metea	Vancouver	WA
E	Metzenberg	Seattle	WA
John	Meyers	Bellevue	WA
John	Mitchell	Tacoma	WA
John	Mitchell	Hoodsport	WA
Pat	Monesaaas	Bothell	WA
Nancy	Monroe Taylor	Olympia	WA
Steve	Monsud	Washougal	WA
Trevor	Montgomery	Enumclaw	WA
Eric	Moody	Puyallup	WA
Gary	Morgan	Benton City	WA
Peter	Mueller	Puyallup	WA
William	Mullikin	Aberdeen	WA
Dave	Muss	Vancouver	WA

Gary	Myer	S Colby	WA
Mike	Neff	Tacoma	WA
Steve	Nelson	Cle Elum	WA
Chad	Newton	Everson	WA
Troy	Neyer	Graham	WA
Larry	Ngayan	Seattle	WA
Colter	Nichols	Brush Prairie	WA
Mindi	Nichols	Brush Prairie	WA
James	Noonan	University Pl	WA
Jeremy	Oades	Spanaway	WA
Steven	Octa	Entonville	WA
Bill	O'hara	Vancouver	WA
Chris	O'hoggins	Kirkland	WA
Ed	O'leary	Granite Falls	WA
Donald	Olson	Lake Tapps	WA
Chris	Oneill	Tacoma	WA
Amanda	Ozaki	Buckley	WA
Adrian	Parker	Kingston	WA
Bob	Parn	Sumner	WA
Donald	Patten	University Pl	WA
Alan	Pearson	Lakewood	WA
Leslie	Pederson	Marysville	WA
Zak	Penwell	Gig Harbor	WA
Carl	Peterson	Brenerton	WA
	Peterson	Graham	WA
Katie	Peterson	Buckley	WA
Mike	Peterson	Buckley	WA
Dan	Peycre	Seatte	WA
Larry	Phillips	Olympia	WA
Nathan	Phillips	Puyallup	WA
Mark	Plowman	Long Beach	WA
Helen	Porritt	Tacoma	WA
James	Porsith	Tacoma	WA
Nicholas	Potter	Seattle	WA
Joe	Potts	Auburn	WA
John	Powers	Stevenson	WA
Stan	Pratt	Rochester	WA
Stanley	Preatt	Covington	WA
Lill	Price	Federal Way	WA
Virginia	Pruesser	Tacoma	WA
Dave	Pudwill	Pacific	WA

Jason	Purdie	Seattle	WA
Mark	Puzon	Enumclaw, WA	WA
Bill	Quinn	Everett	WA
Rich	Radkey	Milton	WA
Will	Raudabagh	Port Orchard	WA
Bob	Reeves	Crystal Mtn	WA
Dee	Reis	Battleground	WA
Stacy	Rerich	Camas	WA
Gordon	Richmond	Lakewood	WA
Sage	Ringsage	Washougal	WA
Erin	Roach	Gig Harbor	WA
Dale	Rohlfing	Vancouver	WA
Neil	Rolstad	Monroe	WA
David	Rookey	Olympic	WA
Shane	Roraback	Lynnwood	WA
Adam	Rosenland	Puyallup	WA
Chris	Ruscmerr	Pacific	WA
Keith	Sahn	Woodland	WA
Earl	Salvey	Ridgefield	WA
Kim	Sanborn	Maple Valley	WA
Garrett	Sanisla	Auburn	WA
Sara	Sarkinen	Amboy	WA
Ed	Scheren	Kent	WA
John	Schmeltz	Renton	WA
Cindy	Schmidt	Covington	WA
Ted	Schuman	Puyallup	WA
Michael	Schwinor	Vancouver	WA
Alex	Schwinor	Vancouver	WA
Mike	Scott	Camas	WA
Tony	Scribner	Auburn	WA
John	Sedra	Vancouver	WA
Pete	Self	Poulsbo	WA
Dick	Shaffer	Camas	WA
Jake	Shay	Port Angeles	WA
Patti	Sheldon	Seabeck	WA
Mill	Shelly	Snoqualmie	WA
Jordan	Shippentaaur	Puyallup	WA
Larry	Shumard	Port Orchard	WA
Boydd	Siddell	Snohomish	WA
Jeff	Siddell	Snohomish	WA
Steven	Slater	Yelm	WA

Larry	Slater	Spanaway	WA
Nancy	Smessaert	Olympia	WA
Josh	Smeston	Bremerton	WA
Matt	Smith	Bonney Lake	WA
Cullen	Smith	Snoqualmie	WA
Brooks	Smothers	Everett	WA
Ron	Soden	Tacoma	WA
Mike	Speer	Silverdale	WA
Ken	Spring	Longview	WA
Gordon	St Peter	Bonney Lake	WA
Jeffrey	Stander	Dupont	WA
Micki	Stebins	University Pl	WA
Greg	Stephens	Bothell	WA
Phil	Stevens	Brinmon	WA
Jeff	Steward	Federal Way	WA
Bill	Stock	Poulsbo	WA
Tom	Stock	Kennewick	WA
Blake	Stocking	Battle Ground	WA
Richard	Stoll	Poulsbo	WA
Churck	Stu	Vancouver	WA
Chris	Suh	Tacoma	WA
Debbie	Sullivan	Kingston	WA
Kevin	Sulzk	Puyallup	WA
Corey	Sutphen	Bellingham	WA
James	Swenson	Lacey	WA
Nancy	Taft	Puyallup	WA
Chris	Taylor	Bainbridge Island	WA
Paul	Taylor	Camano Is	WA
Ted	Teather	Poulsbo	WA
Tyler	Tenneson	Port Angeles	WA
Ed	Tharp	Renton	WA
Ted	Thomas	Everett	WA
Doa	Thompson	Gig Harbor	WA
Dan	Thomsen	Vancouver	WA
George	Thorleifson	Lake Stevens	WA
Shirley	Thorne	Vancouver	WA
Carl	Tilton	Olympia	WA
Joe	Townley	Olypmia	WA
Lloyd	Trudeau	Bremerton	WA
Jerry	Twogood	Silverdale	WA
Donald	Usey	Tacoma	WA

James	Usselman	Maple Valley	WA
Brad	Vesterby	Vancouver,	WA
Gary	Vice	Tacoma	WA
Steve	Vining	Redmond	WA
Sam	Vining	Redmond	WA
Kathy	Von Wald	Burien	WA
Terry	Wagner	Orting	WA
Tom	Wake	Vancouver	WA
Joe	Wallen	Federal Way	WA
Ryan	Warner	Maple Valley	WA
Dave	Weaver	Lake Stevens	WA
Kim	Weaver	Lake Stevens	WA
David	Weel	Tacoma	WA
Daryle	Wegter	Puyallup	WA
Wallace	Weidencamp	Tacoma	WA
Casey	Weigel	Elma	WA
Duane	Weik	Sumner	WA
Ralph	Weik	Kapowsin	WA
Erik	Whipple	Puyallup	WA
Paul	Whitney	Olympia	WA
Virgil	Wilbur	Kent	WA
Tom	Wilkin	Port Orchard	WA
Tim	Willows	Woodinville	WA
Louie	Wilson	Marysville	WA
Bill	Winers	Tenino	WA
John	Wood	Lakewood	WA
Willard	Wood	Edgewood	WA
Christine	Wright	Spanaway	WA
Sam	Yabrovdi	Seattle	WA
Chuck	Yalor	Burien	WA
John	Yardsh	Anaentes	WA
Peter	Yohann	Tacoma	WA
Becca	Yuma	Port Angeles	WA
Blake	Yuury	Bellingham	WA
Kris	Zehm	Shelton	WA
Phil	Zoller	Husum	WA
Tim	Zuber	Woodinville	WA
Joel		Olympia	WA
Jason	Madsen	Buckley	WA
Chris	Thompkins	Shorelie	WA
Chris	Akkermans		

Mickey	Carson	Qualieum Beach	
Penny	Cass		
Yvonne	Colfax		
Rob	Crandall		
TJ	Cronin		
Steve	Durkee	Tsellume	
Keith	Hatch		
Duncan	Hendricks		
George	Kimbrell		
Steve	Langrity		
Travis	Mahnke		
Ellen	Marmon		
Chris	Mcrobert		
Terry	Miller		
Liz	Mitchell		
Nolon	Myers		
Lexi	Nelson		
Eric	Nichelson		
Kevin	Olsen		
Steve	Overguard		
John	Pose		
Cameron	Rider		
Paula	Ruisy		
Matt	Spencer		
Bob	Stanphill		
Janis	Stewart		
Brad	Suess		
Gl	Wilson		



Mar. 28, 2014

Dorothy Lowman, Chair
Pacific Fishery Management Council
7700 N.E. Ambassador Place, Suite 101
Portland, OR 97220-1384

RE: Agenda Item I.1.c – Unmanaged Forage Fish Initiative

Dear Ms. Lowman and Council Members,

The Pew Charitable Trusts has collected the following 108 comments from fishermen and outdoor enthusiasts in support of advancing forage fish protection at the 2014 Fred Hall Fishing, Tackle, Boat and Travel Show.

The following list includes the names and cities of individual signers gathered as from March 5-9, 2014 in Long Beach, CA. Please include the enclosed signatures in the supplemental briefing book.

Thank you,

Phaedra T. Booth
The Pew Charitable Trusts

Name	State	Zip Code		Name	State	Zip Code
Alan Hayward	CA	91901		Mark Yonemura	CA	91702
Alan Thomas	CA	93657		Martin Carreon	CA	92831
Albert Zobrish	CA	90807		May McCullough	CA	90703
Alex Cervantes	CA	92887		Michael Gonzales	CA	91350
Anthony Blaine	CA	92673		Michael Katkov	CA	93225
Bernard Miller	CA	93536		Mike Garcand	CA	90277
Brian Zeiner	CA	93023		Nino Ranieri	CA	91601
Chaz Hellington	CA	90804		Pete Samaduroff	CA	91752
Chelsea Jeyers	CA	91360		Peter Rottnicii	CA	92069
Cordell Ezerin	CA	90804		Phil Gorrell	CA	90503
Dan Nichols	CA	92064		Phillip Wells	CA	92603
Dan Rul	CA	90802		Quetzal Silver	CA	90806
Danny Wilwant	CA	92557		R. Hoffman Greenberg	CA	92501
David Jencks	CA	92372		Ralh Tayla	CA	92268
David Morton	CA	90405		Ramon Macdonado	CA	92530
David Munoz	CA	91750		Ray Weiss	CA	92024
David Warren	CA	91042		Rhondo Ito	CA	91913
Donna Zaverl	CA	93063		Richard Gray	CA	92807
Doug Sahara	CA	90631		Rick Dahilig	CA	92845
Ed Arnold	CA	90704		Rick Haggieth	CA	90670
Ed Johnson	CA	90631		Robert Wallace	CA	92562
Ed Zieralski	CA	92065		Robert Wilson	CA	90731
Edwin Martiner	CA	90706		Rodger Johnston	CA	90813
Eric Borklund	CA	91935		S. Henry	CA	91702
Eric Stewart	CA	90720		Sam Payash	CA	91606
Greg Madrigal	CA	92840		Scott Borklund	CA	91935
Henry Proo	CA	92243		Sean Watson	CA	90405
J. Delgado	CA	91709		Shane Borklund	CA	91935
J.A Goff	CA	90802		Shane Rlminer	CA	92345
Jack Hall	CA	91724		Shannon Egan	CA	90042
Jack Smith	CA	90713		Stan Yotcoyana	CA	91801
Jake Haskell	CA	92020		Stephanie Cota	CA	92570
James Goodwin	CA	90740		Steve Thompson	CA	91343
Jan Pez	CA	92672		Sucely Lopez	CA	91722
Jane Cho	CA	90813		Sue Burns	CA	92626
Jarel Zaven	CA	93063		Terri Hansell	CA	92870
Jeff	CA	91331		The Boater	CA	92805
Jeff Shapiro	CA	92688		Todd Ezzell Sr.	CA	90277
Jeff Sutton	CA	92656		Tom Diac	CA	90744
Jeremy Griesev	CA	92557		Tom Sharp	CA	91505
Joe Grancich	CA	91724		Tony Reyes	CA	91504
John A. Gonzales	CA	92595		Victor Lanfranco	CA	92671
Justin Adkins	CA	91741		Vinh Tran	CA	92570
Kari Nord	CA	90630		W. Parks	CA	90504
Keith Padrnog	CA	92630		William Brochue	CA	92807
Kojo Fields	CA	90813		William Holland	CA	90290
KP Enderk	CA	93311		William Johnson	CA	92530

Kritsten Jaenr	CA	92653		A. Gan	NV	89052
Kyle Ashby	CA	90066		Francis	NV	89052
Lew Schoppe	CA	92345		Cindy Stockton Reyes		
Long Beach Casting Club	CA	90733		Denise Johnson		
M.Ke Miloy	CA	92646		Jason Lee		
Mark Jury	CA	90803		Quinctee		
Mark Martmuz	CA	90278		Rand Borrus		



March 30, 2014

Ms. Dorothy Lowman, Chair
Pacific Fishery Management Council
70 NE Ambassador Place, Suite 101
Portland, OR 97220

Re: Agenda Item I.1 –
Protecting Unfished and Unmanaged Forage Fish Species Initiative

Dear Chair Lowman and Council Members:

For more than forty years, *Wild Oceans* has worked on behalf of anglers dedicated to an ecosystems approach to conserving salt water fish. Our programs emphasize protecting the ocean's top predators – the billfish, tunas, swordfish, and sharks – while preserving healthy ocean food webs and critical habitats essential to the survival of all fish, marine mammals, sea turtles and seabirds.

Wild Oceans is pleased by the progress the Pacific Fishery Management Council is making toward protecting unfished and unmanaged forage fish species. This effort is an important piece of the puzzle called Ecosystem Based Fishery Management (EBFM).

When the Council adopted the Fishery Ecosystem Plan (FEP) last year it gave priority to Ecosystem Initiative 1 – protecting unfished and unmanaged forage fish species. By prioritizing Initiative 1, the Council recognized that a long list of prey species remain vulnerable to fishing impacts, including Pacific saury, sandlance, smelts and lanternfish. These small, schooling fish are targeted in other parts of the world to satisfy escalating demand for fish meal and fish oil used in aquaculture and pet feeds. Initiative 1 will protect the integrity of the entire California Current Ecosystem (CCE) from the increasing global demand for forage fish.

Following the Council's direction, the Ad Hoc Ecosystem Working Group (Working Group) has drafted a Report (agenda item I.1.a) including a range of alternatives that will help determine the next and final steps in protecting currently unmanaged forage fish. This Report provides, in addition to a comprehensive discussion of the life history characteristics of the subject species and information about the increasing worldwide demand for similar lower trophic level species, potential pathways for connecting the subject species to the Council's Fishery Management Plans (FMPs).

In order to complete development of Ecosystem Initiative 1, we urge the Council to take the following affirmative steps:

Adopt the revised purpose and need statement

The Ecosystem Work Group has provided the Council with a revised purpose and need statement for Initiative 1 that places clear emphasis on the goal of prohibiting new directed commercial fisheries on unmanaged, unfished forage fish species. The proposed statement also stresses the links between unmanaged and unfished forage, the Council's FMP species and the larger California Current Ecosystem. The revised purpose and need statement more clearly reflects the intent of Initiative 1, and we support its adoption.

Advance all alternatives for further evaluation and adopt Alternative 2.2.1 as the Council's preferred alternative

The Ad Hoc Ecosystem Working Group has taken the Council's guidance and delivered a comprehensive report featuring three well-reasoned alternatives for Council consideration. Each of these alternatives could accomplish the Council's goal of providing management protection for unmanaged forage fish. Therefore, the Council should forward all three alternatives for further evaluation.

More specifically, we request that the Council forward Alternative 2.2.1, incorporating unmanaged forage species into all of the Council's existing fishery management plans as "ecosystem component species," as the preliminary preferred alternative. The designation of unmanaged forage as ecosystem component species, e.g., through an omnibus amendment of existing FMPs, would achieve the desired objectives while minimizing the staff burden associated with annual catch limit (ACL) requirements for these species. Furthermore, this alternative recognizes the broad ecological roles that the subject species serve within the ecosystem and acknowledges the connections between managed and unmanaged species across FMPs.

Adjust the proposed schedule to complete Initiative 1 by March 2015

In order to complete Initiative 1 by March 2015, the Council must put Ecosystem Initiative 1 on the agenda at the September 2014 and November 2014 Council

meetings. According to the Report's proposed process and schedule for final development of Initiative 1, the Council will need to include it on the agenda at at least two more Council meetings.

3rd Council meeting (tentatively scheduled for September 2014): Review recommendations of SSC and other advisory bodies on list of species to be added to the FMP(s) and Magnuson Stevens Act (MSA) required harvest reference points and essential fish habitat (EFH) designations. Develop draft FMP amendatory language to be sent out for public review. If the species are to be adopted as FMU species, the Council should review availability of scientific data and analyses needed to develop MSA-required harvest reference points for the new species.

4th Council meeting (to be scheduled): Review and either adopt FMP amendatory language (which would include MSA-required harvest reference points and EFH designations,) or revise and send language out for an additional round of review and comment by advisory bodies and the public. If an additional round of review and comment is needed, a 5th Council meeting will be needed to finalize Council recommendations to the National Marine Fisheries Service (NMFS).

We urge the Council to adjust its calendar accordingly, to review development of draft FMP language at the September 2014 meeting and then review and adopt the FMP or the amendatory language at the November 2014 meeting.

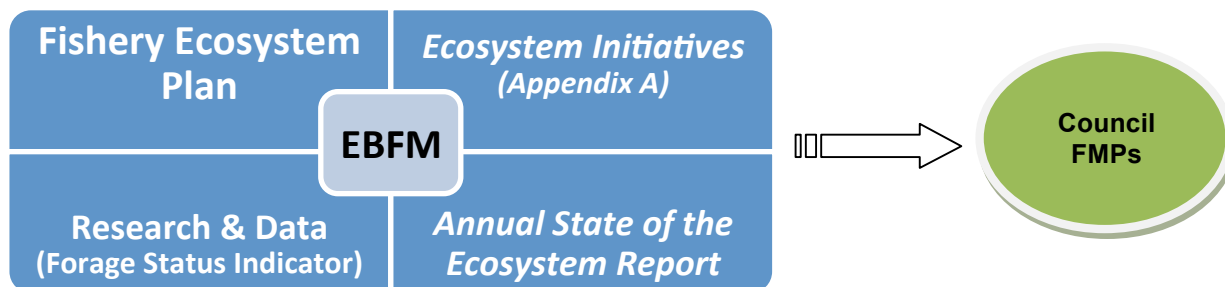
This timeline aimed at completion by March 2015 provides two advantages: 1) It builds a buffer into the Council's schedule, should it need to revise and send amendatory language out for an additional round of review and comment by advisory bodies and the public; and, 2) ensures that action on Initiative 1 will not be delayed further into 2015, thereby delaying discussion or decisions on development of additional Ecosystem Initiatives, including development of a forage status indicator.

Next Steps: Initiative 2

As we've testified previously, the Council has assembled the four cornerstones of a solid foundation for EBFM (figure 1 below): the Council's **Fishery Ecosystem Plan** (FEP) serves as the umbrella document, containing the Council's goals and objectives for ecosystem-based fishery management and articulating its guiding principles. The FEP's Appendix A, **Ecosystem Initiatives**, serves as a means to translate FEP objectives into desired management actions, beginning with Initiative 1. The FEP's "purpose and needs" determine science priorities as laid out in the **Ecosystem Research & Data Needs**. Among these priorities is development of ecosystem status indicators, such as overall abundance of forage fish (including un-fished, unmanaged species) as well as abundance of the CPS (coastal pelagic species) assemblage of actively managed

species. The **Annual State of the Ecosystem Report** is the mechanism for interpreting research and data.

Figure 1



The development of a **forage status indicator** is the logical next step (Initiative 2) for the Council to take as it implements the Fishery Ecosystem Plan. It is intrinsically related to Initiative 1, which restricts fishing on currently unfished forage until and unless we can assess the impact on the ecosystem, through an indicator of the health of the overall forage base.

Conserving an abundant reserve of forage fish, and with it the predator fish and associated commercial and recreational fisheries that depend on them, is sound environmental and economic policy. It's a win-win for all of us. We look forward to continuing to work with the Council to make Ecosystem Based Fishery Management a reality.

Sincerely,

Theresa Labriola
West Coast Fisheries Project Director

March 28, 2014

Ms. Dorothy Lowman, Chair
Pacific Fishery Management Council
7700 NE Ambassador Place, Suite 101
Portland, OR 97220

RE: Agenda Item I.1 – Protecting Forage Fish

Dear Chair Lowman and Council Members:

Oceana is writing in support of the Pacific Fishery Management Council's Ecosystem Initiative 1 to protect currently unfished and unmanaged forage fish species. This Council has been moving forward with precautionary actions to protect forage species for a number of years now, in particular the Council's action in 2006 to protect krill throughout the U.S. West Coast EEZ. Similarly, in June 2012, the Council declared that for currently unexploited forage fish, the "objective is to prohibit the development of new directed fisheries on forage species that are not currently managed by our Council, or the States, until we have an adequate opportunity to assess the science relating to the fishery and any potential impacts to our existing fisheries and communities."¹ The Council subsequently adopted its first ever Fishery Ecosystem Plan for the California Current Large Marine Ecosystem, launched "Ecosystem Initiative 1", and in September 2013 the Council adopted a specific list of unmanaged forage species being considered for protection under this action.

We appreciate the hard work and open process that has gone into the development of Ecosystem Initiative 1 thus far. Precautionary actions that protect the health of the California Current food web epitomize smart, forward thinking ecosystem-based approaches to conservation and management. For the purposes of this meeting, we specifically request that the Council:

- 1) Adopt the amended purpose and need statement recommend by the Ecosystem Workgroup (EWG),²
- 2) Adopt the range of alternatives recommended by the EWG for further review and analysis,
- 3) Select Alternative 2.2.1 (Ecosystem Trophic Pathway) as the preliminary preferred alternative, and
- 4) Define the process for moving Ecosystem Initiative 1 toward a timely final action, including the schedule and process defined on page 5 of the EWG report³, and plan for final action at the November 2014 meeting.

¹ PFMC. 2012. Agenda G.1.d. Supplemental REVISED Final Council Action. June 2012

² PFMC Ecosystem Workgroup Report. 2014. Ecosystem Initiative 1: Protecting Unfished and Unmanaged Forage Fish Species of the U.S. Portion of the California Current Large Marine Ecosystem. PFMC Agenda Item I.1.a, Attachment 1. April 2014. Pg4.

³ *Id.* at 5

Of the regulatory pathways identified by the EWG we support identification of Alternative 2.2.1, the “Ecosystem Trophic Role Pathway” as the preliminary preferred alternative.⁴ This approach would place each of the currently unmanaged forage species/ groups – round and thread herring, mesopelagic fishes, Pacific sand lance, Pacific saury, Silversides, Osmerid smelts, and Pelagic squids – in each of the Council’s four Fishery Management Plans as ecosystem component species. Further, it should be clear in future analyses, consistent with the Council’s objective and purpose and need statement that management measures associated with this EC designation would prohibit new directed fishing in federal waters on these species.

According to the National Standard One guidelines, ecosystem component species can be designated for multiple purposes, including “as consideration in the development of conservation and management measures for the associated fishery; and/or to address other ecosystem issues.”⁵ What is more, while ecosystem component species are “not in the fishery”, a Council can and should develop conservation measures “to protect their associated role in the ecosystem.”⁶ Alternative 2.2.1 would protect these forage species with management measures, as ecosystem component species, recognizing their important role as prey for managed species and their important role as prey to other California Current Ecosystem marine life such as whales, dolphins, seals and seabirds. We believe this to be the most comprehensive approach, and inclusive of the other alternatives that would protect unmanaged forage fish through either the “bycatch and gear” or “predator-prey” pathways.

The EWG document describes the ecological importance of round and thread herring, mesopelagic fishes, Pacific sand lance, Pacific saury, Silversides, Osmerid smelts and Pelagic squids (other than Humboldt squid). These important forage species are prey for numerous managed species including tunas, salmon, groundfish and coastal pelagic species. They are also ecologically important as prey for whales, elephant seals, sea lions, dolphins and seabirds. The EWG recommends further narrowing the pelagic squid category to four squid families. We agree these are important squid families to include in this action. Our understanding, however, is there are other pelagic squids that are also important prey in the California Current Ecosystem and that these too should be considered before any final action, specifically pelagic squids of the families *Cranchiidae* (glass squids), *Octopoteuthidae* (octopus squids), and *Histioteuthidae* (cock-eyed squids).

Thank you for advancing the conservation of forage species and ecosystem-based fishery management. We look forward to continuing to work with you.

Sincerely,

A handwritten signature in black ink, appearing to read "Ben Enticknap", is written over a light blue rectangular background.

Ben Enticknap
Pacific Campaign Manager and Senior Scientist

⁴ *Id* at 9.

⁵ 74 Fed. Reg. 3178, 3205 (January 16, 2009)

⁶ *Id.*

725 Front Street
Suite 201
Santa Cruz, CA 95060



831.854.4630 Telephone
831.425.5604 Facsimile
www.oceanconservancy.org

March 2, 2014

Dan Wolford, Chairman
Pacific Fishery Management Council
7700 NE Ambassador Place, #101
Portland, OR 97220

RE: Agenda Item J.1: Unmanaged Forage Fish Initiative

Dear Chairman Wolford and Council Members:

Ocean Conservancy¹ appreciates the Council's continued effort to implement the adopted Fishery Ecosystem Plan (FEP) by developing the first of a list of Ecosystem Initiatives, the Unmanaged Forage Initiative ("Initiative 1). Overall, the Ecosystem Workgroup has responded well to Council direction in preparing *Ecosystem Initiative 1: Protecting Unfished and Unmanaged Forage Fish Species of the U.S. Portion of the California Current Large Marine Ecosystem* (EWG Report).² The report provides a refined statement of purpose and need for Initiative 1, proposes a suitable range of alternatives for fishery management plan (FMP) amendment(s) prohibiting new directed fishing on forage species prior to Council assessment and consideration, and sets the stage for adoption of unmanaged forage protections.

We believe the Unmanaged Forage Initiative serves as a foundational element of an ecosystem-based approach to managing West Coast fisheries. Our comments below provide our perspective on the report of the Ecosystem Workgroup for the April 2014 Council meeting, along with recommendations for the management plan amendment process ahead.

In summary, Ocean Conservancy urges the Council to:

- Adopt the revised statement of purpose and need provided by the Ecosystem Workgroup;
- Select a preliminary range of alternatives as provided by the Workgroup including a preferred alternative; we recommend Alternative 2.2.1, the Ecosystem Trophic Role Pathway;

¹ Ocean Conservancy is a non-profit organization that educates and empowers citizens to take action on behalf of the ocean. From the Arctic to the Gulf of Mexico to the halls of Congress, Ocean Conservancy brings people together to find solutions for our water planet. Informed by science, our work guides policy and engages people in protecting the ocean and its wildlife for future generations.

² See PFMC report entitled [Ecosystem Initiative 1: Protecting Unfished and Unmanaged Forage Fish Species of the U.S. Portion of the California Current Large Marine Ecosystem](#), March 2014

- Adopt the proposed list of forage species subject to the action while considering potential changes to squid families; and
- Adopt a process and schedule to adopt FMP amendment(s) for completing the Unmanaged Forage Initiative

1. Adopt Ecosystem Workgroup Revised Statement of Purpose and Need

The Ecosystem Workgroup has proposed a revision to its original Statement of Purpose and Need provided to the Council in September 2013 based on further review which more fully specifies the action recommended to accomplish the goals of Initiative 1. In recognition of the further development of the proposed action, Ocean Conservancy recommends adoption of the revised purpose and need statement.

2. Select Alternative 2.2.1, the Ecosystem Trophic Role Pathway, as Preliminary Preferred Alternative for the Action

Each of the action alternatives (alternatives 2.2.1, 2.2.2 and 2.2.3) described in the Ecosystem Workgroup report, in contrast, are reasonable approaches that recognize some of the ecological connections of forage species to one or more FMP-managed fisheries and/or the ecosystem as a whole. Each would place subject species or groups in one or more FMPs as ecosystem component (EC) species, recognizing their role as prey for many California Current Ecosystem (CCE) predators. Ocean Conservancy supports the identification of unmanaged forage species in FMP(s) as EC species.

The Ecosystem Trophic Role approach to assignment of forage species into FMPs (alternative 2.2.1) has two important advantages over the bycatch-gear pathway (alternative 2.2.2) and predator-prey pathway (alternative 2.2.3) approaches. First, it addresses the broad and varied connections of many forage species with managed species across FMPs and with the ecosystem as a whole. Many of the FEP ecosystem initiatives were conceived as cross-FMP in application,³ and the Ecosystem Trophic Role forage protection pathway presents a practical method to unify such ecosystem considerations within multiple FMPs. Second, as is well described in the Workgroup report, both the bycatch-gear based and predator-prey based approaches to assigning forage species to FMPs present challenges due to our limited knowledge and probable variability of managed species' diets and their levels of bycatch. Alternatives 2.2.2 and 2.2.3 would require more investigation, more effort to accomplish, and would likely require more revision in the future as additional information becomes available to refine these interactions. We commend the Ecosystem Workgroup for developing a strong alternative that addresses the broad ecosystem interconnections associated with forage species and strongly encourage the Council to embrace it by selecting alternative 2.2.1 – Ecosystem Trophic Role – as its preferred alternative.

³ See, for example, the PFMC website section on FEP Initiatives at <http://www.pcouncil.org/ecosystem-based-management/fishery-ecosystem-plan-initiatives/>.

The No Action Alternative will not satisfactorily accomplish the Council's goals for the Unmanaged Forage Initiative as reflected in adopted September 2013 statement of purpose and need. This option would leave new fisheries on unmanaged forage species available for prosecution with a notification to the Council, and would leave the Council management process with the burden of responding to such a notification. This alternative compares poorly with each of the action alternatives because no affirmative Council authorization would be required prior to the initiation of harvest activity on forage species, nor would a prior scientific review and Council consideration of such a fishery be conducted as envisioned in the September 2014 purpose and need.

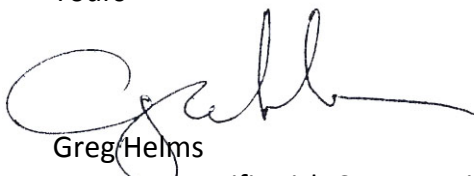
3. Consider Additional Families of Pelagic Squid, or Including Pelagic Squids Generally, to Ensure Action Captures Key Prey

Related to the discussion above, we are gathering information regarding relevant seabird and other predator diets, and have concerns that the four families identified by the Ecosystem Workgroup as components of the pelagic squid group may not be sufficiently broad to include prey for key Pacific fish and wildlife populations. We are supportive of excluding Humboldt squid and believe a certain level of specificity within the broad pelagic squid category is appropriate so long as the remaining subject groups are complete with respect to incorporating the forage base under Council jurisdiction. However, we recommend that additional taxa of pelagic squid, including *Cranchiidae* (glass squids), *Octopoteuthidae* (octopus squids), and *Histioteuthidae* (cock eyed squids) be included, or that pelagic squids remain a generic category at this time to ensure that key elements of the Pacific forage base are not excluded.

4. Adopt a process and schedule to adopt FMP amendment(s) for completing the Unmanaged Forage Initiative

Ocean Conservancy believes the Ecosystem Workgroup has helped place the process of fulfilling Ecosystem Initiative 1 on very solid footing with an excellent foundation for forthcoming FMP amendatory and environmental review processes. We ask that the Council take advantage of this progress by adopting a schedule for Council, advisory body, and public review of amendments and supporting documents. If the tentatively scheduled September, 2014 meeting proceeds as planned, a Council agenda item adopting FMP amendments could be scheduled as early as November, 2014. Final action at that meeting would have the benefit of occurring prior to the scheduled review of FEP Ecosystem Initiatives in March, 2015.

Yours

A handwritten signature in black ink, appearing to read 'Greg Helms', with a stylized, flowing script.

Greg Helms
Manager, Pacific Fish Conservation Program



Truckee River Chapter of Trout Unlimited

Chapter #103

March 24, 2014

Submitted Electronically to: pfmc.comments@noaa.gov

Re: Forage Fish

Dear Chair Lowman and Council Members,

We are writing you today on behalf of the Truckee River Chapter of Trout Unlimited, located in Truckee, CA. The Council has made steady progress over the past two years in laying the groundwork for establishing regulatory protections for currently unmanaged forage fish species. Today, I ask that you select alternative 2.2.1 as the preliminary preferred option for protecting currently unmanaged forage fish by incorporating them into all of the council's existing fishery management plans as ecosystem component species.

During your meeting in April, I encourage you to pick alternative 2.2.1 as the preliminary preferred option and release the range of alternatives for public comment. The Council's Ecosystem Working Group has delivered a new report justifying your decision to conserve these forage species, because of their importance to the health of our salmonids sport fishery recovery, California Current ecosystem and because of growing worldwide demand to catch them.

These steps will ensure that the Council achieves its goal of basic management protections for unmanaged forage fish. In so doing, you will fulfill the first initiative of the Council's Fishery Ecosystem Plan, a visionary document that the council approved unanimously a year ago.

By protecting forage fish as a key link in the marine food web, we can maintain a healthy marine ecosystem, including the valuable sustainable fisheries we rely upon. Each year we spend countless hours and dollars working on inland habitat issues for trout and salmon, protecting those fish they eat in the open ocean is a simple cost effective method to ensure our work on land pays off for those fish as they return to their ocean habitat.

Thank you for your continued commitment to maintain a healthy and productive Pacific Ocean, and please don't hesitate to contact us directly at any time.

Sincerely,

John Jewett
Truckee River Chapter #103; President
10356 Donner Pass Rd. Suite B
Truckee, CA 96161
(530) 587-7110

Trout Unlimited: America's Leading Coldwater Fisheries Conservation Organization

Truckee River Trout Unlimited: 10356 Donner Pass Rd. Truckee, CA 96161

Direct: (530) 587-7110 • www.tahoetroutbum.org • www.facebook.com/#!/TruckeeTU • www.tu.org



Ms. Dorothy M. Lowman
Chair
Pacific Fishery Management Council
7700 NE Ambassador Place, Suite 101
Portland, Oregon 97220-1384

RE: Agenda Item J.1. Unmanaged Forage Fish Initiative

Dear Chairman Lowman and Council Members:

I am writing to thank the Council for the work it performs in the interest of a productive marine environment, especially for its unanimous approval of the Fishery Ecosystem Plan (FEP) last year. Your continuous efforts keep the focus on fishery management and the need to shift to a more ecosystem based approach.

As chef and partner at award-winning One Market Restaurant, a northern California establishment based out of the San Francisco Embarcadero, I make it a point each day to serve food that is created by blending the freshest, seasonal ingredients from California and off of our coast. My approach to cooking ensures that the menu is a true reflection of the finest raw materials used- featuring inventive farm-fresh dishes- all stemming from the restaurant's commitment to sustainability. This would not be possible without a healthy Pacific Ocean. I know that responsible management of our fisheries requires cooperation from everyone.

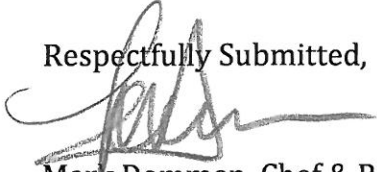
As you forge ahead, I encourage you to select alternative 2.2.1 as the preliminary preferred option for protecting currently unmanaged forage fish. The Council's Ecosystem Working Group has delivered a new report justifying your decision to conserve these forage species that are the cornerstone of the ocean food web.

I urge you to continue striving to achieve your goal of basic management protections for unmanaged forage fish. It is important that progress is not stalled, and that you fulfill the first initiative of the Fishery Ecosystem Plan. By protecting forage fish as a key link in the marine food web, we can maintain a healthy marine ecosystem, including the valuable sustainable fisheries we rely upon.

I look forward to the Council continuing with responsible fisheries management, as well as its progress towards an ecosystem based management approach at April's meeting. Thank

you for your consideration of my comments and for your continued work and commitment towards ensuring a healthy and productive marine environment.

Respectfully Submitted,

A handwritten signature in dark ink, appearing to read 'Mark Dommen', with a long horizontal flourish extending to the right.

Mark Dommen, Chef & Partner
One Market Restaurant



Robert Chavers

24911 Costeau St

Laguna Hills, Ca 92653

949-586-9700

rchavers@cox.net

March 30, 2014

Ms. Dorothy Lowman, Chair
Pacific Fishery Management Council
7700 NE Ambassador Place, #101
Portland, OR 97220

RE: Agenda Item J.1. Unmanaged Forage Fish Initiative

Dear Chair Lowman and council members:

The Pacific Fishery Management Council has made steady progress over the past two years in laying the groundwork for regulations to protect currently unmanaged forage fish species. Today, I ask that you select alternative 2.2.1 as the preliminary preferred option for protecting such fish by incorporating them into all of the council's existing fishery management plans as "ecosystem component species."

During your meeting in April, I encourage you to pick this preliminary preferred option and release the range of alternatives for public comment. The council's Ecosystem Working Group has delivered a new report that justifies your decision to conserve these forage species, because of their importance to the California Current ecosystem and growing worldwide demand to catch them.

These steps would ensure that the council achieves its goal of basic management protection for unmanaged forage fish. In so doing, you would fulfill the first initiative of the council's Fishery Ecosystem Plan.

By protecting forage fish as a key link in the California Current's marine food web, we can maintain a healthy ecosystem, including the valuable sustainable fisheries we rely upon.

Thank you for your continued commitment to preserve a healthy and productive Pacific Ocean.

Sincerely,

Robert Chavers

Vice-President

Laguna Niguel Billfish Club

Ms. Dorothy M. Lowman
Chair
Pacific Fishery Management Council
7700 NE Ambassador Place, Suite 101
Portland, Oregon 97220-1384

RE: Agenda Item J.1. Unmanaged Forage Fish Initiative

Dear Chairman Lowman and Council Members:

I am thankful for the hard work the Council does. I know that the Council has made strides over the last couple of years to take into account the interconnected nature of everything in our ocean. It is especially encouraging to see the steady progress that has been made in laying the groundwork for protections for unmanaged forage fish.

I am writing to you as the co-owner and chef of the Border Grill restaurants. At Border Grill, we are committed to sourcing and serving the freshest ingredients and are always conscious of where our food comes from. We serve only sustainable seafood in our restaurants, and strive to educate our customers through our distribution of sustainable seafood guides. We are continuously looking to step up our efforts with a host of environmentally-friendly policies. We know that a healthy Pacific Ocean means better food for our diners, and that maintaining a productive and balanced marine ecosystem is a responsibility that we must all share.

Given the integral role that forage fish play in our marine ecosystem, I ask that you select alternative 2.2.1 as the preliminary preferred option for protecting currently unmanaged forage fish by incorporating them into all of the council's existing fishery management plans as ecosystem component species.

I encourage you to continue your commendable work and follow through with the first initiative of the Council's Fishery Ecosystem Plan, which you unanimously voted for a year ago. By ensuring the protection of forage fish as a key link in the marine food web, we maintain a productive marine ecosystem, as well as sustainable fisheries.

Thank you for recognizing the need to protect these ecologically critical and economically viable species. I look forward to these positive actions propelling the Council forward and ensuring everyone that we can rely on on a healthy ocean to provide an economic engine for many years to come.

As a concerned citizen and supporter of sustainable fisheries, I thank you for the opportunity to offer my thoughts on this matter over the last year.

Respectfully Submitted,

Mary Sue Milliken, Co-Owner/Chef
Border Grill Restaurants & Truck

March 27, 2014
Pacific Fisheries Management Council
Dorothy M. Lowman, Chair
7700 N.E. Ambassador Place, Suite 101
Portland, Oregon 97220-1384

Agenda Item I.1. Unmanaged Forage Fish Initiative

Dear Chair Lowman and Council Members:

As a coastal business owner, I want to thank you for the progress you have made over the past year toward establishing protections for currently unmanaged forage fish species. These small fish are a vital part of the food web in the entire California Current Ecosystem., as well as being vital to my eco-friendly business. As prey, they provide nutrition for the seabirds, whales, seals and sea lions which people from all over the world travel to the Oregon coast to enjoy watching, as well as enjoy eating the tuna, rockfish and salmon. The people visiting Oregon's coast for its natural beauty and bounty are our customers, so in a very real sense we rely on forage fish for our livelihood, as well.

That is why I'm urging the Council to **approve and release for public comment a range of alternatives to protect currently unmanaged forage fish and to select option 2.2.1, the Ecosystem Trophic Role Pathway, as the preliminary preferred alternative.**

Your continued work to protect forage fish is important to me as a business owner to ensure that tourists continue to travel to the Yachats, Oregon to support the economy of the Oregon coast and Oregon and my nature friendly business, Ocean Haven. The success of my business depends on assuring that our seabird colonies, whales and other marine mammals remain healthy and well-fed. As you know, each and every one of the forage fish being considered by the Council serve as food for seabirds and marine mammals.

In my opinion, it makes smart business sense to take precautionary steps to assure that an asset that is fundamental to the health of our coast and to coastal tourism, is adequately protected before proposals to harvest them push us into future conflicts and force us to be reactive rather than proactive.

For the past decade, I have participated in planning for our ocean's future through establishing marine reserves and marine protected areas. Our hard work and mutual concessions and compromises create the necessary protections that will help sustain our coastal business communities, as well as the marine life on which they all depend.

In a similar way, I believe Alternative 2.2.1 will provide a clear path forward for protecting forage fish by recognizing they provide important linkages within an interconnected ecosystem that includes upper trophic level species of seabirds, whales and other marine mammals that are of great interest and concern to those of us who make our living on the coast.

In closing, for me and other coastal business owners who rely on natural-resource-based tourism, **these little fish are a big deal.** By advancing a range of alternatives for public comment and settling on alternative 2.2.1 as the preliminary preferred alternative, the Council will be advancing a proactive and precautionary approach to management that will serve to sustain not only forage fish but coastal businesses that depend on a having a healthy ocean.

Thank you for your consideration.

Respectfully Submitted,

Catherine Lucido
Forks Farm Flowers

March 27, 2014
Pacific Fisheries Management Council
Dorothy M. Lowman, Chair
7700 N.E. Ambassador Place, Suite 101
Portland, Oregon 97220-1384

Agenda Item I.1. Unmanaged Forage Fish Initiative

Dear Chair Lowman and Council Members:

As a coastal business owner, I want to thank you for the progress you have made over the past year toward establishing protections for currently unmanaged forage fish species. These small fish are a vital part of the food web in the entire California Current Ecosystem., as well as being vital to my eco-friendly business. As prey, they provide nutrition for the seabirds, whales, seals and sea lions which people from all over the world travel to the Oregon coast to enjoy watching, as well as enjoy eating the tuna, rockfish and salmon. The people visiting Oregon's coast for its natural beauty and bounty are our customers, so in a very real sense we rely on forage fish for our livelihood, as well.

That is why I'm urging the Council to **approve and release for public comment a range of alternatives to protect currently unmanaged forage fish and to select option 2.2.1, the Ecosystem Trophic Role Pathway, as the preliminary preferred alternative.**

Your continued work to protect forage fish is important to me as a business owner to ensure that tourists continue to travel to the Yachats, Oregon to support the economy of the Oregon coast and Oregon and my nature friendly business, Ocean Haven. The success of my business depends on assuring that our seabird colonies, whales and other marine mammals remain healthy and well-fed. As you know, each and every one of the forage fish being considered by the Council serve as food for seabirds and marine mammals.

In my opinion, it makes smart business sense to take precautionary steps to assure that an asset that is fundamental to the health of our coast and to coastal tourism, is adequately protected before proposals to harvest them push us into future conflicts and force us to be reactive rather than proactive.

For the past decade, I have participated in planning for our ocean's future through establishing marine reserves and marine protected areas. Our hard work and mutual concessions and compromises create the necessary protections that will help sustain our coastal business communities, as well as the marine life on which they all depend.

In a similar way, I believe Alternative 2.2.1 will provide a clear path forward for protecting forage fish by recognizing they provide important linkages within an interconnected ecosystem that includes upper trophic level species of seabirds, whales and other marine mammals that are of great interest and concern to those of us who make our living on the coast.

In closing, for me and other coastal business owners who rely on natural-resource-based tourism, **these little fish are a big deal.** By advancing a range of alternatives for public comment and settling on alternative 2.2.1 as the preliminary preferred alternative, the Council will be advancing a proactive and precautionary approach to management that will serve to sustain not only forage fish but coastal businesses that depend on a having a healthy ocean.

Thank you for your consideration.

Respectfully Submitted,

Christine DeMoll, President
Ocean Haven, Corporation

March 27, 2014
Pacific Fisheries Management Council
Dorothy M. Lowman, Chair
7700 N.E. Ambassador Place, Suite 101
Portland, Oregon 97220-1384

Agenda Item I.1. Unmanaged Forage Fish Initiative

Dear Chair Lowman and Council Members:

As a coastal business owner, I want to thank you for the progress you have made over the past year toward establishing protections for currently unmanaged forage fish species. These small fish are a vital part of the food web in the entire California Current Ecosystem., as well as being vital to my eco-friendly business. As prey, they provide nutrition for the seabirds, whales, seals and sea lions which people from all over the world travel to the Oregon coast to enjoy watching, as well as enjoy eating the tuna, rockfish and salmon. The people visiting Oregon's coast for its natural beauty and bounty are our customers, so in a very real sense we rely on forage fish for our livelihood, as well.

That is why I'm urging the Council to **approve and release for public comment a range of alternatives to protect currently unmanaged forage fish and to select option 2.2.1, the Ecosystem Trophic Role Pathway, as the preliminary preferred alternative.**

Your continued work to protect forage fish is important to me as a business owner to ensure that tourists continue to travel to the Yachats, Oregon to support my the economy of the Oregon coast and Oregon and my nature friendly business, Ocean Haven. The success of my business depends on assuring that our seabird colonies, whales and other marine mammals remain healthy and well-fed. As you know, each and every one of the forage fish being considered by the Council serve as food for seabirds and marine mammals.

In my opinion, it makes smart business sense to take precautionary steps to assure that an asset that is fundamental to the health of our coast and to coastal tourism, is adequately protected before proposals to harvest them push us into future conflicts and force us to be reactive rather than proactive.

For the past decade, I have participated in planning for our ocean's future through establishing marine reserves and marine protected areas. Our hard work and mutual concessions and compromises create the necessary protections that will help sustain our coastal business communities, as well as the marine life on which they all depend.

In a similar way, I believe Alternative 2.2.1 will provide a clear path forward for protecting forage fish by recognizing they provide important linkages within an interconnected ecosystem that includes upper trophic level species of seabirds, whales and other marine mammals that are of great interest and concern to those of us who make our living on the coast.

In closing, for me and other coastal business owners who rely on natural-resource-based tourism, **these little fish are a big deal.** By advancing a range of alternatives for public comment and settling on alternative 2.2.1 as the preliminary preferred alternative, the Council will be advancing a proactive and precautionary approach to management that will serve to sustain not only forage fish but coastal businesses that depend on having a healthy ocean.

Thank you for your consideration.

Respectfully Submitted,

Julie Callow, CEO

See Vue



March 30, 2014

Dorothy M. Lowman, Chair
Pacific Fishery Management Council
7700 NE Ambassador Place, Suite 101
Portland, Oregon 97220-1384

RE: Agenda Item J.1: Unmanaged Forage Fish Initiative

Dear Chairperson Lowman and Council Members:

The Endangered Habitats League (EHL) *supports* **Alternative 2.2.1** and urges its adoption. For your reference, EHL, is a non-profit organization dedicated to ecosystem protection and is Southern California's only regional conservation group. We are committed to the use of sound science and seek this path to healthy and productive Pacific Ocean fisheries.

Alternative 2.2.1 is the preferred option for protecting currently unmanaged forage fish. By incorporating unmanaged forage fish into all of the existing fishery management plans as ecosystem component species, you will be achieving your goal of basic management protections, and following through on your unanimous vote from a year ago.

Forage fish are keystone species in the California Current Ecosystem and are preyed upon by a wide variety of marine wildlife, including commercially and recreationally valuable fish, mammals, and seabirds. The Council should continue to recognize the importance of forage fish, and take responsible action at April's meeting to ensure their protection.

We appreciate your stewardship of our marine resources and the work you do to maintain healthy oceans and sustainable fisheries.

Yours truly,

A handwritten signature in blue ink, which appears to read 'Dan Silver', is placed within a light gray rectangular box.

Dan Silver, MD
Executive Director



March 27, 2014

Pacific Fishery Management Council
Dorothy Lowman, Chair
7700 NE Ambassador Place, Suite 101
Portland, Oregon 97220

Chair Lowman and Council Members,

I am writing this letter to voice my support for a fishery ecosystem plan that specifically accounts for the importance of forage fish off the West Coast. Postponing the creation of new fisheries until your council has had the opportunity to assess the science as well as considering societal impacts is a prudent path on which to continue.

At Mulvaney's B&L, our relationship with the food and where it comes from is the driving force behind the way we do business. We focus on sustainable, seasonal products, looking for suppliers and farmers who are gentle stewards of the earth. It is our belief that eco-friendly fishing, farming and ranching helps raise awareness of the food chain in the community.

As a critical component of the food chain, knowledge about the contribution of forage fish to a balanced and healthy marine ecosystem will lead to stronger, sustainable fisheries in the future. Bringing unmanaged fish in to existing fishery plans will leave enough in the water to ensure an adequate source for birds, mammals and bigger fish. I encourage the Council to select option 2.2.1 as a preliminary preferred alternative. In doing so, you will fulfill the first initiative of the Council's Fishery Ecosystem Plan the Council approved unanimously a year ago.

I commend the PFMC on adopting the ecosystem plan last year which put priority on protecting these little fish which are so important for our future. And I would encourage you to continue the momentum and set basic conservation protections during your meetings in Vancouver this April.

Yours truly,

Patrick Mulvaney
Mulvaney's B&L
1215 19th Street

Sacramento, CA 95811 Mulvaney's Building & Loan
1215 19th Street Sacramento, Ca. 95811 ~ Phone 916-441-1771 ~ Fax 916.441.1779
info@culinaryspecialists.com ~ www.mulvaney'sbl.com

Pacific Fishery Management Council
Dorothy Lowman, Chair
7700 N.E. Ambassador Place, Suite 101
Portland, OR 97220



Dear Chair Lowman and Council Members,

The Council has made significant headway over the past two years to conserve forage fish as a critical element of our productive Pacific marine ecosystem. My company, Fishpond, inc., designs and manufactures high-quality fly fishing and outdoor gear, and we believe conservation of our salmon and steelhead is a unique shared responsibility. This April, the Council can fulfill its goal of prohibiting new forage fisheries until it can fully evaluate the impact of prey removal on existing fisheries and fishing communities. Not only am I a member of the fishing community, but my business depends on those in the community who enjoy salmon and steelhead in our Western Rivers.

As progress is made to improve freshwater salmon habitat, we must endeavor to protect each part of the lifecycle. We know forage fish are an important food source for mature salmon in the ocean, but they're also essential to providing cover against a gauntlet of predatory seabirds, harbor seals, and larger fish that will otherwise consume outmigrating salmon and steelhead smolts. Thus, the forage fish population is crucial in determining the proportion of smolts that will return as spawning adult salmon.

The Pacific Fishery Management Council should approve, and release for public comment, a range of alternatives to protect currently unmanaged forage fish. The Council's Ecosystem Working Group has provided a report justifying your commitment to conserve these forage species because of their importance to the California Current ecosystem. Option 2.2.1 will ensure the Council achieves its goal of basic management protections for unmanaged forage fish, incorporating currently unmanaged forage fish as ecosystem component species within each of its existing fishery management plans, where basic conservation measures can be put in place. In selecting 2.2.1 as a preliminary preferred alternative, you will fulfill the first initiative of the Council's Fishery Ecosystem Plan the council approved unanimously a year ago.

A healthy Pacific marine ecosystem is an economic driver generating thousands of jobs in the recreational fishing sector along the West Coast and far inland for those who fish for salmon, steelhead, and sturgeon in freshwater. As a business owner and concerned citizen, I, and many of my customers, urge you to fulfill your commitment and promote responsible stewardship of our forage fish resource.

Thank you for your leadership on this important issue.

Sincerely,

John Land Le Coq
Founder/CEO Fishpond, inc.



Ms. Dorothy Lowman, Chair
Pacific Fishery Management Council
7700 NE Ambassador Place, Suite 101
Portland, Oregon 97220-1384

March 29, 2014

Dear Council members:

Thank you for allowing the public to comment on the process to implement Ecosystem Initiative 1: Protecting Unfished and Unmanaged Forage Fish Species. The mission of the American Cetacean Society is to protect whales, dolphins, porpoises, and their habitats through public education, research grants, and conservation actions. Our Chapter's focus includes education about the diversity of Oregon's cetaceans and promotion of whale watching in Oregon.

The ecotourism industry has added considerable socioeconomic value in Oregon coastal communities. There are about 300- 400 gray whales that do not go as far north as Alaska to feed in the summer. The Pacific Coast Feeding Group gray whales feed along the coasts of Oregon, Washington and British Columbia. These whales are seen very close to shore while feeding and there are several communities on the Oregon coast that engage in whale watching tours. Although gray whales mostly feed on benthic crustaceans, they are also known to feed on anchovy and other forage species. In many places, whale watching provides valuable, sometimes crucial income to a community, with the creation of new jobs and businesses. It helps foster an appreciation of the importance of marine conservation, and provides a ready platform for researchers wanting to study cetaceans or the marine environment. Whale watching offers communities a sense of identity and considerable pride. In a number of places, it does all of the above, literally transforming a community.

Whales, dolphins, and porpoises face more challenges today than at any other time in history. More than ever before, we must explore innovative, strategic ways to ensure the protection, safety, and welfare of cetaceans, and restore the health and biodiversity of wild marine and riverine habitats. From a predator perspective, it is important that we protect prey species. Forage fish in the California Current are hugely important in terms of predator production as compared to any other ecosystem in the world. Forage contributes about 52 tons per square kilometer annually to the production of their predators on the Pacific coast. Therefore, we urge the Council to adopt the range of alternatives for management of unfished forage fish and further select Alternative 2.2.1 as the preferred pathway.

In addition, we urge the Council to begin working the work on amending the fishery management plans with the goal of taking final action on unmanaged forage fish by the end of the year. Thank you for your work to protect our marine environment by advancing ecosystem-based management. We look forward to engaging throughout this process.

Sincerely,

Joy Primrose
President
Oregon Chapter of
American Cetacean Society



March 24, 2014

Dear Chair Lowman and Council Members,

The Council has made steady progress over the past two years in laying the groundwork for establishing regulatory protections for currently unmanaged forage fish species. Today, I ask that you select alternative 2.2.1 as the preliminary preferred option for protecting currently unmanaged forage fish by incorporating them into all of the council's existing fishery management plans as ecosystem component species.

During your meeting in April, I encourage you to pick alternative 2.2.1 as the preliminary preferred option and release the range of alternatives for public comment. The Council's Ecosystem Working Group has delivered a new report justifying your decision to conserve these forage species, because of their importance to the health of our salmonids sport fishery recovery, California Current ecosystem and because of growing worldwide demand to catch them.

These steps will ensure that the Council achieves its goal of basic management protections for unmanaged forage fish. In so doing, you will fulfill the first initiative of the Council's Fishery Ecosystem Plan, a visionary document that the council approved unanimously a year ago.

By protecting forage fish as a key link in the marine food web, we can maintain a healthy marine ecosystem, including the valuable sustainable fisheries we rely upon. Each year we spend countless hours and dollars working on inland habitat issues for trout and salmon, protecting those fish they eat in the open ocean is a simple cost effective method to ensure our work on land pays off for those fish as they return to their ocean habitat.

Thank you for your continued commitment to maintain a healthy and productive Pacific Ocean.

Sincerely,

Terry Turner

Terry Turner
Trout Unlimited
Oregon Council Chair

Pacific Fishery Management Council
1100 NE Ambassador Place, #101
Portland, OR 97220

RE: Agenda Item I.1 (Unmanaged Forage Fish Initiative)

Dear Chair Lowman and Council Members:

I am writing to thank you for your commitment to our fishery resources and express my support for the effort to manage our ocean resources through an ecosystem-based approach. As a fish biologist in coastal Oregon, I know the impact the health of our ocean ecosystem can have on the survival of salmonids. I have spent the past 29 years studying fisheries in coastal Oregon and advocating for their conservation through scientific research and habitat protection. I have worked for the Confederated Tribes of Siletz Indians for the past 17 years, but speak only on my own behalf due to time constraints relative to our tribal government process.

I urge your Council to move forward with protections for unmanaged forage fish as a critical part of the ecosystem by approving a range of alternatives for managing forage species. It is important that these species are incorporated into fishery management plans in the most comprehensive way that allows for their role as prey to target and non-target species to be considered in management decisions. In my view, the best option for the Council moving forward is *alternative 2.2.1*, the ecosystem trophic role pathway detailed in the Ecosystem Working Group's Report. In addition, it is my belief that with due process our Tribal Council will review and approve support of your *preliminary preferred option 2.2.1* alternative.

Thank you for considering my comments.

Sincerely,

Stan van de Wetering
Aquatic Programs Leader
Confederated Tribes of Siletz Indians



Port Orford Ocean Resource Team

PO Box 679
351 W 6th Street
Port Orford, OR97465
P: 541.332.0627
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March 30, 2014

Ms. Dorothy Lowman, Chair
Pacific Fishery Management Council
7700 NE Ambassador Place, Suite 101
Portland, Oregon 97220-1384

Re: Agenda Item I.1: Protecting Unfished and Unmanaged Forage Fish Species Initiative

Dear Chair Lowman and Council Members:

I am writing to thank the Council for its continued efforts to protect forage species under Ecosystem Initiative 1. Forage species are the key link in a productive marine food web that supports the coastal fishing and tourism economy in Port Orford, meaning these species have real economic value when left in water. An abundance of forage fish helps support our ocean ecosystem and maintain the marine environment we all care about. We call on the Council to help support our fisheries and our community that depends on healthy stocks of tuna, lingcod, rockfish and salmon by moving forward with incorporating unmanaged forage species into the Council's fishery management plans.

To this end, we urge the Council to adopt the range of alternatives for management of forage species. In doing so, the Council should identify the option best suited to meet the purposes outlined in the Fishery Ecosystem Plan and Ecosystem Initiative 1. The option that best encompasses an ecosystem-based management approach and accounts for the role forage species play in the varied trophic interactions, is Alternative 2.2.1, the ecosystem trophic role pathway.

We believe that with proper management and conservation strategies there is a future in fishing at Port Orford and look forward to our children and grandchildren following in our footsteps. Thank you for considering my comments and for your continued commitment to a productive marine environment. We look forward to engaging in this process as the Council moves



Port Orford Ocean Resource Team

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oceanresourceteam.org

forward on its Ecosystem Initiatives and anticipate the Council taking final action on the management of unfished forage fish later this year.

Sincerely,

A handwritten signature in black ink that reads "Leesa Cobb".

Leesa Cobb
Executive Director

*Aaron Longton
F/V Golden Eye
PO Box 1486
Port Orford, OR 97465
541-430-4292*

March 28, 2014

Dear Pacific Fishery Management Council:

Today, I am writing to support the management of unmanaged and unfished forage fish. I am one of several fishermen in Port Orford who teamed up to form a community supported fishery based on sustainable fishing practices and direct marketing to conscientious seafood consumers. What we're learning is that people want to know where their seafood is coming from, that it's being harvested in a sustainable way that does not lead to overfishing and that they are willing to pay more for it.

Many of the fish we catch depend on forage fish in the ocean as their primary food source. Those prey species are susceptible to overfishing as seiners can easily target large quantities of them due to their natural schooling behavior. Forage fish should be managed as a critical part of the ecosystem by accounting for their role in all trophic level interactions. I am lucky to live in a place that boasts an amazing amount of biodiversity from whales and seabirds to all the fish we love to catch, sell, and eat. Please move forward with protections for species like sand lance and saury, important prey for salmon, tuna, seabirds, whales, and a plethora of other ocean life in the Pacific.

Sincerely,

A handwritten signature in black ink, appearing to read 'A. Longton', with a stylized flourish at the end.

Aaron Longton
F/V Goldeneye
Port Orford, Oregon



428 SW Coast Hwy
Newport Oregon 97365

03/29/2014

Pacific Fisheries Management Council
Dorothy M. Lowman, Chair
7700 N.E. Ambassador Place, Suite 101
Portland, Oregon 97220-1384

Agenda Item I.1. Unmanaged Forage Fish Initiative

Dear Chair Lowman and Council Members:

This is my second letter to your council, regarding my concerns with our local forage fish. Last year I wrote to you, as a coastal business owner & sport fisherman. This year, I am adding charter captain/fishing guide to my many hats worn out here on the coast.

As a local fishing guide, I want to thank you for the steady progress you've made over the past year toward establishing protections for currently unmanaged forage fish species, which are a vital part of the food web in the entire California Current Ecosystem. These small fish are a big deal for all of us on the Oregon coast. As prey, they provide nutrition for the seabirds, whales, seals and sea lions which people come to the coast to watch -- as well as the tuna, rockfish and salmon that they come to catch. The people who visit Oregon's coast for its natural beauty and bounty are our customers, so in a very real sense we rely on forage fish for our livelihood, as well. The fish my clients come to pursue, rely on the management of these forage fish. Salmon & Steelhead have already had enough issues, causing their declining numbers. Please help us manage our ocean's forage fish.

That is why I'm urging the Council to **approve and release for public comment a range of alternatives to protect currently unmanaged forage fish and to select option 2.2.1, the Ecosystem Trophic Role Pathway, as the preliminary preferred alternative.**

Your continued work to protect forage fish is important to me as a local fishing guide & charter captain, whose clients flock to the coast to witness the natural wonder of Oregon's marine life. In Newport, my business is all about putting my clients in touch with the predators of these forage fish. . The success of my business depends on assuring that our seabird colonies, whales and other marine mammals remain healthy and well-fed. As indicated in Chapter 3 of the Workgroup's report, each and every one of the forage fish being considered by the Council serve as food for seabirds and marine mammals.

I believe these small fish are at risk without being protected as ecosystem component species in each of the fisheries management plans. In my opinion, it makes smart business sense to take precautionary steps to assure that an asset that is fundamental to

the health of our coast – and to our coastal tourism sector -- is adequately protected before proposals to harvest them push us into future conflicts and force us to be reactive rather than proactive.

For the past decade, coastal citizens in Oregon have participated in planning for our ocean's future through establishing marine reserves and marine protected areas, as well as planning for renewable energy siting within our territorial sea. These efforts have not been easy, but we know that having these protections and plans in place will help sustain our coastal business communities as well as the marine life on which they all depend.

I believe the Fisheries Ecosystem Plan will help serve the same purpose and appreciate the Council's vision and commitment to advancing it through implementation of Initiative 1. **That's why I urge the Council to take the next step by adopting alternative 2.2.1 as the preliminary preferred alternative and moving the package forward for review and ultimately adoption.** This option incorporates currently unmanaged forage fish as ecosystem component (EC) species within each of the Council's existing Fishery Management Plans (FMP) where basic conservation measures can be put in place to prevent the development of new directed commercial fisheries absent a strong science and management framework.

I believe using Alternative 2.2.1 as a framework for the Council's oversight of forage fish makes the most sense of the three pathways outlined under Chapter 2 of the report because it provides clear recognition that forage fish provide important linkages within an interconnected ecosystem that includes upper trophic level species of seabirds, whale and other marine mammals that are of great interest and concern to those of us who make our living on the coast.

In closing, for me and other fishing guides & charter captains, who rely on natural-resource-based tourism, **these little fish are a big deal.** By advancing a range of alternatives for public comment and settling on alternative 2.2.1 as the preliminary preferred alternative, the Council will be advancing a proactive and precautionary approach to management that will serve to sustain not only forage fish but coastal businesses that depend on a having a healthy ocean.

Thank you for your consideration.

Sincerely,
Captain Gregory Niles
Northwest Ecotours & Guide Service



Ms. Dorothy M. Lowman
Chair
Pacific Fishery Management Council
7700 NE Ambassador Place, Suite 101
Portland, Oregon 97220-1384

RE: Agenda Item J.1. Unmanaged Forage Fish Initiative

Dear Chairman Lowman and Council Members:

I am grateful of the work the council endeavors to accomplish. The Council has made steady progress over the past two years in laying the groundwork for establishing regulatory protections for currently unmanaged forage fish species, an initiative which takes into account the many networks in the ocean food web and how everything is interconnected.

I am writing on behalf of Hayes Street Grill, a fish restaurant in San Francisco's Civic Center district with a menu that benefits from the stunning array of seasonal produce we get directly from the Ferry Plaza Farmers Market two times a week. First thing in the morning, the grill chef calls the fish man down at Monterey Fish to find out what looks good that day, and we base our daily menu on that. Above every other consideration, we want the freshness and pristine quality of the fish, produce, and naturally raised meats to speak for themselves. This is why, after 34 years in business, we understand the importance of sustainable fishing advocacy. We know that maintaining a healthy, balanced, and productive ocean is everyone's responsibility.

That is why, as you look toward future regulations at your meeting in April, I urge you to select alternative 2.2.1 as the preliminary preferred option for protecting currently unmanaged forage fish by incorporating them into all of the council's existing fishery management plans.

These steps will ensure that you are maintaining a healthy marine ecosystem by protecting forage fish as a key link in the marine food web, along with the rest of the valuable sustainable fisheries we rely upon.

I am encouraged that the Council recognizes the need to protect these ecologically critical and economically viable species. I look forward to the Council taking positive, responsible action that gives everyone the security of knowing we are doing right by our beleaguered ocean.

Thank you for the opportunity to offer my thoughts on this matter and to participate in this public decision making process.

Respectfully Yours,
Patricia Unterman
Hayes Street Grill, Founder and Co-Owner
Ferry Plaza Farmer's Market, Founding Board Member

*Idaho Council of Trout Unlimited
P.O. Box 1971
Boise, Idaho 83701*



Dear Chair Lowman and Council Members,

Idaho Trout Unlimited thanks the Pacific Fishery Management Council for steady progress achieved over the past two years by initiating regulatory protections for currently unmanaged forage fish. We ask the Council to continue this progress by selecting alternative 2.2.1 as the preliminary preferred option. This will protect currently unmanaged forage fish by incorporating them into all of the Council's existing fishery management plans as ecosystem component species.

During the upcoming April PFMC meeting, we encourage you not only to pick alternative 2.2.1 as the preliminary preferred option but also release the range of alternatives for public comment. These steps will ensure the Council achieves its goal of basic management protections for currently unmanaged forage fish. In so doing, you will fulfill the first initiative of the Council's Fishery Ecosystem Plan approved unanimously a year ago.

Each year Trout Unlimited and other groups spend countless volunteer hours and dollars working on improving inland habitat for trout, salmon, and steelhead. We believe protecting their ocean forage fish provides a simple cost effective method to ensure this work results in huge benefits for our inland fish as they return to their ocean habitat.

Thank you for your continued commitment to maintain a healthy and productive Pacific Ocean.

Sincerely,

A handwritten signature in black ink, appearing to read "Chris Jones".

Chris Jones

Chair, Idaho Council of Trout Unlimited

208) 344-0284

Jpaul7@q.com

Conserving, protecting, and restoring North America's coldwater fisheries and their watersheds



2310 SE Hawthorne Blvd
Portland, OR 97214
(503) 260-6552
oregonfreshfish@gmail.com

Mr. Dorothy Lowman, Chair
Pacific Fishery Management Council
7700 NE Ambassador Place, Suite 101
Portland, Oregon 97220-1384

March 27, 2014

Re: Agenda Item I.1.c – Public Comment on Unmanaged Forage Fish

Dear Chair Lowman and Council Members:

As you know probably know by now, I'm the owner of a sustainable fish market in Oregon. I've weighed in at several Council meetings over the last two years expressing my enthusiastic support for the management of unfished forage fish and write to once again urge you to manage these important and oft overlooked species.

Flying Fish, Co. sells only the highest quality fish I can find from the most sustainable sources in the world. Recently, I began distributing fish to businesses all over Portland including high-end restaurants and retailers. One thing I can tell you is that there is a serious want for wild and sustainable fish products. Many of the species of fish I sell are dependent on the presence of abundant oil-rich forage fish in the ocean including delicious Oregon albacore tuna, Chinook salmon, and Pacific lingcod.

My background is in aquaculture and I understand that demand for protein out of the ocean is rising, but it should not be at the expense of our ocean ecosystems. Many of the forage fish now caught are not used for high-value human consumption and are worth very little as direct catch. We need to leave these species in the water so they can continue to feed other commercially valuable species as well as whales, seabirds, and all the other sea life off our shores.

I am honored to be a part of this process and hope you will continue to move on the path toward ecosystem-based management by approving the range of alternatives detailed in the recent report from the Ecosystem Working Group and including forage species into fishery management plans through the ecosystem trophic role pathway, alternative 2.2.1. The work you are doing here on the west coast is admirable and is being looked to as a model for ecosystem-based fisheries management. Let's continue to be leaders in how we manage our ocean resources.

I've been in fish industry my whole life and hope that my children and grandchildren will be able to work in the fishing industry if they so choose because we have been good stewards of the resource. I am grateful for your consideration of these comments and look forward to the Council taking final action and implementing protections for unmanaged forage fish.

Respectfully,
Lyf Gildersleeve
Owner, Flying Fish Co.

Pacific Fisheries Management Council
Dorothy M. Lowman, Chair
7700 N.E. Ambassador Place, Suite 101
Portland, Oregon 97220-1384

March 30, 2014

Agenda Item I.1. Ecosystem -- Unmanaged Forage Fish Initiative

Dear Chair Lowman and Council Members:

Thank you –

The Audubon Society of Portland and Audubon chapters across Oregon would like to thank you for your work over the past year in adopting the Fisheries Ecosystem Plan (FEP) and for taking the steps necessary to begin implementing it in a meaningful way.

Your approval of Initiative 1 has provided a reasonable place to begin efforts to bolster the ecological viability of the California Current Ecosystem (CCE) by extending protection to currently unmanaged and unfished forage species that provide key linkages in the marine food web. We also appreciate your approval last September of the list of forage fish species needing additional protection -- especially for recognizing that the Pacific saury rightly belongs on that list – it's an important prey species for seabirds including the sooty shearwater, which is facing large declines and has recently been listed by the International Union for Conservation of Nature (IUCN) as "Near Threatened."¹

We have closely followed the recent steps taken by the Ecosystem Working Group, at the Council's direction, to develop alternatives and an analysis of options which would prohibit development of new commercial fisheries on the forage fish species groups by way of amending one or more of the existing Fishery Management Plans (FMP). The Workgroup's March 2014 report, "Ecosystem Initiative 1: Protecting Unfished and Unmanaged Forage Fish Species," represents a solid step forward in this work by providing an analysis of existing directed commercial fisheries and existing incidental take levels in other commercial fisheries as well as recommendations as to which existing fishery management plans are best suited for amendment.

Please take the next step, today –

Based on our review of the report, Audubon chapters in Oregon **urge the Council to approve and release for public comment a range of alternatives to protect currently unmanaged forage fish and to select option 2.2.1, the Ecosystem Trophic Role Pathway, as the preliminary preferred alternative with accompanying management measures that prohibit directed harvest.** This option incorporates currently unmanaged forage fish as ecosystem component (EC) species within each of the Council's existing Fishery Management Plans where basic conservation measures can be put in place to prevent the development of new directed commercial fisheries absent a strong science and management framework.

Further, we believe using Alternative 2.2.1 as a framework for the Council's oversight of forage fish makes the most sense of the three pathways outlined under Chapter 2 of the report because it provides clear recognition that forage fish provide important linkages within an interconnected

¹ BirdLife International, 2010. *Puffinus griseus*. In: IUCN 2011 IUCN Red List of Threatened Species. Version 2011.2.

ecosystem that includes upper trophic level species of seabirds, whales and other marine mammals that are of great interest and concern to our Audubon members.

About Audubon and our coastal work -

For years Audubon has been investing in a range of efforts to improve conditions for birds and their habitats. Seabird populations, in particular, are of critical conservation concern with more than half of the world's seabird species currently in decline.² Audubon has been working with scientists and local communities to identify and designate over 200 offshore marine Important Bird Areas (IBA) along the Pacific Flyway that provide benefits for over 150 species and 33 million seabirds between Barrow, Alaska and Baja California.³ Additionally, the Audubon Society of Portland oversees a system of 97 IBAs across Oregon including 36 coastal IBAs that have been designated to protect the roosting and nesting habitats that are vital to seabirds in this portion of the CCE.

Audubon chapters in Oregon have helped establish a system of marine reserves and marine protected areas along the West coast. Coupled with our Audubon Sanctuaries – including at Ten Mile Creek near Yachats, Oregon -- we're protecting the land-sea connection that is critical for seabirds, including the imperiled marbled murrelet that relies on forage fish including the Pacific sand lance and osmerid smelt, which are specifically under consideration here. In fact, Pacific sand lance are the most important food for marbled murrelets during the breeding season⁴ when they're feeding hungry chicks.

Audubon recognizes the value of forage fish to seabirds and other marine life at the top of the food chain and that overfishing of forage fish species has been a major contributor to documented declines of seabirds around the world. Not only do seabirds require substantial quantities of prey for survival and reproduction, they are extremely sensitive to changes in prey abundance⁵. This is why we believe it is important for Audubon to engage in the fisheries management work of the Council and why **we are urging you to take action today by releasing a range of alternatives for public comment and selecting alternative 2.2.1 as the preliminary preferred option with accompanying management measures that prohibit directed harvest.**

Why Audubon supports 2.2.1 as the preliminary preferred alternative -

While the analysis of directed fisheries and incidental take provided in section 3.3 of the Workgroup's report was informative, we believe **using bycatch and gear as a framework for protecting forage fish species is too limited in scope** to recognize the broad role these species play in the California Current Ecosystem. As the report states at 2.2.2, "the main disadvantage of this pathway is that bycatch data for some of these species is limited, and gear connections are fairly speculative."

Similarly, using **the Predator-Prey Pathway, described at 2.2.3 in the report also is too limited in scope to describe the complex interconnected relationships these forage fish have**

² Croxall, J. P., et al. (2012). Bird Conservation International 22: 1–34.

³ Nur, N. et al. (2011). Where the wild things are: predicting hotspots of seabird aggregations in the California Current System. Ecological Applications, 21: 2241-2257.

⁴ Nelson, S. K. 1997. Marbled Murrelet (*Brachyramphus marmoratus*), The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Online: <http://bna.birds.cornell.edu/bna/species/276>. doi:10.2173/bna.276

⁵ Cury, P. M. et al. (2011). Global Seabird Response to Forage Fish Depletion – One-Third for the Birds. Science 334 : 1703-1706

with other species and the ecological role they play within the CCE. As noted under subsections 3.2.1 through 3.2.7 of the report **each and every forage fish group serves as prey for seabirds**. For example, as the report indicates at 3.2.3, some of the most recognized seabirds here in the Northwest are known to subsist largely on sand lance, including the rhinoceros auklet, tufted puffin and pigeon guillemot.

We believe **alternative 2.2.1 does the best job of capturing the need to think about forage fish in the context of the California Current Ecosystem where there are complex relationships that vary from season to season and year to year, based on climate and ocean conditions**. For example, the complex relationship between predator and prey and the surrounding marine environment is well documented in the long-term seabird monitoring that has occurred at Yaquina Head on the central Oregon coast.⁶ This area is home to some of Oregon's largest and most visible seabird colonies, including over 60,000 common murre. Scientists working on this effort have found that herring, smelt and sand lance make up a significant part of the seabird's diet, but that the relative importance each fish species plays in the seabird's diet varies from year to year depending on ocean conditions and other influences. We believe to adequately plan for the protection of this complex food web requires taking a precautionary approach – such as described in alternative 2.2.1 -- and that managing our forage fish as an ecosystem component (EC) species for all FMPs is warranted.

In closing --

In summary, to Audubon, these - **little fish ARE a big deal** – especially for the health of our seabird populations along the Pacific Flyway. Today, by advancing a range of alternatives for public comment and settling on alternative 2.2.1 as the preliminary preferred alternative, the Council will be advancing a proactive and precautionary approach to management that will serve to sustain not only forage fish but the millions of seabirds that rely on them further up the food chain. Thank you for your consideration.

Sincerely,

Audubon Society of Portland
Audubon Society of Corvallis

Audubon Society of Lincoln City
Cape Arago Audubon Society
East Cascades Audubon Society
Kalmiopsis Audubon Society
Klamath Basin Audubon Society
Lane County Audubon Society
Rogue Valley Audubon Society
Salem Audubon Society
Siskiyou Audubon Society
Umpqua Valley Audubon Society

Meryl Redisch, Executive Director
Dave Mellinger & Jim Fairchild, Conservation
Director & President
Jack Doyle, President
Barbara Taylor, President
Ken Hashagen, President
Ann Vileisis, President
Molly Russell, President
Maeve Sowles, President
William Hering, President
Michael Babbitt, President
Susan Bush, President
Diana Wales, President

⁶ Suryan, R., et al. (2013). Yaquina Head seabird colony monitoring 2013 season summary. Unpublished Report. Oregon State University, Hatfield Marine Science Center, Newport, OR, 10pp.

Ms. Dorothy M. Lowman
Chair
Pacific Fishery Management Council
7700 NE Ambassador Place, Suite 101
Portland, Oregon 97220-1384

RE: Agenda Item J.1. Unmanaged Forage Fish Initiative

Dear Chairman Lowman and Council Members:

I am grateful for the work the council's steady progress over the past two years in laying the groundwork for establishing regulatory protections for currently unmanaged forage fish species, an initiative which takes into account the many networks in the ocean food web and how all species are interconnected.

I am writing on behalf of Living Sea Images, a multimedia company which publishes all three volumes of the *Wonders of the Sea* series of coffee-table books and manages the sales of my stock photography and fine art prints. My relationship with our beautiful ocean spans over 35 years—from the moment I first learned to dive in 1978, which led to my passion for marine life photography years later, to my work with the Marine Life Protection Act. While my photography began as a way to make the spectacularly colorful images I love last long after I'd returned to the surface, I quickly learned that it was both a way to share my passion with others, and a way I could help life in the ocean communicate to humanity. I hope that my photographs will communicate some of the fragility and indescribable beauty I experience in our living ocean, and motivate people who might otherwise never know about it to preserve it.

That is why, as you look toward future regulations, I encourage you to select alternative 2.2.1 as the preliminary preferred option for protecting currently unmanaged forage fish by incorporating them into all of the council's existing fishery management plans as ecosystem component species.

During your meeting in April, I encourage you to pick alternative 2.2.1 as the preliminary preferred option and release the range of alternatives for public comment. The Council's Ecosystem Working Group has delivered a new report justifying your decision to conserve these forage species, both because of their importance to the California Current ecosystem and because of growing worldwide demand to catch them.

These steps will ensure that the Council achieves its goal of basic management protections for unmanaged forage fish. In so doing, you will fulfill the first initiative of the Council's Fishery Ecosystem Plan, a visionary document that the council approved unanimously a year ago. By protecting forage fish as a key link in the marine food web, we can maintain a healthy marine ecosystem, including the valuable sustainable fisheries we rely upon.

I am heartened that the Council recognizes the need to protect these ecologically critical and economically valuable species. I look forward to the council taking positive action that gives everyone the security of knowing we can rely on a healthy ocean to provide an economic engine for the years and generations to come. Please remember that the economic engine that you manage on all our behalf powers not just the fishing industry, but even larger tourism activities including wildlife watching, ocean sports, coastal hospitality, and smaller commercial businesses that rely on healthy marine ecosystems, such as mine.

As a concerned citizen and a lover of the ocean, I thank you for the opportunity to offer my thoughts on this matter and to participate in the public decision making process. I appreciate all that you do to maintain healthy oceans and sustainable fisheries.

Respectfully Submitted,

A handwritten signature in blue ink that reads "Marc Shargel". The signature is fluid and cursive, with the first letters of each word being capitalized and prominent.

Marc Shargel
Living Sea Images

Author of *Wonders of the Sea: North Central California's Living Marine Riches*
and *Wonders of the Sea Volume Two: Marine Jewels of Southern California's Coast and Islands*
and *Wonders of the Sea Volume Three: Hidden Treasures of California's Far North Coast*
and *Yesterday's Ocean: A History of Marine Life on California's Central Coast*

David Bitts
President
Larry Collins
Vice-President
Duncan MacLean
Secretary
Mike Stiller
Treasurer

PACIFIC COAST FEDERATION of FISHERMEN'S ASSOCIATIONS



W.F. "Zeke" Grader, Jr.
Executive Director
Glen H. Spain
Northwest Regional Director
Vivian Helliwell
Watershed Conservation Director
In Memoriam:
Nathaniel S. Bingham
Harold C. Christensen

Please Respond to:

☐ **California Office**

P.O. Box 29370
San Francisco, CA 94129-0370
Tel: (415) 561-5080
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www.pcffa.org

☐ **Northwest Office**

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26 March 2014

Ms. Dorothy Lowman, Chair
Pacific Fishery Management Council
7700 N.E. Ambassador Place, Suite 101
Portland, OR 97220-1384

RE: April Agenda Item #J.1. Unmanaged Forage Fish Initiative.

Dear Chairwoman Lowman and Council Members

The Pacific Coast Federation of Fishermen's Associations (PCFFA) represents working men and women in the West Coast commercial fishing fleet. It is in our members' interest to sustain viable and productive fisheries and coastal communities for the long term. Our members also fish for stocks such as salmon that depend on an abundance and diversity of forage species within the California Current marine ecosystem.

PCFFA requests the Council approve and release for public comment a range of alternatives to protect currently unmanaged forage fish identified in the Ecosystem Workgroup's new report. Further, we encourage the council to identify option 2.2.1 outlined in the report as your preliminary preferred option.

PCFFA previously requested the Council establish a precautionary approach toward other forage species that aren't currently being fished. It makes sense for the council to establish a mechanism to evaluate the effect on the wider ecosystem and existing fisheries targeting their predators, before a new fishery targeting forage fish such as saury or sand lance begins. The most straightforward way to accomplish that goal is to bring those species into existing fishery management plans as ecosystem component species as soon as possible.

PCFFA commends the Council for adopting its first fishery ecosystem plan a year ago, and encourages it now to move forward with the plan's first initiative -- protecting currently unfished forage species.

Sincerely,

W.F. "Zeke" Grader, Jr.
Executive Director

STEWARDS OF THE FISHERIES



3964 Harney St. San Diego, Ca 92110 619.295.3272 Fax 619.295.0727
301 Mission Ave. Oceanside, Ca 92054 760.967.1820
www.HarneySushi.com

Ms. Dorothy M. Lowman
Chair
Pacific Fishery Management Council
7700 NE Ambassador Place, Suite 101
Portland, Oregon 97220-1384

RE: Agenda Item J.1. Unmanaged Forage Fish Initiative

Dear Chairman Lowman and Council Members:

I am thankful of the work the Council does to ensure that our treasured ocean remains healthy and sustainable for future generations to enjoy. The work the Council has done over the past couple of years to protect unmanaged forage fish is a step towards guaranteeing that all parts of the ocean food web are being accounted for.

As a master sushi chef and the founder of Harney Sushi Corporation, which has recreated the sushi industry experience over the past 10 years, I am committed to providing my customers with sustainable fish, never compromising taste or quality. With two restaurant locations in San Diego and Oceanside, my team and I have fostered relationships to ensure that we are educating our diners and developing a local economy and culture of sustainable seafood. We understand that maintaining a healthy, balanced, and productive Pacific Ocean is everyone's responsibility.

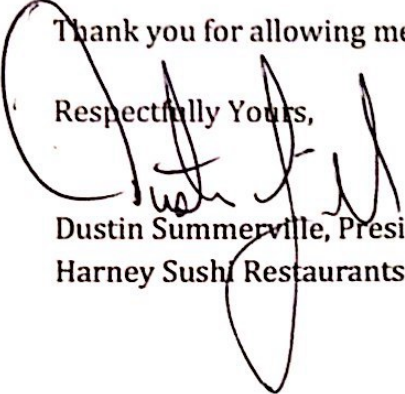
In light of the groundwork you have laid to establish protections for forage fish, I encourage you to select alternative 2.2.1 as the preliminary preferred option for protecting currently unmanaged forage fish by incorporating them into all of the Council's existing fishery management plans as ecosystem component species.

Forage fish are the cornerstone of a healthy ocean, both because of their importance to the California Current ecosystem and because of growing worldwide demand to catch them. Following through with these steps will ensure that the Council achieves its goal of basic management protections for unmanaged forage fish.

I am encouraged that the Council has followed through in their move towards and ecosystem-based management approach. I look forward to the Council continuing the work they unanimously voted to fulfill with their Fishery Ecosystem Plan a year ago.

Thank you for allowing me to be an active part of this public process for the last year.

Respectfully Yours,



Dustin Summerville, President
Harney Sushi Restaurants

GRANGE

RESTAURANT & BAR

Pacific Fishery Management Council
Dorothy Lowman, Chair
7700 N.E. Ambassador Place, Suite 101
Portland, OR 97220-1384

Dear Chair Lowman and Council Members,

On behalf of Grange restaurant, I ask the Council to move forward with meaningful protections for forage fish that form the foundation of a vibrant marine food web.

We support sustainable Pacific fishery management. Everything we do here at Grange has sustainability from our vegetables to proteins. We understand the stresses on the ocean in this mass produce market. Our menus feature smaller fish regularly, I love sardines and mackerel! Understanding our larger fish friends like to eat in the circle of life also, we need to protect the little guys.

Our business needs forage fish in the ocean fulfilling their ecological role, not being scooped up in a net and sold abroad. As stewards of our coastal ecosystem, and the businesses and communities that depend on it, the Council's first priority should be to maintain a productive marine food web here on the Pacific coast.

I ask that you select alternative 2.2.1 as the preliminary preferred option for protecting forage fish and their role in the health of the ecosystem by incorporating them into all of the council's existing fishery management plans as "ecosystem component species" at your April meeting. I encourage you to pick this as the preliminary preferred option and also release the range of alternatives for public comment.

I am encouraged the Council has made the commitment to protect these ecologically and economically critical species, and I look forward to the Council taking positive action by selecting alternative 2.2.1 that gives us the security of knowing we can rely on a healthy ocean for years to come.

Sincerely,

OLIVER RIDGEWAY
EXECUTIVE CHEF
GRANGE RESTAURANT & BAR
THE CITIZEN HOTEL
A Joie de Vivre Hotel

Robert R. Kurz
23256 Arelo Court
Laguna Niguel, CA 92677
949 495-7272
rkurz@hotmail.com

March 30, 2014

Ms. Dorothy Lowman, Chair
Pacific Fishery Management Council
7700 NE Ambassador Place, #101
Portland, OR 97220

RE: Agenda Item J.1. Unmanaged Forage Fish Initiative

Dear Chair Lowman and council members:

The Pacific Fishery Management Council has made steady progress over the past two years in laying the groundwork for regulations to protect currently unmanaged forage fish species. Today, I ask that you select alternative 2.2.1 as the preliminary preferred option for protecting such fish by incorporating them into all of the council's existing fishery management plans as "ecosystem component species."

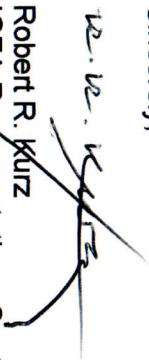
During your meeting in April, I encourage you to pick this preliminary preferred option and release the range of alternatives for public comment. The council's Ecosystem Working Group has delivered a new report that justifies your decision to conserve these forage species, because of their importance to the California Current ecosystem and growing worldwide demand to catch them.

These steps would ensure that the council achieves its goal of basic management protection for unmanaged forage fish. In so doing, you would fulfill the first initiative of the council's Fishery Ecosystem Plan.

By protecting forage fish as a key link in the California Current's marine food web, we can maintain a healthy ecosystem, including the valuable sustainable fisheries we rely upon.

Thank you for your continued commitment to preserve a healthy and productive Pacific Ocean.

Sincerely,


Robert R. Kurz
IGFA Representative - Southern California

March 27, 2014
Pacific Fisheries Management Council
Dorothy M. Lowman, Chair
7700 N.E. Ambassador Place, Suite 101
Portland, Oregon 97220-1384

Agenda Item I.1. Unmanaged Forage Fish Initiative

Dear Chair Lowman and Council Members:

As a coastal business owner, I want to thank you for the progress you have made over the past year toward establishing protections for currently unmanaged forage fish species. These small fish are a vital part of the food web in the entire California Current Ecosystem., as well as being vital to my eco-friendly business. As prey, they provide nutrition for the seabirds, whales, seals and sea lions which people from all over the world travel to the Oregon coast to enjoy watching, as well as enjoy eating the tuna, rockfish and salmon. The people visiting Oregon's coast for its natural beauty and bounty are our customers, so in a very real sense we rely on forage fish for our livelihood, as well.

That is why I'm urging the Council to **approve and release for public comment a range of alternatives to protect currently unmanaged forage fish and to select option 2.2.1, the Ecosystem Trophic Role Pathway, as the preliminary preferred alternative.**

Your continued work to protect forage fish is important to me as a business owner to ensure that tourists continue to travel to the Yachats, Oregon to support my the economy of the Oregon coast and Oregon and my nature friendly business, Ocean Haven. The success of my business depends on assuring that our seabird colonies, whales and other marine mammals remain healthy and well-fed. As you know, each and every one of the forage fish being considered by the Council serve as food for seabirds and marine mammals.

In my opinion, it makes smart business sense to take precautionary steps to assure that an asset that is fundamental to the health of our coast and to coastal tourism, is adequately protected before proposals to harvest them push us into future conflicts and force us to be reactive rather than proactive.

For the past decade, I have participated in planning for our ocean's future through establishing marine reserves and marine protected areas. Our hard work and mutual concessions and compromises create the necessary protections that will help sustain our coastal business communities, as well as the marine life on which they all depend.

In a similar way, I believe Alternative 2.2.1 will provide a clear path forward for protecting forage fish by recognizing they provide important linkages within an interconnected ecosystem that includes upper trophic level species of seabirds, whales and other marine mammals that are of great interest and concern to those of us who make our living on the coast.

In closing, for me and other coastal business owners who rely on natural-resource-based tourism, **these little fish are a big deal.** By advancing a range of alternatives for public comment and settling on alternative 2.2.1 as the preliminary preferred alternative, the Council will be advancing a proactive and precautionary approach to management that will serve to sustain not only forage fish but coastal businesses that depend on having a healthy ocean.

Thank you for your consideration.

Respectfully Submitted,

Rheychol Paris
Healthy Kitchen & Herbs



Ms. Dorothy M. Lowman
Chair
Pacific Fishery Management Council
7700 NE Ambassador Place, Suite 101
Portland, Oregon 97220-1384

RE: Agenda Item J.1. Unmanaged Forage Fish Initiative

Dear Chairman Lowman and Council Members:

Thank you for your conservation leadership on the pressing issue of unmanaged forage fish. Your continuous work to protect these ecologically critical species demonstrates your commitment towards the shift to an ecosystem-based approach in management.

The Marine Mammal Center (TMMC) is a nonprofit veterinary research hospital and educational center dedicated to the rescue and rehabilitation of ill and injured marine mammals- primarily elephant seals, harbor seals, and California sea lions. Since 1975, TMMC has been headquartered in Sausalito, California in the Marin Headlands within the Golden Gate National Parks, and has rescued and treated more than 18,000 marine mammals.

The Fishery Ecosystem Plan (FEP) is of great interest to TMMC as we endeavor to treat patients and study the causes of their illnesses, and seek to inspire greater stewardship of our coastal waters. In the spring of 2013, TMMC responded, along with peer institutions along the California coast, to an unusual mortality event (UME) with California sea lions in southern California. More than 1,400 sea lions stranded, severely malnourished, during a period of several weeks beginning in January. In a more typical year, only 200 would have stranded. While it is not completely clear why this event occurred, we suspect, based on the condition of the animals that stranded, that primary forage fish for this species were not at typical levels in areas adult sea lions forage.

It is for this reason that I urge you to select alternative 2.2.1 as the preliminary preferred option for protecting currently unmanaged forage fish by incorporating them into all existing fishery management plans. As your meeting in April approaches, I encourage you to take action, especially given that the Council's Ecosystem Working Group has delivered a new report justifying your decision to conserve these forage species, both because of their

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importance to the California Current ecosystem and because of growing worldwide demand to catch them.

These steps would assure us that the Council plans to achieve its goal of basic protections for unmanaged forage fish. It is vital that you push forward and fulfill the first initiative of the Council's Fishery Ecosystem Plan, a visionary document that you approved unanimously a year ago.

I appreciate the opportunity to participate in this public decision making process.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Boehm", with a stylized, flowing script.

Dr. Jeff Boehm, Executive Director
The Marine Mammal Center

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OREGON SHORES
CONSERVATION COALITION

Pacific Fisheries Management Council
Dorothy M. Lowman, Chair
7700 N.E. Ambassador Place, Suite 101
Portland, Oregon 97220-1384

March 28, 2014

Agenda Item I.1. -- Unmanaged Forage Fish Initiative

Dear Chair Lowman and Council Members:

The Oregon Shores Conservation Coalition would like to thank you for the significant steps the Council has taken over the past year toward conserving “forage fish” as a critical food source for marine life, including seabirds, salmon, whales and other top predators within the marine food web. By adopting the Fisheries Ecosystem Plan (FEP) and approving Initiative 1, the Council has set a reasonable path forward for extending protection to currently unmanaged and forage species that provide key linkages in the marine food web.

We believe the Ecosystem Workgroup’s March, 2014 report provides solid information and thoughtful recommendations for the Council to consider when you meet on April 10 to continue your progress toward achieving Initiative 1. Therefore, Oregon Shore urges the Council to take steps during your meeting to **approve and release for public comment a range of alternatives to protect currently unmanaged forage fish and select option 2.2.1, the Ecosystem Trophic Role Pathway, as the preliminary preferred alternative.** This option incorporates currently unmanaged forage fish as ecosystem component (EC) species within each of the Council’s existing Fishery Management Plans (FMP).

For over four decades, Oregon Shores has worked to conserve the beauty and bounty of the Oregon coastal region, including its marine environment. We carry out our environmental stewardship efforts through education, citizen science and advocacy. For example, through our partnership with the University of Washington’s Coastal Observation and Seabird Survey Team ([COASST](#)), many of our over 1,300 [CoastWatchers](#) have received training to identify and report dead seabirds that wash ashore along their adopted mile of coastline. Researchers from around the world—including our partners at UW—are finding that tracking seabird mortality can provide data that serves as an indicator regarding the health of the rest of the marine ecosystem, including the forage fish on which seabirds rely.¹

In recent years, we have worked in coalition with a wide range of Oregon-based conservation groups to successfully advocate for the establishment of a system of marine reserves along Oregon’s coast to serve as a “savings account” for our key marine ecosystems as

¹ Cury, P. M. et al. (2011). Global Seabird Response to Forage Fish Depletion – One-Third for the Birds. *Science* 334 : 1703-1706



OREGON SHORES
CONSERVATION COALITION

well as a research tool for increasing our understanding of marine resources and their conservation. We also have led the way in Oregon's efforts to plan for renewable energy siting while protecting important ecological areas within our territorial sea. These policy and planning efforts have not been easy, but we know that having these protections and plans in place will help to sustain our coastal communities as well as the marine life on which they all depend.

We believe the Council's Fisheries Ecosystem Plan will serve the same pro-active, precautionary purpose as have Oregon's marine reserve and renewable energy efforts. That is why we appreciate the Council's vision and commitment to advancing the FEP through implementation of Initiative 1 and also why we are urging the Council to take the next step on April 10 -- **adopting alternative 2.2.1 as the preliminary preferred alternative and moving the package of alternatives forward for public review and ultimately adoption.** Doing so will take us one step closer to recognizing that the species often grouped together as "forage fish" provide important linkages within an interconnected ecosystem and should be managed using a precautionary approach.

Sincerely,

Phillip Johnson, Executive Director
Oregon Shores Conservation Coalition
(503) 754-9303
phillip@oregonshores.org



P.O BOX 7077 SALEM, OR 97303
503-363-1037 FX 503-363-9782

March 25, 2014

Dear Chair Lowman and Council Members:

I want to commend the Pacific Fisheries Management Council on the progress they have made over the last few years in establishing the groundwork for regulations to protect currently unmanaged species of forage fish. It is quite refreshing to see your council take such a positive, proactive position on this critical issue, rather than the seemingly status quo reactive response of "let's try and clean up the mess" after it is too late too often. After discussing the options to the different plans under discussion for implementation I ask you to select alternative plan 2.2.1 as the preliminary preferred option for protecting such fish by incorporating these currently unmanaged forage fish species into all of the council's existing fishery management plans as "ecosystem component species."

I have been told that the council's Ecosystem Working Group has delivered a new report that supports your decision to conserve these forage fish because of their importance to our ocean's ecosystems and the growing worldwide demand to harvest these said species.

These steps would guarantee that the council achieves its goals of basic management protection for unmanaged forage fish, and would achieve the council's initial goals of their Fishery Ecosystem Plan. By protecting forage fish as a critical link in the marine food chain we can maintain a healthy ecosystem, including the more popular and more publicized sustainable fisheries we rely upon.

As an Oregon based tackle manufacturer for almost 30 years, and a passionate sport angler, I have seen the results of many poor fishery and agency decisions, and have seen many species slowly recover from the brink of extinction. For years we saw the herring stocks down even though we thought we regulated them correctly. Now we have seen our Pacific sardines vanish, with little explanation, when we thought our current regulations ensured their prolific numbers. Our Pacific smelt were gone for years, and many questioned the years of overharvest under existing guidelines as being responsible for their demise. It is a difficult for a Council to play God, with the existence and wellbeing of a species in your hands. Therefore I urge you to err on the side of caution to protect these currently unprotected forage fish species. I cannot tell you the importance of all the forage fish, but I have read in several places that sand lance are responsible for 70 to 90 percent of a juvenile salmon and ling cod's diet. Where would these popular and valuable species be without the food to get them through their juvenile years. Please select alternate plan 2.2.1. Thank you for your time and considerations.

Phil Pirone

Phil Pirone: President



Association of Northwest Steelheaders

6641 SE Lake Rd. • Milwaukie OR 97222

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Established 1960

March 27, 2014

Dorothy Lowman, Chair
Pacific Fishery Management Council
1100 NE Ambassador Place, #101
Portland, OR 97220

RE: Agenda Item I.1 (Unmanaged Forage Fish Initiative)

Dear Chair Lowman and Council Members:

Thank you for the opportunity to comment on the management of forage fish, which play an important role in our Pacific ocean ecosystem and are critical to salmonid survival. Founded in 1960, the Association of NW Steelheaders is one of the oldest and most-cherished sportfishing organizations in the Pacific Northwest. ANWS currently has 1,600 active members and 12 chapters in Oregon and SW Washington. The Steelheaders mission is “anglers dedicated to enhancing and protecting fisheries and their habitats for today and the future,” and our vision is “responsible and enjoyable sport angling with good access to healthy, abundant and sustainable fisheries in the Northwest’s healthy watersheds.” We aim to be good stewards of our fishery resources so there is opportunity to fish for salmon and steelhead in the Northwest for generations to come.

Abundant stocks of forage fish play a key role in the successful ocean-phase of our regions wild and hatchery salmonids. It is for this reason that the Association enthusiastically supports the proactive and responsible management of unmanaged forage fish species such as saury, sand lance and lanternfish. These species, like the more common herring and anchovy, are equally important in the health of our ecosystems and the predator species we pursue. Tuna, salmon, steelhead and bottomfish all rely on forage species to rear in the ocean; an environment where all these economically important species spend the bulk of their life-span.

The Council’s adoption of the Fishery Ecosystem Plan and Ecosystem Initiative #1 last April established the framework for the proactive approach needed to fully assess any directed commercial fisheries for unfished or unmanaged forage fish *before* they are adopted or expanded. This recognition allows for the consideration of potential impacts to existing sport and commercial fishing fleets and the greater marine ecosystem that is currently functioning at a high capacity. As we are likely heading into an El Niño event and the impacts of climate change are changing the acidity and temperature of the ocean, now is the proper time to practice caution to minimize the impacts of these severe occurrences.

Anglers dedicated to enhancing and protecting fisheries and their habitats for today and the future.



Association of Northwest Steelheaders

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Established 1960

The more we talk to our members and other fishermen across the Northwest, the more we confirm how much support there is in the fishing community for management of forage species. Therefore, the Association urges the Council to approve the range of alternatives detailed in the Ecosystem Working Group's report on Ecosystem Initiative 1 and we further urge the Council to settle on a preferred alternative. In our view, the option that would provide the most comprehensive and ecosystem-based management for unfished forage species is Alternative 2.2.1 (the Ecosystem Trophic Role pathway) because it recognizes the role these fish play in the broader ecosystem as prey for predatory fish, seabirds, and a multitude of other marine life.

We have appreciated the Council's bottom-up process in allowing for public input and comment on the management of our fishery resources and applaud the Council's move toward ecosystem-based management. We look forward to the Council taking final action on unmanaged forage fish later this year. Thank you for your time and consideration.

Sincerely,

Bob Rees
Executive Director
Association of Northwest Steelheaders

Pacific Seabird Group



DEDICATED TO THE STUDY AND CONSERVATION OF PACIFIC SEABIRDS AND THEIR ENVIRONMENT

PSG Website: www.pacificseabirdgroup.org

Jo Smith

Chair

Smithers, British Columbia

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Stanley Senner

Vice-Chair for Conservation

Portland, Oregon

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30 March 2014

Pacific Fishery Management Council

Dorothy M. Lowman, Chair

7700 N.E. Ambassador Place, Suite 101

Portland, Oregon 97220-1384

Agenda Item J.1. -- Unmanaged Forage Fish Initiative

Dear Chair Lowman and Council Members:

The Pacific Seabird Group (PSG) appreciates the great strides the Council has made over the past year toward conserving forage fish as a critical food source for marine life, including seabirds. Beginning with adoption of the Fisheries Ecosystem Plan (FEP) and approval of Initiative 1, the Council has set a clear pathway for extending protection to currently unmanaged and unfished forage species.

Most recently, the Ecosystem Workgroup's March 2014 report, "Ecosystem Initiative 1: Protecting Unfished and Unmanaged Forage Fish Species," provides a solid analysis of existing directed commercial fisheries and incidental take levels in other commercial fisheries. The report also provides recommendations as to which existing Fishery Management Plans are best suited for amendment.

Based on that report, PSG urges the Council to 1) approve and release for public comment a range of alternatives to protect currently unmanaged forage fish and 2) to select alternative 2.2.1, Ecosystem Trophic Role Pathway, as the preliminary preferred alternative. Alternative 2.2.1 incorporates currently unmanaged forage fish as "ecosystem component" species within each of the Council's existing Fishery Management Plans, where basic conservation measures can be put in place to prevent the development of new, directed commercial fisheries in the absence of a strong scientific and management framework. We believe selecting Alternative 2.2.1 as the

preliminary preferred alternative and as a framework for the Council's oversight of forage fish makes the most sense of the three pathways outlined under Chapter 2 because it clearly recognizes that forage fish provide important linkages within an interconnected ecosystem that includes upper trophic level species of seabirds of interest and concern to PSG members. This alternative also supports an ecosystem-based fisheries management approach whereby ecological resilience and ecosystem function are considered, and management is able to incorporate uncertainty from climate change, natural variability, and scientific models.

The PSG is an international, non-profit organization that was founded in 1972 to promote the knowledge, study and conservation of Pacific seabirds. It has a membership drawn from the entire Pacific basin, including Canada, Mexico, Russia, Japan, China, Australia, New Zealand, South Korea, Taiwan and the U.S. The PSG's members include biologists and other scientists who have research and conservation interests in Pacific seabirds, government officials who manage seabird refuges and populations, and representatives of nongovernmental organizations and individuals who are interested in marine conservation.

As a group, seabirds are among the most endangered birds in the world.¹ Thirty percent face some threat of extinction² and many are exceptionally vulnerable to climate change.³ Millions of seabirds, including at least 25 species during the breeding season and at least an additional 35 species during their non-breeding seasons, inhabit the U.S portion of the California Current Large Marine Ecosystem.

Protecting forage fish is critical for many seabird species, including the threatened Marbled Murrelet, which is listed as threatened in parts of the U.S. and Canada. Murrelets and other seabird species rely on forage fish, such as Pacific sand lance and osmerid smelt, which are specifically under consideration here. Changes in the abundance, distribution and quality of marine prey have been identified as factors in the decline of Marbled Murrelets,⁴ and Pacific sand lance is the most important food for marbled murrelets during the breeding season⁵ when the adult seabirds are feeding their hungry chicks.

Seabirds require substantial quantities of prey for survival and reproduction and are extremely sensitive to changes in prey abundance.⁶ Adult seabirds may select different species and sizes of prey for their chicks and themselves, thus it is essential to maintain a range of age classes and

¹ Croxall, J. et al. 2012 Seabird conservation status, threats and priority actions: a global assessment. Bird Conservation International 22:1-34.

² IUCN. 2010. Red List. http://www.iucn.org/about/work/programmes/species/red_list

³ North American Bird Conservation Initiative, U.S. Committee. 2010. The State of the Birds 2010 Report on Climate Change, United States of America. U.S. Dept. of Interior: Washington D.C.

⁴ Recovery Implementation Team. 2012. Report on marbled murrelet recovery implementation team meeting and stakeholder workshop. U.S. Fish and Wildlife Service, Lacey, WA.

⁵ Nelson, S. K. 1997. Marbled Murrelet (*Brachyramphus marmoratus*), The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Online: <http://bna.birds.cornell.edu/bna/species/276>. doi:10.2173/bna.276

⁶ Cury, P. M. et al. (2011). Global Seabird Response to Forage Fish Depletion – One-Third for the Birds. Science 334 : 1703-1706

species to support healthy seabird populations⁷. There is significant evidence from around the world that collapses of forage fish populations following fisheries exploitation have caused breeding failures and population declines among seabirds.⁸ Hence, PSG is urging The Council to take action on April 10 by releasing a range of alternatives for public comment and selecting Alternative 2.2.1 as the preliminary preferred alternative.

While the analysis of directed fisheries and incidental take provided in section 3.3 of the Workgroup's report was informative, we believe that using bycatch and gear type as a framework for protecting forage fish species is too limited in scope to recognize the broad role these species play in the California Current Ecosystem. As the report states (at 2.2.2): "the main disadvantage of this pathway is that bycatch data for some of these species is limited, and gear connections are fairly speculative."

Similarly, using the Predator-Prey Pathway (at 2.2.3 in the report) also is too limited in scope to describe the complex interconnected relationships these forage fish have with other species and the ecological role they play within the CCE. As noted under subsections 3.2.1 through 3.2.7, each and every forage fish group serves as prey for seabirds.

We believe Alternative 2.2.1 does the best job of capturing the need to think about forage fish in the context of the California Current Ecosystem where there are complex relationships that vary from season to season and year to year based on climate and ocean conditions. For example, the complex relationship between predator and prey and the surrounding marine environment is well documented in the long-term seabird monitoring that has occurred at Yaquina Head on the central Oregon coast.⁹ This area is home to some of Oregon's largest and most visible nesting seabirds, including more than 60,000 Common Murres. Biologists working at Yaquina Head in Oregon have found that herring, smelt, and sand lance make up a substantial part of the diet of Common Murres and the relative importance each fish species plays in the seabird's diet varies from year to year depending on ocean conditions and other influences.

To adequately plan for the protection of this complex food web requires a precautionary, ecosystem-based approach, such as is described in alternative 2.2.1. Managing forage fish as an essential ecosystem component species for all Fisheries Management Plans is warranted.

In summary, the long-term abundance and wide distribution of forage fishes within the California Current Ecosystem are essential for the health of seabird populations along the entire Pacific coast. By advancing a range of alternatives for public comment and selecting Alternative 2.2.1 as the preliminary preferred alternative, the Council will be making progress on a proactive and precautionary approach to management that will serve to sustain the diversity and abundance of seabirds in the U.S. portion of the California Current Large Marine Ecosystem.

⁷ Davoren, G.K. and A.E. Burger. 1999. Differences in prey selection and behaviour during self-feeding and chick provisioning in rhinoceros auklets. *Animal Behaviour*. 58: 853-863.

⁸ Sydeman, W, J. Piatt, H. Brownman, eds. 2007. Seabirds as indicators of marine ecosystems. *Marine Ecology Progress Series* 352:199-204.

⁹ Suryan, R., et al. (2013). Yaquina Head seabird colony monitoring 2013 season summary. Unpublished Report. Oregon State University, Hatfield Marine Science Center, Newport, OR, 10pp.

Thank you for your consideration.

Sincerely,

A handwritten signature in black ink that reads "Stan Senner". The signature is written in a cursive, flowing style with a large initial 'S'.

Stanley Senner
Vice-Chair for Conservation

March 27, 2014
Pacific Fisheries Management Council
Dorothy M. Lowman, Chair
7700 N.E. Ambassador Place, Suite 101
Portland, Oregon 97220-1384

Agenda Item I.1. Unmanaged Forage Fish Initiative

Dear Chair Lowman and Council Members:

As a past coastal business owner and a life time birder and frequent visitor to the Oregon Coast, I want to thank you for the progress you have made over the past year toward establishing protections for currently unmanaged forage fish species. These small fish are a vital part of the food web in the entire California Current Ecosystem., as well as being vital to my eco-friendly business. As prey, they provide nutrition for the seabirds, whales, seals and sea lions which people from all over the world travel to the Oregon coast to enjoy watching, as well as enjoy eating the tuna, rockfish and salmon. The people visiting Oregon's coast for its natural beauty and bounty are our customers, so in a very real sense we rely on forage fish for our livelihood, as well.

That is why I'm urging the Council to **approve and release for public comment a range of alternatives to protect currently unmanaged forage fish and to select option 2.2.1, the Ecosystem Trophic Role Pathway, as the preliminary preferred alternative.**

Your continued work to protect forage fish is important to me as a business owner to ensure that tourist continue to travel to the Oregon Coast to support the economy of the Oregon coast and Oregon, as well as my nature friendly business. The success of my business and my travel to the coast to watch birds depends on assuring that our seabird colonies, whales and other marine mammals remain healthy and well-fed. As you know, each and every one of the forage fish being considered by the Council serve as food for seabirds and marine mammals.

In my opinion, it makes smart business sense to take precautionary steps to assure that an asset that is fundamental to the health of our coast and to coastal tourism, is adequately protected before proposals to harvest them push us into future conflicts and force us to be reactive rather than proactive.

For the past decade, I have participated in planning for our ocean's future through establishing marine reserves and marine protected areas. Our hard work and mutual concessions and compromises create the necessary protections that will help sustain our coastal business communities, as well as the marine life on which they all depend.

In a similar way, I believe Alternative 2.2.1 will provide a clear path forward for protecting forage fish by recognizing they provide important linkages within an interconnected ecosystem that includes upper trophic level species of seabirds, whales and other marine mammals that are of great interest and concern to those of us who make our living on the coast.

In closing, for me and other coastal business owners who rely on natural-resource-based tourism, **these little fish are a big deal.** By advancing a range of alternatives for public comment and settling on alternative 2.2.1 as the preliminary preferred alternative, the Council will be advancing a proactive and precautionary approach to management that will serve to sustain not only forage fish but coastal businesses that depend on a having a healthy ocean.

Thank you for your consideration.

Respectfully Submitted,

Renee LaChance
Sustainable Adaptations



Salmon Drift Creek Watershed Council

Protecting and Restoring Local Watersheds

P.O. Box 112
Neotsu, OR 97364
541.996.3161 – office
541.994.4739 – fax
www.salmondrift.org

March 28, 2014

To: pfmc.comments@noaa.gov.

Pacific Fisheries Management Council
Dorothy M. Lowman, Chair
7700 N.E. Ambassador Place, Suite 101
Portland, Oregon 97220-1384

RE: Agenda Item I.1. Unmanaged Forage Fish Initiative

Dear Chair Lowman and Council Members:

As a coastal non-profit leader, I want to thank you for the steady progress you've made over the past year toward establishing protections for currently unmanaged forage fish species, which are a vital part of the food web in the entire California Current Ecosystem. These small fish are a big deal for all of us on the Oregon coast. As prey, they provide nutrition for the seabirds, whales, seals and sea lions which people come to the coast to watch -- as well as the tuna, rockfish and salmon that they come to catch. The people who visit Oregon's coast for its natural beauty and bounty are our partners and supporters. So, in a very real sense, we rely on forage fish for our livelihood as well.

That is why I am urging the Council to **approve and release for public comment a range of alternatives to protect currently unmanaged forage fish and to select option 2.2.1, the Ecosystem Trophic Role Pathway, as the preliminary preferred alternative.**

Your continued work to protect forage fish is important to me as a non-profit leader in Lincoln City, where I work diligently with multiple partners to enhance and restore local watersheds. My work directly involves projects designed to rehabilitate salmon populations - populations that play a vital role in the coastal recreation and fisheries economies. As you are likely aware, many millions of Oregon dollars have gone in to supporting habitat restoration for coastal salmon. That restoration investment is paying off - we are beginning to see greater returns and fisherman are heralding our collective successes. Please do not let that investment be for naught. Many of the forage fish being considered by the Council serve as critical food sources for salmon. All of the restoration dollars invested will have been wasted, if the Council does not adequately protect these important forage fish.

Executive Director
Catherine Pruett, JD, MPA

Board of Directors: Paul Katen (President) · Peter McSwain (Secretary) · Laura Doyle (Treasurer)
Joanne Daschel · Dave Martin · Jim Nicolas · Fran Recht · Sheryl Smith · Jim Stafford

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In my opinion, it makes smart business sense to take precautionary steps to assure that an asset that is fundamental to the health of our coast – and to our coastal tourism sector -- is adequately protected before proposals to harvest them push us into future conflicts and force us to be reactive rather than proactive.

For the past decade, coastal citizens in Oregon have participated in planning for our ocean's future through establishing marine reserves and marine protected areas, as well as planning for renewable energy siting within our territorial sea. These efforts have not been easy, but we know that having these protections and plans in place will help sustain our coastal business communities as well as the marine life on which they all depend.

In a similar way, I believe Alternative 2.2.1 will provide a clear path forward for protecting forage fish by recognizing they provide important linkages within an interconnected ecosystem that includes upper trophic level species of seabirds, whales and other marine mammals that are of great interest and concern to those of us who make our living on the coast.

In closing, these little fish are a big deal. By advancing a range of alternatives for public comment and settling on alternative 2.2.1 as the preliminary preferred alternative, the Council will be advancing a proactive and precautionary approach to management that will serve to sustain not only forage fish but coastal economies that depend on a having a healthy ocean.

Thank you for your consideration.

Sincerely,

Catherine Pruett

Catherine Pruett, JD, MPA
Executive Director
Salmon Drift Creek Watershed Council



RECEIVED

MAR 28 2014

PFMC

March 25th 2014

Pacific Fisheries Management Council
Dorothy M. Lowman, Chair
7700 N.E. Ambassador Place, Suite 101
Portland, Oregon 97220-1384

Agenda Item J.1. Unmanaged Forage Fish Initiative

Dear Chair Lowman and Council Members:

As a coastal business person involved in the fisheries business, I want to thank you for the steady progress you've made over the past year toward establishing protections for currently unmanaged forage fish species, which are a vital part of the food web in the entire California Current Ecosystem. These small fish are very important to all of us doing business on the Oregon coast. As prey, they provide nutrition for the seabirds, whales, seals and sea lions which people come to the coast to watch -- as well as the tuna, rockfish and salmon that our company depends on. In that regard, we rely on forage fish for our bread and butter, too.
(www.fishpeopleseafood.com)

That is why I'm urging the Council to **approve and release for public comment a range of alternatives to protect currently unmanaged forage fish and to select option 2.2.1, the Ecosystem Trophic Role Pathway, as the preliminary preferred alternative.**

Your continued work to protect forage fish is important to me as a business owner whose clients flock to the coast to witness the natural wonder of Oregon's marine life. In Otis and Newport our business is creating value added seafood entrees and soups for the grocery trade and we create long term jobs in our facilities while maintaining the value of our seafood in the community. As indicated in Chapter 3 of the Workgroup's report, each and every one of the forage fish being considered by the Council serve as food for seabirds, marine mammals and the seafood species that is the life blood of our business. .

I believe these small fish are at risk without being protected as ecosystem component species in each of the fisheries management plans. In my opinion, it makes smart business sense to take precautionary steps to assure that an asset that is fundamental to the health of our coast -- and to our coastal tourism sector -- is adequately protected before proposals to harvest them push us into future conflicts and force us to be reactive rather than proactive.

For the past decade, coastal citizens in Oregon have participated in planning for our ocean's future through establishing marine reserves and marine protected areas, as well as planning for renewable energy siting within our territorial sea. These efforts have not been easy, but we know that having these protections and plans in place will help sustain our coastal business communities as well as the marine life on which they all depend.

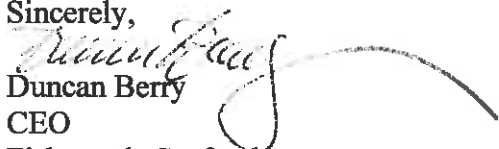
I believe the Fisheries Ecosystem Plan will help serve the same purpose and appreciate the Council's vision and commitment to advancing it through implementation of Initiative 1. **That's why I urge the Council to take the next step by adopting alternative 2.2.1 as the preliminary preferred alternative and moving the package forward for review and ultimately adoption.** This option incorporates currently unmanaged forage fish as ecosystem component (EC) species within each of the Council's existing Fishery Management Plans (FMP) where basic conservation measures can be put in place to prevent the development of new directed commercial fisheries absent a strong science and management framework.

I believe using Alternative 2.2.1 as a framework for the Council's oversight of forage fish makes the most sense of the three pathways outlined under Chapter 2 of the report because it provides clear recognition that forage fish provide important linkages within an interconnected ecosystem that includes upper trophic level species of seabirds, whales and other marine mammals that are of great interest and concern to those of us who make our living on the coast.

In closing, for me and other coastal business owners who rely on this natural-resource-base, **these little fish are critically important to our business.** By advancing a range of alternatives for public comment and settling on alternative 2.2.1 as the preliminary preferred alternative, the Council will be advancing a proactive and precautionary approach to management that will serve to sustain not only forage fish but coastal businesses like our own that depend on a having a healthy ocean.

Thank you for your consideration.

Sincerely,



Duncan Berry
CEO

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March 30, 2012
Pacific Fishery Management Council
Dorothy Lowman, Chair
7700 N.E. Ambassador Place, Suite 101
Portland, OR 97220-1384

Dear Chair Lowman and Council members -

I write today to support the Council's effort to protect currently unmanaged forage fish. Trout Unlimited is a cold water non-profit conservation organization dedicated to a non-partisan approach to promote clean and free flowing rivers, teaching children about responsible stewardship and bringing scientific expertise to bear on problems such as pollution, habitat loss and climate change. Trout Unlimited members work hard to protect freshwater habitat for steelhead and salmon, but restoring these iconic species depends to a great degree on ocean conditions-including an abundance of forage fish.

Forage fish are the key transfer agent between planktons and the bottom of the food web and upper-trophic predators such as salmon and steelhead. Trout Unlimited members are concerned about rising global demand to convert vast quantities of wild-caught forage fish for secondary purposes such as feeding livestock, poultry and farmed fish. We note the Council's own Fishery Ecosystem Plan highlights the threat of new fisheries developing because of the continuing growth of the global aquaculture industry and its need to extract large volumes of marine forage fish as food for pen-raised tuna and farmed salmon. We believe the Council should prioritize marine forage fish for its ecological importance to a healthy and resilient marine food web off the Pacific coast.

That's why the N. Kitsap-Bainbridge Chapter (425 members strong) supports protection of low-trophic level species along the West Coast, starting by incorporating currently non-managed forage fish into existing fishery management plans. As a preliminary step, we urge the Council to adopt the range of alternatives laid out in the Ecosystem Working Group Report on Ecosystem Initiative 1. Further, we hope the Council will identify and select Alternative 2.2.1 as the preferred pathway moving forward and begin the process of amending the fishery management plans accordingly.

We are glad the Council is working to set aside non-managed forage fish now, before a new fishery emerges, in order to ensure that we leave enough prey in the ocean to sustain healthy runs of salmon and steelhead that we, and our families, love to fish for. Thank you for allowing us the chance to comment. As resource users, we appreciate the opportunity to weigh in on how our fishery resources are managed so we can fish for many years to come.



TU Celebrates **50 Years** of Protecting Cold, Clean, Fishable Water.

Sincerely,

Chris Taylor
President, Trout Unlimited N. Kitsap-Bainbridge Chapter



117 E Louisa St #329, Seattle, WA 98102

March 30, 2014

Pacific Fishery Management Council
Dorothy Lowman, Chair
7700 N.E. Ambassador Place, Suite 101
Portland, Oregon 97220-1384

Dear Chair Lowman and Council Members,

The Wild Steelhead Coalition is a nonprofit organization that represents more than 2000 people working to restore the cultural and economic legacy of wild steelhead as an iconic species of the Pacific Northwest. As with all anadromous fish their survival from smolt to spawning adult depends greatly on the presence of abundant populations of small prey species in the ocean. We ask the council to help to protect both a healthy marine food web and the larger ecosystems that reach almost a thousand miles inland (e.g. the Columbia Basin), by incorporating non-managed forage species into an existing fishery management plan as soon as possible.

We are very encouraged that the council has already signaled its intent to protect important prey species that aren't yet being fished on the West Coast. During your meeting in April, we ask that you approve and release for public comment a range of alternatives to protect species identified in your Ecosystem Workgroup's new report, including pelagic squid that are the preferred prey for adult steelhead. We urge the council to identify option 2.2.1 in that report as your preliminary preferred option to fulfill your commitment to put in place basic conservation measures for currently unfished forage species. Since once a new fishery emerges it will become much more time-consuming and onerous to impose regulations later, we strongly recommend that the council take final action as soon as possible, and certainly no later than the end of 2014, to preclude this possibility.

The Workgroup's report indicates that the market for low-trophic-level species that aren't currently being fished is likely to become more attractive because of the spectacular growth of the global aquaculture industry and its need to use wild-caught forage as feed. A 2012 report by the Lenfest Forage Fish Task Force recommended forestalling new fisheries on forage species when we know little or nothing about the dependence of predators, population fluctuations, or foraging patterns.

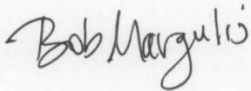


117 E Louisa St #329, Seattle, WA 98102

Forage fish are especially important for salmonids, by transferring energy in the form of protein from phytoplanktons and zooplankton to predators at the top of the food web. Forage species such as sand lance, saury and smelts retain their role in the ecosystem throughout their life span. These species provide a source of food for adult steelhead and salmon in the ocean, but scientists have found that they are also critical as “alternative prey” for ocean-bound smolts running a gauntlet of predatory seabirds, marine mammals and bigger fish when the juvenile steelhead arrive at the mouth of major rivers such as the Columbia. We are concerned that any expansion of fisheries targeting lower-trophic-level species could result in significant unforeseen consequences to the marine food web.

Thank you for the opportunity to comment on your work. We greatly appreciate your commitment to a healthy marine ecosystem. I would be happy to answer any questions you may have about the above and can be reached via the contact information provided below.

Sincerely,



Bob Margulis
Executive Director
bob@wildsteelheadcoalition.org
206-276-3705

From: **Tinsley Hunsdorfer** <hunsdorf@gmail.com>
Date: Tue, Mar 25, 2014 at 2:16 PM
Subject: Public comment submission for April PFMC meeting
To: pfmc.comments@noaa.gov

To the Pacific Fisheries Management Council -

I would like to thank you for the steps you've taken recently to protect forage fish and encourage you to keep up the good work. At the council's April 10 meeting, I specifically suggest that you approve and release for public comment a range of alternatives to protect currently unmanaged forage fish, and settle on a preferred alternative – option 2.2.1 – outlined in the new report from the council's Ecosystem Working Group.

As a supporter of the Audubon Society of Portland, I am concerned about what will happen to seabirds if forage fish - a critical food source for these ocean-faring birds - are left vulnerable to overfishing as demand for cheap fish meal increases. Please provide the strongest possible protection for forage fish so seabirds can thrive.

Thank you for considering my comments.

Sincerely,
Tinsley Hunsdorfer
1937 NW Johnson St., Apt. 5
Portland, OR 97209

From: <dirios@comcast.net>
Date: Tue, Mar 25, 2014 at 4:19 PM
Subject: Seabirds need to eat!
To: pfmc.comments@noaa.gov
Cc: jliebezeit@audubonportland.org

Hello,

First, I want to thank the Council for taking great strides over the past two years to conserve forage fish as a critical food source for marine life.

I would like to suggest that the Council should continue to make progress by approving and releasing for public comment a range of alternatives to protect currently unmanaged forage fish.

I believe that the Council should settle on a preferred alternative – option 2.2.1 – outlined in the new report from the council's Ecosystem Working Group. This option incorporates currently unmanaged forage fish in existing fishery management plans, where basic conservation measures can be put in place.

Finally, demand for cheap fish meal from the rapidly growing global aquaculture industry will increase the likelihood that industrial-scale fishing will expand to forage species that aren't currently fished on the West Coast. Getting management measures in place sooner rather than later makes sense, especially as worldwide demand on our oceans grows more intense.

thank you,

Diane Rios
Portland, OR.

From: Andrew Polta <poltaand@gmail.com>
Date: Tue, Mar 25, 2014 at 7:10 PM
Subject: Public comment submission for April PMFC meeting
To: pfmc.comments@noaa.gov
Cc: jliebezeit@audubonportland.org

To the Pacific Fisheries Management Council-

I am writing to encourage the council to adopt option 2.2.1 (outlined in the recent report from the council's Ecosystem Working Group) at the upcoming April meeting. The council has made great strides in the protection of forage fish species in the past two years, and this option would be a great way to build on this momentum by putting protections in place for currently unmanaged species before global demand for cheap fish meal potentially leads to overfishing.

Sincerely,

Andrew Polta

1937 NW Johnson St #5

Portland, OR 97209

From: N. <ntchampagne@yahoo.com>

Date: Tue, Mar 25, 2014 at 7:36 PM

Subject: Forage fish

To: "pfmc.comments@noaa.gov" <pfmc.comments@noaa.gov>

Cc: "jliebezeit@audubonportland.org" <jliebezeit@audubonportland.org>

To Pacific Fish management,

As you know a healthy ocean ecosystem is important which you have already taken the steps for in the last couple years, and I personally thank you .

Demand for cheap fish meal from the rapidly growing global aquaculture industry will increase the likelihood that industrial-scale fishing will expand to forage species that aren't currently fished on the West Coast. Getting management measures in place sooner rather than later makes sense, especially as worldwide demand on our oceans grows more intense.

This is a golden opportunity to set good policies before it is too late. Growing global demand for inexpensive protein drives the call to open new fisheries on forage fish, but the growing harvest comes at the expense of everything higher on the food chain. As essential prey for bigger fish like tuna and salmon, marine mammals, and seabirds, forage fish are the “unsung heroes” of the California Current Ecosystem.

The Council should settle on a preferred alternative – option 2.2.1 – outlined in the new report from the council’s Ecosystem Working Group. This option incorporates currently unmanaged forage fish in existing fishery management plans, where basic conservation measures can be put in place.

Thank you ,

Nancy Champagne

From: Mark Tilton <marktilton@oregonfast.net>

Date: Wed, Mar 26, 2014 at 9:08 AM

Subject: Tilton Comment - Unmanaged Forage Fish Initiative

To: pfmc.comments@noaa.gov

March 26, 2014

Dorothy M. Lowman, Chair

Pacific Fisheries Management Council

7700 N.E. Ambassador Place, Suite 101

Portland, Oregon 97220-1384

Subject: Unmanaged Forage Fish Initiative

Dear Chair Lowman and Council Members:

It has come to my attention that you will be considering taking steps to include currently unmanaged forage fish into existing fishery management plans. I urge to proceed with this initiative by approving and releasing for public comment alternatives for managing and protecting these important species in the ocean food web.

My wife and I have lived in Florence, Oregon for 10 years, after I retired from a career with the USDA Natural Resources Conservation Service. During our time here on the coast, I was involved for several years with the community team process for establishing Marine Reserves, focusing on the Cape Perpetua site. Most participants; fishermen, conservationists, business interests, and local community leaders, felt that protection for forage fish in Marine Reserves and Marine Protected Areas was a critical component. I am pleased that forage fish are now protected in all components of the newly established Cape Perpetua Marine Reserve/Protected Areas complex. It is time to extend management of these resources to all of our state and federal waters.

I want to thank you for the significant steps you have already taken to conserve forage fish as a critical food source in the ocean food web. Demand for low cost fish meal from the rapidly expanding global aquaculture industry increases the likelihood that currently unfished forage species along the west coast will become targets of industrial-scale fishing. Putting management measures in place now is a common sense precautionary step.

By approving your Ecosystem Working Group's option 2.2.1 in their new report, you will begin the process of incorporating currently unmanaged forage fish into existing fishery management plans. I strongly feel this is the best option for continuing the excellent work of the PFMC and protecting our critical ocean resources which currently provide a significant portion of the global food supply.

Sincerely,

Mark Tilton

Florence, Oregon

From: susan103saul@gmail.com <susan103saul@gmail.com>

Date: Wed, Mar 26, 2014 at 2:39 PM

Subject: Support Seabird Conservation

To: pfmc.comments@noaa.gov

Dear Chair Lowman and council members:

The Pacific Fishery Management Council has made steady progress over the past two years in laying the groundwork for regulations to protect currently unmanaged forage fish species. Today, I ask that you select alternative 2.2.1 as the preliminary preferred option for protecting such fish by incorporating them into all of the council's existing fishery management plans as "ecosystem component species."

During your meeting in April, I encourage you to pick this preliminary preferred option and release the range of alternatives for public comment. The council's Ecosystem Working Group has delivered a new report that justifies your decision to conserve these forage species, because of their importance to the California Current ecosystem and growing worldwide demand to catch them.

Forage species are critical to the ongoing survival of Pacific seabirds. As a group, seabirds are considered the most endangered birds in the world. Millions of seabirds inhabit the area covered by this plan. Forage fish are the food source for seabird populations and seabirds require substantial amounts of prey for survival and reproduction. According to the Pacific Seabird Group, there is significant evidence that the collapse of forage fish populations has caused seabird breeding failures and population declines. Ensuring an adequate prey base should be a priority for seabird conservation.

Picking the preliminary preferred option and releasing the range of alternatives for public comment would ensure that the council achieves its goal of basic management protection for unmanaged forage fish. In so doing, you would fulfill the first initiative of the council's Fishery Ecosystem Plan.

By protecting forage fish as a key link in the California Current's marine food web, we can maintain a healthy ecosystem, including the valuable sustainable fisheries we rely upon.

Thank you for your continued commitment to preserve a healthy and productive Pacific Ocean, including the seabirds that are part of that ecosystem.

Sincerely,

Susan Saul
Vancouver
WA
98664

From: <info@silverfishpress.com>
Date: Thu, Mar 27, 2014 at 9:20 AM
Subject: upcoming vote on forage fish management
To: pfmc.comments@noaa.gov
Cc: Phaedra Booth <pbooth@pewtrusts.org>

Please allow this email to serve as encouragement to your efforts to introduce management to forage fish populations at your upcoming meeting in Vancouver.

My name is Mike Rivkin, and I have the usual assortment of credentials that I hope will give some small weight to this email. Among other things, I am an avid and experienced saltwater angler, past president of both the Tuna Club and Tuna Club Foundation of Santa Catalina Island, boat owner, and author of half-dozen books on the history and art of big-game fishing. While not very impressive, my scientific credentials include working as a scientist aboard a tag-and-release cruise for big tuna in the 1980s sponsored by the Inter-American Tropical Tuna Commission and the publication (through the South Pacific Commission) of a white paper on baitfish aquaculture in the western tropical Pacific. While I rank as no expert, I'm not a complete dilettante either.

From my perspective in southern California, commercial harvesting of forage species such as squid, anchovies, and squid is nearing free-for-all levels. On the windward side of Catalina during squid season, it is not uncommon to see 50 or more commercial vessels lit up at night in their relentless hunt for squid. As you are no doubt aware, the resurgence of white seabass in California waters over the last few years has been a tremendous boom to both recreational and commercial fishermen. I believe - and the evidence suggests - that their return to local waters is due partly to population cycles, partly to extended closures, and partly to the recent abundance of squid in and around Catalina's shallows. It is impossible to see how the enormous commercial pressure being now being put on squid populations won't have a deleterious effect on seabass abundance... and soon. Other species on up the food chain will be affected similarly. If this one local example is a reflection of pressure up and down the Pacific seaboard, it is imperative that sensible management be introduced into the mix.

The Pacific sardine is of course another example, and here one can only marvel at Steinbeck's descriptions of the incredible abundance that once existed. All the same, that great fishery lasted for only a few decades before being almost completely eradicated ... and here we are at the abyss once again.

While the recreational angling community as a group has been a regrettable impediment to recent MLPA introductions in southern California, please know that THIS angler is in full agreement with those management efforts and again with the ones now pending. Thus, please utilize all good sense when reviewing this matter and take the steps needed to introduce order into this chaotic and ultimately destructive fishery.

Sincerely,

Mike Rivkin
Silverfish Press

Ms. Dorothy M. Lowman
Chair
Pacific Fishery Management Council
7700 NE Ambassador Place, Suite 101
Portland, Oregon 97220-1384

RE: Agenda Item J.1. Unmanaged Forage Fish Initiative

Dear Chairman Lowman and Council Members:

I am grateful of the work the council endeavors to accomplish. The Council has made steady progress over the past two years in laying the groundwork for establishing regulatory protections for currently unmanaged forage fish species, an initiative which takes into account the many networks in the ocean food web and how everything is interconnected.

As the chef at Alchemy Cultural Fare & Cocktails, a southern California restaurant based out of San Diego, it is my food philosophy to let the products speak for themselves. The diverse menu at Alchemy is a testament to my ideals, eclectic background, and commitment to sustainability. I am conscious of the effects a productive marine environment has on the food that I serve to my diners, which is why Alchemy has set out to educate the community on the importance of sustainable seafood, including fishing practices. I understand that maintaining a healthy, balanced, and productive Pacific Ocean is everyone's responsibility.

That is why today, I encourage you to select alternative 2.2.1 as the preliminary preferred option for protecting currently unmanaged forage fish by incorporating them into all of the council's existing fishery management plans as ecosystem component species.

During your meeting in April, I encourage you to pick alternative 2.2.1 as the preliminary preferred option and release the range of alternatives for public comment. The Council's Ecosystem Working Group has delivered a new report justifying your decision to conserve these

forage species, both because of their importance to the California Current ecosystem and because of growing worldwide demand to catch them.

These steps will ensure that the Council achieves its goal of basic management protections for unmanaged forage fish. In so doing, you will fulfill the first initiative of the Council's Fishery Ecosystem Plan, a visionary document that the council approved unanimously a year ago. By protecting forage fish as a key link in the marine food web, we can maintain a healthy marine ecosystem, including the valuable sustainable fisheries we rely upon.

I am heartened that the Council recognizes the need to protect these ecologically critical and economically viable species. Thank you for your conservation leadership on this pressing issue. I look forward to the Council taking positive action that gives everyone the security of knowing we can rely on a healthy ocean to provide an economic engine for years to come.

Respectfully yours,

Ricardo Heredia, Executive Chef/Partner
Alchemy Cultural Fare & Cocktails

From: <s.malloch@comcast.net>
Date: Sun, Mar 30, 2014 at 11:17 AM
Subject: Pacific Forage Fish
To: pfmc.comments@noaa.gov

Steves Malloch
4322 Sw graham st
seattle, WA 98136-1438

March 30, 2014

Comments Pacific Fisheries Management Council

Comments Pacific Fisheries Management Council:

It's simple. Big fish eat little fish. Little fish need your protection. Let's stop thinking only of the management of sport fisheries like salmon and steelhead. The issue revolves more around the notion of entire food-chain protection, which is why I write.

The Council has made steady progress over the past two years in laying the groundwork for establishing regulatory protections for currently unmanaged forage fish species. Today, I ask that

you select alternative 2.2.1 as the preliminary preferred option for protecting currently unmanaged forage fish by incorporating them into all of the council's existing fishery management plans as ecosystem component species.

During your meeting in April, I encourage you to pick alternative 2.2.1 as the preliminary preferred option and release the range of alternatives for public comment. The Council's Ecosystem Working Group has delivered a new report justifying your decision to conserve these forage species, because of their importance to the health of our salmonids sport fishery recovery, California Current ecosystem and because of growing worldwide demand to catch them.

These steps will ensure that the Council achieves its goal of basic management protections for unmanaged forage fish. In so doing, you will fulfill the first initiative of the Council's Fishery Ecosystem Plan, a visionary document that the council approved unanimously a year ago. By protecting forage fish as a key link in the marine food web, we can maintain a healthy marine ecosystem, including the valuable sustainable fisheries we rely upon. Each year we spend countless hours and dollars working on inland habitat issues for trout and salmon. Protecting those fish they eat in the open ocean is a simple, cost-effective method to ensure our work on land pays off for those fish as they return to their ocean habitat.

Thank you for your continued commitment to maintain a healthy and productive Pacific Ocean.

Sincerely,
Steve Malloch

From: David Smith <david@theotherfirm.com>

Date: Sun, Mar 30, 2014 at 11:02 AM

Subject: Unmanaged Forage Fish Initiative

To: pfmc.comments@noaa.gov

Dear Chair Lowman and Council Members,

The Council has made steady progress over the past two years in laying the groundwork for establishing regulatory protections for currently unmanaged forage fish species. Today, I ask that you select alternative 2.2.1 as the preliminary preferred option for protecting currently unmanaged forage fish by incorporating them into all of the Council's existing fishery management plans as ecosystem component species. I also encourage you to release the range of alternatives for public comment.

The Council's Ecosystem Working Group has delivered a new report justifying your decision to conserve these forage species, both because of their importance to the California Current ecosystem and because of growing worldwide demand to catch them.

These steps will ensure that the Council achieves its goal of basic management protections for unmanaged forage fish. In so doing, you will fulfill the first initiative of the Council's Fishery Ecosystem Plan, a visionary document that the council approved unanimously a year ago.

Demand for cheap fish meal from the rapidly growing global aquaculture industry will increase the likelihood that industrial-scale fishing will expand to forage species that aren't currently fished on the West Coast. Getting management measures in place sooner rather than later makes sense, especially as worldwide demand on our oceans grows more intense. By protecting forage fish as a key link in the marine food web, we can maintain a healthy marine ecosystem, including the valuable sustainable fisheries we rely upon.

Thank you for your continued commitment to maintaining a healthy and productive Pacific Ocean.

Sincerely,

David Smith
3410 NE Multnomah
Portland, OR 97232

From: Chris Lish <lishchris@yahoo.com>

Date: Sun, Mar 30, 2014 at 7:41 AM

Subject: Protect Critical Prey for Ocean Wildlife -- J.1. Unmanaged Forage Fish Initiative

To: "pfmc.comments@noaa.gov" <pfmc.comments@noaa.gov>

Pacific Fishery Management Council
7700 NE Ambassador Place, Suite 101
Portland, Oregon 97220-1384

Subject: Protect Critical Prey for Ocean Wildlife -- J.1. Unmanaged Forage Fish Initiative

Dear Chair Lowman and council members:

The Pacific Fishery Management Council has made steady progress over the past two years in laying the groundwork for regulations to protect currently unmanaged forage fish species. Today,

I ask that you select alternative 2.2.1 as the preliminary preferred option for protecting such fish by incorporating them into all of the council's existing fishery management plans as "ecosystem component species."

"Our duty to the whole, including to the unborn generations, bids us to restrain an unprincipled present-day minority from wasting the heritage of these unborn generations. The movement for the conservation of wildlife and the larger movement for the conservation of all our natural resources are essentially democratic in spirit, purpose and method."

-- Theodore Roosevelt

During your meeting in April, I encourage you to pick this preliminary preferred option and release the range of alternatives for public comment. The council's Ecosystem Working Group has delivered a new report that justifies your decision to conserve these forage species, because of their importance to the California Current ecosystem and growing worldwide demand to catch them.

"As we peer into society's future, we—you and I, and our government—must avoid the impulse to live only for today, plundering for our own ease and convenience the precious resources of tomorrow. We cannot mortgage the material assets of our grandchildren without risking the loss also of their political and spiritual heritage. We want democracy to survive for all generations to come, not to become the insolvent phantom of tomorrow."

-- President Dwight D. Eisenhower

These steps would ensure that the council achieves its goal of basic management protection for unmanaged forage fish. In so doing, you would fulfill the first initiative of the council's Fishery Ecosystem Plan.

"Every man who appreciates the majesty and beauty of the wilderness and of wild life, should strike hands with the farsighted men who wish to preserve our material resources, in the effort to keep our forests and our game beasts, game-birds, and game-fish—indeed, all the living creatures of prairie and woodland and seashore—from wanton destruction. Above all, we should realize that the effort toward this end is essentially a democratic movement."

-- Theodore Roosevelt

By protecting forage fish as a key link in the California Current's marine food web, we can maintain a healthy ecosystem, including the valuable sustainable fisheries we rely upon.

"A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise."

-- Aldo Leopold

Thank you for your continued commitment to preserve a healthy and productive Pacific Ocean and for your consideration of my comments. Please do NOT add my name to your mailing list. I will learn about future developments on this issue from other sources.

Sincerely,
Christopher Lish
Olema, CA

From: Boone Ogden <boone.ogden@gmail.com>
Date: Sun, Mar 30, 2014 at 12:05 AM
Subject: protecting our baitfish
To: pfmc.comments@noaa.gov

Dear PFMC,

I am writing today to urge you to consider a ban on any new harvest of baitfish.

I am sure that you understand the importance of the health of these stocks; and its impact on Salmon, Tuna, and other commercial and recreationally harvested seafood.

Without these small, important fish supporting the food web, I worry that our harvestable stocks of Seafood will dwindle.

My main source of income, here on the Central Oregon coast, is a niche Catering company specializing in
Fresh, Local, Wildcrafted foods, Mainly Seafood.

I ask the council to consider a ban on any new forage fish fisheries until we truly grasp their importance in the whole ocean food web.

A food web I depend on for the Fresh Local Seafood I serve to my customers.

With many fish stocks either already depleted or at historically low numbers, and without a complete understanding of how this complex ocean ecosystem works, I simply cannot see how a new fishery on baitfish is prudent,

However, If any new baitfish fishery were to be proposed, I hope the council would use the best and most thorough
scientific based approach available to ensure that our Ocean gets healthier, fish stocks grow, and that we can all enjoy and profit from it

Thank you for your efforts,

Boone Ogden
Mandala Catering
Seal Rock, OR

mandalacatering.blogspot.com
From: Mike McMann <mdmcmann99@gmail.com>
Date: Sat, Mar 29, 2014 at 4:20 PM
Subject: Re: Feeder Fish
To: pfmc.comments@noaa.gov

On Sat, Mar 29, 2014 at 4:14 PM, Mike McMann <mdmcmann99@gmail.com> wrote:
Dear Public Fisheries Management Council:

Thank you for proposing a number of initiatives over the past 2 years to conserve forage fish. The Council should continue to release, for public comment, a spectrum of alternatives to protect this valuable ocean food source. Recently science has noted the decline of the Stellar's Sea Lion off the coast of Alaska. The decline in the feeder fish in that area, which provide the main food for the fish stock that the Sea Lion eats, is blamed for this decline.

Please approve and initiate your recently proposed option: 2.2.1 as outlined in the recent report from the council's Ecosystem Working Group. This option incorporates currently unmanaged forage fish so that they can be managed under current management plans. This will allow qualified management of feeder fish and hopefully prevent the Sea Lion from being red listed like the Marbled Murrelet.

Thank you for allowing public input on this deeply important issue.

Michael McMann
Audubon Society Member- Tucson & Portland

From: **Abigail DeYoung** <nwecotours@gmail.com>
Date: Sat, Mar 29, 2014 at 1:23 PM
Subject: Forage Fish Comments
To: pfmc.comments@noaa.gov

3/28/2014

Pacific Fisheries Management Council
Dorothy M. Lowman, Chair

7700 N.E. Ambassador Place, Suite 101
Portland, Oregon 97220-1384

Agenda Item I.1. Unmanaged Forage Fish Initiative

Dear Chair Lowman and Council Members:

I have recently received my guide license from the State of Oregon for my new business, Northwest Ecotours. As a coastal resident who has just invested in an industry which is solely supported by tourism, the issue of marine conservation has become of primary concern to me. I understand that you have been steadily working toward establishing protections for our currently unmanaged forage fish species and I am extremely grateful for your efforts. I'm sure you already know that forage fish are a vital part of the food web in the entire California Current Ecosystem. As prey, they provide nutrition for a range of marine wildlife from seabirds to seals which are a huge draw to tourists from all over the world. They also provide a major portion of the diet of our larger fish like tuna, rockfish and salmon that sport fishermen come to catch. The people who visit Oregon's coast for its natural beauty and bounty are our customers, so I too will be relying on forage fish for my livelihood.

Because of these facts I am urging the Council to **approve and release for public comment a range of alternatives to protect currently unmanaged forage fish and to select option 2.2.1, the Ecosystem Trophic Role Pathway, as the preliminary preferred alternative.**

Continuing work to protect forage fish is crucial to me as a business owner whose clients visit the coast to enjoy the stunning beauty of Oregon's marine life. In the mid coast region, my business will be doing tide-pooling, foraging and wildlife tours, as well as drift fishing and ocean charter fishing. The success of my business depends on assuring that our seabird colonies, whales, marine mammals and traditional sport fish populations remain robust and healthy. As indicated in Chapter 3 of the Workgroup's report, each and every one of the forage fish being considered by the Council serve as food for seabirds and marine mammals.

I believe these small fish are at risk without being protected as ecosystem component species in each of the fisheries management plans. In my opinion, it makes smart business sense to take precautionary steps to assure that an asset that is fundamental to the health of our coast – and to our coastal tourism sector -- is adequately protected before proposals to harvest them push us into future conflicts and force us to be reactive rather than proactive.

For the past four years, I have participated in planning for our ocean's future through establishing marine reserves and marine protected areas, as well as planning for renewable energy siting within our territorial sea. This has been financially difficult for me as I have had to take days off of work to attend meetings and join groups going to Salem. However, I know that having these protections and plans in place is crucial in order to sustain our coastal business communities and the marine life on which they all depend.

I believe the Fisheries Ecosystem Plan will help serve the same purpose and appreciate the Council's vision and commitment to advancing it through implementation of Initiative 1. **That's**

why I urge the Council to take the next step by adopting alternative 2.2.1 as the preliminary preferred alternative and moving the package forward for review and ultimately adoption. This option incorporates currently unmanaged forage fish as ecosystem component (EC) species within each of the Council's existing Fishery Management Plans (FMP) where basic conservation measures can be put in place to prevent the development of new directed commercial fisheries absent a strong science and management framework.

I believe using Alternative 2.2.1 as a framework for the Council's oversight of forage fish makes the most sense of the three pathways outlined under Chapter 2 of the report because it provides clear recognition that forage fish provide important linkages within an interconnected ecosystem that includes upper trophic level species of seabirds, whales and other marine mammals that are of great interest and concern to those of us who make our living on the coast.

I would just like to reiterate that for me and other coastal business owners who rely on natural-resource-based tourism, the protection of forage fish is essential to our economic survival. By advancing a range of alternatives for public comment and settling on alternative 2.2.1 as the preliminary preferred alternative, the Council will be advancing a proactive and precautionary approach to management that will serve to sustain not only forage fish but coastal businesses that depend on a having a healthy ocean.

Thank you for your consideration.

Sincerely,

Abigail DeYoung
Northwest Ecotours

From: **Andrea Scharf** <dreams@peak.org>

Date: Sat, Mar 29, 2014 at 9:05 AM

Subject: forage fish

To: pmmc.comments@noaa.gov

Cc: jliebezeit@audubonportland.org, Paul Engelmeyer <pengelmeyer@peak.org>

RE: J.1. Unmanaged Forage Fish Initiative

Dear Chair Lowman and Council Members,

Everything that can be done should be done to protect the complex web of life that depends on a healthy, productive marine environment. The Council now has an opportunity to protect currently unmanaged forage fish which support a vital link in the marine food web.

I would like to add my voice to all those concerned people who support the Council selecting alternative 2.2.1 as the preferred option for protecting unmanaged forage fish, and to release the range of alternatives for public comment.

Thank you for your continued commitment to maintaining a healthy and productive Pacific Ocean.

Sincerely,

Andrea Scharf, 9777 Yachats River Road, Yachats OR 97498

From: **Doug Heiken** <dh@oregonwild.org>

Date: Fri, Mar 28, 2014 at 7:39 PM

Subject: Unmanaged Forage Fish Initiative

To: pfmc.comments@noaa.gov

Cc: jliebezeit@audubonportland.org, Paul Engelmeyer <pengelmeyer@peak.org>

FROM; Doug Heiken, Oregon Wild | PO Box 11648, Eugene, OR 97440 | [541-344-0675](tel:541-344-0675) | dh@oregonwild.org

TO: Pacific Fisheries Management Council

DATE: 28 March 2014

RE: Agenda Item I.1. Unmanaged Forage Fish Initiative

Dear Chair Lowman and Council Members:

Please accept the following comments from Oregon Wild regarding Agenda Item I.1. Unmanaged Forage Fish Initiative.

First, we would like to thank the Council for taking great strides over the past two years to conserve forage fish as a critical food source for marine life.

We remain concerned that global demand for cheap fish meal from the rapidly growing global aquaculture industry will increase the likelihood that industrial-scale fishing will expand to forage species that aren't currently fished on the West Coast. It is imperative to put management measures in place for these unmanaged fish sooner rather than later, especially as worldwide demand on our oceans grows more intense.

We urge the Council to build on its prior efforts by approving and releasing for public comment a range of alternatives to protect currently unmanaged forage fish.

As outlined in the new report from the council's Ecosystem Working Group, the Council should make option 2.2.1 preferred alternative. This option incorporates currently unmanaged forage fish in existing fishery management plans, where basic conservation measures can be put in place.

The Lenfest Forage Fish Task Force highlights the importance of proper management of forage fish:

The ecological and economic importance of forage fish, along with their tendency to react in unexpected ways to fishing pressure, require that forage fish exploitation be carefully managed to sustain predators and support ecosystem functions. Even in cases where forage fish are well-managed from a single species perspective (i.e., a particular fish species is not overfished), removals may negatively affect the ecosystem as a whole. It is widely acknowledged that the interconnected nature of marine populations requires a multispecies approach where populations are managed in a broader context.

Recognizing that "Forage fish serve an important ecological role in the food webs of many coastal and marine ecosystems. They form an essential link between microscopic plants (phytoplankton) and animals (zooplankton) and top predators (large fish, marine mammals, and birds). Scientists estimate that total consumption of forage fish by the world's marine mammals can amount to 20 million tons a year." (pewenvironment.org) we urge the council to adopt a precautionary, ecological approach and account for the ecological role of forage fish throughout the food chain when setting catch limits.

Thank you for considering our comments.
Sincerely,

Doug Heiken, Oregon Wild
PO Box 11648, Eugene OR 97440
dh@oregonwild.org, [541.344.0675](tel:541.344.0675)

From: **Lind, Yancy A - BEND OR** <yancy_lind@ml.com>
Date: Fri, Mar 28, 2014 at 1:57 PM
Subject: Unmanaged Forage Fish Initiative
To: "pfmtc.comments@noaa.gov" <pfmtc.comments@noaa.gov>

Pacific Fisheries Management Council
Dorothy M. Lowman, Chair
7700 N.E. Ambassador Place, Suite 101
Portland, Oregon 97220-1384
Unmanaged Forage Fish Initiative
Dear Chair Lowman and Council Members,

Central Oregon Flyfishers is an organization of approximately 300 anglers based in Bend, Oregon. While far from the ocean we often target anadromous fish that journey to our part of the state. We thank you for your efforts to conserve forage fish as a critical food source for marine life such as anadromous fish. We asked that you continue to protect currently unmanaged forage fish via adoption of preferred alternative option 2.2.1 outlined in the new report from the council's Ecosystem Working Group.

Thank you for your consideration,

Yancy Lind
Conservation Chair, Central Oregon Flyfishers

March 28, 2014

Pacific Fisheries Management Council
Dorothy M. Lowman, Chair
7700 N.E. Ambassador Place, Suite 101
Portland, Oregon 97220-1384

Agenda Item I.1. Unmanaged Forage Fish Initiative

Dear Chair Lowman and Council Members:

American Bird Conservancy appreciates this opportunity to comment and thanks the Council for taking great strides over the past two years to conserve forage fish as a critical food source for marine life.

We urge the Council to continue making progress by approving and releasing for public comment a range of alternatives to protect currently unmanaged forage fish.

We urge the Council to adopt as a preferred alternative – option 2.2.1 – outlined in the new report from the council's Ecosystem Working Group. This option incorporates currently unmanaged forage fish in existing fishery management plans, where basic conservation measures can be put in place.

Demand for cheap fish meal from the rapidly growing global aquaculture industry will increase the likelihood that industrial-scale fishing will expand to forage species that aren't currently fished on the West Coast. Getting management measures in place sooner rather than later makes sense, especially as worldwide demand on our oceans grows more intense.

Sincerely,

Steve Holmer
Senior Policy Advisor
American Bird Conservancy

From: **Jim Richardson** <JJSRichardson@frontier.com>

Date: Thu, Mar 27, 2014 at 1:31 PM

Subject: We need to protect our forage fish.

To: pfmc.comments@noaa.gov

To whom it may concern,

We need to protect the forage fish from possible over harvesting by industry. They are needed in the wild to support the larger levels of life that feed on them. This makes them a very important part of the total food chain in the seas. Humans rely heavily on the sea as sources of food and so do many of the other species that live there. Please take action now to put in place controls that will protect our forage fish.

Thank you.

Jim & Jeanie Richardson

From: **Ethan Barrow** <ethan@adventuresacrossor.com>

Date: Thu, Mar 27, 2014 at 5:30 PM

Subject: Strongest Possible Pathway for Forage Fish Management / Agenda Item I.1.

Unmanaged Forage Fish Initiative

To: "pfmc.comments@noaa.gov" <pfmc.comments@noaa.gov>

Dear NOAA Council Members:

Thank you for taking great strides over the past two years to conserve forage fish as a critical food source for marine life.

Pertaining to agenda item I.1. Unmanaged Forage Fish Initiative, this email is to request the following:

§ The council continue to make progress by approving and releasing for public comment a range of alternatives to protect currently unmanaged forage fish.

§ The council settle on a preferred alternative (option 2.2.1 – outlined in the new report from the council's Ecosystem Working Group). This option incorporates currently unmanaged forage fish in existing fishery management plans where basic conservation measures can be put in place.

§ Getting management measures in place sooner rather than later which makes a lot of sense, especially as worldwide demand on our oceans grows.

We sincerely appreciate your help on this effort and the other work you continue to do on behalf of NW native fish and habitat.

Respectfully,

Ethan Barrow

Oregon Outfitter/Guide #4805

Adventures Across Oregon

[800.348.0492](tel:800.348.0492) (Toll Free)

[503.707.4588](tel:503.707.4588) (Cell)



March 31, 2014

Dorothy Lowman, Chair
Pacific Fishery Management Council
1100 NE Ambassador Place, #101
Portland, OR 97220

RE: Agenda Item 1.1 (Unmanaged Forage Fish Initiative)

Dear Chair Lowman and Council Members:

On behalf of Audubon California's 55,000 members, and Shearwater Journeys, we are pleased to support the Ecosystem Work Group's (EWG) report *Ecosystem Initiative 1: Protecting unfished and unmanaged forage fish species of the U.S. portion of the California Current Large Marine Ecosystem* (EWG Report). The report goes far to fulfill the Fishery Ecosystem Plan's (FEP) Initiative 1 (E1-1). We respectfully request that at its April meeting, the Council endorse the report, select a preliminary preferred alternative, and begin the public comment process with the goal of completing action this year to incorporate select forage species into the Council's existing Fishery Management Plans (FMPs).

Audubon's members and Shearwater Journey's customers care deeply about the >100 species of seabirds that regularly use our coastal waters. These include the Short-tailed Albatross - one of only three North Pacific albatrosses - rescued from the brink of extinction by dedicated biologists in Japan and the U.S. Millions of dollars were put in place to implement a Recovery Plan for the albatross following its listing under the Endangered Species Act. Another beloved species is the Common Murre, a locally breeding seabird, also recovered, in this case from historic egg collecting and gill net use in coastal waters. In California and northern Mexico alone, over \$90 million has been invested in murre and other seabird colony restoration.¹ Seabirds are highly responsive to colony restoration and these investments of precious conservation dollars have been successful. In sum, our interest in protecting the forage base in the CCLME reflects both our members' and customers' passion for seabirds, as well as the substantial financial investment in seabird island restoration on the part of the U.S. and international partners.

¹ Hampton, Steve. Natural Resource Economist, CDFW. Personal Communication. 2013.

Regarding the EWGs report, specifically, we recommend the Council:

- Adopt the range of alternatives in the EWG report, and select Alternative 2.2.1 as the preliminary preferred alternative;
- Add additional forage taxa important to seabirds to the list of potential species to be added to FMPs, and adopt this list;
- Add a mechanism for future consideration of additional taxa to be included as forage species in FMPs; and
- Adopt a process and schedule for action in the coming months, with the goal of adoption of FMP amendments at the November 2014 Council meeting.

Adopt the range of alternatives in the EWG report, and select Alternative 2.2., the Ecosystem Trophic Role Pathway, as the preliminary preferred alternative.

The Alternatives provided are consistent with Council's policy objective of prohibiting new directed fishing in the absence of basic stock information and management measures. Any new directed fishing would require an FMP amendment which would address management measures such as harvest specifications and identification of Essential Fish Habitat. We agree with the EWG that most species subject to this action should be represented in more than one Council FMP. Alternative 2.2.1. is most consistent with an ecosystem-based approach to fisheries management, and with the Fishery Ecosystem Plan's goal of supporting approaches that:

...coordinate Council management across its FMPs and the CCE, and...coordinate information across FMPs for decision making within the Council process and for consultations with other regional, national and international entities on actions affecting the CCE and FMP species.

This approach is particularly suitable when considering new and emerging information about the high level of diversity in the diets of CCS predators. Point Blue Conservation Science and colleagues recently completed a synthesis of the diets of a diversity of taxa of marine predators (seabirds, fish, pinnipeds, porpoises and sharks), over space and time.² The synthesis found:

The key to existing as an upper trophic level predator in the CCS is the ability to switch prey at within- and between-seasonal, inter-annual and decadal scales in response to inherent variability in the preyscape and the needs of the predator...while the classic "forage species" are prevalent in predator diets of the CCS (e.g. anchovy, herring, sardine), juveniles of important federally managed species (e.g., salmon, rockfish, hake) as well as several invertebrates (krill, market squid, octopus) are equally prevalent.

The foundational importance of retaining the full spectrum of prey species in order to allow prey-switching in the CCS is underscored by data on predator diets analyzed in this synthesis showing dramatic prey-switching and the use of many types of prey over space and time (Figure 1, for Brandt's Cormorant, Common Murre, and Pigeon Guillemot.)

² Ainley, D., P. Adams, and J. Jahncke. 2014. Towards ecosystem based-fishery management in the California Current System – Predators and the preyscape: a workshop. Unpublished report to the National Fish and Wildlife Foundation. Point Blue Conservation Science, Petaluma, California. Point Blue contribution number 1979.

Add additional taxa important to seabirds to the list of potential species to be added to FMPs, and adopt this list.

The EWG report recommends the Council at its April meeting review the list of potential species to be added to FMPs and various ecological, biological, economic and other attributes known for these species. We recommend the Council endorse this list for inclusion in E1-1, **plus the following taxa:**

- Pelagic squids of the families *Cranchiidae* (glass squids), *Octopoteuthidae* (octopus squids) and *Histioteuthidae* (cock eyed squids)

The Council's September 2013 motion identified all pelagic squids other than Humboldt squid as "species needing additional protection against development of new unmanaged fisheries" and therefore appropriate for inclusion in E1-1. According to a newly available comprehensive database developed by the Farallon Institute for Advanced Ecosystem Research focused on the diets of predators - the California Current Predator Diet Database (CCPDD) - there are 29 records of 4 seabird species consuming *Cranchiidae*; 10 records of two seabird species consuming *Octopoteuthidae*; and 5 records of three species consuming *Histioteuthidae*.³ Additionally, the Point Blue synthesis found the generalized category of "squid" is the third most important forage item in the CCS.

- Octopi, family *Octopodidae*

We recommend the family *Octopodidae* be added to the list of potential species to be added to FMPs. In the CCPDD, there are 14 records of seven seabird species consuming octopi, including Common Murre, shown feeding on an octopus in Figure 1. In the Point Blue synthesis, the generalized category "octopus" is the 15th most important forage item for CCS predators.

Consider a mechanism for future consideration of additional taxa for inclusion as EC species species in FMPs.

It is possible that an ecologically important unmanaged species that is not on the final list is at some later point identified. The Council may consider including a provision in the FMPs allowing for consideration of emergency measures or an FMP amendment. The "point of concern framework" within the CPS FMP may provide a structure for such a provision. The point of concern framework is

"the Council's primary tool (along with setting HGs, ACLs, ACTs, or harvest quotas) for exercising resource stewardship responsibilities...the Council may act quickly and directly to address resource conservation or ecological issues."

Adopt a process and schedule for action on FMP amendments in the coming months, with the goal of adoption of FMP amendments at the November 2014 Council meeting.

In section 1.3 of the report the EWG suggests a schedule and process for developing E1-1. We urge the Council to follow these recommendations leading to final Council action – selection of the final preferred alternative and adoption of FMP regulatory language- preferably at the November Council meeting.

In conclusion, Audubon and Shearwater Journeys appreciate the Council's attention to this critical issue and the EWG's fine report. The Council's actions to protect these unmanaged,

³ Thayer, JA, AI Szoboszlai, WJ Sydeman (In prep) California Current predator diet database.

unfished forage species represents robust ecosystem management, and will go far to support our seabirds and other marine wildlife. We are looking forward to further engagement on this issue in the coming year.

Sincerely,

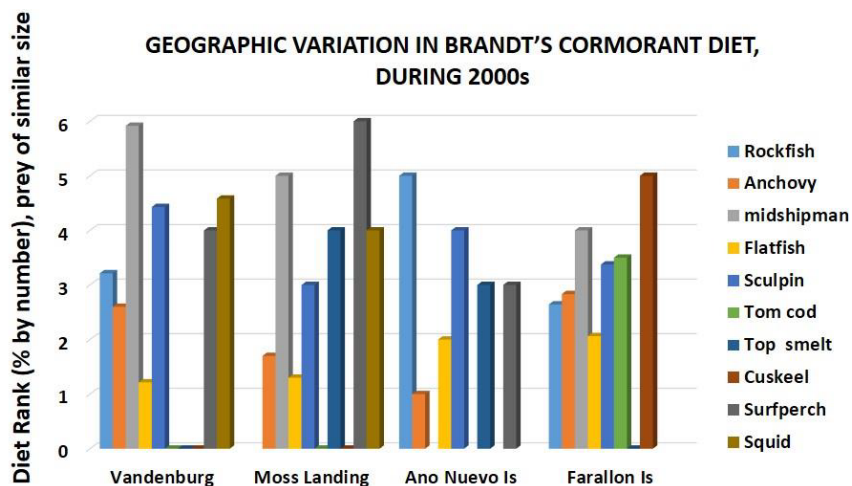
Anna Weinstein



Seabird and Marine Program Director, Audubon California

Debi Shearwater, Shearwater Journeys

Figure 1. Geographic variation in the diet of three seabird species in the CCS: top, Brandt's cormorant; middle, common murre; and bottom, pigeon guillemot. Note: shortest bar is the highest rank.



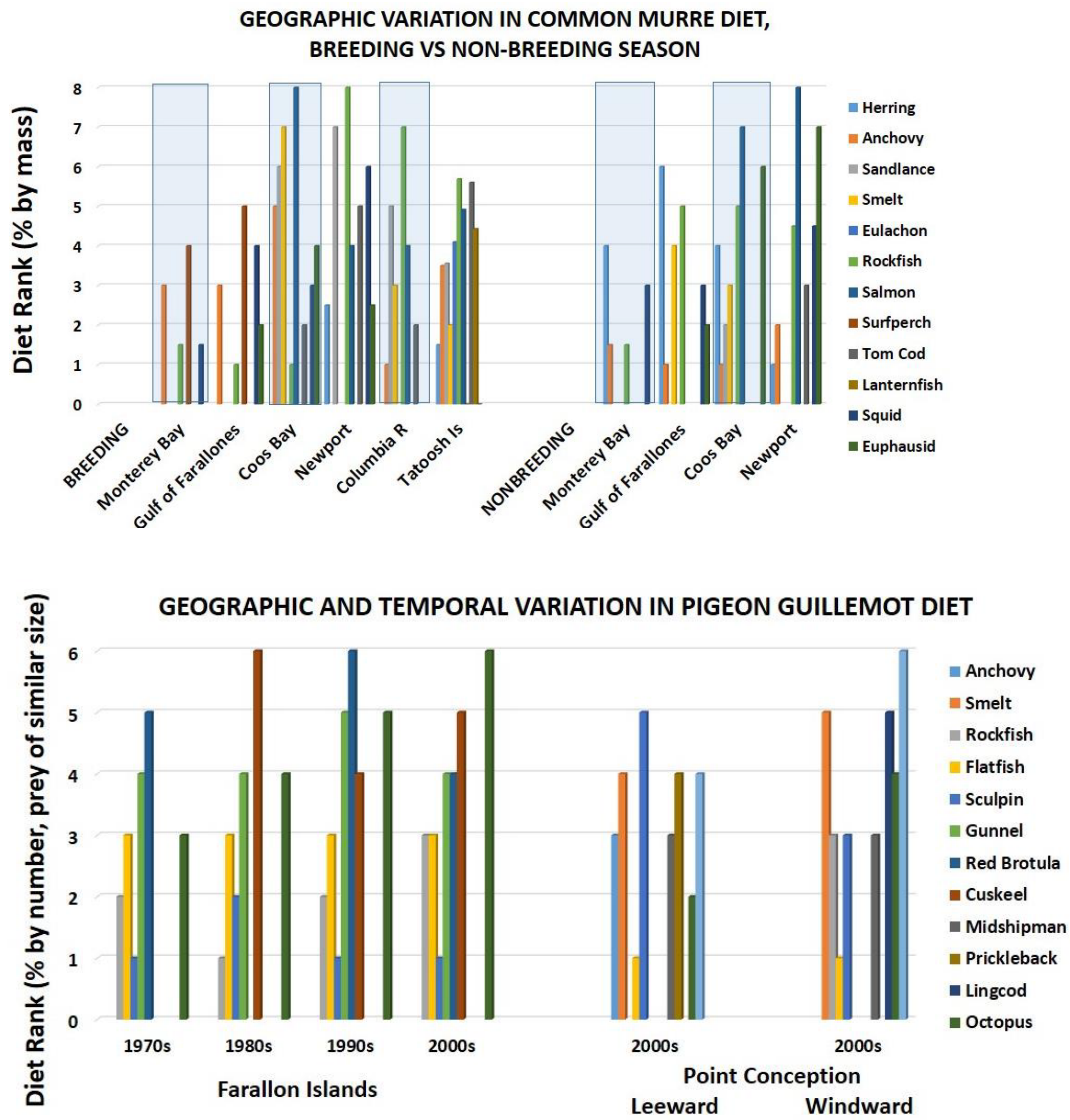


Figure 2. Common Murre with octopus, northern California. Photo by Ron LeValley.

