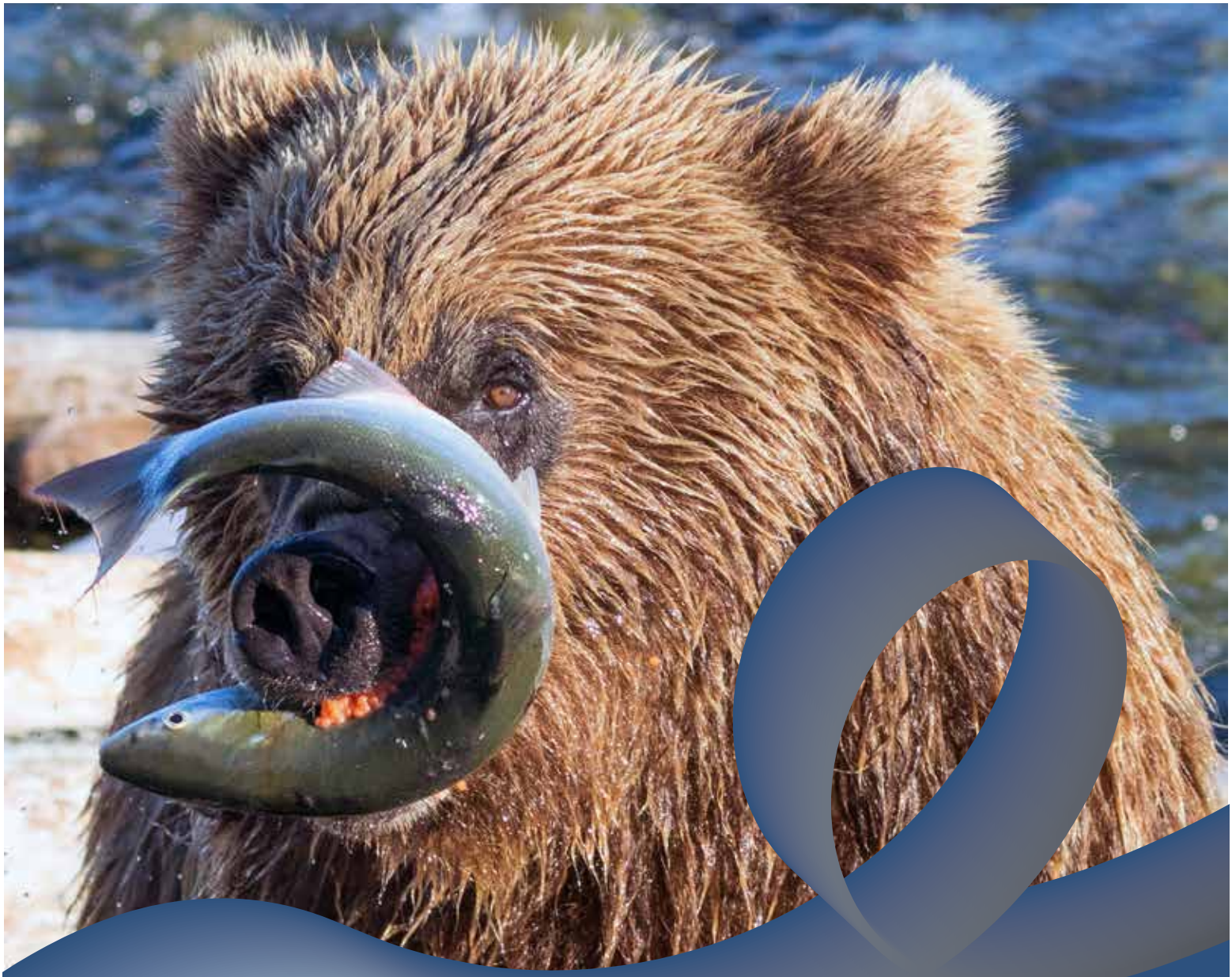

KODIAK/ALEUTIANS SUBSISTENCE REGIONAL ADVISORY COUNCIL

Meeting Materials

February 22 - 23, 2017

Kodiak

What's Inside

On the cover...

The "circle of life."

Photo by David Bachrach

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KODIAK/ALEUTIANS SUBSISTENCE REGIONAL ADVISORY COUNCIL

Best Western Kodiak Inn
Kodiak

February 22-23, 2017
9:00 a.m. daily

TELECONFERENCE: call the toll free number: 1-866-820-9854 , then when prompted enter the passcode: 4801802

PUBLIC COMMENTS: Public comments are welcome for each agenda item and for regional concerns not included on the agenda. The Council appreciates hearing your concerns and knowledge. Please fill out a comment form to be recognized by the Council chair. Time limits may be set to provide opportunity for all to testify and keep the meeting on schedule.

PLEASE NOTE: These are estimated times and the agenda is subject to change. Contact staff for the current schedule. Evening sessions are at the call of the chair.

AGENDA

*Asterisk identifies action item.

1. **Invocation**
2. **Call to Order** (*Chair*)
3. **Roll Call and Establish Quorum** (*Secretary*).....3
4. **Welcome and Introductions** (*Chair*)
5. **Review and Adopt Agenda*** (*Chair*) 1
6. **Review and Approve Previous Meeting Minutes*** (*Chair*) 7
7. **Council Officer Elections**
   - Chair (DFO)
   - Vice-Chair (Chair)
   - Secretary (Chair)
8. **Reports**
   - Council Member Reports
   - Chair's Report
9. **Public and Tribal Comment on Non-Agenda Items** (available each morning)

10. Old Business (*Chair*)

a. Revisions to Draft MOU with State of Alaska

11. New Business (*Chair*)

12. Agency Reports

(*Time limit of 15 minutes unless approved in advance*)

Tribal Governments

Native Organizations

USFWS

NOAA

ADF&G

13. Future Meeting Dates*

14. Closing Comments

15. Adjourn (*Chair***)**

To teleconference into the meeting, call the toll free number: 1-866-820-9854, then when prompted enter the passcode: 4801802

Reasonable Accommodations

The Federal Subsistence Board is committed to providing access to this meeting for all participants. Please direct all requests for sign language interpreting services, closed captioning, or other accommodation needs to Karen Deatherage, 907-786-3564, karen_deatherage@fws.gov, or 800-877-8339 (TTY), by close of business on February 10, 2017.

REGION 3
Kodiak/Aleutians Subsistence Regional Advisory Council

Seat	Year Apptd *Term Expires*	Member Name and Community	
1	2010 ***2019***	**Antone Shelikoff** Akutan	
2	2001 ***2019***	**Patrick Holmes** Kodiak	
3	2008 ***2019***	**Richard Koso** Adak	
4	2004 ***2019***	**Samuel Rohrer** Kodiak	
5	2011 ***2017***	**Thomas Schwantes** Kodiak	
6	2014 ***2017***	**Coral Chernoff** Kodiak	
7	2014 ***2017***	**Rebecca Skinner** Kodiak	
8	2009 ***2018***	**Della Trumble** King Cove	**Vice Chair**
9	2000 ***2018***	**Mitch Simeonoff, Sr.** Akhiok	**Chair**
10	2012 ***2018***	**Melissa Berns** Old Harbor	**Secretary**

U.S. Fish and Wildlife Service
Bureau of Land Management
National Park Service
Bureau of Indian Affairs

Federal Subsistence Board

News Release

Forest Service

For Immediate Release:
**This provides corrected information to News Release dated December 9, 2016*

Contact: Caron McKee
(907) 786-3880 or (800) 478-1456
caron_mckee@fws.gov

Secretaries of the Interior and Agriculture appoint members to Federal Subsistence Regional Advisory Councils

Secretary of the Interior Sally Jewell, with the concurrence of Secretary of Agriculture Tom Vilsack, has made appointments to the 10 Federal Subsistence Regional Advisory Councils. The Councils advise the Federal Subsistence Board on subsistence management regulations and policies and serve as a forum for public involvement in Federal subsistence management in Alaska. With these appointments (shown in bold), the current membership of the Councils is:

SOUTHEAST ALASKA
Steve K. Reifenstuhl, Sitka
Frank G. Wright Jr., Hoonah
Patricia A. Phillips, Pelican
Michael A. Douville, Craig
Harvey Kitka, Sitka
Robert Schroeder, Juneau
Albert H. Howard, Angoon
Donald C. Hernandez, Pt. Baker
Kenneth L. Jackson, Kake
Raymond D. Sensmeier, Yakutat
John A. Yeager, Wrangell
Michael D. Bangs, Petersburg
Cathy A. Needham, Juneau

SOUTHCENTRAL ALASKA
Diane A. Selanoff, Valdez
Eleanor Dementi, Cantwell
R. Greg Encelewski, Ninilchik
Deaniel E. Stevens, Chitina
Edward H. Holsten, Cooper Landing
Gloria Stickwan, Copper Center
James R. Showalter, Sterling
Michael V. Opheim, Seldovia
Andrew T. McLaughlin, Chenega Bay
Judith C. Caminer, Anchorage
Ingrid Peterson, Homer
Thomas M. Carpenter, Cordova
Ricky J. Gease, Kenai

KODIAK/ALEUTIANS
Antone A. Shelikoff, Akutan
Patrick B. Holmes, Kodiak
Richard Koso, Adak
Samuel I. Rohrer, Kodiak
Thomas L. Schwantes, Kodiak
Coral Chernoff, Kodiak
Rebecca Skinner, Kodiak
Della Trumble, King Cove
Speridon M. Simeonoff Sr., Akhiok
Melissa M. Berns, Old Harbor

BRISTOL BAY

Pete M. Abraham, Togiak
Dennis Andrew, Sr., New Stuyahok
Nanci A. Morris Lyon, King Salmon
Molly B. Chythlook, Dillingham
William J. Maines, Dillingham
Senafont Shugak, Jr., Pedro Bay
Dan O. Dunaway, Dillingham
Lary J. Hill, Iliamna
Victor A. Seybert, Pilot Point
Richard J. Wilson, Naknek

YUKON-KUSKOKWIM DELTA

William F. Brown, Eek
James A. Charles, Tuntutuliak
John W. Andrew, Kwethluk
Michael Peters, Marshall
Lester Wilde Sr., Hooper Bay
Dale T. Smith, Jr., Mekoryuk
Anthony Ulak, Scammon Bay
Annie C. Cleveland, Quinhagak
Dorothy G. Johnson, Mountain Village
Raymond J. Oney, Alakanuk
Greg J. Roczicka, Bethel
Robert E. Aloysius, Kalskag
David A. Bill, Sr., Toksook Bay

WESTERN INTERIOR ALASKA

Shirley J. Clark, Grayling
Donald V. Honea Jr., Ruby
Pollock Simon Sr., Allakaket
Raymond L. Collins, McGrath
Jack L. Reakoff, Wiseman
Darrel M. Vent, Sr., Huslia
Timothy P. Gervais, Ruby
Dennis R. Thomas, Sr., Crooked Creek
Jenny K. Pelkola, Galena
Fred W. Alexie, Kaltag

SEWARD PENINSULA

Theodore Katcheak, Stebbins
Brandon D. Ahmasuk, Nome
Louis H. Green Jr., Nome
Thomas L. Gray, Nome
Leland H. Oyoumick, Unalakleet
Fred D. Eningowuk, Shishmaref
Elmer K. Seetot Jr., Brevig Mission
Charles F. Saccheus, Elim
Ronald D. Kirk, Stebbins

NORTHWEST ARCTIC

Raymond Stoney, Kiana
Beverly M. Moto, Deering
Hannah P. Loon, Kotzebue
Michael C. Kramer, Kotzebue
Enoch Mitchell, Noatak
Verne J. Cleveland Sr., Noorvik
Louie A. Commack, Jr., Ambler
Enoch A. Shiedt Sr., Kotzebue
Percy C. Ballot Sr., Buckland
Calvin D. Moto, Deering

EASTERN INTERIOR ALASKA

Susan L. Entsminger, Tok Cutoff
Andrew P. Firmin, Fort Yukon
Lester C. Erhart, Tanana
William L. Glanz, Central
Andrew W. Bassich, Eagle
Will M. Koehler, Horsfeld
Donald A. Woodruff, Eagle
Virgil L. Umphenour, North Pole

NORTH SLOPE

Ester Hugo, Anaktuvuk Pass
Robert V. Shears, Wainright
Wanda T. Kippi, Atqasuk
Steve Oomituk, Point Hope
Sam Kunaknana, Nuiqsut
James M. Nageak, Anaktuvuk Pass
Gordon R. Brower, Barrow
Lee Kayotuk, Kaktovik
Rosemary Ahtaungaruak, Barrow

The Federal Subsistence Board is accepting applications for the 2017 appointment cycle until February 3, 2017. For more information, go to the Federal Subsistence Management Program website at https://www.doi.gov/subsistence/statewide.

Additional information on the Federal Subsistence Management Program may be found on the web at www.doi.gov/subsistence or by visiting www.facebook.com/subsistencealaska.

Missing out on the latest Federal subsistence issues? If you'd like to receive emails and notifications on the Federal Subsistence Management Program you may subscribe for regular updates by emailing fws-fsb-subsistence-request@lists.fws.gov.

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KODIAK/ALEUTIANS SUBSISTENCE REGIONAL ADVISORY COUNCIL
August 15-16, 2016
Grand Aleutian Hotel, Dutch Harbor, Alaska

Meeting Minutes

The meeting was called to order at 9:03a.m., Monday, August 15, 2016.

Roll call
A quorum was established with the following council members present or teleconferencing: Melissa Berns (via telephone), Coral Chernoff, Patrick Holmes, Rick Koso, Rebecca Skinner, Tom Schwantes, Antone Shelikoff, Della Trumble. Absent: Mitch Simeonoff, Samuel Rohrer

Agency Staff in Attendance
Karen Deatherage – Office of Subsistence Management, Anchorage
Orville Lind – Office of Subsistence Management, Anchorage
Karen Hyer – Office of Subsistence Management, Anchorage
Amee Howard, Office of Subsistence Management (via telephone)
Tom Evans, Office of Subsistence Management (via telephone)
George Pappas, Office of Subsistence Management (via telephone)
Glenn Chen, Bureau of Indian Affairs
Bruce Laudermilk, Bureau of Indian Affairs, Federal Subsistence Board
Greg Risdall, Izembek NWR
Stacey Lowe, Izembek NWR
Steve Delahanty, Alaska Maritime NWR
Marianne Aplin, Alaska Maritime NWR
Laura Kraegel, KUCB
Jim Paulin, Bristol Bay Times, Dutch Harbor Fishermen Weekly Newspaper.
Vince Tutiakoff, Sr., The Unalaska Corporation, President, Alaska Native Fishermen Assn.
Alvin Osterback, Sand Point
Peter Devine, Alaska Migratory Bird Co-Management Council (Aleutian Pribilof), and Harbor Seal Commission, Sand Point
Nick Lekanoff, Qawalangin Tribe of Unalaska, Alaska Native Fishermen Association
Frank Kelty, Unalaska City Council.
Sandra Moller, Ounalashka Corporation
Tyler Polum, Alaska Department of Fish and Game, Kodiak
Tom Robinson, Qawalangin Tribal President, Alaska Native Fishermen Association
Chris Price, Qawalangin Tribe, EP Region 10 Tribal Operations Committee
Doug Burns , Aleutian/Bering Sea Islands Landscape Conservation Cooperative, USFWS
Aaron, Poe Aleutian/Bering Sea Islands Landscape Conservation Cooperative, USFWS
Melissa Good, Alaska Sea Grant Program, Unalaska
Kelly Krueger, Sun'aq Tribe of Kodiak (via telephone)
John Reft, Sun'aq Tribe of Kodiak
Nate Svoboda, Alaska Department of Fish and Game, Kodiak (via telephone)
Jill Klein, Alaska Department of Fish and Game, Anchorage (via telephone)
Cindy Wardlow, Alaska Department of Fish and Game, Anchorage (via telephone)

Dan Rosenburg, Alaska Department of Fish and Game (via telephone)
Lisa Fox, Alaska Department of Fish and Game (via telephone)
Lisa Hutchinson-Scarbrough, Alaska Department of Fish and Game (via telephone)

Approval of Agenda
The agenda was amended by adding 1) State of Alaska-Federal Subsistence Board Draft Memorandum of Understanding 2) Buskin River report by Tyler Polum 3) Subsistence activities in the Aleutians and 4) Update from Nate Svoboda regarding Kodiak wildlife. Schwantes moved to approve the agenda as amended. Seconded by Koso and passed unanimously.

Approval of Minutes from the Winter, 2016 Meeting
Skinner moved to approve the minutes. Seconded by Schwantes and carried unanimously.

Council Member Reports.

Coral Chernoff – Chernoff does a lot of subsistence gathering and is a Native natural materials artist. She said its been a very warm winter in Kodiak. Deer, goat and salmon appear healthy. Kodiak did have one case of PSP this year. Chernoff is excited about the potential Emperor goose hunt, but concerned about crayfish in the Buskin Lake. She is really happy to be here in Dutch Harbor and looking forward to hearing what the community has to report, as well as any concerns.

Patrick Holmes Holmes said he was tickled to be here. He worked in the Aleutians in the 70's, 80's, and 90's. Holmes stated that pink salmon were way down on Kodiak, but the fish were big. Halibut appear to be quite a bit smaller. He is also very concerned about crawdads in Buskin Lake and feel they are probably eating salmon eggs.

Antone Shelikoff provided his comments in written form to the Council, as well as copies for the public.

Rebecca Skinner – Skinner participated in the Emperor goose meeting calls and is looking forward to the update later today. She thought weather was very odd, with very early berry flowers. Skinner is also concerned about crawfish in Buskin Lake and Buskin River. This is the primary subsistence salmon for Federal subsistence purposes on the Kodiak road system. Kodiak hosted the North Pacific Fishery Management Council in June, with good public participation and attendance. Skinner is also very happy to be in Dutch Harbor as it is her first time here.

Rick Koso – Koso used to fish out of Dutch Harbor in the 70's, 80's and 90's. but has been in Adak since 2001. He stated that subsistence has been very good in Adak. He is having trouble getting permits for salmon and halibut in Cold Bay. Cold Bay closed down so he had to go to Sand Point to get permits. He's happy that the federal government didn't get money to remove more caribou from Kagalaska. He stated that there are problems with hunters coming in to get caribou on Adak. It's becoming harder to find caribou on the road system so most people are taking boats. Koso would like to see another caribou survey done.

Tom Schwantes – Schwantes reported that the deer population on Kodiak has really rebounded. He is also observing a significant increase in the sea otter population, which he believes is having an impact on crab and shellfish populations. He's frustrated over the National Park Service and federal government regarding predator control regulations, as it seems they are totally ignoring subsistence users. Schwantes will be doing everything he can to get those regulations overturned. He thinks it's great to be in Dutch Harbor and appreciates all the efforts of those who helped get the Council there.

Melissa Berns – Berns reported that the Village of Old Harbor just finished a successful 2016 Nuniaq Culture Camp on Sitkalidak Island with subsistence harvesting demos for deer and halibut. The Camp was really thankful for obtaining an educational permit from ADF&G for the deer harvest and to Kodiak National Wildlife Refuge for processing equipment. The Camp also held mask carving, Alutiiq dancing and model kayak building events. Julie Matweyou with University of Alaska Fairbanks worked with kids on PSP. Berns reported there were plenty of deer around Old Harbor, commercial salmon fishing has been slow, and they were hoping for a straight shot of silvers up our creek. She apologized for not being able to make the meeting.

Della Trumble – Della reported an extremely early spring and summer in King Cove this past year. The berry harvest was early and big. The fishing season for pinks has been closed in the region, but the State opened up caribou hunting at one per hunter. The Federal system has 15 permits over five communities. She expressed there was confusion between Federal and state agencies on Cold Bay.

Tribal and Public Comments on Non-Agenda Items

Vince Tutiakoff – Tutiakoff welcomed the Council to Unalaska. He mentioned he was one of the first members of the Council which started 38 years ago. Given status of Federal funding, the Council was very lucky to be here. Shared extensive information on subsistence resources, including fears surrounding bird use due to pollution in bays, especially campsite areas. You no longer go on beach to gather. I invited my son Nick to be at this meeting so he could start getting involved. The red salmon run into McLees lake was pretty high - 38k-40k fish. Humpies are just now showing up and they are large. Yesterday I gathered about 60 humpies for elders and myself. Dogs are also large, just starting to hit the bay here. No silvers yet. Regarding Emperor goose hunting, it's going to be almost 20-25 years where kids have missed out on traditional hunts. We are going to have to retrain a whole group of hunters on how to hunt them. The last culture camp was very good. USFWS was a big part of this program. We are teaching our kids how to hunt and use seal. The Tiglax was here, docked right into the Bay. We had 55 kids and 21 mentors participate with ADFG & USFWS. This was the 19th year of culture camp. The 20 year celebration is next year so we're hoping to invite all communities that have camps to send a representative to the celebration.

We have concerns about communicating issues on a timely basis. The regulations are frustrating. Sometimes things are happening in the environment faster than the Board or Department of Fish and Game can respond. Halibut is also a big issue. Competition with non-resident cannery workers seemed to be improving as a result of increased enforcement. Skinner

recommended that the community put in a proposal to the Board of Fish to limit gillnets on Front Beach. Holmes recommended speaking with Lisa Fox at Fish and Game regarding commercial fishing. Tutiakoff said they would like to see a weir put into this community to count salmon going up Unalaska Lake and Summers Bay Lake.

Peter Devine. Devine spoke out in opposition of removing caribou on Kagalaska and cattle from Chirokof Island. He considers these resources food security, especially because of the conditions of the oceans. He would like to have elk introduced to some of islands because we have a chance to get some elk. Trumble expanded on Devine's concerns that the Refuge would also want to remove caribou from Unga Island.

Frank Kelty – Kelty spoke as chairman of the Unalaska Fish and Game Advisory Committee (AC), which is holding its meeting from 5:30-7:00 p.m. tomorrow night at the Unalaska Public Library. He mentioned that subsistence is on the agenda. They have made some improvements to get more enforcement involved despite losing all but one trooper. The AC has put in an Agenda Change Request to keep sportfish in Summers Lake Bay River 250 yards off the river, and hopes that it will be considered by the Board of Fish in October. The AC is also looking at subsistence issues on Front Beach. Gear regulations have not been successful so closures perhaps 3 times a week might give salmon a chance to get to the Iliuliuk River through town. Unalaska Lake is getting turbidity and runoff issues, resulting in a loss of spawning grounds. There are real concerns with the Department of Fish and Game not having resources, including a lack of enforcement and no surveys. They are encouraging locals to make calls if illegal activity is observed. McLees Lake did great this year. Pink salmon run looks pretty poor, herring haul is only 100 tons versus typical 2000 short tons no herring, hundreds of whales coming into the inner bays, lots of change. There are still tanner crab but subsistence King crab is almost non-existent. Kelty said he appreciated the Council's impact of being in Unalaska this week. He said that they are seeing more otters, and that the AC did not see any issue with bycatch in Unalaska Bay. Kelty discussed enforcement resources with Schwantes, indicating there was no money for needed enforcement. Holmes discussed possible sea otter impacts on crabs. Koso mentioned a survey in Adak showing no King crab but a lot of tanners so they are trying to get a commissioner's permit to open a local tanner crab fishery.

Lisa Fox – Fox was available via telephone to answer questions from the Council and public. Tutiakoff asked about restrictions of fisheries on Front Beach, primarily those fish going into the Iliuliuk River. Lisa was glad that users were going to approach the local AC regarding the issues, but also remarked on the habitat degradation at Iliuliuk. Fox gave a report on the June fisheries, including a record-breaking pink year. Due to low escapement for sockeye and chum, the fishery is closed except for the northwestern district in Izembek/Moffett. She heard good reports out of Mortensen's and in Sand Point but McLees had a good year for Sockeye escapement. Fox mentioned a restoration project in Unalaska Lake that was moving forward and that she would get back to Holmes regarding proxy or community harvest permits.

John Reft, Sun'aq Tribe of Kodiak. Reft spoke on sea otters in Women's Bay and King crab and believes that it is a bigger issue than the ghost crab pots. Reft also met with the Navy and had a good conversation with them regarding blasting and sonar testing out in the Portlock Banks area. He expressed big community concern with crayfish in the Buskin River and the need to get rid of

them. Reft shared that the tribe is cooperating with others on the new PSP research project funded by the North Pacific Research Board. He still has concerns with the Emperor goose survey and would like to see a hunt. Dan Rosenburg with the Alaska Department of Fish and Game responded with the current survey methodology and index information.

Tom Robinson – Robinson shared that he represents not only the Unangan locally, but also regionally and nationally on a 12 seat tribal board on allocations that reports to a national delegate for the Department of the Interior (DOI). Proposal #194 to the Board of Fish was a real eye opener for the Tribe. It showed us that there is a clear lack of enforcement that is putting some of our rivers in jeopardy. It also showed us that we need baseline data on Unalaska Bay, and that funding that initiative is problematic because of state deficits. Unalaska is also faced with degradation of rivers, Coho runs, etc. from shipwrecks, industry and the military. There is no management plan for areas west of Scotch Cap. We would like for the State to understand areas and impacts prior to opening them up for commercial use.

Old Business

Non-Rural Determination

Lind presented history and other information on the draft nonrural determination policy. Skinner expressed concern that the policy was too flexible with no guidance, allowing anyone to make a proposal. Skinner was discouraged that proposals would not be restricted to the community and there would be no deference to the Councils. She inquired as to the protocol of proposal rejection and whether proponents had to restate merits. Holmes and Schwantes stressed that recommendations for changes to status should come through the Council.

Howard responded that input from the Councils was both recognized and appreciated. Proposals would first go to the Board to see if they met thresholds; if not, they would be rejected and would not be put forward to the Council. Skinner still had concerns regarding the expected gaps of time between requests for status changes. Howard stated that the burden was on the proponent and would need to reflect major shifts in the community, i.e., addition or subtraction of military, etc., and that proposals would be reviewed by the Board to see if they met threshold requirements. If not, then the proposal would be rejected. Otherwise, the proposal would go through a full analysis, with input from the Councils.

Skinner inquired as to whether proposals would be weighed against the 2007 or 2016 designations. She requested clarification on baseline data, the point of comparison and consistency for all communities.

Peter Devine testified that he believed individuals proposing changes should be from the region and from the community, and have ties to it. .

Predator Control

Deatherage read the predator control briefing for the Council. The Council discussed options and Skinner proposed forming a working group that would monitor issues and develop a plan for response.

Schwantes discussed the Councils comments regarding the Proposed Rule for Non-Subsistence Take of Wildlife on National Wildlife Refuges.

Schwantes moved that the Council ask the Board to petition the Secretaries to contact the Alaska delegation to overturn the Final Rule. Seconded by Skinner.

Holmes, Trumble and Schwantes discussed the lack of communication on Unimak Island situation and the belief that a decision had already been made on that issue prior to hearing from the communities. Chernoff expressed concerns that subsistence users are looking for someone else to fix the issue, when the users could be coming up with solutions. Motion carried unanimously.

Schwantes then moved to send the letter to the other nine Subsistence Regional Advisory Councils and ask them to sign off on it. Seconded by Skinner. Motion passed unanimously.

Skinner motioned to create a predator management working group to include predators such as wolves, foxes, sea otters and Glaucous-winged gulls. Chernoff, Holmes, Schwantes, Trumble and Berns volunteered to serve on the group. Motion passed unanimously.

Fisheries Resource Monitoring Program (FRMP)

Karen Hyer gave a brief overview on the biannual FRMP Program. She explained that the process starts with the development of Priority Information Needs (PINs) by the Councils. Holmes mentioned a pilot project that would use local resources (students or tribal members) to conduct harvest surveys. He stated that Jim Fall with Subsistence at ADFG was concerned about declining budgets and the need to have good harvest data for the Togiak and Unalaska areas. Pat stressed that given low funding, we need to look at getting survey costs down which could be done by using local resources. Hyer stressed that a more directed call for proposals is more effective. If you have 10 PINs but only three are your priority, then you risk having other projects funded that are not priorities for the Council or region.

Skinner presented the draft PIN's from the Bristol Bay and Kodiak/Aleutians working group teleconference. Working group members were Skinner, Trumble, Holmes and Schwantes from Kodiak/Aleutians and Dan Dunaway and Molly Chytholok from Bristol Bay. Skinner also added funding for the Buskin and Litnik Weirs. Holmes suggested adding an examination of the relationship between salmon and crayfish in Buskin Lake. Holmes also expressed concern regarding the mutually beneficial project regarding Chinook salmon. Holmes explained that while this was a priority issue for Bristol Bay, it was not for Kodiak/Aleutians. Skinner and Public Member Tutiakoff mentioned McLees Lake, Unalaska/Iliuliuk Rivers, and Summers Bay River/Lake for weirs. Polum from ADFG informed the Council if the FRMP did not fund the Buskin sockeye weir, there would not be a weir at that location because it would not get funded by the state.

Skinner moved to table the PIN discussion until August 16th to allow for more input for discussion. Seconded by Schwantes and carried unanimously

MOU

Deatherage read the briefing on the Draft Memorandum of Understanding (MOU) between the State of Alaska and the Office of Subsistence Management. Koso moved to approve the draft MOU. Seconded by Holmes and passed unanimously.

Agency Reports:

USFWS

Izembek National Wildlife Refuge

Stacey Lowe, biologist for the Izembek NWR presented highlights from the Refuge report, including a continued increase in the caribou population on Unimak Island. She also reported on a recent Tundra swan population survey showing an increase in both the Izembek and Pavlov units. There will be a brown bear aerial survey and water temperature monitoring in salmon streams later in August. Lowe also introduced the new Refuge Manager, Greg Risdahl who has worked at the Kofa NWR in Arizona and Tetlin NWR in Tok. Risdahl said he looked forward to getting to know everyone.

Kodiak National Wildlife Refuge

Trumble asked the Council to recognize Tonya Lee, former RIT for Kodiak NWR who recently took another job. Holmes outlined Lee's numerous contributions to the communities. Skinner mentioned concern about not recruiting for a replacement until the Fall, 2017 and reiterated the need to have the person be locally based. Skinner asked that an update on the recruiting plan be provided to the Council at the Winter, 2017 meeting.

Alaska Maritime National Wildlife Refuge

Delahanty briefed the Council on highlights from the Refuge report, stressing ongoing concerns with seabird die-offs and active management to remove invasive species such as fox and rats from Refuge islands. Removed 9 caribou from Kagalaska Island in 2015 and gave meat to Adak community. Congressional funding restrictions prevented additional removal if caribou in 2016.

Koso asked if the Refuge had plans to do a caribou survey on Adak and Delahanty answered that although there were no immediate plans, it was something the Refuge would like to do. Rick expressed concern over recent lack of caribou on the road system and an increasing number of hunters flying in to Adak. Skinner asked about the differences between eradicating fox on Chirikof and predator control. Delahanty explained that the fox program was an example of removing an invasive species that was not naturally occurring. My impression of predator control is where you have a native population of predators that you are trying to suppress to increase prey populations. He explained that there was no time period for when a species becomes invasive but rather it is more the method by which an organism arrived at a new place. Delahanty stated there were no plants to remove caribou from Adak. Every site, every situation is different so we look at it case by case in a manner which will best conserve the natural diversity of an area.

Devine asked Izembek about a sea otter survey at Sand Point. Lowe responded that this survey was conducted by Marine Mammals Management Division from the USFWS in Anchorage.

Alaska Migratory Bird Co-Management Council

Emperor Geese
Dan Rosenberg from ADFG updated the Council via telephone regarding the proposed Emperor geese hunt. If the Emperor Goose Management Plan and Alaska Migratory Bird Co-Management Plan for Emperor Geese are completed this fall, we will be able to implement spring/summer subsistence hunt in 2016 and a fall hunt in 2017. Koso asked about the proposed harvest number per person. Rosenberg responded that as long as they stay over the index of 23,000 birds (roughly a threshold population of 115,000), we will keep it open for three years. There is a 1000 bird total harvest limit request for the fall season, which will be regulated by permit. That hunt will be open to both subsistence and sporthunters. The spring/summer season is for subsistence hunters only. Schwantes asked about a proxy hunt and Rosenberg responded that this was under consideration and will be put before the Board of Game. Skinner asked that plans specify what will happen after year three of the hunt. Chernoff inquired about handicraft materials and its relationship to the proposed hunt. Rosenberg responded that the initial handicraft proposal is limited to 27 species and he did not recall seeing Emperor geese on that list.

Reft expressed issues with the 500-foot offshore limit to subsistence hunting, and that you can't hunt or gather seagull eggs unless you have a skiff, trailer, and outboard to get 500 feet offshore. Therefore we will not be able to hunt Emperor geese if its opened up to us. I put in a resolution to the AMBCC Kodiak to eliminate this limit. Rosenberg responded that there are different messages as to whether the road should remain open or closed, and it was difficult to respond to that. Reft reminded everyone that the AMBCC-Kodiak meeting would be held on August 23rd.

Alaska Department of Fish and Game

Buskin River
Tyler Polum gave an update on the Buskin River sockeye status. He said FRMP funding for the weir would expire in 2017 and they will be submitting a proposal for the next funding cycle. Data show that escapement has been on the upper end of the goal in recent years. This years' run was exceptionally early. ADFG is still conducting on-the-spot user surveys, most of which have been Kodiak residents and all claiming the Buskin as traditional fishing grounds. We also partnered with the Kodiak NWR for another successful Salmon Camp.

Skinner inquired about the Buskin crayfish issue. Polum responded that the Sun'aq Tribe and Kodiak Soil and Water Conservation District were doing research and have videos on Vimeo. He stated the crayfish have been there for a awhile, first document in 2000, but awareness has grown. ADFG does not consider this an emergency as there are many other species in the Buskin that prey on salmon.

Kodiak/Aleutian Island Communities Subsistence Research
Lisa Hutchinson-Scarborough from ADFG gave an update from the Division of Subsistence, citing the handouts to the Council and available for the public on the back table. She stated they also get funding from FRMP and appreciate the support. The Subsistence Division has been able

to do a survey in every single community except for Cold Bay, though many are out of date. Current projects include Cold Bay/King Cove and Sand Point. This project is funded by the Alaska Sustainable Salmon Fund. The FRMP is funding a University of Idaho project looking at the same communities and their use for all resources as well as local observations. Josh Ream with OSM, and Brian Davis, Jim Fall and Hazel Nelson at ADFG were all listed as good resources for acquiring the data for subsistence research. Needed projects include impacts of trawling closure in Unalaska Bay, comprehensive work in the Pribilof Islands and all of Kodiak. Hutchinson was supportive of the idea of using local resources to reduce costs for collecting the data.

Council Charter
Holmes moved to renew the Council Charter. Seconded by Skinner. Skinner requested the opportunity in the future to review other Council charters for ideas. Motion passed unanimously.

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August 16, 2016

The meeting was called to order at 7:12 p.m. Koso, Skinner, Chernoff, Holmes, Schwantes, Shelikoff and Trumble were all present. Berns and Rohrer were excused absences. Simeonoff was absent.

Tribal and Public Comment

Vince Tutiakoff, former Council member and Unalaska resident welcomed the Council to the Island. He asked the Council to encourage USFWS to continue their support or get a letter of support asking for continued cultural camp funding. Tutiakoff also attended the Unalaska Fish and Game Advisory Meeting this evening and the primary discussion was on subsistence and sportfishing in Unalaska Bay. He asked the Council to write a letter supporting weirs, with one at Unalaska Creek and second priority at Summers Bay Lake. Tutiakoff supports the efforts of the Council to get a beach goose hunt in Kodiak and the Aleutians. There is a whole generation of Native kids who have never tasted geese or know how to hunt them. He also expressed concern about PSP poisoning of shellfish and urchins, which he used to eat regularly. He encouraged the Council to keep writing to the Board to listen to the communities and to hold the Board accountable. Tutiakoff was frustrated during his tenure on the Council due to issues like the MOU with the State of Alaska when the state does not recognize subsistence users as a priority. He also wanted to see the Council meet in more of the communities such as King Cove and the Pribilofs.

Tom Robinson
Robinson asked for a letter of support regarding the effort to exclude trawlers from Unalaska Bay and that the State research the biodiversity of Bay before opening it back up again. I would also like to see a letter of support from the Council to the North Pacific Fisheries Management Council for a designated subsistence seat on that Council. The oil spill in 1997 has destroyed the Coho Salmon Run in Summers Bay. The Tribe did get funding from the Department of Defense to rehabilitate Morris Cove. Robinson also asked to serve as an alternate for a seat on the Council. Trumble recommended he apply through the nomination process. Robinson stated he

was concerned that private industry would submit a proposal in three years' time to re-open Unalaska Bay to trawlers. Robinson mentioned potential funding from ADFG to do a baseline study in Unalaska Bay. Robinson concluded by telling the Council it was a pleasure to have them in Unalaska and thanked them on behalf of the Qawalangin Tribe.

Chris Price. Price thanked the Council for being there. He discussed halibut subsistence, McLees Lake and seagull egg issues. Price believes the SHARC cards have helped the locals participate in halibut subsistence and hopes that continues. McLees Lake provides one of the main red salmon subsistence locations and had a good run this year. Funding has become increasingly difficult to get for counting fish. Price was hopeful that bycatch limits in Bering Sea and Bristol Bay would be helpful. He is worried about toxins and seagull eggs because of pollution and warming trends. Holmes remarked that the Council asked ADFG about the potential for a community harvest for McLees Lake or to expand the proxy permits.

Peter Devine.
Devine thanked the Council for being in Dutch Harbor. He sits on the AMBCC for the Aleutian/Pribilof Region where he advocates for a legal Emperor Goose hunt. Devine echoed Tutiakoff's concerns about culture camp funding and supports continued efforts to engage youth in subsistence issues. Koso and Trumble thanked Devine for his work on the Emperor goose hunt. Lind explained that the Refuge Information Tech positions were local hire, so someone from King Cove or Akutan could apply for the position.

John Reft
Reft testified on the difficulty of sea otter regulations, crayfish concerns in Buskin Lake, Emperor goose and the need to change the regulations to allow for road hunts. Council members encouraged Reft to take the goose issue through the AMBCC process and perhaps hold a public hearing, and thanked him for his active participation in subsistence issues.

Neverly Shoemake
Shoemake introduced herself as the new tribal coordinator with the Environmental Protection Agency (EPA) Region 10 office. She is looking forward to working with the tribes and helping to build capacity with EPA's GAP grant program.

Fisheries Resource Monitoring Program
Holmes gave a brief overview of the draft PIN recommendations developed by the working group. Skinner asked to add the Buskin weir for sockeye salmon. Hyer stated that it was important the Council decide priorities by late Fall, and informed the Council that Summers Bay River/Lake and Unalaska River are not eligible for FRMP funding. There is a project funded through the Salmon Fund currently occurring on McLees Lake for the Listlow Island and Wheez Bay salmon runs. Funding for that project is expected to expire in 2018. McLees Lake would be eligible for funding under the FRMP. Council members asked Hyer to provide a draft PIN document that would include new items discussed.

Skinner motioned that the Council conduct a teleconference this Fall to finalize the PIN recommendations. Seconded by Koso and passed with Holmes abstaining.

Annual Report
Council members wished to add the following items to their draft 2016 Annual Report:

- Information about the trip to Dutch Harbor, the Aleutian Life Forum and gratitude to Karen Deatherage for enabling the Council to attend. Also include Aaron Poe and Doug Burns and the stakeholder group for the Aleutian Life Forum. Include the importance of having meetings in other communities, and the need for the Board to listen the concerns of these communities.
- Recognize Deatherage for her work on behalf of the Council. She has done a tremendous amount of research for our Council, helped us to get more things done, and provided important clarification. Include the importance of having meetings in other communities to give the Council an opportunity to hear their concerns.
- Continued support for the Refuge Information Tech program, and the need to get RIT's from outside of Kodiak to serve in those positions.
- Concerns about the Final Rule on Non-Subsistence take of Fish and Wildlife on National Wildlife Refuges in Alaska. A request to the Board that they petition the Secretaries to ask Congress to overturn the Rule.
- An update on the progress made with the proposed Emperor goose hunt, including current status.
- Along with a letter, implore the Board to include guidelines or criteria on proposals to change community status under the Nonrural Determination Policy, including limiting sources and giving Council's more deference. The Council is requesting to hear from the Board why Council deference may not be legal. Also, the Council would like to know which baseline (2016 or 2007) will be used for determining nonrural status. It appears to the Council that 2016 would be best.
- Continue withholding funding for removal of caribou or cattle, and use those funds for Councils to reach out to non-hub communities.

The Council also requested the following letters be sent:

1) Letter to Board regarding comments on Nonrural Determination Policy, **2)** Letter to Fisheries Resource Monitoring Program recommending that using local resources should be heavily weighted for reviews because it is cost effective and builds local and sustainable capacity, **3)** Letter to the Alaska Migratory Bird Co-Management and Pacific Flyways Council acknowledging their work toward opening an Emperor goose hunt, and specifically acknowledging the commitment of Dan Rosenberg with the Alaska Department of Fish and Game, **4)** Letter to the Board asking them to contact Secretaries in regards to overturning the Final Rule on Non-Subsistence Take of Fish and Wildlife on National Wildlife Refuges in Alaska. This letter would be prepared and sent to all Councils for sign-on, **5)** Letter to the U.S. Fish and Wildlife Service encouraging continued support for culture camps, **6)** Letter to the North Pacific Fisheries Council regarding bycatch limits, **7)** Letter regarding the Unalaska Weir, 8) Letter to OSM recognizing Carl Johnson for his organization of the All Councils Meeting in Anchorage.

All Councils Meeting Feedback
Council members all thought that the All Councils meeting was very good with lots of great programs, including the Roberts Rules, the opportunity to meet with Bristol Bay regarding the FRMP program, meet new people, see how other Councils operate, and talking with Yukon Kuskokwim Delta regarding Emperor geese. .Several Council members expressed interest in having similar events once every five years. Skinner and Holmes said it would have been good to meet with all the other Councils daily to hear more about their experiences and feedback from the breakout sessions. Holmes was impressed with how common the issues were between all the Councils. Chernoff said that as a new Council member it was a fantastic experience to learn about all the different agencies and workings of the Councils.

Future Meetings
Koso motioned for the Winter meeting to be held February 22-23, 2017 in Old Harbor. Seconded by Skinner. Holmes recommended that the Council work with Melissa to look at cost-saving options in the community. Coral supported meetings in Kodiak because of the opportunity to reach people. Motion carries with one nay.

Schwantes motioned for the Fall meeting to be held September 19-20 in Cold Bay. Seconded by Skinner. Motion carries unanimously.

Council members concluded the meeting by sharing their appreciation for being able to learn about food security issues in the area. Members recognized the participation of Greg Risdahl, were glad to meet Orville Lind, and thanked Glenn Chen from BIA.

Schwantes motioned to adjourn, seconded by Trumble and passed unanimously.

I hereby certify that, to the best of my knowledge, the foregoing minutes are accurate and complete.

August 16, 2016

/s/_____
Karen Deatherage, DFO
Office of Subsistence Management, USFWS

/s/_____
Della Trumble, Vice-Chair
Kodiak/Aleutians Subsistence Regional Advisory Council

These minutes will be formally considered by the Kodiak/Aleutians Subsistence Regional Advisory Council at its next meeting, and any corrections or notations will be incorporated in the minutes of that meeting.

Kodiak/Aleutians Subsistence Regional Advisory Committee Meeting

October 21, 2016 Teleconference

MEETING MINUTES

The meeting was called to order at 9:00 a.m.

Roll Call

A quorum was established with the following Council members teleconferencing: Mitch Simoneoff, Della Trumble, Antone Shelikoff, Patrick Holmes, Samuel Rohrer, Thomas Schwantes, Coral Chernoff, Rebecca Skinnerr.

Absent: Rick Koso, Melissa Berns

Agency Staff
Karen Deatherage – Office of Subsistence Management
Donald Rivard – Office of Subsistence Management
Robbin La Vine – Office of Subsistence Management
Robert Larson – Office of Subsistence Management & U.S. Forest Service
Lisa Fox, Alaska Department of Fish and Game
Colton Liptka, Alaska Department of Fish and Game
Lisa Hutchinson-Scarbrough, Alaska Department of Fish and Game
Jeff Wadle, Alaska Department of Fish and Game
Mark Witteveen, Alaska Department of Fish and Game
Amy Wiita, Alaska Department of Fish and Game
Kevin VanHatten, Kodiak National Wildlife Refuge

Approval of Agenda

Schwantes moved to approve the agenda with the following amendment 1) to move the Tongass Submerged Lands Issue to first issue for Robert Larson. Seconded by Skinner and carried unanimously.

New Business

Tongass Submerged Lands Proposed Rule

Larson presented the Tongass Submerged Lands Proposed Rule regarding jurisdiction of several parcels of lands that were assumed to be state lands but are now considered federal. Skinner asked is this Rule related only to ANILCA and subsistence or could the federal jurisdiction be applicable in other instances. Larson responded that the issue was about the application of ANILCA. Holmes inquired if herring fisheries were a part of this Rule. Larson responded yes,

however most of the herring fisheries waters were already under federal jurisdiction. Simeonoff asked about subsistence occurring on these lands. Larson said to the best of their knowledge there is no clarity on subsistence use and these parcels are fairly small, with the exception of Makhnati Island for herring spawn. The OSM has not responded formally to the letter from ADFG. Larson explained that the Southeast Council is supportive of federal jurisdiction if these are Federal lands but was concerned about the amount of land and which is titled and which is submerged. The Southeast Council did not take a position pending site specific information.

Schwantes moved that the Council take no formal action and defer to the Southeast Alaska Council. Seconded by Holmes and carried unanimously

Old Business

Fisheries Resource Monitoring Program (FRMP) Priority Information Needs (PINs)
Robbin La Vine reviewed the draft PIN's from the Kodiak and Bristol Bay working groups, with information added from the Council meeting in Unalaska. She advised the Council that the Bristol Bay Council would be meeting October 26-27, and would be presented with the PIN results from today's teleconference.

Schwantes and Holmes reiterated concerns for the McLees Lake subsistence needs on Unalaska. Holmes asked about a community subsistence permit for the area. Wadle explained that ADFG could issue community subsistence permits but would want to monitor escapements. Fox added that McLees Lake has research funding for next summer but the likelihood of continued funding was small. She also stated that a community harvest was possible and that they would need a sponsor.

Skinner shared her support for McLees Lake and Buskin River. She would prefer to fund existing versus new weirs. Holmes also supported McLees Lake. Simoneoff stressed the importance of retaining Akulara Lake as a PIN.

The Council in general was concerned about declining state funds for fisheries research. The Council also agreed to remove "Chinook" from the mutually beneficial PIN regarding salmon estimates in Southwest Region.

Rivard suggested soliciting partnership funding for McLees Lake, which may increase its likelihood for FRMP funding.

Schwantes motioned to 1) to remove "Chinook" from mutually beneficial PIN #1 2) retain Ogla and Akular Lake watershed PIN, 3) adding escapement for Buskin River and McLees PINs. Seconded by Skinner.

Holmes motioned to amend by adding crab population assessment PIN. Seconded by Shelikoff. Carried with one nay.

Schwantes motioned to withdraw the motion, seconded by Skinner and carried.

Schwantes motioned to accept mutually beneficial PINs and add Buskin and McLees Lake to regional PINS. Seconded by Skinner and carried unanimously.

Schwantes motioned to adjourn the meeting. Seconded by Skinner and carried unanimously.

I hereby certify that, to the best of my knowledge, the foregoing minutes are accurate and complete.

October 21, 2016

/s/_____
Karen Deatherage, DFO
Office of Subsistence Management, USFWS

/s/_____
Speridon M. Simeonoff, Sr. Chair
Kodiak/Aleutians Subsistence Regional Advisory Council

These minutes will be formally considered by the Kodiak/Aleutians Subsistence Regional Advisory Council at its next meeting, and any corrections or notations will be incorporated in the minutes of that meeting.

Federal Subsistence Board Informational Flyer

U.S. Fish and Wildlife Service
Bureau of Land Management
National Park Service
Bureau of Indian Affairs

Forest Service

Contact: Theo Matuskowitz
(907) 786-3867 or (800) 478-1456
theo_matuskowitz@fws.gov

How to Submit a Proposal to Change Federal Subsistence Regulations

Alaska residents and subsistence users are an integral part of the Federal regulatory process. Any person or group can submit proposals to change Federal subsistence regulations, comment on proposals, or testify at meetings. By becoming involved in the process, subsistence users assist with effective management of subsistence activities and ensure consideration of traditional and local knowledge in subsistence management decisions. Subsistence users also provide valuable wildlife harvest information.

A call for proposals to change Federal subsistence fishing regulations is issued in January of even-numbered years and odd-numbered years for wildlife. The period during which proposals are accepted is no less than 30 calendar days. Proposals must be submitted in writing within this time frame.

You may propose changes to Federal subsistence season dates, harvest limits, methods and means of harvest, and customary and traditional use determinations.

What your proposal should contain:

There is no form to submit your proposal to change Federal subsistence regulations. Include the following information in your proposal submission (you may submit as many as you like):

- Your name and contact information (address, phone, fax, or E-mail address)
- Your organization (if applicable).
- What regulations you wish to change. Include management unit number and species. Quote the current regulation if known. If you are proposing a new regulation, please state, "new regulation."
- Write the regulation the way you would like to see it written in the regulations.
- Explain why this regulation change should be made.
- You should provide any additional information that you believe will help the Federal Subsistence Board (Board) in evaluating the proposed change.

You may submit your proposals by:

1. By mail or hand delivery to:

   Federal Subsistence Board
   Office of Subsistence Management
   Attn: Theo Matuskowitz
   1011 E. Tudor Rd., MS-121
   Anchorage, AK 99503

2. At any Federal Subsistence Regional Advisory Council meeting (A schedule will be published in the Federal Register and be announced statewide, bi-annually, prior to the meeting cycles)
3. On the Web at http://www.regulations.gov

Submit a separate proposal for each proposed change; however, do not submit the same proposal by different accepted methods listed above. To cite which regulation(s) you want to change, you may reference 50 CFR 100 or 36 CFR 242 or the proposed regulations published in the Federal Register: http://www.gpoaccess.gov/fr/index.html. All proposals and comments, including personal information, are posted on the Web at http://www.regulations.gov.

For the proposal processing timeline and additional information contact the Office of Subsistence Management at (800) 478-1456/ (907) 786-3888 or go to http://www.doi.gov/subsistence/proposal/submit.cfm.

How a proposal to change Federal subsistence regulations is processed:

1. Once a proposal to change Federal subsistence regulations is received by the Board, the U.S. Fish and Wildlife Service, Office of Subsistence Management (OSM) validates the proposal, assigns a proposal number and lead analyst.
2. The proposals are compiled into a book for statewide distribution and posted online at the Program website. The proposals are also sent out the applicable Councils and the Alaska Department of Fish and Game (ADF&G) and the Interagency Staff Committee (ISC) for review. The period during which comments are accepted is no less than 45 calendar days. Comments must be submitted within this time frame.
3. The lead analyst works with appropriate agencies and proponents to develop an analysis on the proposal.
4. The analysis is sent to the Councils, ADF&G and the ISC for comments and recommendations to the Board. The public is welcome and encouraged to provide comments directly to the Councils and the Board at their meetings. The final analysis contains all of the comments and recommendations received by interested/affected parties. This packet of information is then presented to the Board for action.
5. The decision to adopt, adopt with modification, defer or reject the proposal is then made by the Board. The public is provided the opportunity to provide comment directly to the Board prior to the Board's final decision.
6. The final rule is published in the Federal Register and a public regulations booklet is created and distributed statewide and on the Program's website.

A step-by-step guide to submitting your proposal on www.regulations.gov:

1. Connect to www.regulations.gov – there is no password or username required.
2. In the white space provided in the large blue box, type in the document number listed in the news release or available on the program webpage, (for example: FWS-R7-SM2014-0062) and select the light blue "Search" button to the right.

3. Search results will populate and may have more than one result. Make sure the Proposed Rule you select is by the U.S. Fish and Wildlife Service (FWS) and **not** by the U.S. Forest Service (FS).
4. Select the proposed rule and in the upper right select the blue box that says, "Comment Now!"
5. Enter your comments in the "Comment" box.
6. Upload your files by selecting "Choose files" (this is optional).
7. Enter your first and last name in the spaces provided.
8. Select the appropriate checkbox stating whether or not you are providing the information directly or submitting on behalf of a third party.
9. Fill out the contact information in the drop down section as requested.
10. Select, "Continue." You will be given an opportunity to review your submission.
11. If everything appears correct, click the box at the bottom that states, "I read and understand the statement above," and select the box, "Submit Comment." A receipt will be provided to you. Keep this as proof of submission.
12. If everything does not appear as you would like it to, select, "Edit" to make any necessary changes and then go through the previous step again to "Submit Comment."

Missing out on the latest Federal subsistence issues? If you'd like to receive emails and notifications on the Federal Subsistence Management Program you may subscribe for regular updates by emailing fws-fsb-subsistence-request@lists.fws.gov. Additional information on the Federal Subsistence Management Program may be found on the web at www.doi.gov/subsistence/index.cfm or by visiting www.facebook.com/subsistencealaska.

Kodiak/Aleutians Subsistence Regional Advisory Council

c/o Office of Subsistence Management
1011 East Tudor Road, MS 121
Anchorage, Alaska 99503-6199

RAC KA17004.KD

Mr. Anthony Christianson, Chair
Federal Subsistence Board
c/o Office of Subsistence Management
1101 East Tudor Road, MS 121
Anchorage, Alaska 99503

Dear Chairman Christianson:

The Kodiak/Aleutians Subsistence Regional Advisory Council (Council) appreciates the opportunity to submit this annual report to the Federal Subsistence Board (Board) under the provisions of Section 805(a)(3)(D) and Section 805(c) of the Alaska National Interest Lands Conservation Act (ANILCA). At its public meeting held in Unalaska on August 15-16, 2016, the Council brought forward the following concerns and recommendations for its FY2016 Annual Report. [*The Report was finalized at the Council's February 2017 meeting held in Kodiak.]* The Council wishes to share information and raise a number of concerns dealing with implementation of Title VIII of ANILCA and the continuation of subsistence uses in the Kodiak/Aleutians Region.

Issue 1. Council Meeting in Unalaska and Aleutian Life Forum

The Council wishes to express its sincere appreciation for the opportunity to hold the fall 2016 meeting in Unalaska, as well as attend the Aleutian Life Forum (ALF). This was an extraordinary opportunity to meet for the first time in the Aleutian Chain, hear from local tribes, Native associations and corporations, and learn about important subsistence challenges for users in the region. In particular, the Council would like to recognize Aaron Poe and Douglas Burns who helped secure the funding needed to assist with Council travel.

Recommendation: The Council recommends that the Board support meeting venues outside of designated hubs at least once during a two-year meeting cycle.

Issue 2. Council Coordination

The Council would like to formally recognize its Coordinator, Karen Deatherage, for her work on behalf of the membership. Karen has done a tremendous amount of research for our Council

which has contributed greatly to the Council's ability to effectively complete its work. She has provided important clarification, expanded participation with local groups and increased the public's opportunities to share their concerns. The Council also wishes to extend a very special thank you for her diligent work to secure funding, and arrange for Council attendance and participation at the Aleutian Life Forum in Unalaska.

Recommendation: The Council recommends that Karen Deatherage receive an appropriate award in recognition for her outstanding service.

Issue 3. NWRS Resource Information Technicians (RIT's)

Earlier this year, the Council received news that Tonya Lee had left her position as the RIT for the Kodiak National Wildlife Refuge. As noted in our FY2015 report, Tonya Lee has been an exceptional asset to the Council and to our community, and will be sorely missed. The Council was told the Refuge will fill the position in 2017; however, the Council remains concerned this may not occur due to decreasing budgets and administration changes.

Recommendation: The Council urges the U.S. Fish and Wildlife Service to continue their support for the RIT program as it has proven critical to fostering relationships between Refuges and local communities.

Issue 4. Final Rule on Non-Subsistence Take of Wildlife on Alaska National Wildlife Refuges

The Council is extremely disappointed in the Final Rule recently adopted by the U.S. Fish and Wildlife Service (USFWS). The Council believes that the final rule reduces opportunities to harvest predators in Alaska's wildlife refuges. Many of the Councils opposed this Rule prior to adoption and believe this opposition was ignored by the USFWS, as further expressed in the letter cited below.

Recommendation: The Council has prepared a letter to be sent to the Board requesting they contact the Secretary's office regarding our concerns with the Final Rule. This letter will be circulated to all councils during the winter 2017 meeting cycle for adoption. It is the Council's hope that the Secretary's office will work to overturn this Rule and allow for effective hunting practices to continue on all national wildlife refuges in Alaska. The Council also believes that communities had few opportunities to substantially comment on this Rule before it was finalized. In response to this and other predator management issues, the Council established a working group to review proposed policies and/or proposals regarding predators would help to ensure that the Council and communities have adequate time to respond to potential changes. Members Della Trumble, Pat Holmes, Melissa Berns, Coral Chernoff, and Tom Schwantes have volunteered to serve on this working group.

Issue 5. Emperor Geese Update

The Council is very pleased that the USFWS and others are moving forward with a planned Emperor Geese hunt in spring 2017. It has been decades since many subsistence users have

hunted Emperors, and elders and youth alike are thrilled with this new opportunity. The Council will continue to work with the USFWS, the Alaska Department of Fish and Game (ADF&G), Pacific Flyway Council and the Alaska Migratory Bird Co-Management Council (AMBCC) to bring this hunt to fruition.

Recommendation: The Council would like to recognize the USFWS, ADF&G, and the AMBCC for their hard work and continued communication regarding an Emperor Geese hunt in the region. The Council would especially like to recognize Dan Rosenberg from ADF&G for effectively listening to Council concerns, recognizing local needs and keeping the Council updated on the process at regular intervals.

Issue 6. Nonrural Determination

At its public meeting held on August 15-16, 2016 in Unalaska, the Council heard a brief presentation from Orville Lind, Office of Subsistence Management Native Liaison, on the proposed Nonrural Determination Policy which outlines the administrative process for future nonrural determinations. The Council appreciates the Board's efforts to include flexibility in this policy. However, there now appears to be no guidance on proposing a status change. There are no limits on who may propose a status change, or how often. This lack of criteria could allow for numerous frivolous or arbitrary proposals, which for obvious reasons would make communities nervous.

Recommendation: The Council would like for the Board to stipulate that any proposal to change the status of a community come from either a member of the community or the Council itself. The Council is also asking that the Board give deference to the Councils on nonrural determinations. The Council believes it is best suited to determine the status for the community it serves. The Council would also like to know what baseline information will be used to substantiate a "demonstrated change" in the community under *Limitation on Submission of Proposals to Change from Rural to Nonrural.* Will the conditions of the community be based on 2007 when nonrural communities were identified, or on the current conditions of the community?

Issue 7. Funding for cattle and caribou removal on Alaska Maritime National Wildlife Refuge

As indicated in our FY2015 report to the Board, the Council opposes the removal of cattle from Chirikof and Wosnesenski Islands, and caribou from Kagalaska Island near Adak. While the Council appreciates the donation of meat to Adak from the removal of caribou in 2016, the

Council does not believe this activity is necessary or feasible, particularly given the reduction of funding availability across State and Federal agencies in Alaska.

Recommendation: The Council would like to inform the Board that it supports Congress's decision to withhold funding for the removal of caribou and cattle from lands in the Alaska Maritime National Wildlife Refuge. The Council would like to see a withdrawal of funding continued.

The Kodiak/Aleutians Subsistence Regional Advisory Council appreciates the Board's attention to these matters and for the opportunity to assist the Federal Subsistence Management Program in meeting its charge of protecting subsistence resources and uses of these resources on Federal public lands and waters. We look forward to continuing discussions about the issues and concerns of subsistence users of the Kodiak/Aleutians Region. If you have questions about this correspondence, please contact me via Karen Deatherage, Subsistence Council Coordinator, with the Office of Subsistence Management at 1-800-478-1456 or (907) 786-3564, or email at karen_deatherage@fws.gov.

Sincerely,

Speridon M. Simeonoff
Chair

cc: Federal Subsistence Board
Kodiak/Aleutians Subsistence Regional Advisory Council
Eugene R. Peltola, Jr., Assistant Regional Director, Office of Subsistence Management
Stewart Cogswell, Acting Deputy Assistant Regional Director
Office of Subsistence Management
Carl Johnson, Council Coordination Division Chief, Office of Subsistence Management
Karen Deatherage, Subsistence Council Coordinator, Office of Subsistence Management
Interagency Staff Committee
Administrative Record

United States Department of the Interior

U.S. FISH AND WILDLIFE SERVICE
Kodiak National Wildlife Refuge
1390 Buskin River Road Kodiak, Alaska 99615-0323
(907) 487-2600

Federal Subsistence Activity Report
Kodiak National Wildlife Refuge, September 2016 – January 2017

Subsistence Permit Summary

Federal wildlife subsistence regulations afford opportunity for rural residents of the Kodiak area to harvest Roosevelt elk, Sitka black-tailed deer, and brown bear on Kodiak Refuge lands. Harvest opportunity for bear is restricted to residents of selected village communities. In complement, federal fisheries subsistence regulations afford opportunity to harvest fish and shellfish. Regarding the latter, most fish permittees target sockeye and coho salmon in inshore marine waters under jurisdiction of Alaska Maritime Refuge. Federal subsistence permits can be obtained at the Kodiak Refuge headquarters and, in the case of deer, at some villages. Permittees are required to carry their Federal subsistence permits, current state licenses, harvest tickets, and locking tags (bear) while hunting.

Table 1. Federal subsistence permits issued and estimated harvest (#) based on harvest reports, Unit 8, 2009-2017.

Species	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
Deer*	56(38)	67(42)	70(52)	20(11)	46(21)	45(39)	39(51)	47(15)**
Bear	6(1)	7(1)	5(2)	2(0)	4(0)	3(0)	6(3)	3(0)**
Elk	5(0)	8(1)	6(0)	2(0)	5(2)	9(1)	4(2)	6(0)
Fish				2(0)	8(36)	20(117)	19(63)	48(101)**

*Multiple deer eligible to be harvested per permit.
**Incomplete reporting. Season ongoing and/or refuge follow-up with permittees in progress.

Brown Bears

Population Assessment

The Refuge, in cooperation with the ADF&G, aerially surveys brown bear in late May to monitor trend in size of the population in different regions of Kodiak Island. No survey has been conducted since 2013 despite full preparation and agency commitments because above-average winter and spring temperatures prompted early leafing of deciduous shrubs and trees in late April and mid-May. Presently, protocol prescribes completing the survey after the conclusion of bear hunting season (May 15) but before significant shrub and tree leafing to maximize sightability of bears. Regional areas targeted for survey in 2017 include the Frazer-Red Lake vicinity and adjoining Sturgeon River vicinity.

Brown Bear Stream Surveys

Following established protocol, the Refuge aerially surveys bear use along selected streams of southwestern Kodiak Island between early July and mid-August to monitor trend in population composition and stream use. Surveys were not fully completed in 2016 because of the vacancy in a Refuge pilot position. Now that this position has been filled, we expect that surveys will be fully completed in summer 2017.

Bear Mortality

We are presently analyzing ADF&G records of bear mortality (harvest, DLPs) for 2015-16 regulatory year. Results will be reported at the next Council meeting.

Bear-Salmon Research

In summer 2016, the Refuge committed to partially support Will Deacy as post-doctoral researcher at Oregon State University between fall 2016 through spring 2018. Deacy's work will focus primarily on modeling brown bear-salmon relationships in southwestern Kodiak Island—an effort that builds on his 2013-2016 dissertation research in the same area. Presently, Deacy and colleagues are preparing a manuscript that addresses the bear behavioral responses to concurrent availability of primary salmon and berry food resources.

Bear-Berry Research

In 2015 the Refuge initiated a two-year pilot study, in consultation with various scientists and organizations. Purpose is to develop, test, and select repeatable standard methods of monitoring year-to-year variation in relative abundance and phenology of salmonberry, blueberry, elderberry, and devilsclub. Results from future berry monitoring would be used to explain variation in trend of the bear population. We also acknowledge that trend monitoring results may be valued by peoples of Kodiak area that, like bears, partly subsist on berries.

Preliminary results from phenology monitoring indicated first salmonberry flowering and ripened fruit on 23 April and 19 June 2016, respectively. Compared to 2015, elderberry flowered 11 days earlier in 2016 (May 19) and fruit reddened 10 days earlier (July 9). It seems likely that mild winter-spring temperatures influenced timing of plant growth. Moreover, average January-July temperature deviated by +2°C in 2015 and +2.8°C in 2016 compared to the long-term (1981-2010) average recorded by the National Weather Service at the Kodiak State Airport.

In general we observed decreased abundance of devilsclub fruit but increased abundance of elderberry, salmonberry, and blueberry fruit in 2016 compared to 2015. The 20 monitored devilsclub plants produced a similar number of fruit clusters in both years but fewer fruit per cluster in 2016. Elderberry supported 17% more fruit clusters per plant and 8% more fruit per cluster in 2016 compared to 2015. We observed a 118% increase in number of salmonberry fruit. However, 66% of fruit comprised few (<30) drupelets with minimal potential value to foraging brown bear or people. Blueberry fruit were 60% more abundant in 2016 compared to 2015. See the next page for presentation of tabular results. A stakeholder meeting scheduled for April 10 will discuss final project results, report reviews, and recommendations for implementing operational monitoring.

Figure 1. Example of image from timelapse camera used to monitor progression of annual growth (i.e., phenology) of salmonberry.

Sitka Black-tailed Deer

Agency field observations plus informal hunter interviews indicated continued increase in the population and level of harvest opportunity. The population increase is attributed primarily to high over-winter survival associated with relatively mild winters between 2013-2016.

Roosevelt Elk

Radio-collared elk provide a basis for ADF&G's efforts to track herd locations and to estimate herd composition and population size in late summer prior to hunting season operation. Results from the ADF&G's 2016 elk survey indicated a population size of 1,050 elk including 100 in the Waterfall herd, which summers in the vicinity of Refuge lands on Afognak Island. Post-hunt analysis indicated that 87 elk were harvested in 2016 including two animals from the Waterfall herd.

Mountain Goat

In 2016, biologists with the ADF&G and Refuge cooperatively surveyed approximately 80% of known goat summer range on Kodiak Island during August. Of the 2,256 goats counted 1,770 were adults and were 486 kids. The ADF&G issued 249 drawing permits and 1,616 registration permits. A total 89 goats was harvested by drawing hunts and 180 goats have been harvested by registration hunt. Some additional harvest is expected in registration hunt 480 between early January and mid-March 2017 when the season closes.

Reindeer

Distribution of reindeer is restricted to southwestern Kodiak Island where suitable habitat occurs. Over the past 20 years, herd size has fluctuated between 300 and 335 animals. In late May 2016, the ADF&G counted a total 375 (341) reindeer consisting of 291(289) adults and 84 (52) calves. Preliminary analysis indicated that 33 (36) reindeer were harvested in 2016, which is the highest recorded, and is about twice the level of recent annual harvests following prohibition of an allowance to hunt the same day a hunter is transported to the field (i.e., same-day airborne).

Migratory Birds

Nearshore Marine Bird Surveys

In summer 2016, the Refuge continued a survey initiated in 2011 focusing on marine nearshore birds in the intertidal zone and shallow inshore waters. We conducted surveys in June and August, when the majority of resident breeding birds had established nests and populations were relatively stable. August survey data provided bases for estimating productivity of species with distinctive juvenile plumages, including marbled murrelets and pigeon guillemots. Surveys were conducted from small skiffs using the Refuge research boat, the M/V Ursa Major II, as a mobile home base. In summer 2016, Refuge staff surveyed the west side of Kodiak Island from Viekoda Bay southwest to Gurney Bay, completing 128 transects along approximately 1600 km of shoreline. This region was last surveyed in June and August 2013. The most commonly encountered species included: black-legged kittiwakes, glaucous-winged and mew gulls, tufted and horned puffins, common murres, marbled murrelets, pigeon guillemots, and harlequin ducks (Table 2). Productivity was higher in 2013 than in 2016 for all species except Bald Eagles and Black Oystercatchers (Figure 2).

Table 2. Preliminary counts for select marine bird and mammal species surveyed on transects in June and August, 2013 and 2016 by Kodiak Refuge on the west side of Kodiak Island from Viekoda to Gurney Bays.

	June 2013 Counts	June 2016 Counts	August 2013 Counts	August 2016 Counts	Productivity August 2013	Productivity August 2016
Nearshore Transects						
Harlequin Duck	192	398	506	1102		
Barrow's Goldeneye	10	102	148	44		
Common Merganser	280	542	142	216		
Bald Eagle (Adult)	188	229	145	277	0.013	0.202
Bald Eagle (Subadult)	11	38	15	140		
Black Oystercatcher	62	102	42	58	0.024	0.086
Nearshore & Offshore Transects						
Pelagic Cormorant	50	100	33	183		
Red-faced Cormorant	2	0	0	24		
Mew Gull	71	32	1897	2111	0.038	0.014
Glaucous-winged Gull	1166	1035	1927	3114	0.276	0.027
Black-legged Kittiwake	3774	1931	5300	4749	0.113	0.023
Arctic Tern	198	223	247	343	0.241	0.149

Aleutian Tern	2	0	0	1		
Common Murre	626	2	428	343		
Pigeon Guillemot	521	409	495	494	0.306	0.115
Kittlitz's Murrelet	1	0	12	1		
Marbled Murrelet	1170	218	1346	526	0.086	0.040
Tufted Puffin	369	260	415	517		
Horned Puffin	134	0	223	278		
Marine Mammals						
Sea Otter	718	717	513	927		
Harbor Seal	274	374	441	470		

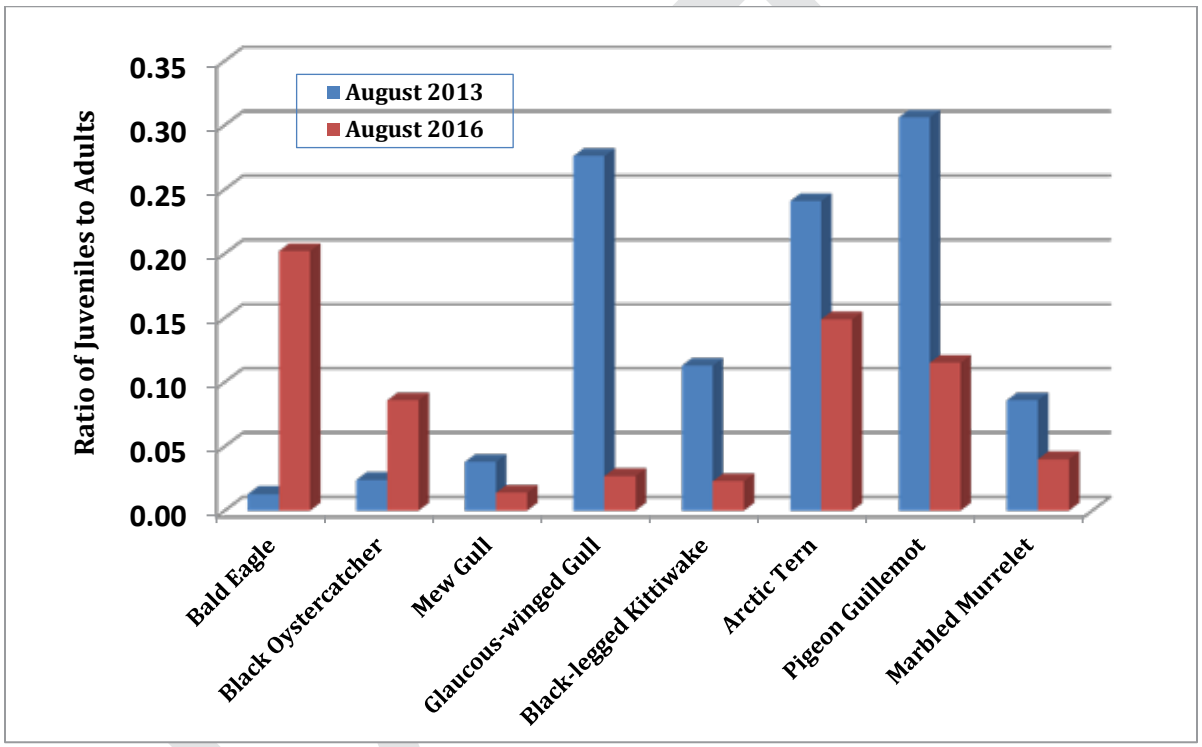


Figure 2. Comparisons of productivity (i.e., ratio of juvenile (hatch-year) to adult birds) surveyed on the west side of Kodiak Island in 2013 and 2016.

A link to the survey report with complete results from 2011-2013 can be found on the Kodiak National Wildlife Refuge website at:
https://www.fws.gov/uploadedFiles/Region_7/NWRS/Zone_2/Kodiak/PDF/Report2016_1_MarineBirdSurvey2011_2013_KodiakNWR.pdf

Fisheries

Buskin River Fish Habitat Restoration

On January 11, the Exxon Valdez Trustee Council approved $4.5 million in funding to implement a proposal jointly prepared by the Service, ADF&G, and NOAA. Objectives of the project are restoration of fish passage via removal of 10 barriers, and via replacement of another 10barriers (i.e., culverts) in partnership with three supportive landowners, the U.S. Coast Guard, Alaska Department of Transportation and Public Facilities, and the Natives of Kodiak. Completion of barrier removal and replacement will restore access to over six miles of upstream habitat and 53 acres of lakes in the 26 square mile Buskin River drainage. For more information contact Heather Hanson, Fish Passage Engineer, heather_hanson@fws.gov.

Figure 3. Salmon passage barrier scheduled for replacement at the outlet of Boy Scout Lake. Note the failed attempt of the encircled coho salmon to access the lake via the bottom-corroded culvertr. Photo: Franklin Dekker/USFWS.

Akalura Creek Salmon Escapement Monitoring

In 2015 we estimated 32,802 ± 7,336 (95% CI) sockeye salmon (*Oncorhynchus nerka*) returning to the system, with peak counts recorded on August 19. Data was collected via combination of fixed timelapse camera recording a burst of three images per minute, and via continuously daytime-operated video camera, which served to calibrate timelapse-based fish counts back in the office (Figure 4). Presently data from 2016 is being processed and analyzed, and plans are in development for continued 2017 project operation. To obtain a copy of the 2015 report contact Kevin Van Hatten, kevin_vanhatten@fws.gov.

Figure 4. Example of image from timelapse camera used to monitor sockeye salmon escapement in Akalura Creek, Kodiak Island.

Networked Monitoring of Salmon Habitat Temperatures

Supported by a grant from the Western Alaska Landscape Conservation Cooperative (LCC), The Refuge coordinated implementation of a collaboratively-developed strategic plan for automated, hourly monitoring of temperature of important salmon streams and lakes. The purpose of the network is to coordinate temperature monitoring in accordance with identified data collection standards and to make these data publically accessible. Presently, network partners include the Refuge, USFWS/Office of Subsistence Management, U.S. Geological Survey, Alutiiq Tribe of Old Harbor, Larsen Bay Tribal Council, Sun'aq Tribe of Kodiak, ADF&G, and KRAA. Fieldwork by network partners in 2016 focused on continued monitoring of 32 streams and 25 lakes that serve important salmon spawning and/or rearing functions.

Education, Outreach, and Other Noteworthy Activity

Alaska Migratory Bird Calendar Contest

Kodiak will continue to participate in the Migratory Bird calendar contest."Migratory Birds Bring Me _____". This open-ended theme leaves space for the children to express their own connections to migratory birds. The purpose of the contest is to encourage children to learn about bird conservation. Student entries will be submitted in mid-February followed by Refuge-sponsored judging of entries in Kodiak in late February. Highest ranked entries will be forwarded for final judging in Anchorage. The recently released 2017 calendar features art and literature of Kodiak island students.

Invasive Plant Management

Since 2003, the Refuge has consistently operated an integrated pest management (IPM) program to address the invasive plan threat to native fish and wildlife habitat resources. In 2016 we applied IPM methods in partnership with landowners and the Kodiak Soil and Water

Conservation District to control highly invasive plants in 12 areas including Akalura Cannery, Alitak Cannery, Buskin River watershed, Camp Island vicinity, Garden Island, Harvester Island vicinity, Uganik Cannery, and Refuge, Coast Guard, and State Park properties in Kodiak. The major new start in 2016 was the Buskin project where reed canarygrass has impacted native wetlands that support salmon spawning and rearing habitat. By mid-October, the end of the control opportunity period, in mid-October we had treated about 80% of the 4-acre infestation area. Canarygrass eradication from the watershed area will likely require four-six years of follow-up treatments. For more on the Refuge's IPM strategy, see: http://www.fws.gov/refuge/Kodiak/what_we_do/resource_management.html.

Refuge Staff Transitions

[Tevis—please modify and add (LE Pilot, RIT) as appropriate]

Anne Marie La Rosa retired in December 2016, concluding three years as Manager of Kodiak Refuge and total 32 years of productive federal service, primarily with the Fish and Wildlife Service. In January 2017 **Michael Brady** was selected as Kodiak Refuge's new Manager and is scheduled to start duty in late March. Michael brings an extremely diverse work experience that includes many different positions within the Service, and in several different regions of the country. Michael is currently serving as the Project Leader for Hopper Mountain National Wildlife Refuge Complex and Condor Recovery Program in Ventura, California. Before becoming the Project Leader, Michael was the Deputy Wildlife Refuge Manager for Alaska Peninsula/Becharof NWR, Alaska. Michael has also held various positions at Monomoy NWR (MA), Ding Darling NWR (FL), Stone Lakes NWR (CA), Blackwater NWR (MD) and Chincoteague NWR (VA). Michael graduated with a Bachelor's Degree in Environmental Science from the University of Massachusetts at Lowell.

United States Department of the Interior

U.S. Fish and Wildlife Service
Izembek National Wildlife Refuge
P.O. Box 127
Cold Bay, Alaska 99571

Izembek National Wildlife Refuge Report for the Kodiak/Aleutians Federal Subsistence Regional Advisory Council Spring Meeting – February 2017

INVENTORY AND MONITORING STUDIES
CARIBOU-Unit 9D (Southern Alaska Peninsula)

In total, 75 bull caribou permits were allocated to five communities (15 permits each; Cold Bay, King Cove, Sand Point, False Pass, and Nelson Lagoon) for the 2016-17 federal subsistence hunt. The Federal hunt is a split season and was open from August 10 to September 20, 2016 and November 15, 2016 to March 31, 2017. At the time of this report, no caribou were harvested for the federal subsistence hunt (Table 1).

Table 1. Summary of federal subsistence permits issued and number of caribou harvested by each community for the 2016-17 hunt.

Community	# Permits Allocated	# Permits Issued	# Caribou Harvested
Cold Bay	15	3	0
False Pass	15	5	0
King Cove	15	7	0
Nelson Lagoon	15	0	0
Sand Point	15	11	0
Total	75	26	0

The annual winter minimum population count is planned to be conducted when survey conditions are favorable between December 2016-April 2017. At the time of this report, the survey has not been conducted yet.

Table 2. Summary of Southern Alaska Peninsula caribou herd winter minimum population counts and fall composition surveys (2004 to 2016) conducted by U.S. Fish and Wildlife Service and Alaska Department of Fish and Game.

Year	Winter minimum population count	Fall Bulls : 100 Cows	Fall Calves : 100 Cows	Fall composition sample size
2004-2005	1,872	36	7	966
2005-2006	1,651	30	6	1,040
2006-2007	770	16	1	713
2007-2008	NA	15	1	431
2008-2009	NA	10	39	570
2009-2010	NA	21	43	679
2010-2011	NA	28	47	532
2011-2012	1,061	40	20	920
2012-2013	NA	45	20	500
2013-2014	NA	50	40	600
2014-2015	1,316	45	45	884
2015-2016	1,568	NA	NA	NA

"NA" indicates no data was collected.
"Year" covers the period October-April. USFWS winter minimum population counts are normally conducted December through April; ADF&G fall composition ratios are calculated from an October survey.

Caribou-Unit 10 (Unimak Island)

The annual winter minimum population count is planned to be conducted when survey conditions are favorable between December 2016-April 2017. At the time of this report, the survey has not been conducted yet. Hunting remains closed for caribou in unit 10.

Table 3. Summary of Unimak Island caribou herd winter minimum population counts and fall composition surveys (2004 to 2016) conducted by U.S. Fish and Wildlife Service and Alaska Department of Fish and Game.

Year	Winter minimum population count	Fall Bulls : 100 Cows	Fall Calves : 100 Cows	Fall composition sample size
2004-2005	1,006	NA	NA	NA
2005-2006	1,009	45	7	730
2006-2007	806	NA	NA	NA
2007-2008	NA	31	6	433
2008-2009	NA	9	6	260
2009-2010	400	5	3	221
2010-2011	224	8	8	284
2011-2012	94	6	7	117
2012-2013	NA	9.5	3	83
2013-2014	NA	10	19	67
2014-2015	230	15	22	127
2015-2016	334	NA	NA	NA

"NA" indicates no data was collected.
"Year" covers the period October-April. USFWS winter minimum population counts are normally conducted December through April; ADF&G fall composition ratios are calculated from an October survey.

WATERFOWL

Pacific Brant

In late September and early October we conducted the annual age-ratio survey for Pacific black brant staging at Izembek Refuge. An index of productivity for the entire Pacific population of brant is generated from ground-based count ratios of adult to juvenile birds conducted in Izembek Lagoon and adjacent areas each fall when the birds are staging for migration. Brant productivity data have been collected at Izembek National Wildlife Refuge for over 50 consecutive years and aid the Migratory Bird Program in determining the status and trends of this population. This year a new survey method was implemented to increase the quality of the survey data. During the first week of October, ten biologists collected over 30,000 observations in just under a week. This method allows for simultaneous collection of observations across the lagoon in a single day reducing some of the bias in the data collection. The percentage of juveniles in the fall of 2016 was 17.1%

and exhibits an increase from 2015 (12.9%).

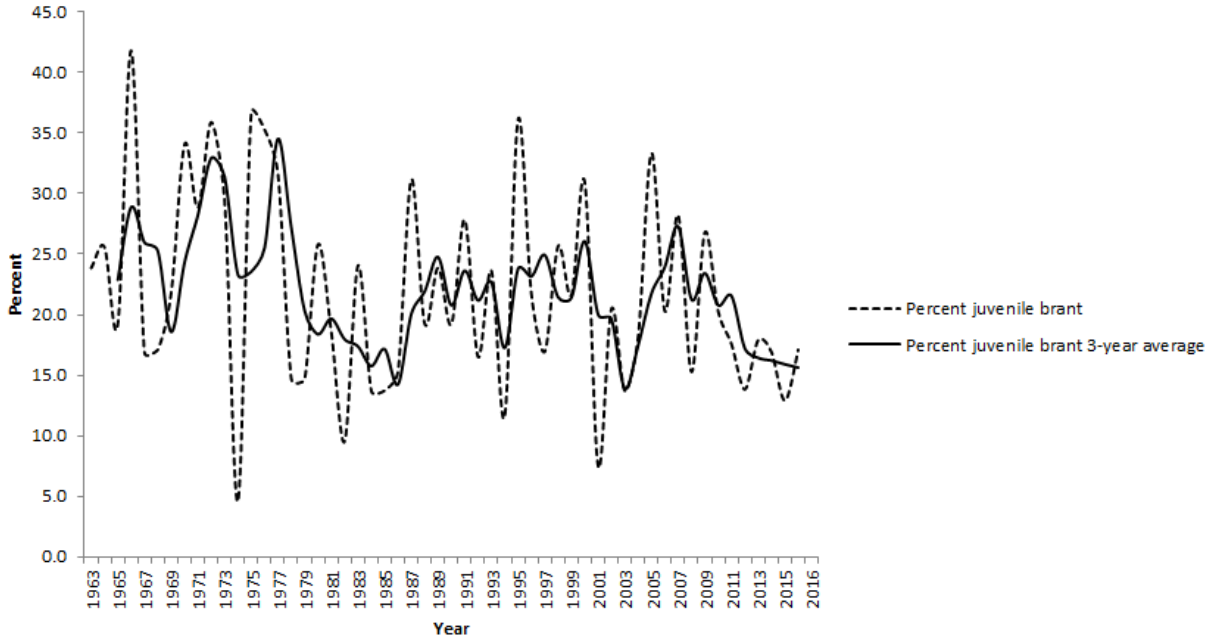


Figure 1. Index of productivity for juvenile Pacific black brant in Izembek Lagoon, Cold Bay, Alaska 1963-2016.

Breeding Origin of Juvenile Black Brant

Izembek NWR continued a collaborative study with USGS scientists for the fourth consecutive year to collect primary feathers from juvenile Pacific black brant that are harvested by hunters in Izembek Lagoon. The purpose of this research is to determine the breeding origin for juvenile brant that use Izembek Lagoon in the fall to assess which breeding areas are contributing to production in the population. Stable isotope techniques will be used to measure the amount of hydrogen in the feathers since this varies by geographic location where the juveniles originate from. Current speculation is that a greater proportion of the annual production of brant is coming from breeding areas in the Arctic rather than in western Alaska, where the majority of brant production has traditionally occurred.

Avian Influenza and Avian Blood Parasites

Izembek NWR continued to collaborate with the U.S. Geological Survey (USGS) to collect avian influenza samples from hunter-harvested waterfowl in September and October 2016. Almost 1,000 samples were collected and are subsequently being tested to help monitor for avian influenza in Alaska. Samples are collected from hunter harvested ducks and geese, and additional samples are obtained from live birds through fecal collection in the field. At the time of this report, the samples are still being analyzed.

Tundra Swans

We observed a total of 1,015 swans and 84 nests in both units combined. In the Izembek Unit we observed a total of 201 swans and 10 nests (Figure 2). There were 11 single swans, 4 single

swans with nests, 39 pairs, 6 pairs with nests, and 96 in flocks. The density of swans in the Izembek Unit, 0.49 swans/mi^2, was higher than 2015 (0.29 swans/mi^2) and above the long term average of 0.30 swans/mi^2 (± 0.03 SE, 1998-2015). The density of breeding pairs observed on the Izembek Unit, 0.13 swans/mi^2, was slightly higher than 2015 (0.10 swans/mi^2) and the long term average of 0.10 swans/mi^2 (± 0.01 SE, 1998-2015).

In the Pavlof Unit, we observed a total of 814 swans and 74 nests (Figure 3). The total was composed of 40 single swans, 17 single swans with nests, 121 pairs, 57 pairs with nests, and 401 in flocks. The largest flocks observed contained 44, 45, 51, 51, and 52 swans. The density of swans in the Pavlof Unit, 1.15 swans/mi^2, increased from 2015 (0.98 swans/mi^2) and is significantly higher than the long term average of 0.59 swans/mi^2 (± 0.04 SE, 1998-2015). The density of breeding pairs observed on the Pavlof Unit, 0.30 swans/mi^2, increased from 2015 (0.26 swans/mi^2) and was higher than the long term average of 0.23 swans/mi^2 (± 0.01 SE, 1998-2015).

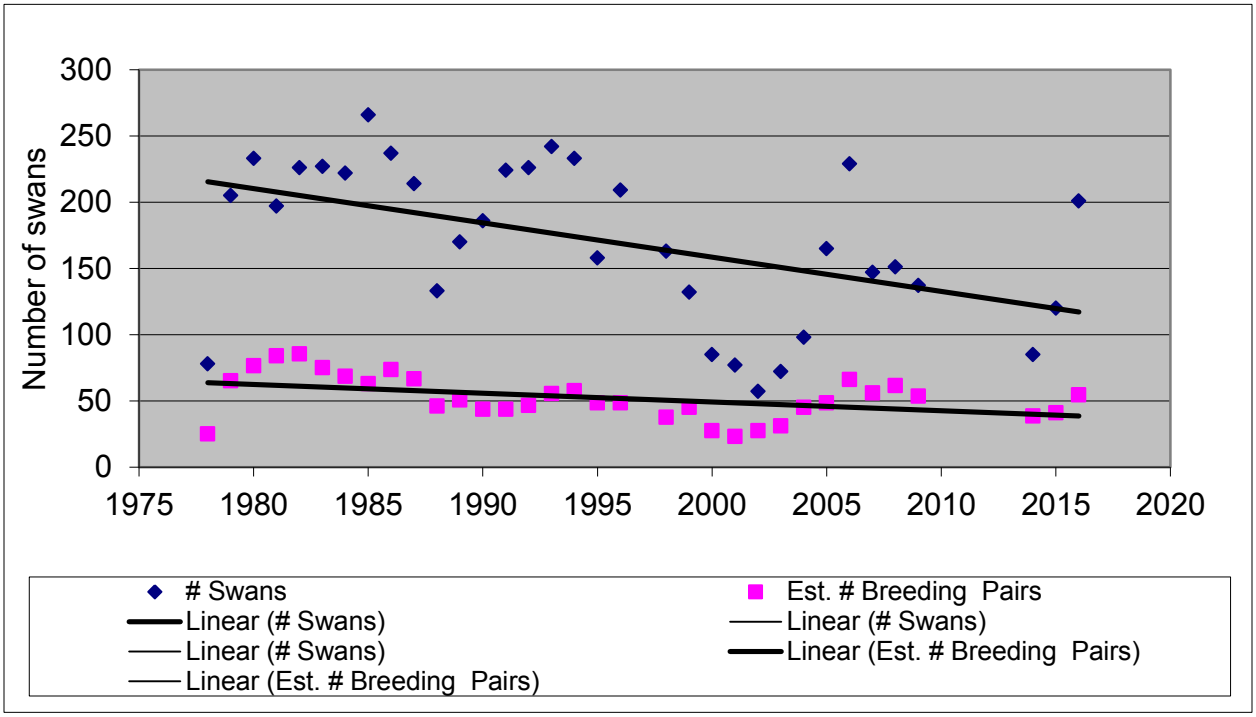


Figure 2. Annual Tundra swan aerial population survey trends (1978-2016) for the Izembek Unit on Izembek National Wildlife Refuge, Alaska.

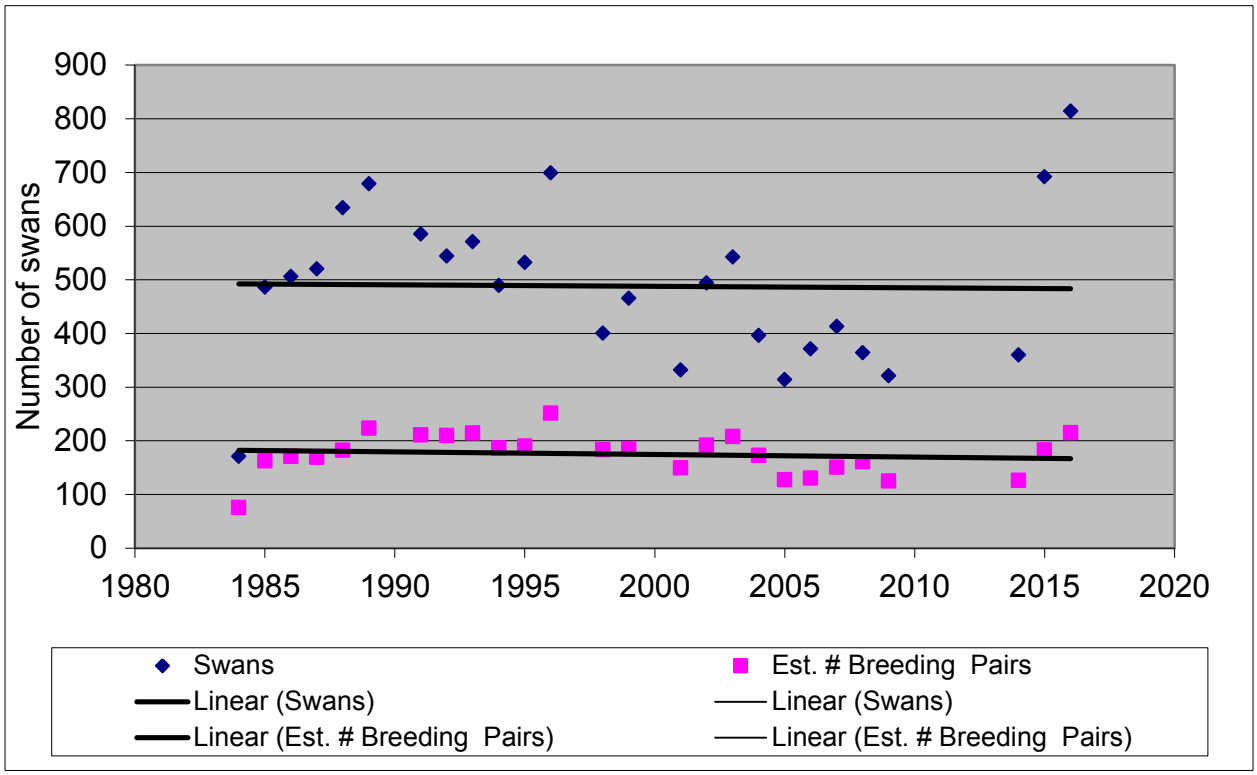


Figure 3. Annual Tundra swan aerial population survey trends (1984-2016) for the Pavlof Unit on Alaska Peninsula National Wildlife Refuge (managed by Izembek National Wildlife Refuge), Alaska.

Brown Bear

In late August we conducted the annual brown bear population survey to generate an index of population size on both Unimak Island and on Izembek Refuge. Weather conditions were variable throughout the surveys and prohibited observations on some areas due to dense fog.

We observed 137 bears in the Joshua Green watershed, Frosty Creek watershed, and Thinpoint Lake area (Izembek Unit). In the Izembek Unit we observed 35 single bears, 36 sows accompanied by cubs, and a total of 66 cubs (32 cubs of the year, 16 yearlings, and 18 2.5 year olds). This was an increase of 7 bears in total since the last survey (2014; n=130 bears). In 2014, we observed 58 single bears, 23 sows, and 49 cubs (39 cubs of the year, 6 yearlings, and 4 2.5 year olds). The number of single bears observed in this years' survey decreased significantly (17%) since the previous survey in 2014, while the number of sows and cubs increased (9.5% and 12%, respectively).

On Unimak Island we observed a total of 173 bears. This was an increase of 40 bears in total since the last survey in 2014 (n=133 bears). On Unimak Island we observed 59 single bears, 37 sows with cubs, and 77 cubs (34 cubs of the year, 14 yearlings, and 29 2.5 year olds). In 2014, we observed 69 single bears, 22 sows with cubs, and 42 cubs (29 cubs of the year, 9 yearlings, and 4 2.5 year olds). The number of single bears observed in this

years' survey decreased by approximately 6% from 2014. The number of sows and cubs increased by almost 9% and 20%, respectively. The trend is similar to what we observed on the Izembek Unit.

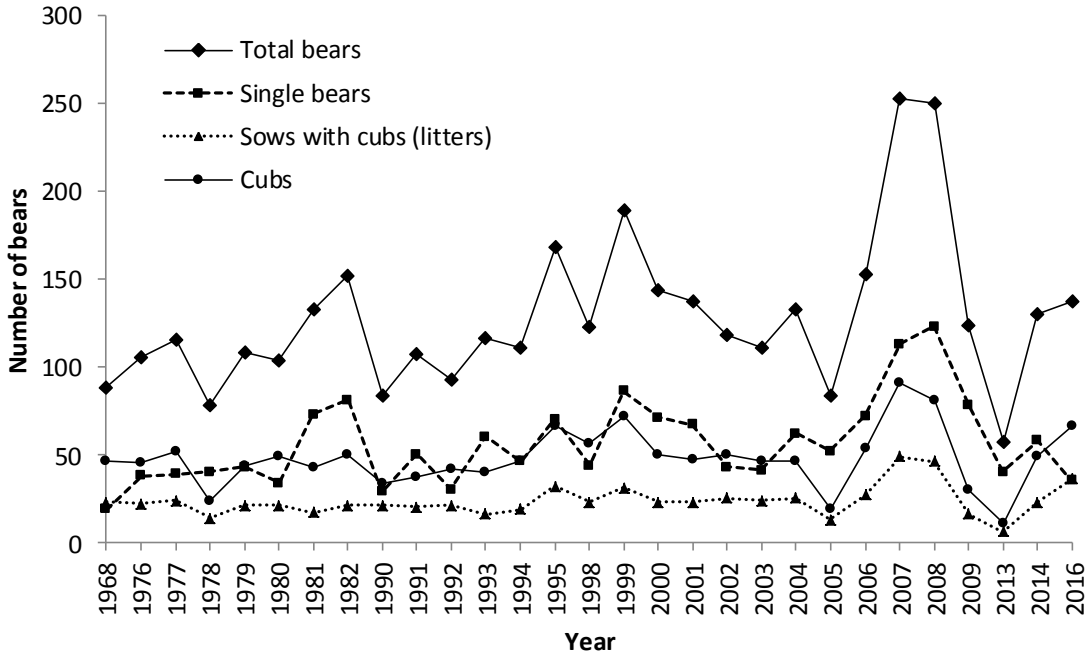


Figure 4. Brown bear population data collected from annual aerial stream survey on Izembek Refuge from 1968-2016.

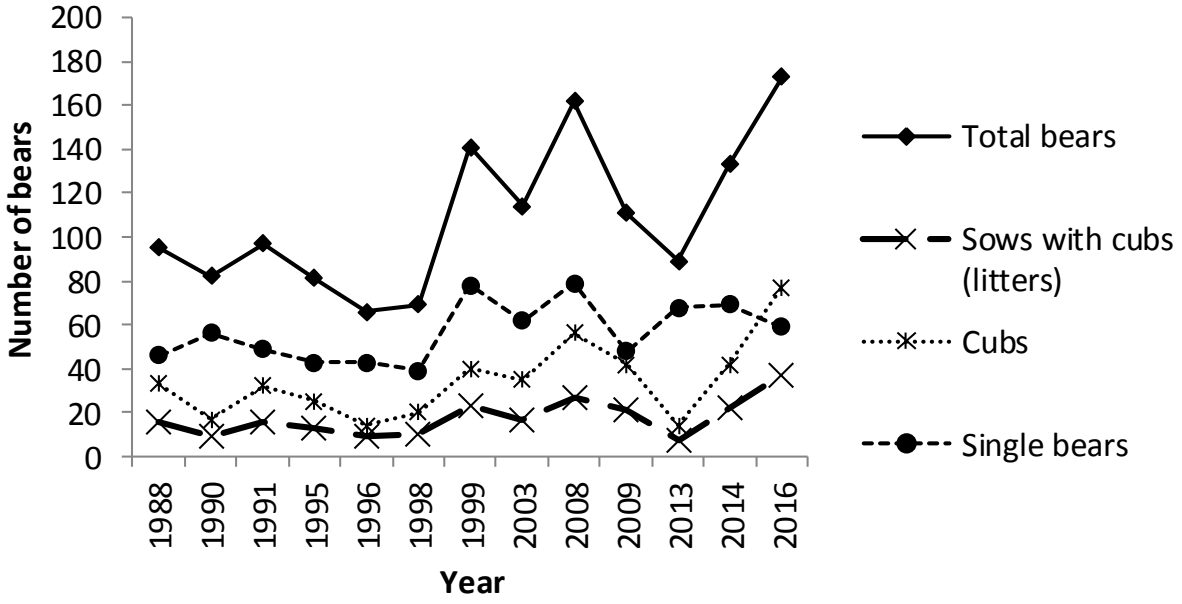


Figure 5. Brown bear population data collected from annual stream survey on Unimak Island from 1988-2016.

EDUCATION AND OUTREACH ACTIVITIES
Youth Air Rifle and Boat Safety Class

In October, U.S. Fish & Wildlife Service Law Enforcement Officer (LEO) Kelly Modla and Deputy Refuge Manager Leticia Melendez hosted an outreach program for the students in False Pass and youth in Cold Bay. The program focused on the safe use of air rifles and included a segment on boat safety. In total there were 15 students ranging from ages 5 to 14. Throughout the air rifle program, students learned how to safely handle and discharge an air rifle at stationary targets. The boat safety program focused on appropriate boating equipment, safety gear, and the dangers of hypothermia. The students also crafted their own survival kit to take home.

MAT Brush Cutting Project

In July and August (2016) Izembek National Wildlife Refuge partnered with Kenai National Wildlife Refuge and organized a Maintenance Action Team (MAT). The team cut and removed alder brush encroaching refuge roads using a hydro ax. This project encompassed approximately 28 miles of refuge roads requiring several passes (upper, middle, lower story) with the hydro ax. The MAT team also utilized the specialized equipment to help remove alder and brush for other landowners including the State of Alaska DOT, City of Cold Bay, and along the BLM 17b access easement near the former Russell Creek hatchery.

PACIFIC FLYWAY COUNCIL

Management Plan: Emperor Goose

Adopted September 2016

Cover photograph: Emperor goose, © 2014 Milo Burcham.

This management plan is one of a series of cooperatively developed plans for managing various populations of migratory birds in the Pacific Flyway. Inquiries about this plan may be directed to member States of the Pacific Flyway Council or to the Pacific Flyway Representative, U.S. Fish and Wildlife Service, Division of Migratory Bird Management, 1211 SE Cardinal Court, Suite 100, Vancouver, Washington 98683-9684. Information regarding the Pacific Flyway Council and management plans can be found on the Internet at PacificFlyway.gov.

Suggested Citation: Pacific Flyway Council. 2016. Management plan for the emperor goose. Pacific Flyway Council, care of U.S. Fish and Wildlife Service, Division of Migratory Bird Management, Vancouver, Washington. 36 pp.

MANAGEMENT PLAN

FOR THE

EMPEROR GOOSE

Prepared for the

Pacific Flyway Council
U.S. Fish and Wildlife Service
Canadian Wildlife Service
Direccion General de Conservacion Ecologica de Recursos Naturales

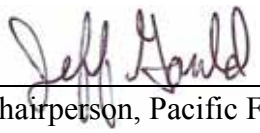
by the

Emperor Goose Subcommittee
of the
Pacific Flyway Study Committee

and

Emperor Goose Subcommittee
of the
Alaska Migratory Bird Co-Management Council

May 1988
Revised July 1994
Revised July 2006
Revised September 2016

Approved by  September 30, 2016
Chairperson, Pacific Flyway Council Date

ACKNOWLEDGEMENTS

The Pacific Flyway Council appreciates the work of the Pacific Flyway Study Committee, Subcommittee on Emperor Geese to update and revise this Management Plan. Review and constructive comments from the Alaska Migratory Bird Co-Management Council, Emperor Goose Subcommittee, is especially appreciated.

Pacific Flyway Study Committee, Emperor Goose Subcommittee members included:

Dan Rosenberg and Jason Schamber, Alaska Department of Fish and Game
Eric Taylor and Erik Osnas, U.S. Fish and Wildlife Service, Region 7
Todd Sanders, U.S. Fish and Wildlife Service, Headquarters

Alaska Migratory Bird Co-Management Council, Emperor Goose Subcommittee members included:

Brandon Ahmasuk, Kawerak, Inc.
Tim Andrew, Association of Village Council Presidents
Peter Devine, Aleutian/Pribilof Islands Association
Jack Fagerstrom, Kawerak, Inc.
Cyrus Harris, Maniilaq Association
Gayla Hoseth, Bristol Bay Native Association
Sonny Squartsoff, Sun'aq Tribe of Kodiak
Dan Rosenberg, Alaska Department of Fish and Game
Erik Osnas, U.S. Fish and Wildlife Service, Region 7
Eric Taylor, U.S. Fish and Wildlife Service, Region 7

The Pacific Flyway Council extends special thanks to pilots and staff of the U.S. Fish and Wildlife Service-Office of Migratory Bird Management in Region 7, and to the staff of the Izembek National Wildlife Refuge.

The Pacific Flyway Council also recognizes the important contributions made by many government and private individuals who have helped improve emperor goose management, including: Steve Fleischman at the Alaska Department of Fish and Game; Robert Stehn (retired) and Joshua Dooley of the U.S. Fish and Wildlife Service; and Jerry Hupp, Joel Schmutz, and Margaret Petersen (retired) at the U.S. Geological Survey-Alaska Science Center.

And finally, Council wishes to thank the many researchers, managers, technicians and members of the public in Alaska who have contributed to our understanding and management of emperor geese since the 1960s.

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PREFACE

The Pacific Flyway Council is an administrative body that forges cooperation among public wildlife agencies for the purpose of protecting and conserving migratory birds in western North America. The Council is composed of the director or an appointee from the public wildlife agency in each state, province, and territory in the western United States, Canada, and Mexico. Migratory birds use four major migratory routes (Pacific, Central, Mississippi, and Atlantic flyways) in North America. Because of the unique biological characteristics and relative number of hunters in these regions, state and federal wildlife agencies adopted the flyway structure for administering migratory bird resources within the United States. Each flyway has its own Council.

Management plans are developed by Council technical committees and include biologists from state, federal, and provincial wildlife and land-management agencies, universities, and others. Management plans typically focus on populations, which are the primary unit of management, but may be specific to species or subspecies. Management plans identify issues, goals, and actions for the cooperative management of migratory birds among State and Federal agencies to protect and conserve these birds in North America. Management of some migratory birds requires coordinated action by more than one flyway. Plans identify common goals and objectives, establish priority of management actions and responsibility for them, coordinate collection and analysis of biological data, foster collaborative efforts across geo-political boundaries, document agreements on harvest strategies, and emphasize research needed to improve conservation and management. Population sustainability is the first consideration, followed by equitable recreational and subsistence harvest opportunities. Management plans generally have a 5-year planning horizon, with revisions as necessary to provide current guidance on coordinated management. Management strategies are recommendations and do not commit agencies to specific actions or schedules. Fiscal, legislative, and priority constraints influence the level and timing of management activities.

Management plans are not intended as an exhaustive compendium of information available, research needed, and management actions. Plans include summaries of historical data and information from recent surveys and research that help identify: (1) the current state of the resource (i.e., population and associated habitat), (2) desired future condition of the resource (i.e., population goals and objectives), (3) immediate management issues managers face, and (4) management actions necessary and assignment of responsibilities to achieve the desired future condition, including harvest strategies and monitoring to evaluate population status and management progress.

The first management plan for the emperor goose was adopted in May 1988. This document is the third revision of that plan. It was developed by the Emperor Goose Subcommittee of the Pacific Flyway Study Committee.

MANAGEMENT PLAN
FOR THE
EMPEROR GOOSE

INTRODUCTION

The emperor goose is a maritime bird with an annual range in coastal areas of Alaska and Russia that is mostly contiguous with the Bering Sea. Emperor geese winter primarily in the Aleutian Islands and Alaska Peninsula with smaller numbers at Kodiak Island and as far west as the Commander Islands in Russia (Figure 1). The majority of emperor geese breed in Alaska on the Yukon–Kuskokwim Delta (YKD, 80–90% of the total population; Eisenhauer and Kirkpatrick 1977) with the remainder nesting on the Seward Peninsula and the east and north coasts of the Chukotka Peninsula in Russia. Emperor geese migrate in spring and fall along coastal areas of the Alaska Peninsula and Bristol Bay (Figure 1; Appendix A).

The status of the emperor goose population has been measured annually using an aerial survey of spring migrants in southwest Alaska since 1981 (Wilson and Dau 2015). A 3-year running average of the survey count has been used as the population index for emperor goose management (Pacific Flyway Council 2006). In the early 1980s, the spring survey documented a

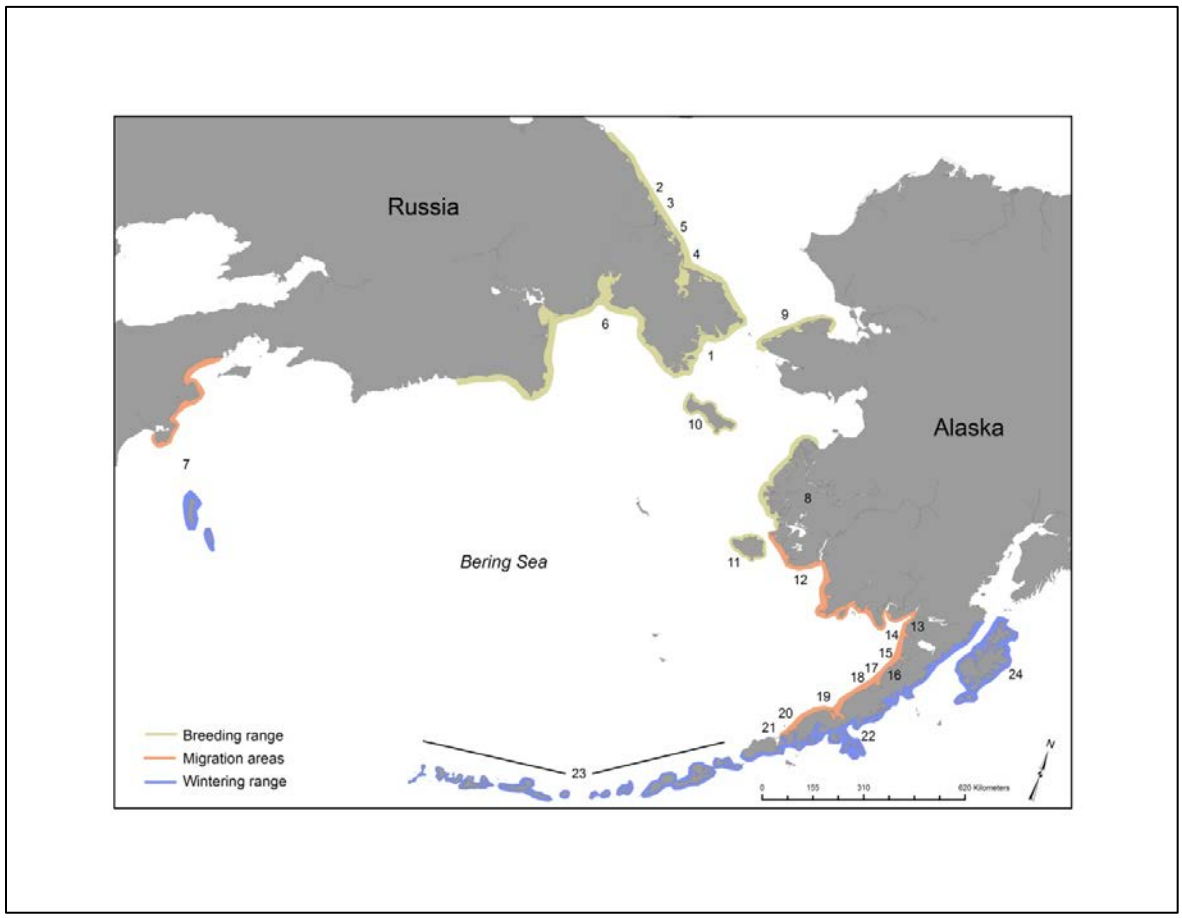


Figure 1. Annual range of the emperor goose (numbered locations referenced in Appendix 1)

population decline from a peak count of over 100,000 birds in 1982 to less than 45,000 birds in 1986 (Figure 2). Since then, annual survey counts fluctuated between 39,000 and 98,000 birds, but showed a slightly increasing long-term population trend. From 2005–2014 survey counts indicated increased population growth of ~3% per year (± 3%; Dooley et al. 2016). The most recent 3-year (2014–2016) average count of 85,795 birds was the highest recorded since 1983 (Safine 2016).

The apparent population decline in the early 1980s and an estimated low adult annual survival rate during that time (Petersen 1992) elevated conservation concerns for emperor geese. Fall/winter harvest restrictions were implemented in 1985 that reduced the daily bag limit from 6 to 2 birds (Pacific Flyway Council 2006). In 1986, the 3-year average survey count dropped below the minimum level of 60,000 birds (Wilson and Dau 2015) to allow harvest. The fall/winter harvest was closed to emperor geese in 1986, and in 1987 a cessation of subsistence harvest was agreed to under terms of the Yukon-Kuskokwim Delta Goose Management Plan (YKDGMP 2010). The resumption of spring/summer subsistence and fall/winter harvest could be considered when the 3-year average count reached 80,000 birds, as it did in 2015.

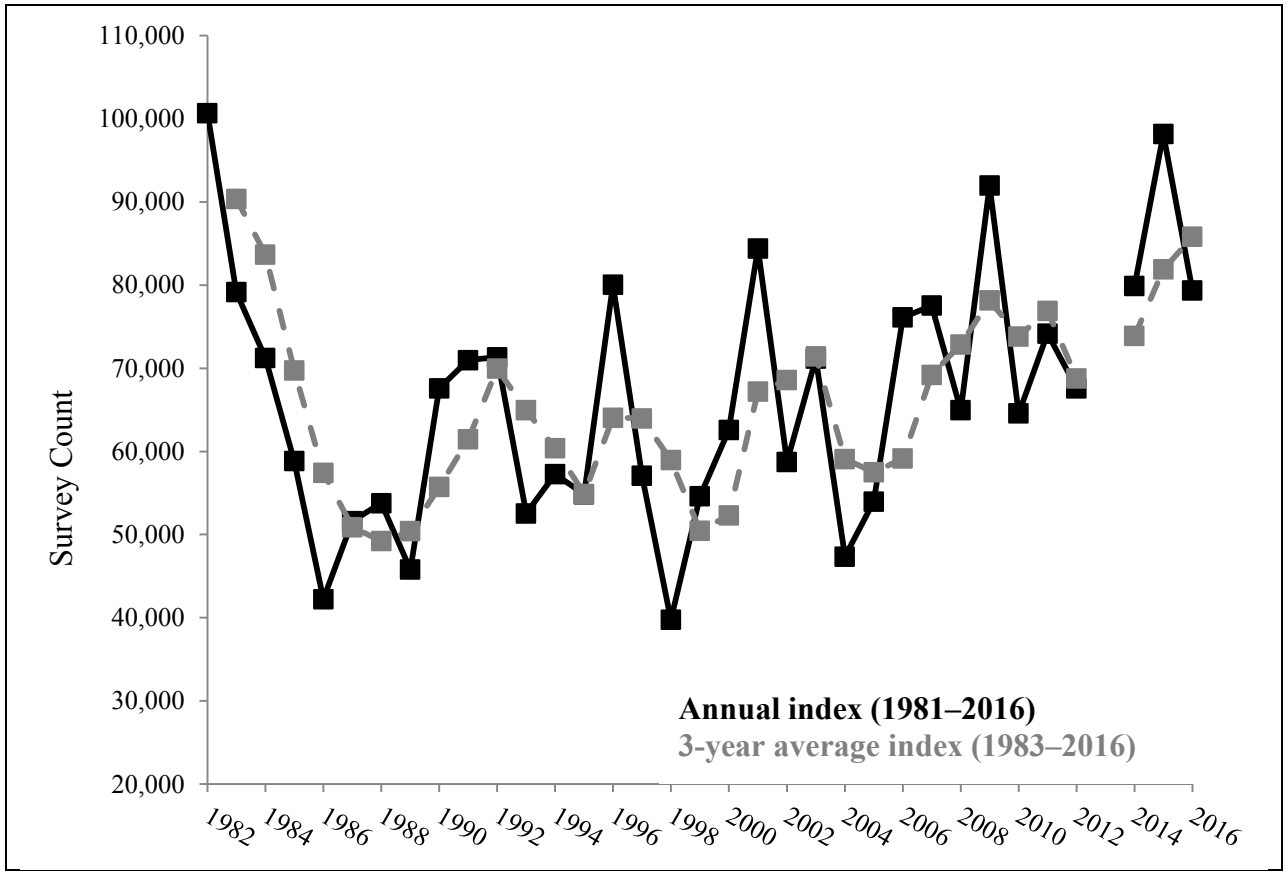


Figure 2. Annual index and 3-year average index of spring migrants at staging areas in southwest Alaska, 1981–2016.

The purpose of this revision of the Management Plan is to update established goals, objectives, and strategies from the previous version (Pacific Flyway Council 2006) to ensure responsible stewardship of emperor geese in the Pacific Flyway. This Management Plan identifies

management actions, information needs, and agency responsibilities until the next revision scheduled for 2021. This Management Plan will serve as a companion to the 2016 Alaska Migratory Bird Co-Management Council (AMBCC) Emperor Goose Management Plan, which specifies regulations for spring/summer subsistence harvest of emperor geese. The two Management Plans are intended to complement one another and contain identical population assessment methods, population objectives and regulatory harvest thresholds. Adoption of the Pacific Flyway Emperor Goose Management Plan by the Pacific Flyway Council is contingent upon the adoption of the AMBCC Emperor Goose Management Plan by the AMBCC.

The precedent for developing separate management plans for fall/winter and spring/summer subsistence harvest is supported by Article II(4)(2)(b)(ii) of the 1997 Protocol between the United States and Canada amending the 1916 Convention for the Protection of Migratory Birds. As noted, management bodies will be created to ensure an effective and meaningful role for indigenous inhabitants in the conservation of migratory birds. These management bodies will include Native, Federal, and State of Alaska representatives as equals, and will develop recommendations for, among other things: seasons and bag limits; law enforcement policies; population and harvest monitoring; education programs; research and use of traditional knowledge; and habitat protection. Management bodies involve village councils to the maximum extent possible in all aspects of management. This Article provides the basis for the two separate but complimentary Management Plans.

This Management Plan includes significant changes from the previous version (Pacific Flyway 2006) and represents a major shift in emperor goose management. From 1985–2016, emperor goose management was based on the 3-year average index of emperor goose abundance during a spring migration survey in southwestern Alaska. Based on this survey, the population objective was an index of 150,000 birds and harvest closed when the 3-year average index was below 60,000 birds. Harvest could be reconsidered once the 3-year average index exceeded 80,000 birds (YKDGMP 2010). This Management Plan replaces the spring survey index with a summer survey index of indicated total birds[1] (hereafter; total bird index) derived from aerial surveys of emperor goose abundance on the YKD (Yukon-Kuskokwim Delta) Coastal Zone Survey. The total bird index is less biased and more precise than the spring survey index and is based on statistical sampling theory. This Management Plan also includes a fall/winter harvest strategy that specifies a regulatory framework, recognizing the emperor goose population is of sufficient size to resume harvest.

Additionally, a new population objective was established as the 2016 total bird index of 34,000 from the YKD Coastal Zone Survey. This population objective is not intended to be used as the basis for harvest regulation. Rather, this population objective is a standard by which future population changes can be measured. The total bird index and population objective are viewed as interim strategies that will be reevaluated in 2019 while other population assessment models are further refined and agreement reached on the most appropriate short- and long-term survey protocols.

[1] Indicated total birds = 2 × (singles + number of pairs) + birds in flocks

The term of this Management Plan is for 2017–2021. This Management Plan is a significant departure from past management; thus, Council agrees to evaluate the emperor goose population response during the initial 3-year period in 2019. The Subcommittee, in cooperation with the AMBCC, will annually review available data (e.g., population status, harvest survey data, and other relevant information) and in 2019 will reevaluate the population objective, population assessment method and harvest strategy.

GOAL AND OBJECTIVES

The goal of this Management Plan is to ensure sustainable harvest and maintain key ecological functions throughout the range of emperor geese; and meet subsistence, recreational, educational, and scientific needs.

Objectives:

1. Maintain a population of emperor geese above an index of 23,000 birds, based on the total bird index from the YKD Coastal Zone Survey
2. Maintain a customary and traditional subsistence harvest
3. Provide for a fall/winter harvest
4. Protect and manage nesting and brood rearing habitats
5. Protect and manage staging and wintering habitats

STATUS

A. Abundance and Trends

Prior to the 1980s, little data were available on the population trend and distribution of emperor geese, but a few aerial surveys conducted during spring and fall migration in the 1960s and 1970s provide some historical information. In 1979, the U.S. Fish and Wildlife Service (USFWS) began annual survey counts of fall migrants at staging areas in southwest Alaska to provide a long-term consistent index to the population. In subsequent years, the surveys were expanded to index the population during other periods of the annual cycle. Since 1985, the USFWS has conducted surveys that: index the emperor goose population during the spring, summer, and fall; annually estimate the number of nests on the YKD; and estimate the proportion of young in the fall population. The data provide a unique, long-term perspective on seasonal abundance, trends, and distribution. In 2015 and 2016, two population models were developed based on these survey data: a Bayesian state-space model that integrated the 30-year dataset from these surveys to provide an estimate of the size and trend of the emperor goose population; and a theta-logistic population dynamics model that used data from the summer aerial survey, harvest surveys, and stakeholder values to derive harvest thresholds for emperor geese.

A brief description of these surveys, their trends, and the population models follow.

Historical Indices.— Initial assessments of the emperor goose population were conducted in the 1960s from a few aerial surveys of spring staging areas along the Alaska Peninsula (compiled by R. Stehn, USFWS MBM R7), where nearly the entire population of emperor geese is believed to stage during spring and fall migration. In 1963 and 1964, surveys were flown from March to May. These early survey counts were highly variable, in part owing to scheduling mismatched with timing of migration. Survey counts in late March, early April and mid-April in 1963 were nine, 43,000, and 69,000 respectively. In 1964, the survey count in early April was 68,000, but was ~139,000 in late May 1964 (King 1965). At the time of this particular 1964 survey, emperor geese were concentrated just south of the YKD because of unusually late snowmelt on the breeding area (King 1965); thus, relatively few birds were counted in more southern staging areas. This count may not be directly comparable to the standardized annual spring survey indices (see below) conducted since 1981 because of differences in survey timing and methodology; thus, there is uncertainty in the apparent population trend between these two time periods.

Additional aerial surveys of the Alaska Peninsula were conducted in the late 1960s and the 1970s during fall migration. The counts were highly variable, also due in part to difficulties timing the surveys relative to a protracted fall migration. The peak count was ~137,800 birds from a survey in fall 1969, similar to the spring count in 1964; but included an anomalous count at a staging area. The exploratory nature of these early spring and fall aerial surveys provided the basis for standardized long-term surveys conducted by the USFWS to monitor the emperor goose population.

Fall Aerial Index and Age Ratios.— The fall aerial survey of emperor geese at migratory staging areas in southwest Alaska began in 1979 to determine distribution and abundance, but in later years also included estimates of productivity based on aerial photography (Anderson et al. 2002). The survey originally included coastal habitats from Kuskokwim Bay south along the north and south side of the Alaska Peninsula, but in recent years the survey boundaries were limited only to areas flown for productivity estimates (see below). Since 1985, data from this survey were used to expand photographic estimates of productivity based on the distribution of the population across fall staging areas (Stehn and Wilson 2014). Annual survey counts of geese were less variable than the spring survey, with numbers ranging between 58,000 and 110,000 from 1979–2013 (Appendix B). The long-term growth rate was stable at 1.00 with an average count of 74,700 birds (Stehn and Wilson 2014).

In 1985, comprehensive aerial photographic surveys in estuaries on the north side of the Alaska Peninsula were begun (Butler et al. 1985) to provide annual estimates of the proportion of juveniles in the fall staging population as an index to production. The count-weighted proportion (weighted by the proportion of the total fall population observed in regions where counts occurred; Stehn and Wilson 2014) of juveniles was variable, ranging from 0.09–0.35 during 1985–2014 (Appendix E). The 30-year average count-weighted proportion of juveniles was 0.19.

In addition to the aerial photographic survey, ground-based observations of family groups have been conducted at Izembek Lagoon and Cold Bay, Alaska since 1966 (Izembek National

Wildlife Refuge, unpubl. data, Pacific Flyway Council 2006). The proportion of juveniles in the ground count survey was comparable to the aerial photographic surveys. Average estimates of fall age ratio and family group size at Izembek Lagoon and Cold Bay since 1966 were 23.1% juveniles and 2.8 juveniles per family (Appendix F).

Spring Aerial Index.— Beginning in 1981, the USFWS used standardized aerial surveys to annually monitor migrant emperor geese on spring staging areas in southwest Alaska (Wilson and Dau 2015). In 1988, the spring survey count (3-year average) was selected as the Pacific Flyway management index over the fall count because the population is concentrated during a shorter time period in spring than during fall when migration is more protracted (Pacific Flyway 1988). The spring survey counts indicated a population decline of ~58% between 1982 and 1986. During these initial years of the survey, variability in annual counts was relatively high, observer changes occurred more frequently than subsequent years, and observer training and survey timing was still being refined (Dooley, 2016). From 1987–2014, the spring count ranged from 39,000–91,000 birds with an average count of 64,000 birds (Appendix B). In 2015, the spring survey count was 98,155, resulting in a 3-year average of 81,875 (Wilson and Dau 2015).

YKD Coastal Zone Survey.— In 1985, the USFWS began annual aerial surveys to monitor waterbirds, including emperor geese on the YKD to provide indices to population abundance, trends, and distribution. The survey is conducted using a systematic transect design over a >12,000 km^2 area with transect spacing stratified in geographic regions roughly proportional to goose densities. Population indices of emperor geese are calculated as: indicated breeding birds = 2 × (singles + number of pairs) and indicated total birds = 2 × (singles + number of pairs) + birds in flocks (Appendix C), based on an assumption that a single goose signifies a pair (Platte and Stehn. 2015). The average annual population growth rate from 1985–2016 for indicated total birds was 1.020±0.003 (SE) and for indicated breeding birds was 1.026±0.003 (SE). The average (1985–2016) indicated total birds was 21,185 birds and indicated breeding birds was 13,639 birds.

The YKD Coastal Zone Survey (indicated total birds) was selected to replace the spring aerial survey as the interim Pacific Flyway management index for 2017-19. At present, this index is the most suitable for management decisions, while other population assessment methods (e.g., Bayesian state-space model, theta-logistic model) are being refined.

YKD Nesting Survey.— Prior to 1985, there were no comprehensive measures of the emperor goose nest population. Since 1985, intensive random ground plot surveys have been conducted on the YKD (Fischer et al. 2015) in conjunction with aerial surveys (Butler and Malecki 1986, Eldridge and Hodges 2004) to monitor nest populations and potential production. The abundance of nests was estimated annually from sampled plots within a 716 km^2 area. The estimated number of nests is expanded to the YKD, based on the ratio of the index of single birds observed outside the ground-sampled area (OUT) to the index within the ground-sampled area (IN) on the YKD Coastal Zone survey. The nest survey data indicated a long-term (1985–2014) average annual growth rate of 1.012 (90% CI=1.002–1.021) in the nesting population (Appendix D). The average estimated number of emperor goose nests on the YKD was 37,777 from 1985–2014.

Bayesian State-space Model.— In 2015, a Bayesian state-space model was developed that integrated 30 years of data from the 5 annual emperor geese surveys (spring aerial index, YKD coastal zone survey, YKD nesting survey, fall aerial index, and the age ratio survey) to provide a estimates of population size and trend. The data were used in a Bayesian hierarchical model and parameter estimates were derived using a population projection matrix model with four age classes. Model inputs (priors) were selected to be wide and uninformative. The model structure was based on a number of assumptions, but the model ensured that estimated demographic parameters (posterior distributions) such as population growth rate, population size, survival and productivity were coherent and consistent with all the available data from the five surveys. Parameter estimates were based on the median and 95% credible intervals of the posterior distribution of the Bayesian estimates.

Based on the data, model priors and assumptions, the averaged posterior median estimate of 30-year population growth in the June population was 1.010 (±0.008) with a higher increased rate (1.028±0.017) in the last 10 years. The posterior median estimates of population size in June averaged over 2007–2014 was 129,488 (±6,133 SD) birds. The model estimated median June population size in 2014 was 148,010 birds.

Theta-logistic Model[2].— In 2016, a theta-logistic population model and analysis was used to derive optimal harvest thresholds, given two statements of stakeholder values and considering the uncertainty in goose population dynamics and future harvest. Theta-logistic model parameter estimates were obtained using the YKD Coastal Zone Survey data and harvest data from Dooley et al. (2016). The model was fit using Bayesian Markov Chain Monte Carlo methods. Model priors were identical or consistent with the parameter distributions used in Dooley et al. (2016). Harvest decision thresholds were derived using population predictions from the theta-logistic model and associated parameter posterior distributions, utility functions of emperor goose population size elicited from two agency representatives, and harvest utility functions specified from perceived values of subsistence stakeholders.

Given the population model and utility functions, the optimal harvest policy, is to restrict or close the harvest season when the YKD Coastal Zone Survey index is lower than 26,000 birds, approximately. The harvest threshold is highly dependent on the shape of the utility functions and the reported harvest. The theta-logistic model was used to guide the closure threshold in the harvest strategy (see below).

B. Breeding Areas

In Alaska, approximately 90% of the emperor goose population nests along the coastal zone of the YKD (Palmer 1976, Bellrose 1980, King and Dau 1981, Petersen et al. 1994) with smaller numbers nesting on the Seward Peninsula (Kessel 1989) (Figure 1, Appendix A). Emperor geese also nest in Russia along the coast of the Chukotka Peninsula from Mallen Lagoon north and west to Cape Shmidt along the Chukchi Sea (Kistchinski 1973, Portenko 1981, Schmutz and Kondratyev 1995, Dorogoi and Beaman 1997).

[2] Code and associated files can be found at https://github.com/eosnas/Emperor-Goose-Harvest-Strategy.git

Emperor geese arrive on the YKD in early to mid-May, with large influxes occurring 2 to 16 days later (Petersen 1990, 1992a). The pre-laying period between arrival to the breeding areas and nest initiation is approximately 4–19 days (Hupp et al. 2006), which is dependent on individual arrival dates and the timing of snow-melt. Nest initiation dates for emperor geese on the YKD range from mid-May to early June (Petersen 1991, Petersen et al. 1994, Hupp et al. 2006) and on the Chukotka Peninsula from early to mid-June (Kistchinski 1972, Krechmar and Kondratyev 1982). Preferred nest sites include slough borders, pond shorelines, peninsulas, ericaceous tundra, and small islands (Kistchinski 1972, Mickelson 1975, Eisenhauer and Kirkpatrick 1977, Petersen 1985).

The nesting success of emperor geese is highly variable among years, ranging from 0.1% to 90.6% on the YKD (Petersen 1992a). Annual variation in nest success can be attributed to a number of factors, but is due primarily to variation in predation, especially by arctic foxes (Stickney 1989, Petersen 1992a). However, Petersen (1991) found that on average, 62% of clutches on the YKD were parasitized by other emperor goose females, and over 14% of goslings produced were from parasitic eggs. The cost of hosting parasitic eggs in a clutch was slightly reduced hatching success (- 4.5%) of host eggs.

The survival of emperor goslings to 30 days of age also varies considerably among years, from 33% to 71% on the YKD (Schmutz et al. 2001). The lower survival rates were primarily associated with cool, wet weather conditions after hatch and glaucous gull (*Larus hyperboreus*) predation. In 1994, glaucous gulls on the YKD consumed between 21,000 and 52,000 emperor goslings; more than for other goose species and exceeded the estimated 16,000 goslings surviving to early August (Bowman et al. 1997). Schmutz (1993) found that gosling survival was positively correlated with pre-fledging body mass; heavier goslings had significantly higher survival than lighter goslings between late pre-fledging and arrival to fall staging areas. Individual variation in pre-fledging body mass may be influenced by hatch date, forage quality, and inter-specific goose densities at foraging locations (Schmutz 1993, Lake et al. 2008).

Broods move to coastal salt marsh and estuarine habitats within one week of hatching. Laing and Raveling (1993) found that goslings selected vegetated mudflats in coastal salt marsh and spent over 80% of their feeding time there. Emperor goslings initially feed on salt marsh plants (Kistchinski 1972, Laing and Raveling 1993), as do cackling Canada geese and Pacific brant; but as goslings age, crowberries (*Empetrum nigrum*) also become important food (Mickelson 1975).

C. Molt migration

A molt migration consisting of mostly subadults and failed breeders occurs in early- to mid-June from the YKD to St. Lawrence Island and coastal lagoons of the Chukotka Peninsula (Murie 1936, Fay and Cade 1959, Fay 1961, Jones 1972, Kistchinski 1973, 1988). The number of migrating birds varies annually and is largely influenced by reproductive success. Hupp et al. (2007) estimated that in years with high reproductive success, approximately 20,000 birds are non- or failed-breeders. Migration from the YKD appears to be rapid. Most birds complete the transoceanic flight over St. Lawrence Island to Mechigmenan Bay on the Chukotka Peninsula

without stopping, while a portion of birds may stop for a brief period on St. Lawrence Island (Hupp et al. 2007).

Kistchinski (1976) suggested that up to 80% of emperor geese using Russia in summer were molting non-breeders. Historical population counts from late June aerial surveys in 1974 (Kistchinski 1976) indicated 12,000–15,000 emperor geese breeding and molting on the Chukotka Peninsula. In 1993–1995, Hodges and Eldridge (2001) estimated 5,079 emperor geese on the eastern Arctic coast of Russia between the Lena River Delta in the west and Kolyuchin Bay in the east. A more recent (2002) aerial survey of key coastal wetlands along the eastern Chukotka Peninsula counted 21,150 emperor geese (Hupp et al. 2007), which was likely a minimum count. The total population was speculated to be 25,000–30,000 birds (E. Syroechkovskiy, Jr., Russian Academy of Sciences, personal communication). The apparent two-fold increase in summering emperor geese on the Chukotka Peninsula from 1974–2002 may be related to a suspected shift in the 1980s of molting bird use from St. Lawrence Island to the Chukotka Peninsula (Murie 1936, Fay 1961, King and Derksen 1986, King and Butler 1987, Hogan and Rearden 1987, Eldridge and Bollinger 1988).

D. Fall Migration

Emperor geese migrate up to 2,200 km from molting sites to fall staging areas in southwest Alaska (Petersen et al. 1994, Izembek NWR unpublished data; Figure 2). Molt migrants arrive first from early to mid-August followed by successful breeders by late September. Banding and satellite telemetry data suggest most of the emperor goose population follows the Bering Sea coast of Alaska (Schmutz and Kondratyev 1995, Hupp et al. 2001, 2004). Few emperor geese are seen in fall along the Bering Sea coast of Kamchatka, likely because few geese winter there, or in the Commander Islands (Kistchinski 1973, Palmer 1976).

Most emperor geese are distributed among seven staging areas along the Alaska Peninsula during fall migration: Egegik Bay, Ugashik Bay, Cinder River Lagoon, Port Heiden, Seal Islands, Nelson Lagoon, and Izembek Lagoon (Figure 2, Appendix A). The remainder of the population likely uses three estuaries along the south coast of the Alaska Peninsula (Ivanof Bay, Chignik Lagoon and Wide Bay) and islands south of the Alaska Peninsula and Kodiak Island. Birds tend to spend much of their fall staging period at a single site, but use other staging areas while migrating to or from their primary site, generally moving toward a more southerly location (Schmutz 1992, Hupp et al. 2008). Individuals use fall staging areas for about 60–90 days (range = 1–126 days), but the length of stay varies annually and is related to winter location. Geese that migrate farther to the eastern or western Aleutian Islands stage for a longer duration than those that migrate to the south side of the Alaska Peninsula (Hupp et al. 2008). Emperor geese appear to exhibit a high degree of inter-annual fidelity to fall staging areas (Schmutz 1992).

During fall staging, Petersen (1983) observed emperor geese foraging on blue mussels (*Mytilus edulis*) and macoma clams (*Macoma* spp.) during low tide and roosting onshore at high tide. Schmutz (1994) reported that flocks with disproportionately more juveniles continued to feed during high tide due to greater nutritional demands. At Izembek Lagoon, emperor geese also feed on eelgrass (*Zostera* spp.) and crowberries (*Empetrum* spp.), roosting at high tides along beaches or adjacent uplands.

E. Wintering Areas

By early December, most emperor geese have migrated from fall staging areas to wintering sites throughout the Aleutian Islands, the south side of the Alaska Peninsula, and the Kodiak Archipelago. In mild winters, some birds remain in estuaries on the north side of the Alaska Peninsula, if ice-free habitat exists (Palmer 1976, Hupp et al. 2001, 2004). In Russia, emperor geese winter in the Commander Islands and along the southern Kamchatka coast.

Most birds arrive at winter locations by mid- to late-December. Arrival dates and length of stay are dependent on the region in which emperor geese spend the winter; a longitudinal pattern is apparent. Median arrival dates at winter regions were 28 September, 8 December, and 26 December for satellite-tagged geese wintering at the Alaska Peninsula, eastern Aleutian Islands, and western Aleutian Islands, respectively (Hupp et al. 2008). The average length of stay at winter sites was shorter for emperor geese that winter in the Aleutian Islands than for those that winter on the south side of the Alaska Peninsula (Hupp et al. 2008). Observations of marked birds suggest strong site fidelity to winter locations within and among years (Byrd 1989, Byrd et al. 1992, Hupp et al. 2001, 2004).

Little is known about the winter ecology of emperor geese. Wintering geese prefer shallow estuaries and shorelines for foraging and roosting. In the Aleutian Islands, large numbers use islands with extensive intertidal habitats, while others use conical volcanic islands with high energy beaches (J. Williams, USFWS, pers. comm.). The winter diet of emperor geese consists of *Fucus* spp., *Ulva* spp., eelgrass, kelp and various mollusks and other marine organisms associated with intertidal habitats. They also feed on vegetation including the shoots of *Elymus* spp. and rhizomes and herbaceous parts of *Equisetum* spp. (Murie 1959).

Estimates of adult monthly winter survival rate averaged 0.94±0.01 (SE), and estimates of juvenile monthly survival rate during their first winter period averaged 0.71±0.02 (SE), based on re-sighting collar-marked birds. Schmutz et al. (1994) speculate the lack of agricultural foods, and relatively high latitude and inclement weather of winter habitat contribute to high natural mortality rates for juvenile and adult emperor geese in comparison to other goose species.

F. Spring Migration

Emperor geese begin migrating from Aleutian Island wintering sites as early as March (Byrd et al. 1974, Byrd 1988) to staging areas on the Alaska Peninsula until making non-stop flights to the YKD in early May (Hupp et al. 2001, 2004). Birds migrating to more northerly breeding areas depart later. Many emperor geese return to the same primary staging areas they used in fall (Hupp et al. 2008). Emperor geese use spring staging sites for a shorter length of time (average 23 days) than in fall and many spend the majority of the spring staging period at a single site. Departure dates from spring staging sites vary annually, but are similar for emperor geese from different winter regions. Most geese depart for the YKD from Nelson Lagoon, Seal Islands, or Port Heiden and migrate directly across Bristol Bay.

Most Russia breeding birds migrate north along the western Alaska coastline, cross the Bering Strait, and arrive on the Chukotka Peninsula in early June (Kistchinski 1972, Krechmar and Kondratyev 1982). Birds wintering in the Commander Islands and southern Kamchatka are assumed to migrate along the western Bering Sea coastline to the Chukotka Peninsula (A. Kistchinski pers. comm.).

G. Banding and Survival Rates

Approximately 10,949 emperor geese have been banded and 177 encounters have been reported as of March 2016 (USGS Bird Banding Lab). Many of these encounters were recoveries that came from Alaska, and a few reports from British Columbia and Washington. Limited banding of molting emperor geese in Russia has resulted in two recoveries, both in Alaska; one near Cold Bay and one on St. Lawrence Island. Two birds with Russian bands were sighted in Cold Bay in the fall of 1993 (Schmutz and Kondratyev 1995). One young of the year bird banded on the YKD in August 1968 was recovered in July 1973 on the Chukotka Peninsula.

Two studies of annual survival of emperor geese were conducted using banding data from captures of nesting or flightless geese on the YKD. Petersen (1992b) used resights of neck-collared adult females to estimate annual survival from 1982 to 1985, prior to the closures of fall/winter and subsistence spring/summer harvest. The estimated average annual survival rate of 0.58±0.06 was low compared to other goose species (Petersen et al. 1994, Schmutz et al. 1994). Schmutz et al. (1994) used resights of neck-collared adults and juveniles at fall and spring staging areas to calculate seasonal and annual survival rates in the years 1988–1992, after harvest was closed. Adult annual survival was estimated at 0.62±0.02 (SE) and 0.63±0.02 (SE) after adjustment for collar loss; which was similar to the survival rate during 1982–1985 (Petersen 1992b, Schmutz et al. 1994), despite the change in harvest regulations between the two time periods.

In 1993–1998, Schmutz and Morse (2000) examined the effect of neck-collars on annual survival of emperor geese. Results indicated that average annual survival rates were higher for tarsal-only banded birds (0.80±0.14 SE) than for birds with large (0.59±0.18 SE) and small (0.69±0.15 SE) neck collars (Schmutz and Morse 2000). Thus, survival rates reported in prior studies based on neck collars (Petersen et al. 1994, Schmutz et al. 1994) may have been biased low. A recent study by Hupp et al. (2008a) estimated an annual adult female survival rate of 79–85% for radio-marked emperor geese on the YKD during 1999–2004, with 44–47% of all annual mortality occurring during the months of May and August.

H. Fall Harvest

The emperor goose daily bag limit during fall was reduced from six to two per day in 1985; the season has been closed since 1986. Estimates of annual fall harvest by the Alaska Department of Fish and Game (ADFG) from 1970–1980 (Appendix G) averaged 2,100 emperor geese (range = 1,400–3,000). Most fall harvest occurred at staging areas along the north side of the Alaska Peninsula, primarily at the Izembek State Game Refuge and Izembek National Wildlife Refuge.

I. Subsistence Harvest

In Alaska, the harvest of migratory birds and their eggs is a traditional and customary use (Wolfe et al. 1990). The governments of Canada, Mexico, and the United States amended the MBTA and the Mexico Convention in 1997 to allow for the harvest of migratory birds and their eggs during the previously closed period of March 10 to September 1. As part of the amendment, the Alaska Migratory Bird Co-Management Council (consisting of Alaska Native, USFWS and ADFG representatives) was established in October 2000 to recommend subsistence harvest regulations to the Service Regulation Committee for implementation in Alaska.

Prior to the MBTA amendment, the YKDGMP was signed in 1984 by Alaska Natives of the YKD (Association of Village Council Presidents), the USFWS, the ADFG, and other Pacific Flyway state agencies as an agreement to reduce harvest and increase populations of four species of Arctic nesting geese, including emperor geese. In 1987, the terms of the YKDGMP prohibited the taking of emperor geese at any time.

The first legal subsistence hunt of migratory birds took place in 2003. In that year, the AMBCC followed agreements from the YKDGMP (see below) and recommended a closed subsistence harvest season for emperor geese that continued through 2016. The AMBCC also established a Harvest Technical Committee to provide guidance on design and implementation of statewide migratory bird harvest surveys for all species open to subsistence hunting and an Emperor Goose Subcommittee was formed to address species-specific issues.

An integral part of the YKDGMP was the establishment of annual household surveys to document the number, seasonal use, and species composition of birds and eggs harvested for subsistence in the YKD region (Wentworth and Wong 2001). Surveys began in 1985 and continued through 2002. Surveys were expanded to the Bristol Bay region and conducted biennially in 1995–2002. In 2004, the AMBCC Harvest Assessment Program was implemented and was based on the earlier YKDGMP surveys in the YKD and Bristol Bay regions, but also expanded to cover subsistence harvest in other Alaska regions. The survey was revised in 2008–2009 to restructure data collection, analysis, and reporting (Naves et al. 2008). The revised survey was used from 2010–2014 (Naves 2015). In 2015, the survey design underwent another revision (Otis et al. 2016) with planned implementation in 2016.

Despite season closures, harvest of emperor geese continued to be reported in surveys (1985–2002 and 2004–2014; Wentworth and Wong 2001, Wolfe et al. 1990, Wolfe and Paige 2002, Naves 2015). Approximately 70% of the subsistence harvest of emperor geese occurs during the spring and summer months (Wentworth and Wong 2001). From 1985–2002, harvest estimates averaged 2,057 emperor geese (range 818–4,031 geese across years) on the YKD (Appendix 8); however, these data may underestimate harvest because several villages where harvest is known to occur did not participate in the survey during most years (Wentworth and Wong 2001, Wentworth, unpubl. data) and some people may have been and still are reluctant (see 2005–2011 harvest data below) to report the harvest of a closed species. From 1995–2002, the average harvest of emperor geese in Bristol Bay was 308 (97–636 geese). From 2005-2011, the AMBCC revised harvest surveys reported average harvests of 1,637 (815–2,559 geese) on the YKD, 1,532 (1,250–1,860 geese) in the Bering Strait/Norton Sound region, and 45 (26–110 geese) in the Bristol Bay region (Appendix H).

J. Non–consumptive Use

The extent of non-consumptive use of emperor geese is unknown, but likely limited due to their remote distribution. Limited viewing and photographic opportunities exist near Kodiak, Cold Bay, Unalaska/Dutch Harbor, Shemya, and Adak, as well as near many villages throughout their range. A public information program on Arctic nesting geese (Teach About Geese), with an emphasis on emperor geese, prepared by the USFWS received limited use in schools throughout Alaska.

MANAGEMENT ISSUES

Issues identified here are addressed in the Recommended Management Actions section that follows.

1. Population Assessment. Identify the most appropriate method to annually estimate population status and trend. From 1981–2016, the emperor goose population was indexed using the spring aerial count during migration and used to guide regulatory actions. The spring index was replaced with the total bird index because the latter survey index is less sensitive to bias and is a more precise measure of the emperor goose population. However, a model (or expansion factor) is required to scale the index to total population size, and frequent regulatory action may result from annual variation in a single index. Two different population models have been developed (Bayesian state-space model and theta-logistic model) that may be used as the population assessment method over the current approach, but they require additional refinement or integration.

   Current and comprehensive information on the distribution and abundance of emperor geese in Russia is lacking. The distribution and abundance of emperor geese in the Arctic may be influenced by Arctic warming and associated changes in flora and fauna. Aerial and ground inventories of Russian breeding and molting habitats have not been conducted in many years and compromise our ability to fully assess emperor goose distribution and abundance. No methods are available to monitor birds over most of the winter range in Alaska or Russia.

2. Harvest Assessment. Subsistence harvest surveys conducted throughout much of the harvest closure period, report a substantial harvest, but the proportion of reported harvest to actual harvest is unknown. There has been much disagreement regarding the reliability of harvest surveys during this period. Regional surveys to reliably estimate timing and magnitude of subsistence harvest are needed, and must be fully funded and implemented locally.

   Harvest surveys are currently being redesigned, but it remains unclear whether this new design will provide useful information (precision, reporting bias) to satisfy management needs.

Harvest rates cannot be assessed from band returns due to the difficulties with banding sufficient numbers of birds that spend most of the year in remote regions.

We have little quantifiable information to assess the harvest of emperor geese in Russia. Annual harvest is assumed to be a few hundred birds. Funding and infrastructure to gather this information is not currently available.

3. Population Enhancement. Besides adjusting hunting regulations and implementing cooperative outreach and education programs, managers have few tools to influence population dynamics. Gull and fox predation have been hypothesized as factors limiting population growth of emperor geese; predator control could be used.

4. Habitat Dynamics. Habitat changes on the YKD, due to global or localized events, may alter emperor goose nesting and brood rearing habitat and impact production and gosling survival. We are unable to correlate population change with breeding habitat change.

   There are insufficient data on the wintering ecology of emperor geese. We are unable to correlate population change with winter habitat change or understand how population dynamics are influenced by changes in the quality of winter habitat.

5. Outreach and Education. The perceived status of the emperor goose population is ambiguous, in part due to a lack of trust and differing viewpoints between many residents of rural Alaska, and federal and state management agencies. Compliance with federal and state regulations is difficult to achieve and this may compromise the ability to collect accurate harvest information. Improved outreach and education programs relying on knowledge, input, and participation of local residents to develop, convey, and collect essential management information is crucial to this effort.

MANAGEMENT ACTIONS

The following management actions are recommended and assigned a priority rating. The degree and timing of their implementation may be influenced by human resource, fiscal and legislative constraints. Whenever possible, management actions in this Management Plan should be integrated with those in management plans for other Pacific Flyway goose populations, local and regional land use plans, and habitat conservation programs. Management actions should be accompanied by monitoring efforts to examine their effectiveness in meeting population and habitat objectives.

Agencies should involve local residents in management activities, where feasible, throughout the range of the species.

A. Population Assessment

1. Continue the current system of population index surveys (that may include spring, fall, and summer) during the 3-year period following implementation of the Management Plan.

   Responsibility: USFWS
   Priority: 1
   Schedule: Ongoing

2. Continue to refine or integrate the Bayesian state-space and theta-logistic models to improve population assessment.

   Responsibility: ADFG, USFWS
   Priority: 1
   Schedule: Annual

3. Work cooperatively with Russian agencies to obtain breeding, molting, and migration information throughout the range of emperor geese in eastern Russia. Arrange opportunities for cooperative aerial and ground surveys.

   Responsibility: USFWS, Russia
   Priority: 1
   Schedule: Continuing

4. Investigate the use of Unmanned Aerial Vehicles and other remote sensing methods to survey emperor geese at winter locations through coordination with universities and other government agencies.

   Responsibility: USFWS, ADF&G
   Priority: 2
   Schedule: Undetermined

B. Outreach and Education

1. Cooperatively develop outreach and educational materials for hunters to increase awareness of the harvest strategy and harvest regulations for spring/summer and fall/winter harvest. Continue to improve education and outreach programs in cooperation with the AMBCC; they should be designed as relevant to local residents, build consensus, and create awareness of activities that affect emperor goose populations.

   Responsibility: Native Caucus, USFWS, ADFG
   Priority: 1
   Schedule: Continuing

2. Promote cooperative educational and volunteer programs originally agreed to in the Yukon- Kuskokwim Delta Goose Management Plan with Alaska Native organizations. Expand education and information programs on emperor goose conservation to include villages in Bristol Bay, Alaska Peninsula, St. Lawrence Island, Seward Peninsula and Aleutian Islands.

   Responsibility: USFWS, ADFG, AVCP, AMBCC
   Priority: 1
   Schedule: Undetermined

C. Management and Research

1. Refine the YKD Nest Plot Survey to make statistically defensible inference from sampled areas to total nest numbers.

   Responsibility: USFWS
   Participating: USGS-ASC
   Priority: 1
   Schedule: 2017

2. Develop methods to estimate aerial detection rates on the YKD Coastal Zone Survey.
   Responsibility: USFWS
   Participating: USGS-ASC
   Priority: 1
   Schedule: 2017

3. Design and implement studies that assess the change in emperor goose egg and gosling mortality on the YKD as a result of removing foxes and gulls.

   Responsibility: USFWS
   Participating: USGS-ASC
   Priority: 2
   Schedule: Undetermined

4. Design and implement studies that improve our knowledge of emperor goose breeding and winter ecology to help interpret mechanisms of population change.

   Responsibility: USFWS, USGS-ASC
   Priority: 2
   Schedule: Undetermined

D. Harvest Management

1. Conduct annual subsistence harvest surveys in regions of Alaska that harvest emperor geese to estimate harvest magnitude and trends.

Responsibility: USFWS, ADFG, AMBCC
Priority: 1
Schedule: Annual

2. Continue support of the conservation measures listed in the 2005 Yukon-Kuskokwim Delta Goose Management Plan and support the newly adopted AMBCC Emperor Goose Management Plan.

   Responsibility: USFWS, USGS-ASC, AMBCC, AVCP, ADFG,
   Priority: 1
   Schedule: Continuing

3. Work cooperatively with Russian agencies to assess the magnitude of harvest.

   Responsibility: USFWS
   Priority: 1
   Schedule: Undetermined

HARVEST STRATEGY

The goal of the harvest strategy is to adopt regulations that are defensible, enforceable, well communicated, and sufficiently flexible to meet the needs of harvesters in rural Alaska concurrent with Management Plan objectives.

The harvest strategy is based on using a total bird index from the YKD Coastal Zone Survey to assess population status relative to a regulatory harvest threshold (see Figure below). The total bird index is a relative measure of population size based on the number of geese detected from aerial surveys on the YKD during the early nesting period.

Based on the total bird index, the harvest strategy defines a regulatory harvest closure threshold of 23,000 birds. This represents approximately 120,000 emperor geese based on a theta-logistic population model currently in development (USFWS, R7-Migratory Bird Management). The most recent 3-year average population index (2014–2016) is 30,965 birds; equivalent to approximately 161,000 emperor geese. The theta-logistic model and associated analysis was used to derive optimal harvest thresholds, which helped guide the selection of the harvest closure threshold.

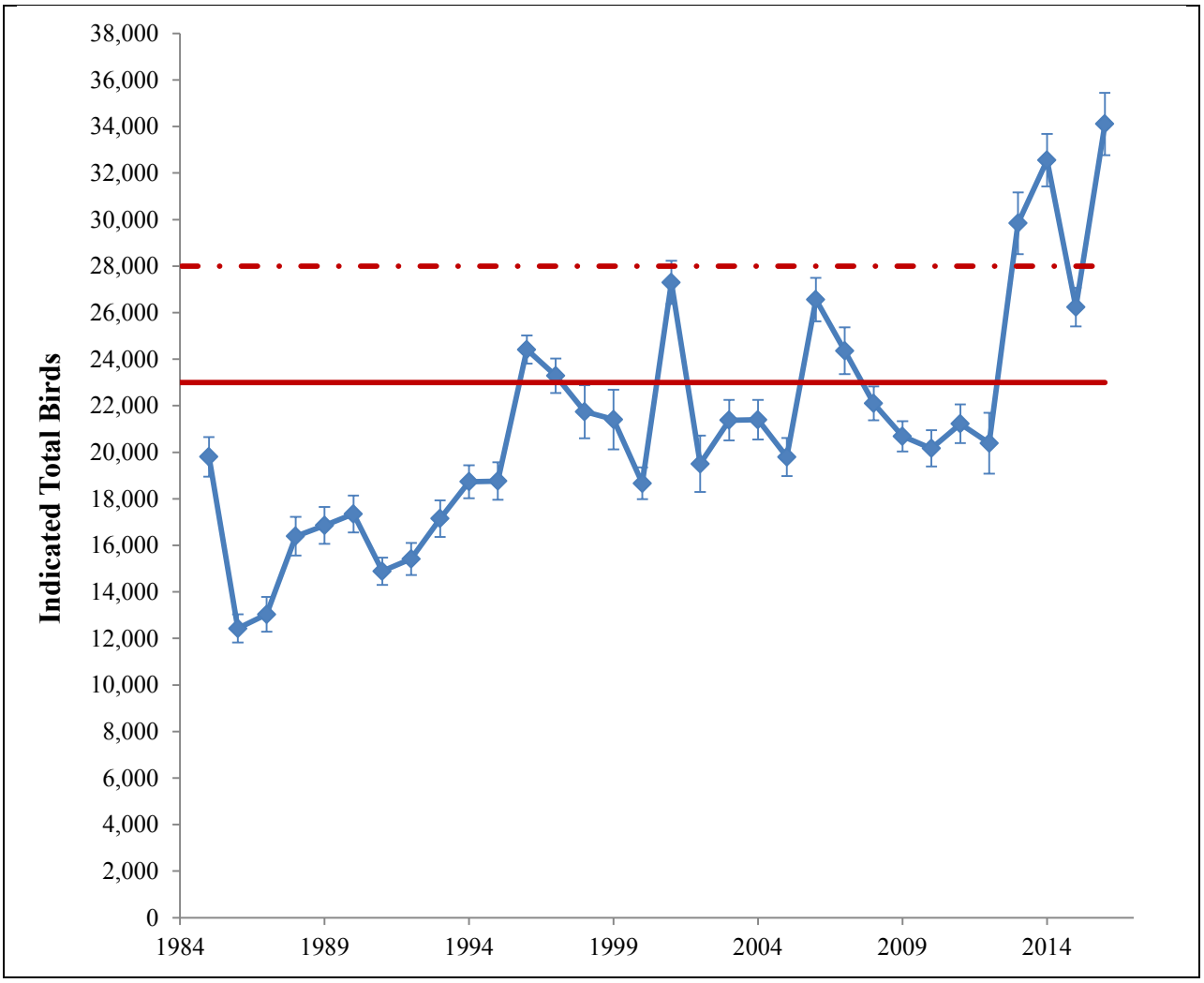
The term of this harvest strategy is the period of 2017-2021. However, during the 3-year period (2017–2019) following implementation, the Subcommittee in cooperation with the AMBCC will annually review available data (e.g., harvest survey data, population status and trend, and other relevant information), and consider the need for more restrictive regulations. After the 3-year period, the Subcommittee will conduct a thorough analysis of the available data to determine efficacy of the harvest strategy and will consider alternative strategies if warranted. Alternatives will be considered as amendments to the Management Plan and be effective for the remainder of the 5-year term. This harvest strategy is complementary to the spring/summer subsistence harvest strategy included in the AMBCC Emperor Goose Management Plan. In recognition that emperor geese are a shared resource, the Pacific Flyway Council has established the following fall/winter harvest guidelines:

1. The harvest strategy seeks to maintain a population of emperor geese above an index of 23,000 birds based on the total bird index from the most recent YKD Coastal Zone Survey.
2. Fall/winter harvest will be open with an annual 1000 bird quota (see Table below) if the total bird index from the previous year is greater than 23,000 birds. When the population index is less than 28,000 birds, a restrictive quota will be considered.
3. Fall/winter harvest will be closed if the total bird index from the previous year is less than 23,000 birds.

Alaska Zones and Regulation	Regulation Package		
	Open[1]	**Restrictive**	**Closed**
	1,000 bird quota	500 bird quota	No harvest
Gulf Coast			
Framework Dates	September 1 – December 16		
Open Areas	Game Management Unit 9		
Kodiak[2]			
Framework Dates	October 8 – January 22		
Open Areas	Game Management Unit 8		
Pribilof/Aleutian			
Framework Dates	October 8 – January 22		
Open Areas	Game Management Unit 10		
North			
Framework Dates	September 1 – December 16		
Open Areas	Game Management Unit 17, 18, 22, 23		

[1]Emperor goose harvest quota of 1,000 birds annually, to be administered by registration permit. A permit allows the harvest and possession of 1 emperor goose. Harvest reporting requirements will apply.

[2]Kodiak Island Road Area closed to hunting: the closed area consists of all lands and water (including exposed tidelands) east of a line extending from Crag Point in the north to the west end of Saltery Cove in the south and all lands and water south of a line extending from Termination Point along the north side of Cascade Lake extending to Anton Larsen Bay. Marine waters adjacent to the closed area are closed to harvest within 500 feet from the water's edge. The offshore islands are open to harvest, for example: Woody, Long, Gull and Puffin islands.



Indicated total bird index (±SE) from the Yukon-Kuskokwim Delta Coastal Survey (1985–2016) used as the interim Pacific Flyway management index of emperor geese. The solid horizontal line (23,000 total bird index) represents the threshold between open (above line) and closed (below line) regulation packages for fall/winter harvest. The dashed horizontal line (28,000 total bird index) represents a threshold below which more restrictive regulations will be considered.

ANNUAL PLAN REVIEW

The Subcommittee shall meet twice annually, or as needed, to review progress towards achieving the goal and objectives of this Management Plan, and to recommend actions and revisions. The Subcommittee shall report to the Pacific Flyway Council through its Study Committee on accomplishments and shortcomings of the cooperative management efforts. This Subcommittee shall coordinate management activities with those of the subcommittees on Pacific Greater White-fronted geese, cackling Canada geese, and Pacific brant. The Subcommittee will coordinate with the AMBCC Emperor Goose Subcommittee.

The Subcommittee shall be composed of a representative from the U.S. Fish and Wildlife Service and the Alaska Department of Fish and Game. It shall be the responsibility of those members to assure that the objectives and procedures of this Management Plan are integrated and coordinated with those plans and activities of the various wildlife and land management agencies and local planning systems within their agency's venue. Chairmanship shall be appointed biennially and rotated among member agencies. The Subcommittee will exercise its prerogative to invite to attend and participate (*ex officio*) at meetings any individual, group, agency, or representative whose expertise, counsel, or managerial capacity is required for the coordination and implementation of management programs.

Agencies: Subcommittee
Priority: 1
Schedule: Twice annually -- at the March and September meetings of the Pacific Flyway Study Committee. The schedule for rotation of the chair, beginning January 1, is:

2016 – FWS Region 7
2017 – FWS Region 7
2018 – Alaska
2019 – Alaska
2020 – FWS Region 7

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APPENDICES

Appendix A. Important use areas of emperor geese in Russia and Alaska

	Area[1]	Use	Count[2]	Season	Ownership
	RUSSIA				
1	Chukotsk coastal areas	Breeding/Molting	3,000–8,000/21,000	Spring – Summer	
2	Tenkergynpilken Lagoon	Molting	21,000	Summer	
3	Ukouge Lagoon	Molting	2,000	Summer	
4	Kolyuchinskaya Bay	Breeding/Molting	Unknown/21,000	Spring – Summer	
5	Vankarem Lagoon	Breeding	Unknown	Spring – Summer	
6	Kresta Bay	Breeding	Unknown	Spring – Summer	
7	Kamchatka Peninsula/ Commander Islands	Wintering	Unknown	Winter	Nature Reserves
	ALASKA				
8	Yukon-Kuskokwim Delta	Breeding/Molting	80–90% of pop	Spring – Summer	Yukon Delta NWR, 22(g) lands
9	Kotzebue Sound	Breeding	1,000	Spring – Summer	50% Bering Land Bridge NP
10	St. Lawrence Island	Breeding/Molting	300–1,000/3,000–10,000	Spring – Summer	Native Alaskan owned
11	Nunivak Island	Breeding/Staging	Unknown/2,000	Spring – Summer/Spring; Fall	Yukon Delta NWR, 22(g) lands
12	Egegik Bay	Staging	1,800; 2,300	Spring; Fall	Egegik State CHA
13	Ugashik Bay	Staging	4,275; 2,500	Spring; Fall	Pilot Point State CHA
14	Cinder River Lagoon	Staging	13,825; 24,000	Spring; Fall; Winter	Cinder River State CHA
15	Hook Lagoon	Staging	1,000; 2,000	Spring; Fall; Winter	Private Lands
16	Port Heiden	Staging	33,187; 28,600	Spring; Fall; Winter	Port Heiden State CHA
17	Seal Islands	Staging	14,000; 20,000	Spring; Fall; Winter	Private Lands
18	Nelson Lagoon	Staging	60,000; 39,400	Spring; Fall; Winter	Port Moller State CHA
19	Izembek Lagoon	Staging	18,300; 9,100	Spring; Fall; Winter	Izembek NWR/SGR, 22(g) lands
20	Unimak/False Pass	Staging	120; 4,000	Spring; Fall; Winter	Izembek NWR, 22(g) lands
21	Alaska Peninsula (south)	Staging	4,200; 9,600	Spring; Fall; Winter	AK Peninsula, Becharof, Izembek NWRs
22	Aleutian Islands	Wintering	Unknown	Winter	AK Maritime NWR, DOD lands
23	Kodiak Island	Wintering	Unknown	Winter	Kodiak NWR, 22(g) lands

[1]Areas mapped by accession number in Figure 1
[2]Areas 12–22 counts are averages for spring and fall aerial surveys

Appendix B. Population indices of emperor geese from spring and fall aerial surveys; 1979–2016

Year	Spring Survey[a]	Spring survey 3-yr Avg[a]	Fall Survey[b]
1979			59,808
1980			65,971
1981	91,267		63,156
1982	100,643		80,608
1983	79,155	90,355	72,551
1984	71,217	83,672	82,842
1985	58,833	69,735	59,790
1986	42,231	57,427	68,051
1987	51,633	50,899	65,663
1988	53,784	49,216	76,165
1989	45,800	50,406	70,729
1990	67,581	55,722	109,531
1991	70,972	61,451	75,295
1992	71,319	69,957	82,295
1993	52,546	64,946	71,051
1994	57,267	60,377	87,086
1995	54,852	54,888	91,009
1996	80,034	64,051	87,018
1997	57,059	63,982	86,669
1998	39,749	58,947	67,744
1999	54,600	50,469	60,226
2000	62,565	52,305	61,626
2001	84,396	67,187	59,987
2002	58,743	68,568	78,692
2003	71,160	71,433	77,290
2004	47,352	59,085	93,544
2005	53,965	57,492	73,212
2006	76,108	59,142	81,078
2007	77,541	69,205	73,531
2008	64,944	72,864	78,201
2009	91,948	78,144	79,647
2010	64,562	73,818	59,924
2011	74,166	76,892	62,561
2012	67,588	68,772	58,683
2013	No survey		78,100
2014	79,883	73,879	90,116[c]
2015	98,155	81,875	84,702[c]
2016[c]	79,348	85,795	

[a]Dau, C.P. and H.M. Wilson. 2015. Aerial survey of emperor geese and other waterbirds in southwestern Alaska, spring 2015. USFWS, Migratory Bird Management, Anchorage, Alaska

[b]Dau, C.P. and H.M. Wilson. 2013. Aerial survey of emperor geese and other waterbirds in southwestern Alaska, fall 2014. USFWS, Migratory Bird Management, Anchorage, Alaska

[c]Safine, D.E. 2016. Alaska Goose and Swan Population Status Report. Memorandum to Todd A. Sanders, Pacific Flyway Representative. US Fish and Wildlife Service, Migratory Bird Management, Anchorage, Alaska

Appendix C. Population indices of emperor geese from the Yukon-Kuskokwim Delta Coastal Zone survey, 1985–2016

Year	Indicated breeding birds[a]	SE	Indicated total birds[b]	SE
1985	9,542	852	19,805	1,960
1986	7,413	611	12,430	1,008
1987	9,312	746	13,035	1,121
1988	8,695	829	16,392	1,402
1989	10,737	791	16,855	1,220
1990	9,282	787	17,347	1,401
1991	7,758	590	14,888	1,284
1992	9,879	686	15,416	994
1993	10,183	787	17,147	1,230
1994	12,007	712	18,733	1,059
1995	12,892	806	18,764	1,072
1996	12,433	604	24,413	2,476
1997	12,820	741	23,287	1,451
1998	15,686	1,136	21,741	1,541
1999	16,208	1,285	21,406	1,591
2000	12,798	680	18,667	949
2001	17,112	926	27,297	1,473
2002	15,646	1,215	19,504	1,326
2003	12,141	869	21,378	1,746
2004	14,410	848	21,396	1,097
2005	14,490	817	19,798	1,190
2006	17,460	936	26,562	1,697
2007	14,562	1,004	24,362	1,508
2008	16,110	724	22,100	1,038
2009	13,563	646	20,684	1,092
2010	14,103	781	20,167	1,199
2011	14,730	828	21,223	1,284
2012	17,207	1,307	20,388	1,554
2013	19,372	1,326	29,840	2,222
2014	16,188	1,132	32,550	2,973
2015	14,647	832	26,235	1,581
2016	27,051	1,341	34,109	2,490

data from: Platte, R.M. and R.A. Stehn. 2015. Abundance and trends of waterbirds on Alaska's Yukon-Kuskokwim Delta coast based on 1988–2014 aerial surveys. USFWS, Migratory Bird Management, Anchorage, Alaska; and

Swaim, M.A., J.I. Hodges, and H.M. Wilson. 2016. Yukon-Kuskokwim Delta Coastal Zone Survey of Geese, Swans, and Sandhill Cranes. Memorandum to Todd A. Sanders, Pacific Flyway Representative. US Fish and Wildlife Service, Migratory Bird Management, Anchorage, Alaska

[a]Indicated breeding birds = 2 × (singles + number of pairs)

[b]Indicated total birds = 2 × (singles + number of pairs) + birds in flocks

Appendix D. Nesting population indices of emperor geese on the Yukon-Kuskokwim Delta, Alaska from nest plot surveys, 1985–2014

Year	# plots	Adj. # nests (IN)[a]	OUT:IN ratio[b]	Adj. # nests (OUT)[c]	Total nests index[d]	SE
1985	49	4,411	2.94	12,950	17,361	3,180
1986	46	6,096	2.97	18,129	24,225	3,387
1987	37	10,218	3.08	31,513	41,731	6,635
1988	32	5,942	3.37	20,045	25,988	4,650
1989	23	13,306	2.67	35,530	48,836	6,752
1990	33	12,490	2.79	34,836	47,326	6,618
1991	36	13,758	2.26	31,142	44,900	6,315
1992	42	11,906	2.17	25,868	37,774	4,743
1993	47	11,571	2.02	23,357	34,928	4,436
1994	41	15,561	1.87	29,020	44,581	4,794
1995	50	11,389	2.22	25,316	36,706	4,052
1996	54	12,866	1.92	24,636	37,502	3,571
1997	72	8,461	2.12	17,926	26,387	2,613
1998	64	10,719	1.87	20,086	30,806	3,089
1999	53	11,794	2.48	29,221	41,015	4,243
2000	80	11,185	2.65	29,672	40,856	4,200
2001	81	5,209	2.15	11,188	16,398	1,608
2002	84	10,142	3.15	31,898	42,040	4,994
2003	83	8,311	2.42	20,149	28,461	3,295
2004	81	11,051	2.34	25,813	36,865	3,521
2005	83	12,588	2.44	30,697	43,285	3,994
2006	75	10,648	2.50	26,624	37,272	3,716
2007	79	11,688	2.19	25,601	37,288	3,814
2008	82	11,103	2.29	25,457	36,561	3,092
2009	81	15,369	2.45	37,704	53,073	4,661
2010	66	11,873	2.56	30,340	42,213	4,427
2011	82	11,945	2.81	33,576	45,521	4,506
2012	77	10,851	2.87	31,131	41,981	4,859
2013	59	10,993	3.86	42,376	53,369	5,749
2014	76	8,832	3.31	29,221	38,053	3,994

data from: Fischer, J.B. and R.A. Stehn. 2014. Nest population size and potential production of geese and spectacled eiders on the Yukon-Kuskokwim Delta, Alaska, 2013. Unpubl. Rep., USFWS, Anchorage, Alaska

[a]nest index corrected for nest detection rate

[b]ratio of indicated breeding pairs from aerial observations outside vs. inside the ground sampled area (plots)

[c]extrapolated to areas outside the plots using the OUT:IN ratio and corrected for nest detection

[d]Adjusted # nests (IN) + Adjusted # nests (OUT)

Appendix E. Proportion juvenile emperor geese in photographic samples from fall aerial surveys on the Alaska Peninsula

Year	% juveniles (count weighted)	SE	No. Geese Classified	No. Photos
1985	16.5	0.026	3,193	155
1986	25.4	0.051	6,380	311
1987	23.5	0.008	10,177	703
1988	24.4	0.009	11,180	483
1989	21.9	0.011	12,718	390
1990	24.1	0.009	13,541	474
1991	23.2	0.009	14,569	412
1992	15.6	0.008	14,832	403
1993	24.2	0.014	5,735	255
1994	22.7	0.010	16,881	479
1995	25.7	0.012	11,664	361
1996	18.5	0.017	10,793	182
1997	10.7	0.007	11,138	205
1998	11.7	0.007	16,544	336
1999	17.8	0.010	13,489	392
2000	11.4	0.009	7,748	263
2001	11.5	0.008	11,186	365
2002	17.8	0.010	6,458	402
2003	09.4	0.008	8,686	421
2004	11.2	0.007	6,237	370
2005	18.9	0.012	6,563	500
2006	35.2	0.013	9,773	469
2007	17.4	0.008	12,134	398
2008	24.8	0.010	10,207	625
2009	15.7	0.008	12,404	607
2010	19.2	0.009	20,876	436
2011	19.5	0.010	19,432	441
2012	18.4	0.021	13,109	378
2013	20.4	0.011	11,269	224

[a]Stehn, R.A. and H.M. Wilson. 2014. Monitoring emperor geese by age ratio and survey counts, 1985–2013. USFWS, Migratory Bird Management, Anchorage, Alaska

Appendix F. Emperor goose fall productivity indices from ground counts at Izembek Lagoon and Cold Bay, AK, 1966–2014

	Grouped Birds			Family Groups		
Year	Adults	Juveniles	% Juveniles	No. Families	No. Juveniles	Juveniles/Family
1966	699	265	27.5	132	331	2.51
1967	1,457	585	28.6	66	215	3.26
1968	1,195	585	32.9	40	112	2.80
1969	4,149	2,980	41.8	161	530	3.29
1970	9,722	4,933	33.7	383	1,115	2.91
1971	1,842	3,458	29.8	484	1,318	2.72
1972	4,680	2,270	32.7	210	641	3.05
1974	2,025	377	15.7	50	130	2.60
1975	744	405	35.2	51	149	2.92
1976	1,923	324	14.4	207	567	2.74
1977	996	683	40.7	108	302	2.80
1978	1,395	495	26.2	62	188	3.03
1979	841	113	11.8	53	175	3.30
1980	1,777	586	24.8	40	93	2.33
1981	1,067	495	31.7	181	571	3.15
1982	1,653	140	7.8	32	85	2.66
1983	1,058	393	27.1	192	612	3.19
1984	2,753	795	22.4	80	230	2.88
1985	2,245	503	18.3	125	354	2.83
1986	3,283	1,381	29.6	266	794	2.98
1987	2,926	1,523	33.8	186	577	3.10
1988	3,884	1,242	24.2	200	616	3.08
1989	3,811	1,136	23.0	145	455	3.14
1990	4,002	1,068	21.1	97	309	3.19
1991	8,599	2,882	25.1	147	487	3.31
1992	9,291	1,347	12.7	151	451	2.99
1993	13,976	2,176	13.5	161	441	2.74
1994	4,658	792	14.5	301	703	2.34
1995	6,434	1,618	20.1	99	319	3.22
1996	3,128	631	16.8	125	330	2.64
1997	1,345	144	10.0	43	114	2.65
1998	1,595	432	21.4	97	239	2.46
1999	2,395	527	18.0	82	200	2.44
2000	1,870	410	18.0	105	229	2.18
2001	1,232	228	15.6	42	103	2.45
2002	4,789	1,842	27.8	260	696	2.68
2003	5,744	785	12.0	218	439	2.01
2004	4,600	1,288	21.9	235	568	2.42
2005	2,844	1,139	28.6	131	365	2.79
2006	3,360	2,062	38.0	476	1,074	2.26
2007	5,124	1,146	18.3	179	387	2.16
2008	3,739	1,323	26.1	250	687	2.75
2009	2,114	743	26.0	148	340	2.30
2010	1,688	455	21.2	27	65	2.41
2011	2,065	389	15.9	27	51	1.89
2012	883	142	13.9	16	36	2.25
2013	1,366	370	21.3	79	210	2.66
2014	1,199	298	19.9	71	175	2.46

compiled in Groves, D.J. 2012. Alaska productivity surveys of geese, swans, and brant, 2011. USFWS, Migratory Bird Management, Anchorage, Alaska

Appendix G. Reported sport harvest of emperor geese in Alaska, 1970–1986

Year	Harvest[a]
1970	1,400
1971	715
1972	1,840
1973	2,373
1974	2,067
1975	2,891
1976	2,592
1977	2,198
1978	2,968
1979	2,055
1980	2,306
1981	700
1982	1,770
1983	1,674
1984	1,188
1985	835
1986–Present	Closed

[a]Harvest information based on ADF&G mail questionnaire surveys (1970–76 and 1982–85) and USFWS harvest surveys (1977–81)

Appendix H. Emperor goose harvest estimates by region excerpted from Alaska migratory bird subsistence harvest surveys conducted during the spring, summer, and fall periods; 1985–2014

Year	Alaska Region					
	Northwest Arctic	Bering Strait Norton Sound	Yukon-Kuskokwim Delta	Bristol Bay	Kodiak	Aleutian/Pribilof Islands
1985	-	-	4,031	-	-	-
1986	-	-	3,091	-	-	-
1987	-	-	1,352	-	-	-
1988	-	-	-	-	-	-
1989	-	-	1,616	-	-	-
1990	-	-	3,440	-	-	-
1991	-	-	2,394	-	-	-
1992	-	-	2,669	-	-	-
1993	-	-	2,602	-	-	-
1994	-	-	1,493	-	-	-
1995	-	-	2,041	439	-	-
1996	-	-	2,374	97	-	-
1997	-	-	1,469	320	-	-
1998	-	-	1,899	636	-	-
1999	-	-	818	422	-	-
2000	-	-	1,351	261	-	-
2001	-	-	1,078	123	-	-
2002	-	-	1,250	167	-	-
2003	-	-	-	-	-	-
2004	-	1,860	1,151	*	-	-
2005	-	1,487	815	47	-	*
2006	*	-	2,425	*	*	-
2007	-	1,250	1,608	26	-	*
2008	-	-	1,490	0	-	109
2009	-	*	2,559	-	-	-
2010	-	*	2,094	-	0	-
2011	-	*	952	110	-	-
2012	*	*	-	-	-	-
2013	-	-	*	-	-	-
2014	-	-	-	-	-	-

-: Region not surveyed

*: Region harvest estimates not produced because <75% of households represented in sample

ALASKA MIGRATORY BIRD CO-MANAGEMENT COUNCIL

Management Plan: Emperor Goose

September 2016

This Management Plan is the first of its kind developed cooperatively for managing the emperor goose population of Alaska. Inquiries about this plan may be directed to members of the Alaska Migratory Bird Co-Management Council or to the Executive Director, AMBCC Office, 1840 Bragaw Street, Suite 150, Anchorage, AK 99508. Information regarding the Alaska Migratory Bird Co-Management Council can be found on the Internet at www.fws.gov/alaska/ambcc.

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Cover Photo: Milo Burcham

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Alaska Migratory Bird Co-Management Council, Emperor Goose Subcommittee members included:

Brandon Ahmasuk, Kawerak, Inc.
Tim Andrew, Association of Village Council Presidents
Peter Devine, Aleutian/Pribilof Islands Association
Jack Fagerstrom, Kawerak, Inc.
Cyrus Harris, Maniilaq Association
Gayla Hoseth, Bristol Bay Native Association
Sonny Squartsoff, Sun'aq Tribe of Kodiak
Dan Rosenberg, Alaska Department of Fish and Game
Erik Osnas, U.S. Fish and Wildlife Service, Region 7
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Pacific Flyway Study Committee, Emperor Goose Subcommittee members included:

Dan Rosenberg and Jason Schamber, Alaska Department of Fish and Game
Eric Taylor and Erik Osnas, U.S. Fish and Wildlife Service, Region 7
Todd Sanders, U.S. Fish and Wildlife Service, Headquarters

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INTRODUCTION

The purpose of this Management Plan is to establish guidelines for cooperative management of emperor geese (*Chen canagica*) among the members of the Alaska Migratory Bird Co-Management Council (AMBCC). Adoption of the AMBCC Emperor Goose Management Plan is contingent on the adoption of the Pacific Flyway Emperor Goose Management Plan by the Pacific Flyway Council. This Management Plan supersedes the Yukon-Kuskokwim Delta Goose Management Plan (YKDGMP) for emperor goose management.

As noted in Article II(4)(2)(b)(ii) of the 1997 Protocol between the United States and Canada amending the 1916 Convention for the Protection of Migratory Birds, management bodies will be created to ensure an effective and meaningful role for indigenous inhabitants in the conservation of migratory birds. These management bodies will include Native, Federal, and State of Alaska representatives as equals, and will develop recommendations for, among other things: seasons and bag limits; law enforcement policies; population and harvest monitoring; education programs; research and use of traditional knowledge; and habitat protection. The management bodies involve village councils to the maximum extent possible in all aspects of management. This Article provides the basis for the two separate but complimentary Management Plans.

The goal of this Management Plan is to ensure sustainable subsistence harvest and maintain key ecological functions throughout the range of emperor geese. Parties to the Management Plan agree that continued cooperation is essential to achieve the stated goal and to maintain the population size at levels that provide for harvest and non-consumptive uses (educational, recreational, scientific). In addition, the parties to the Management Plan agree that the benefits and investment in emperor goose conservation will be shared equitably throughout the species' range.

This Management Plan is structured following the format of the YKDGMP. Implemented in 1985[1], the YKDGMP, through the cooperative efforts of the parties to the Management Plan, provided harvest guidelines and conservation measures that effectively increased severely diminished populations of four species of Arctic nesting geese, including emperor geese.

This Management Plan includes significant changes from the YKDGMP and represents a major shift in the management of emperor geese. From 1985–2016, management of emperor geese was based on the 3-year average index of emperor goose abundance during a spring migration survey in southwestern Alaska. Based on the spring survey, the population objective represented an index of 150,000 birds. Harvest closed when the 3-year average index was below 60,000 birds. Harvest could be reconsidered once the 3-year average index exceeded 80,000 birds (YKDGMP 2010), as it did in 2015. In this Management Plan, the spring survey index has been replaced by a summer survey index of indicated total birds[2] (hereafter; total bird index) derived from aerial surveys of emperor goose abundance on the Yukon Kuskokwim Delta (YKD) Coastal Zone Survey). The total bird index is less biased and more precise than the spring survey index and is based on statistical sampling theory. This Management Plan also includes a spring/summer

[1] This Management Plan was first implemented in 1984 as the Hooper Bay Agreement
[2] Indicated total birds = 2 × (singles + number of pairs) + birds in flocks

harvest strategy that specifies a regulatory framework, recognizing the emperor goose population is of sufficient size to resume harvest.

Additionally, a new population objective was established as the 2016 total bird index of 34,000 from the YKD Coastal Zone Survey. This population objective is not intended to be used as the basis for harvest regulation. Rather, this population objective is a standard by which future population changes can be measured. The total bird index and population objective are viewed as interim strategies that will be reevaluated after three years of Management Plan implementation, while other population assessment models are further refined and agreement reached on the most appropriate short- and long-term survey protocols (see Pacific Flyway Emperor Goose Management Plan for more details).

The term of this Management Plan is for 2017-2021. The changes in this Management Plan significantly depart from past management; therefore, the AMBCC agrees to evaluate the emperor goose population response during the initial 3-year period in 2019. The Subcommittee will annually review available data (e.g., population status, harvest survey data, and other relevant information) and in 2019 will also reevaluate the population objective, population assessment method and harvest strategy.

This Management Plan specifies regulations for the spring/summer subsistence hunt period and will serve as a companion to the 2016 revision of the Pacific Flyway Management Plan for the Emperor Goose, which specifies regulations for the fall/winter harvest of emperor geese. The two Management Plans are intended to complement one another and contain identical population assessment methods, population objectives and regulatory harvest thresholds.

Parties to the AMBCC Emperor Goose Management Plan:
The parties to the Management Plan are the members of the AMBCC: the Association of Village Council Presidents, Bristol Bay Native Association, Chugach Regional Resources Commission, Copper River Native Association, Kawerak, Inc., Aleutian/Pribilof Island Association, Sun'aq Tribe of Kodiak, Maniilaq Association, Tanana Chiefs Conference, U.S. Fish and Wildlife Service (USFWS) Region 7, and the Alaska Department of Fish and Game (ADFG).

A. POLICY

A.1. The parties to this Management Plan will continue to develop, improve and implement the provisions contained in the migratory bird treaties with Canada, Mexico, and Japan that allow for the legal harvest of migratory birds.

A.2. All participants recognize that the standard to which the Secretary of the Interior may exercise discretionary authority is of importance to Alaska Native peoples and their respective governments and has not been addressed in this Management Plan.

A.3. This Management Plan in no way will amend, alter, or abolish the agreements between the USFWS and village corporations regarding private lands.

A.4. The conservation measures and harvest strategy in this Management Plan afford special awareness to emperor geese. The species' range in North America is exclusive to Alaska. Emperor geese occur only in "included" areas[3] in western Alaska, and they are an important customary and traditional subsistence species. Emperor geese have been closed to subsistence hunting since 1987 following a population decline, but the population slowly recovered over 30 years and harvest can be resumed. However, the conditions of opening the species to legal harvest require considerable attention to avoid future closures.

A.5. The terms of this Management Plan are from 2017 to 2021, subject to annual review, and may be changed at any time upon agreement of all parties barring those sections that must comply with the Pacific Flyway Plan. Any party, upon reasonable notice to the other parties, may withdraw from the agreement.

A.6. The parties will cooperatively develop a harvest strategy and set corresponding regulations. In addition, the parties will monitor population status and harvest of emperor geese to assess efficacy of the harvest strategy.

A.7. To protect emperor geese, priority will be given to outreach and education, monitoring, verifying compliance, and regulation enforcement in accordance with the Alaska Subsistence Spring/Summer Migratory Bird Harvest regulations.

A.8. Use of geese for dire emergency (as defined in AS 16.05.930) during the closed season may occur with no penalty. The enforcement authorities will determine if violations of regulations can be justified as emergencies on a case-by-case basis.

A.9. All parties will cooperate fully to meet the agreed upon conditions of this Management Plan.

B. CONSERVATION

B.1. The AMBCC Emperor Goose Subcommittee will review available population and harvest data on an annual basis and will be included in resource discussions involving emperor goose biology, regulation, research, and management.

B.2. All parties support the protection of breeding, staging, and wintering habitats in Alaska and Russia.

B.3. All parties shall refrain from unnecessarily disturbing emperor geese throughout their annual life cycle.

[3] "Included areas" are village areas open to subsistence harvest located within the Alaska Peninsula, Kodiak Archipelago, the Aleutian Islands, or areas north and west of the Alaska Range. "Included areas" that occur outside the range of emperor geese are not listed.

B.4. Appropriate Federal and State resource agencies and other interested parties will continue to cooperate to improve scientific research on emperor geese, and will cooperate in securing public and private funds to carry out this research.

B.5. The USFWS will cooperate with Russian government agencies to assess the population status and harvest of emperor geese in Russia.

B.6. The AMBCC and the Pacific Flyway Council, in consultation with all interested parties, will cooperate to establish population assessment methods, a population objective, and regulatory harvest thresholds that are shared between the Pacific Flyway and AMBCC Emperor Goose Management Plans.

B.7. All parties will identify specific research and management needs to address current conservation concerns for emperor goose populations and habitat, including but not limited to:

- Effects of harvest;
- Magnitude of harvest;
- Sources of mortality (other than harvest);
- Effects of climate change;
- Effects of pollution, contaminants and diseases;
- Refinement of survey and modeling methods; and
- Effects of predation.

C. HARVEST OBJECTIVES

The emperor goose is an important food source and harvesting this species is integral to passing down customary traditions. Restrictions within an open season, such as bag limits and quota systems, are inconsistent with customary and traditional practices, and quota systems are difficult and costly to implement. However, other conservation measures (see Harvest Strategy) may be considered to halt and reverse a population decline.

C.1. Maintain a customary and traditional harvest.

C.2. Reevaluate the population objective, population assessment, and harvest strategy after 2019.

C.3. Maintain the population of emperor geese above an index of 23,000 birds based on the indicated total birds from the YKD Coastal Zone Survey.

C.4. Members of the AMBCC will work cooperatively to assess the spring/summer, and fall/winter harvest of emperor geese in Alaska. Results of surveys will be produced and distributed annually.

HARVEST STRATEGY

The harvest strategy is based on using a total bird index from the YKD Coastal Zone Survey to assess population status relative to a regulatory harvest threshold (see Figure below). The total bird index is a relative measure of population size based on the number of geese detected from aerial surveys on the YKD during the early nesting period.

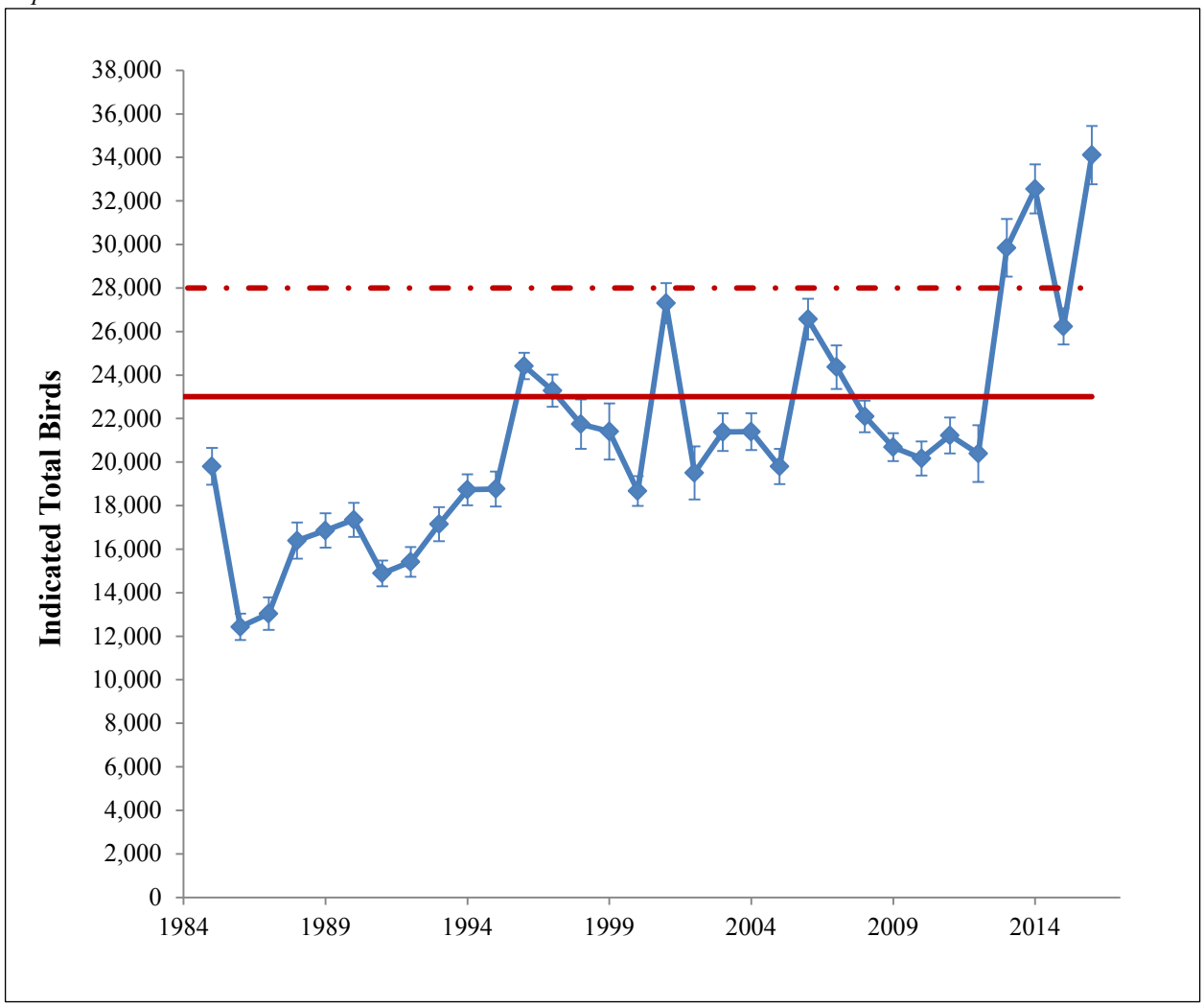
Based on the total bird index, the harvest strategy defines a regulatory harvest closure threshold of 23,000 birds. This represents approximately 120,000 emperor geese based on a theta-logistic population model currently in development (USFWS, R7-Migratory Bird Management). The most recent three-year (2014–2016) average population index is 30,965 birds; representing approximately 161,000 emperor geese. The theta-logistic model and associated analysis was used to derive the optimal harvest threshold which helped guide the selection of the harvest closure threshold.

The term of this harvest strategy is the period of 2017-2021. However, during the 3-year period (2017–2019) following implementation, the Subcommittee will annually review available data (e.g., harvest survey data, population status and trend, and other relevant information) and consider the need for conservation measures (see below). After 2019, the Subcommittee will conduct a thorough analysis of the available data to determine efficacy of the harvest strategy and will consider alternative strategies if warranted. Alternatives will be considered as amendments to the Management Plan and be effective for the remainder of the five-year term. The spring/summer subsistence harvest strategy is complementary to the fall/winter harvest strategy included in the Pacific Flyway Emperor Goose Management Plan. In recognition that emperor geese are a shared resource, the AMBCC has established the following spring/summer subsistence harvest guidelines:

1. The harvest strategy seeks to maintain a population of emperor geese above an index of 23,000 birds based on the total bird index from the most recent YKD Coastal Zone Survey.
2. If the total bird index from the previous year is greater than 23,000 birds then spring/summer subsistence harvest of emperor geese will be open to customary and traditional practices during the open seasons for migratory bird harvest (see Table below).
3. If the total bird index from the previous year drops below 28,000 birds, the AMBCC will consider implementing conservation measures that include: increased outreach and education programs, reduced season length (e.g., 2-week harvest season), extension of the 30-day closure, cessation of egg collection, limiting hunting to elder and ceremonial harvest only, or other measures as identified by the parties to this Management Plan.
4. If the total bird index from the previous year is less than 23,000 birds, then emperor goose hunting will be closed.

Alaska Regions	Spring/Summer Hunt Season
Northwest Arctic	April 2–June 14; July 16–August 31 June 15–July 15 molting/non-nesting waterfowl
Bering Straits/Norton Sound	
Stebbins/St. Michael Area	April 15–June 14; July 16–August 31
Remainder of the region	April 2–June 14; July 16–August 31
Yukon-Kuskokwim Delta	April 2–August 31; 30-day closure dates announced annually by the Yukon Delta National Wildlife Refuge manager
Bristol Bay	April 2–June 14; July 16–August 31
Kodiak[1]	April 2–June 20; July 22–August 31
Aleutian/Pribilof	
Northern Unit (Pribilof Islands)	April 2–June 30
Central Unit (Port Moller to Unalaska Island)	April 2–June 15; July 16–August 31
Western Unit (Umnak Island to Attu Island)	April 2–July 15; August 16–August 31

[1]Kodiak Island Road Area closed to hunting: the closed area consists of all lands and water (including exposed tidelands) east of a line extending from Crag Point in the north to the west end of Saltery Cove in the south and all lands and water south of a line extending from Termination Point along the north side of Cascade Lake extending to Anton Larsen Bay. Marine waters adjacent to the closed area are closed to harvest within 500 feet from the water's edge. The offshore islands are open to harvest, for example: Woody, Long, Gull and Puffin islands.



Indicated total bird index (±SE) from the Yukon-Kuskokwim Delta Coastal Zone Survey (1985–2016) used as the interim Pacific Flyway management index of emperor geese. The solid horizontal line (23,000 indicated total bird index) represents the threshold between open (above line) and closed (below line) seasons for spring/summer harvest of emperor geese. The dashed horizontal line (28,000 indicated total bird index) represents a threshold below which conservation measures will be considered.

E. OUTREACH AND ENFORCEMENT

The following procedures have been developed for communicating, monitoring, and enforcing the terms of this Management Plan. The parties agree to work toward achieving the conservation measures of this Management Plan through improved education, outreach, enforcement and the cooperative efforts of all affected parties, including local village governments and residents.

E.1. **<u>Outreach and Education.</u>** The parties will develop and implement a comprehensive information and education program for residents in regions that harvest emperor geese. This will explain emperor goose conservation, enforcement practices, research, and management strategies necessary to attain the goals and objectives identified in this

Management Plan. Protocols for evaluating the effectiveness of information and education efforts will be included in this program.

E2. **Enforcement.** Compliance with regulatory measures will be monitored and addressed by the appropriate enforcement agency. Violations of spring/summer subsistence harvest regulations should be reported to a USFWS or State of Alaska law enforcement officer. Violations will be investigated by the appropriate enforcement agency. If practicable and allowed by law and policy, the investigating agency may coordinate with affected tribal governments. The parties agree that verification of reported violations is important.

At the annual spring meeting of the AMBCC, the USFWS in cooperation with the ADFG and Native Caucus members, will present a summary of all activities including outreach, public meetings, documented violations and enforcement actions, when possible, taken in the preceding year.

Geese held as evidence will be disposed of in accordance with agency policy. If practicable and allowed by law and policy, geese no longer needed as evidence may be returned to the village for distribution to local residents or be used for research or educational purposes.

Adoption of the AMBCC Emperor Goose Management Plan is contingent on the approval of the Pacific Flyway Emperor Goose Management Plan.

The Alaska Migratory Bird Co-Management Council concurs that the population objective, assessment methodology, and harvest strategy contained herein supersede YKDGMP for emperor goose management.

We, the undersigned members of the Alaska Migratory Bird Co-Management Council hereby concur with and support the AMBCC Emperor Goose Management Plan.

Concur: _____ 9-1-2016
Gayla Hoseth, Chair Native Caucus — Date
Alaska Migratory Bird Co-Management Council

Concur: _____ Sept 01, 2016
Pete Probasco, Assistant Regional Director — Date
Migratory Birds and State Programs
U. S. Fish and Wildlife Service, Region 7

Concur: _____ 9-1-2016
Bruce Dale, Director — Date
Alaska Department of Fish and Game
Division of Wildlife Conservation

NOAA FISHERIES

Alaska Region

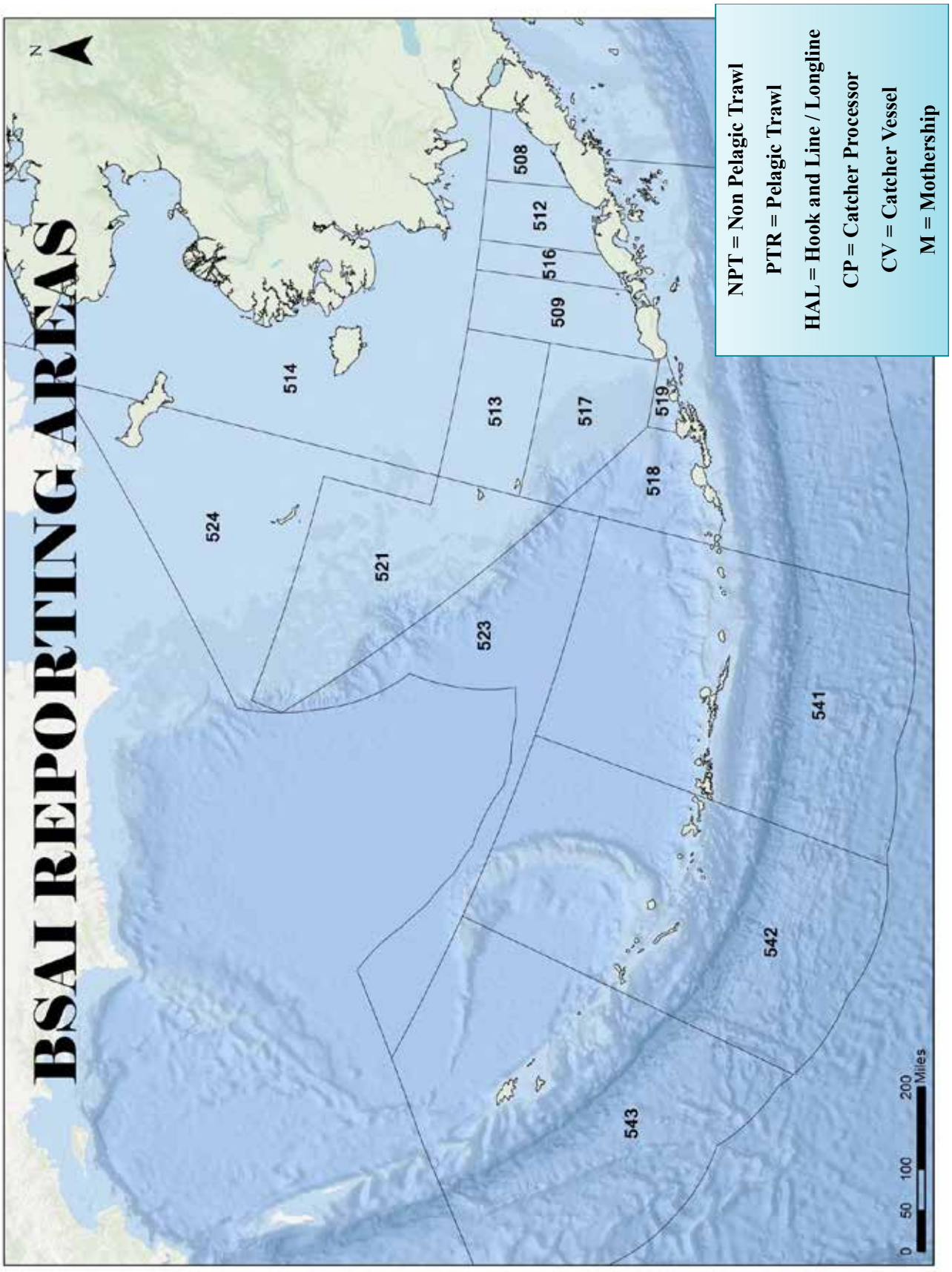
BSAI Inseason Management Report

December 2016

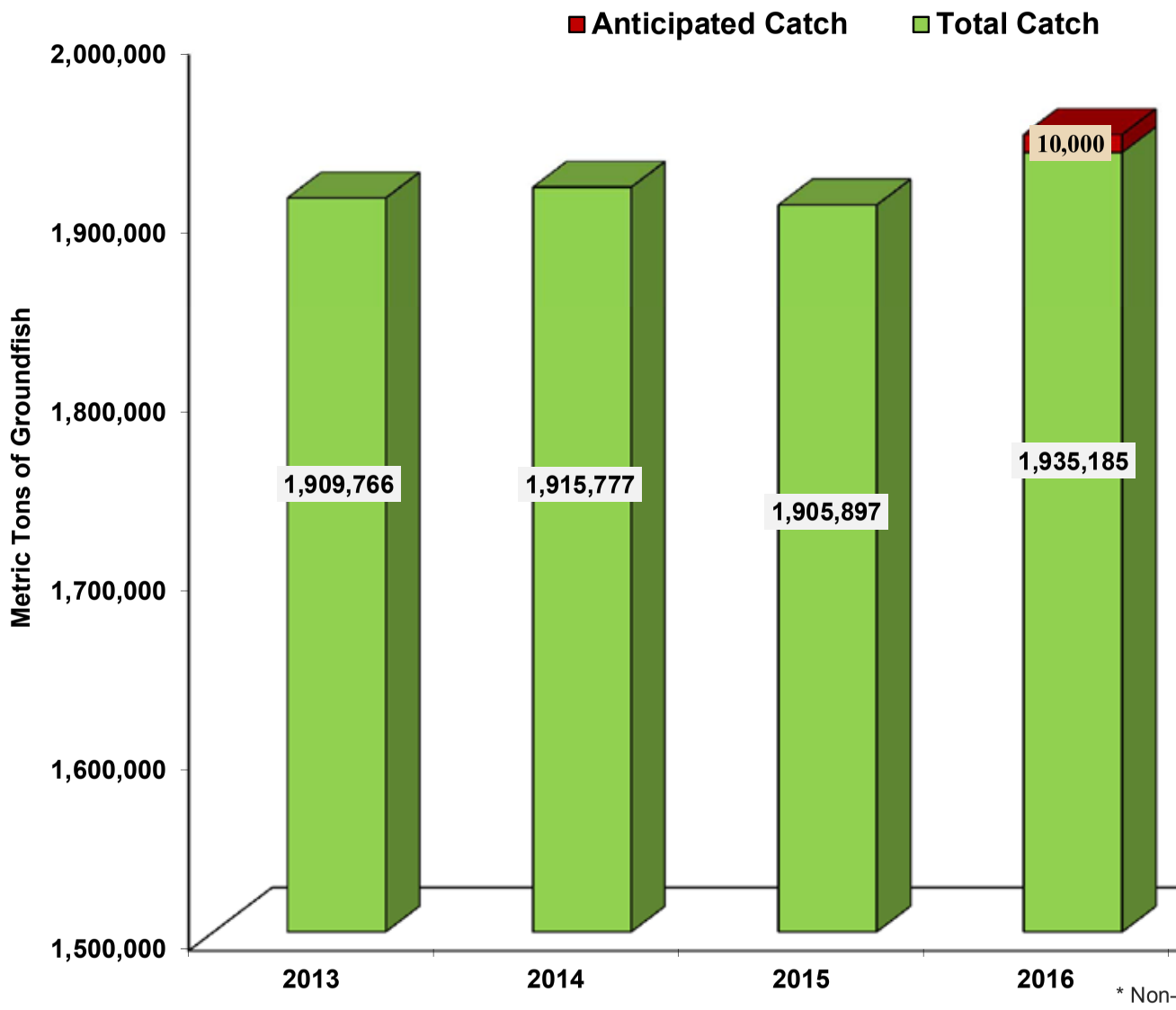
Catch data are through November 12, 2016

Management reports can be found at:
https://alaskafisheries.noaa.gov/fisheries-data-reports?tid=286

Report Prepared by:
Josh Keaton
November 2016

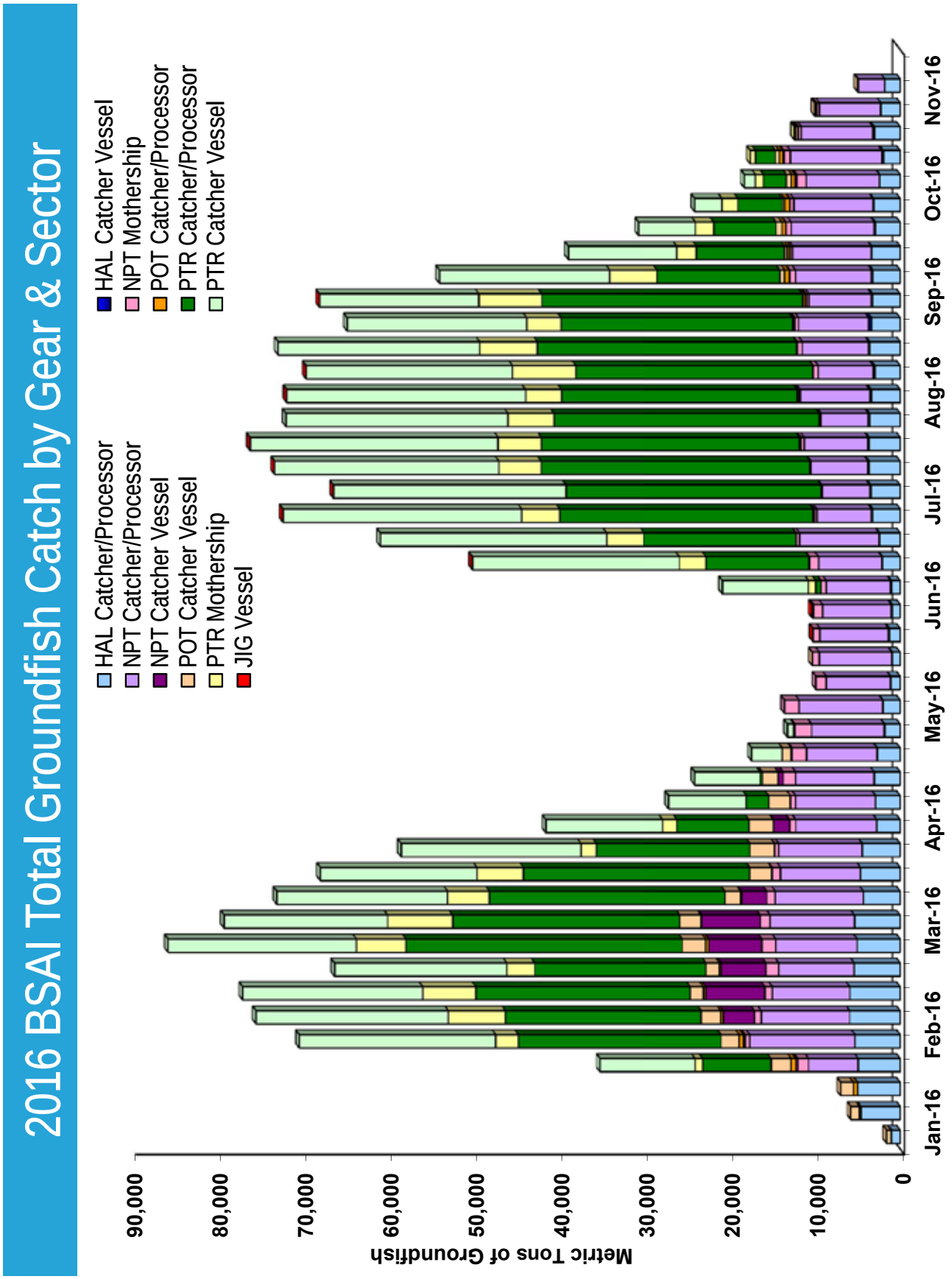

BSAI REPORTING AREAS
N
508
512
516
509
514
513
517
519
518
524
521
523
541
542
543
0 50 100 200 Miles
NPT = Non Pelagic Trawl
PTR = Pelagic Trawl
HAL = Hook and Line / Longline
CP = Catcher Processor
CV = Catcher Vessel
M = Mothership

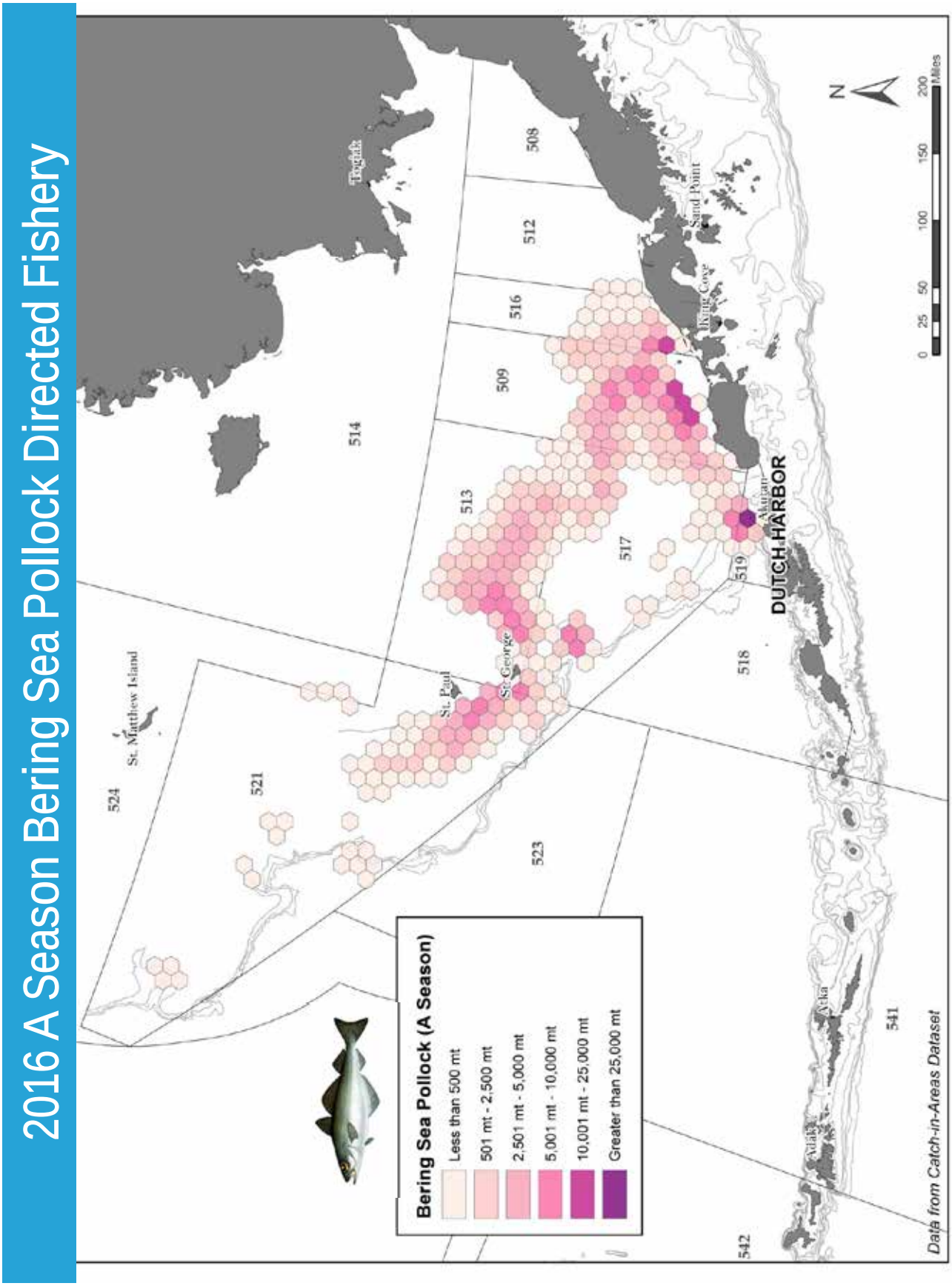
2013-2016 BSAI Total Catch



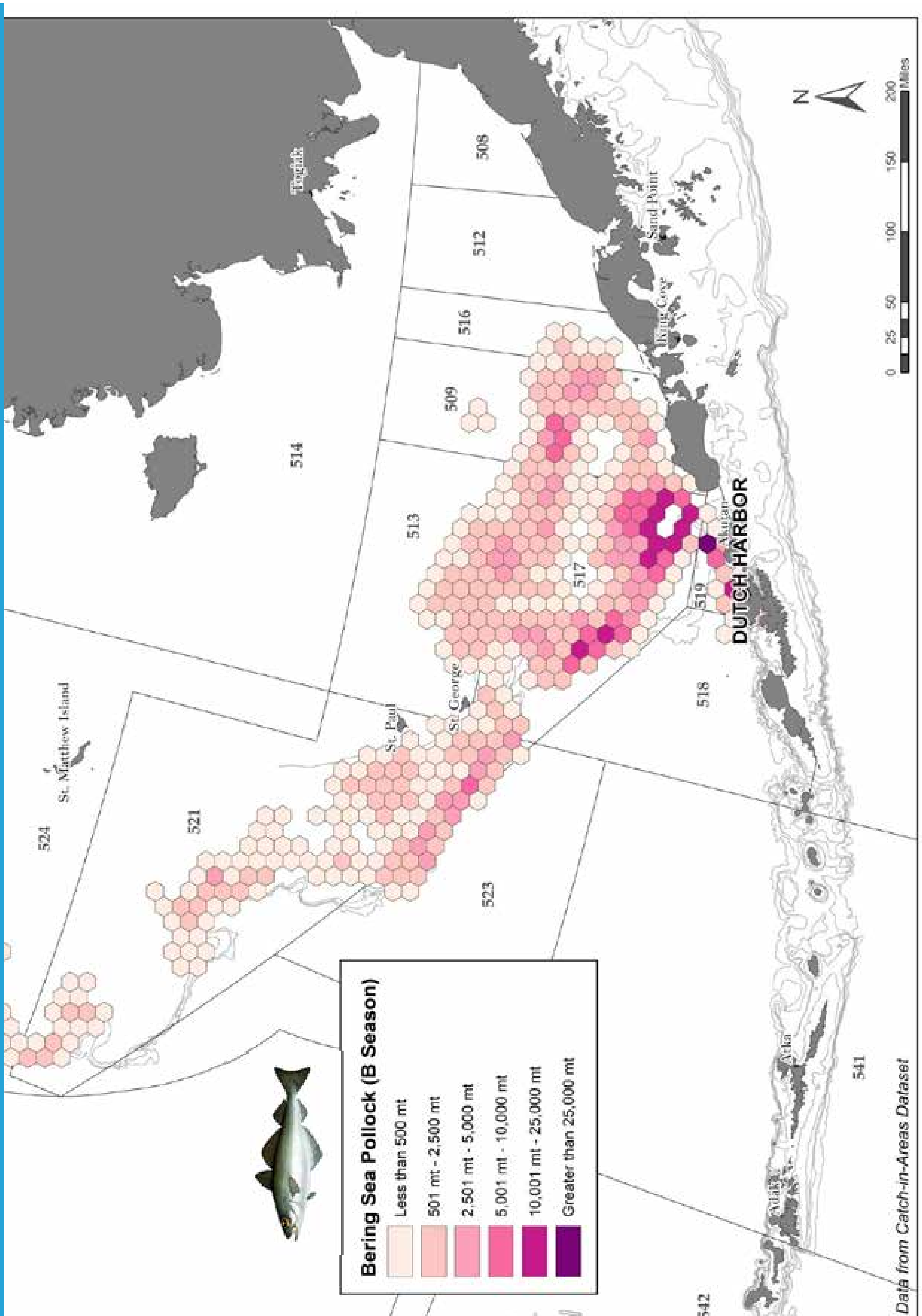
2013 TAC	2,000,000
Total Catch	1,909,766
Remaining TAC	90,234
2014 TAC *	1,998,351
Total Catch	1,915,777
Remaining TAC	82,574
2015 TAC	2,000,000
Total Catch	1,905,897
TAC Left	94,103
2016 TAC	2,000,000
Total Catch	1,935,185
Projected Catch	10,000
Total Catch with Projected Catch	1,945,185
TAC Left	52,539

* Non-specified reserves not all released


2016 BSAI Total Groundfish Catch by Gear & Sector
HAL Catcher Vessel
NPT Mothership
POT Catcher/Processor
PTR Catcher/Processor
PTR Catcher Vessel
HAL Catcher/Processor
NPT Catcher/Processor
NPT Catcher Vessel
POT Catcher Vessel
PTR Mothership
JIG Vessel
Metric Tons of Groundfish
90,000
80,000
70,000
60,000
50,000
40,000
30,000
20,000
10,000
0
Jan-16
Feb-16
Mar-16
Apr-16
May-16
Jun-16
Jul-16
Aug-16
Sep-16
Oct-16
Nov-16


2016 A Season Bering Sea Pollock Directed Fishery
Bering Sea Pollock (A Season)
Less than 500 mt
501 mt - 2,500 mt
2,501 mt - 5,000 mt
5,001 mt - 10,000 mt
10,001 mt - 25,000 mt
Greater than 25,000 mt
DUTCH HARBOR
St. Matthew Island
St. Paul
St. George
Togiak
Sand Point
Akutan
Atka
Kodiak
508
512
516
509
514
513
517
519
518
523
521
524
541
542
N
0 25 50 100 150 200 Miles
Data from Catch-in-Areas Dataset

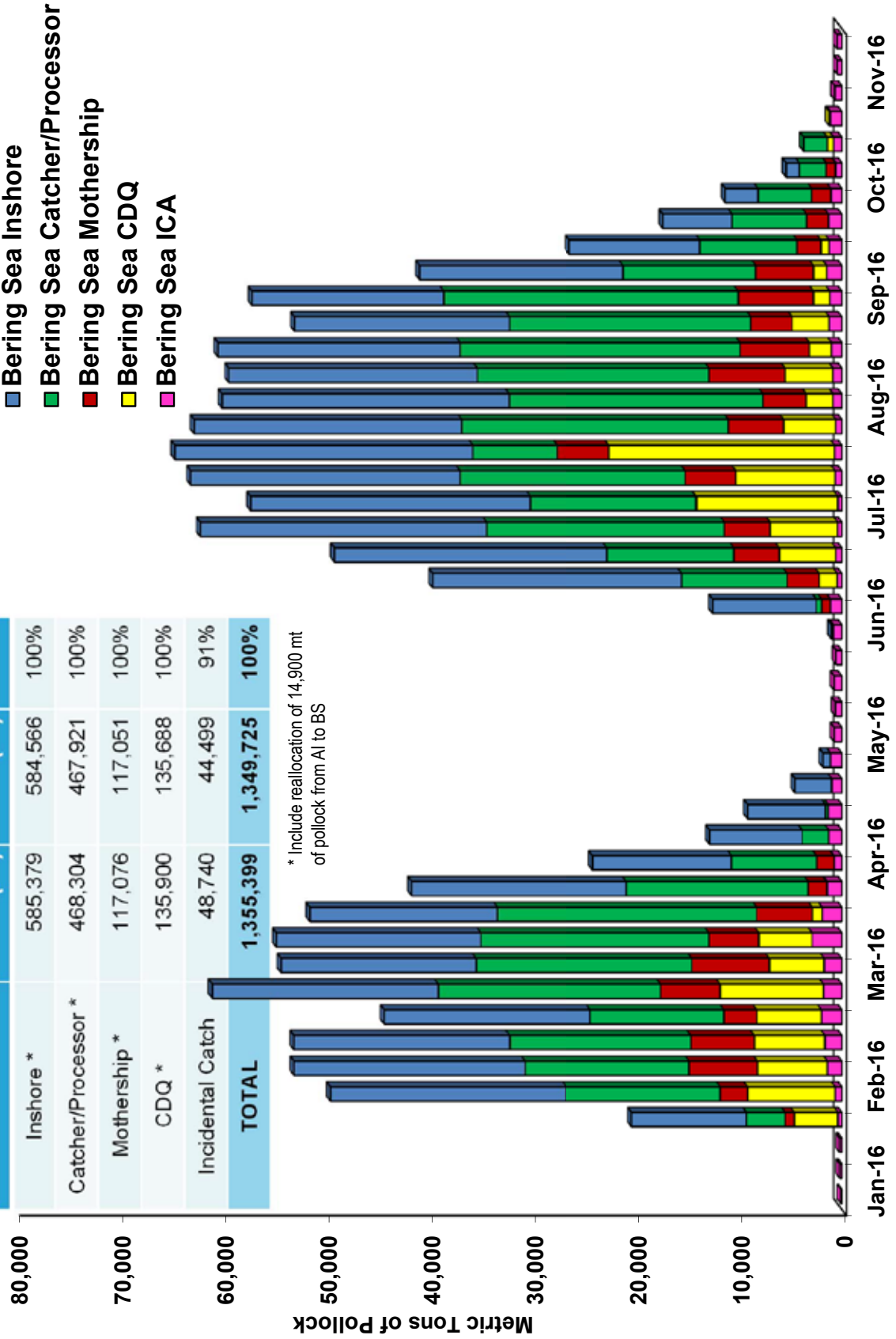
2016 B Season Bering Sea Pollock Directed Fishery



2016 Bering Sea Pollock Catch by Week and Sector

2016	TAC (mt)	Catch (mt)	%
Inshore *	585,379	584,566	100%
Catcher/Processor *	468,304	467,921	100%
Mothership *	117,076	117,051	100%
CDQ *	135,900	135,688	100%
Incidental Catch	48,740	44,499	91%
TOTAL	**1,355,399**	**1,349,725**	**100%**

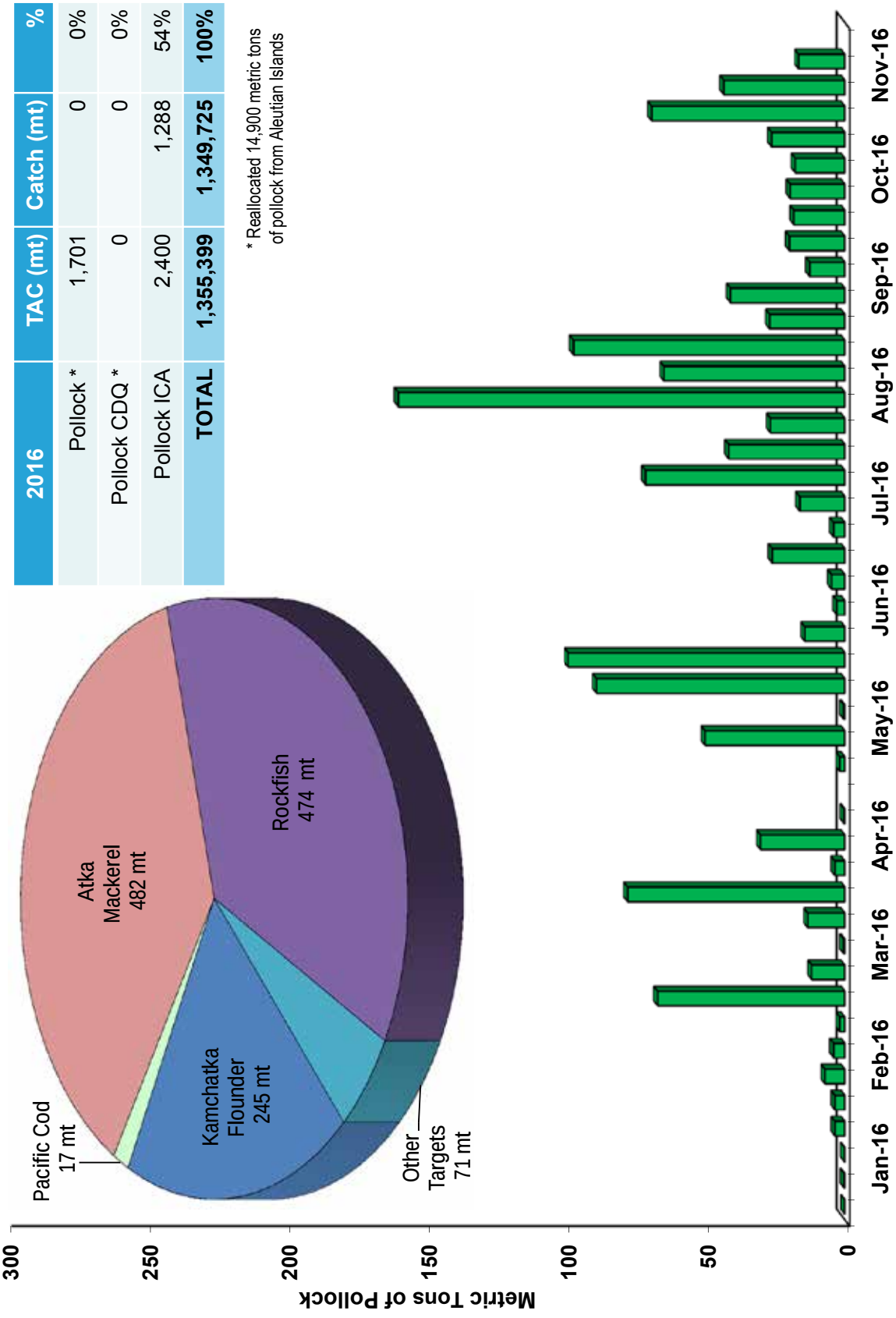
* Include reallocation of 14,900 mt of pollock from AI to BS



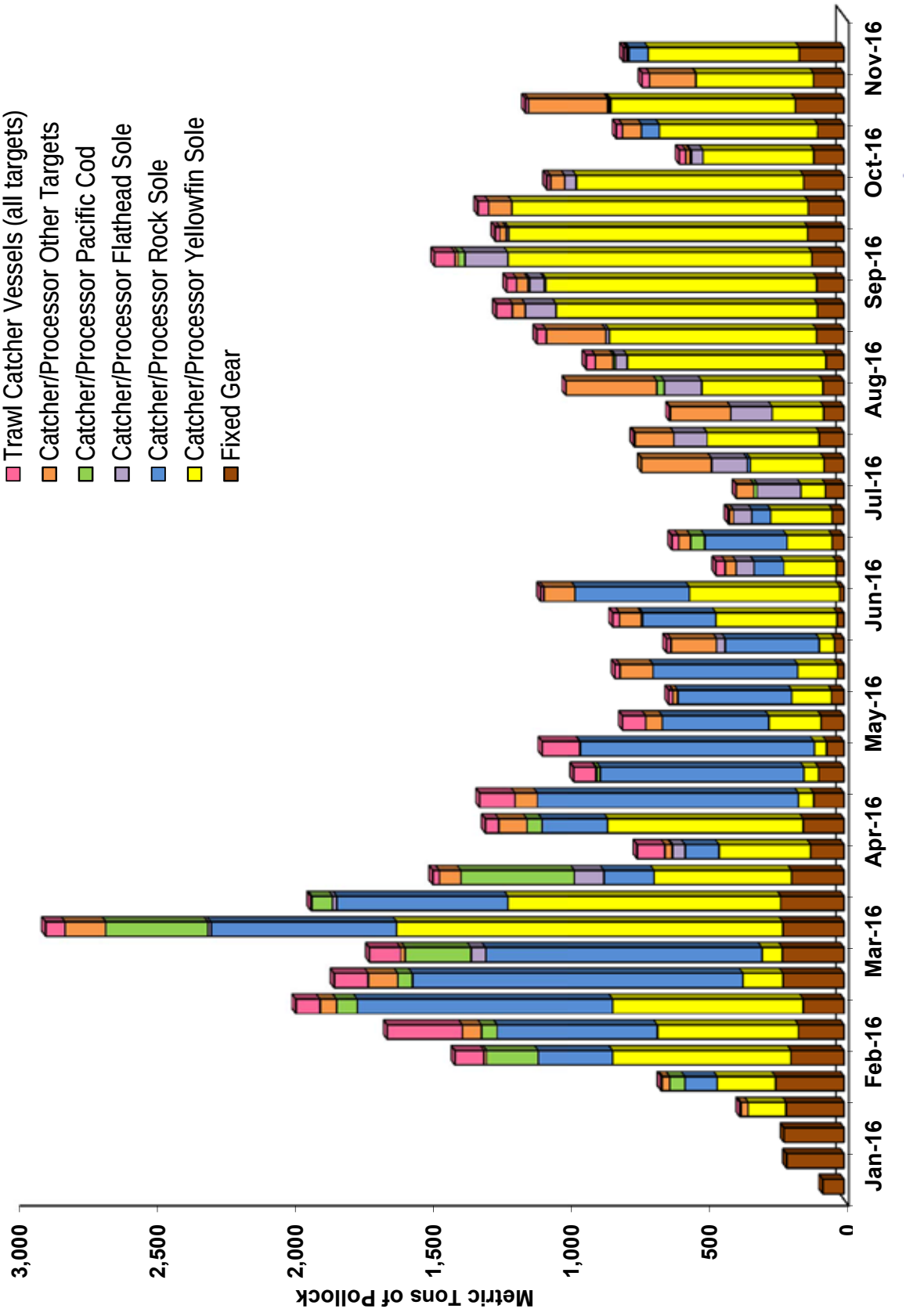
2016 Aleutian Islands Pollock Catch by Week and Sector

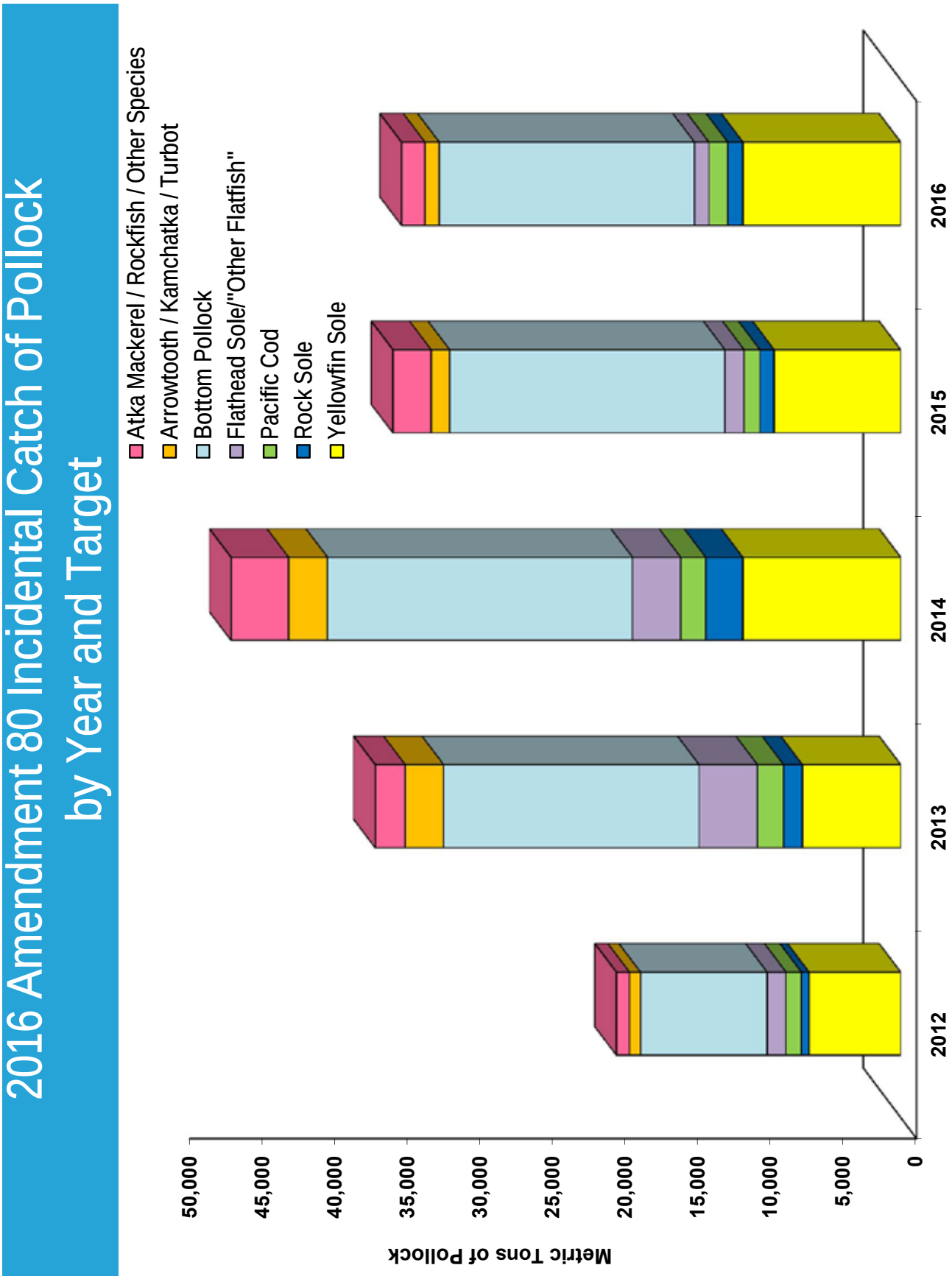
2016	TAC (mt)	Catch (mt)	%
Pollock *	1,701	0	0%
Pollock CDQ *	0	0	0%
Pollock ICA	2,400	1,288	54%
TOTAL	**1,355,399**	**1,349,725**	**100%**

* Reallocated 14,900 metric tons of pollock from Aleutian Islands

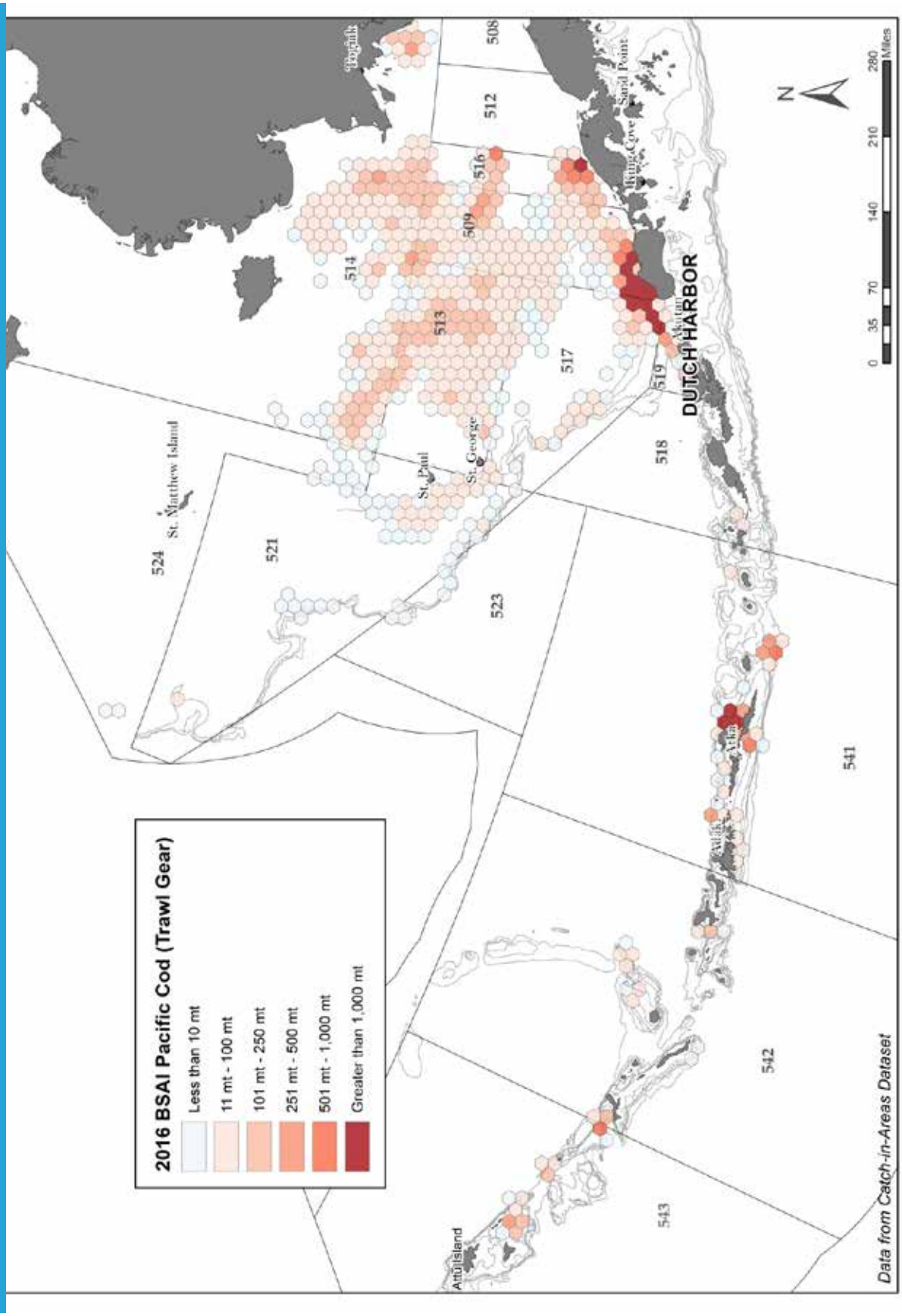


2016 Bering Sea Pollock ICA Catch by Week and Sector

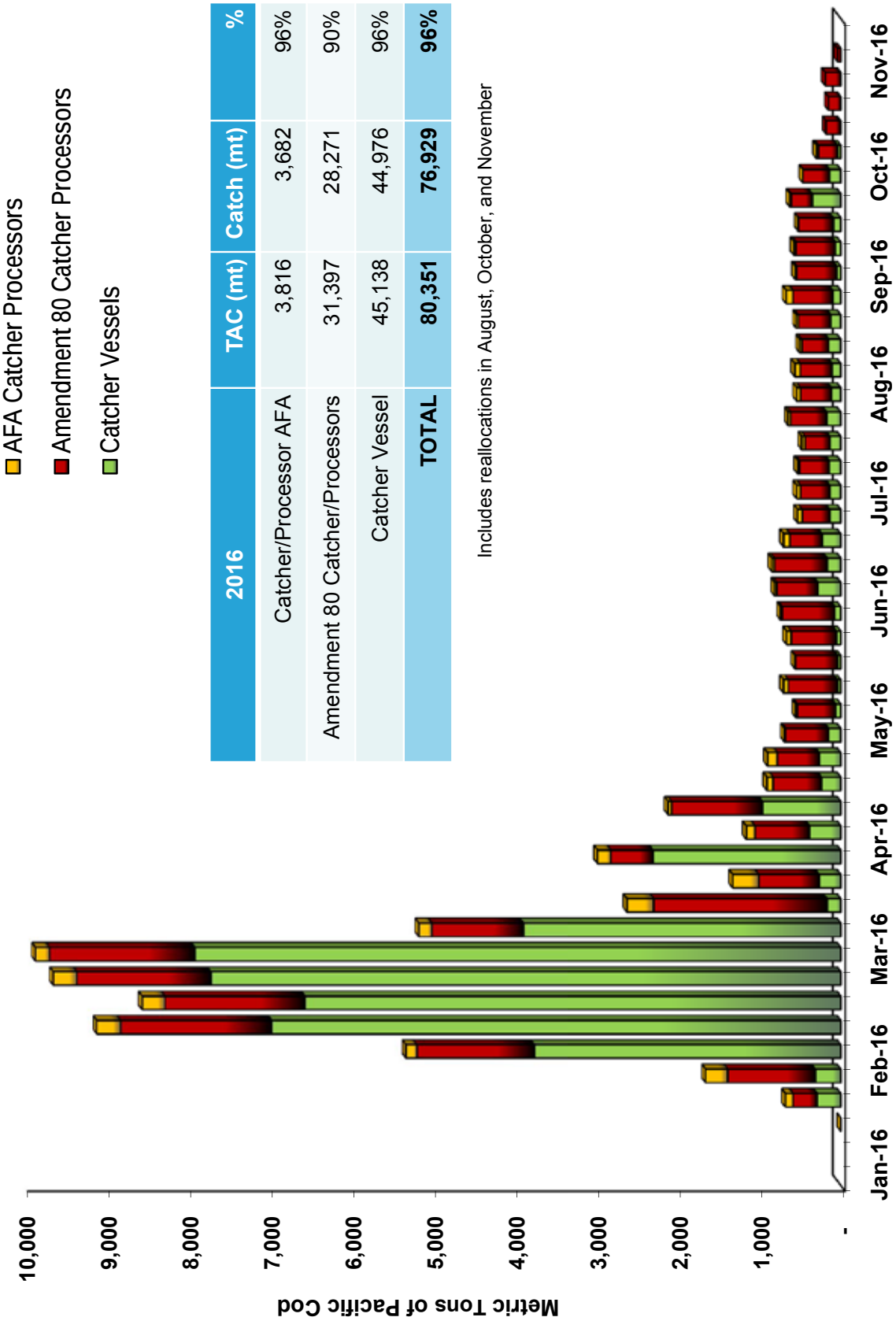



2016 Amendment 80 Incidental Catch of Pollock by Year and Target
Atka Mackerel / Rockfish / Other Species
Arrowtooth / Kamchatka / Turbot
Bottom Pollock
Flathead Sole/"Other Flatfish"
Pacific Cod
Rock Sole
Yellowfin Sole
Metric Tons of Pollock
50,000
45,000
40,000
35,000
30,000
25,000
20,000
15,000
10,000
5,000
0
2012
2013
2014
2015
2016

2016 Pacific Cod Catch by Trawl Gear

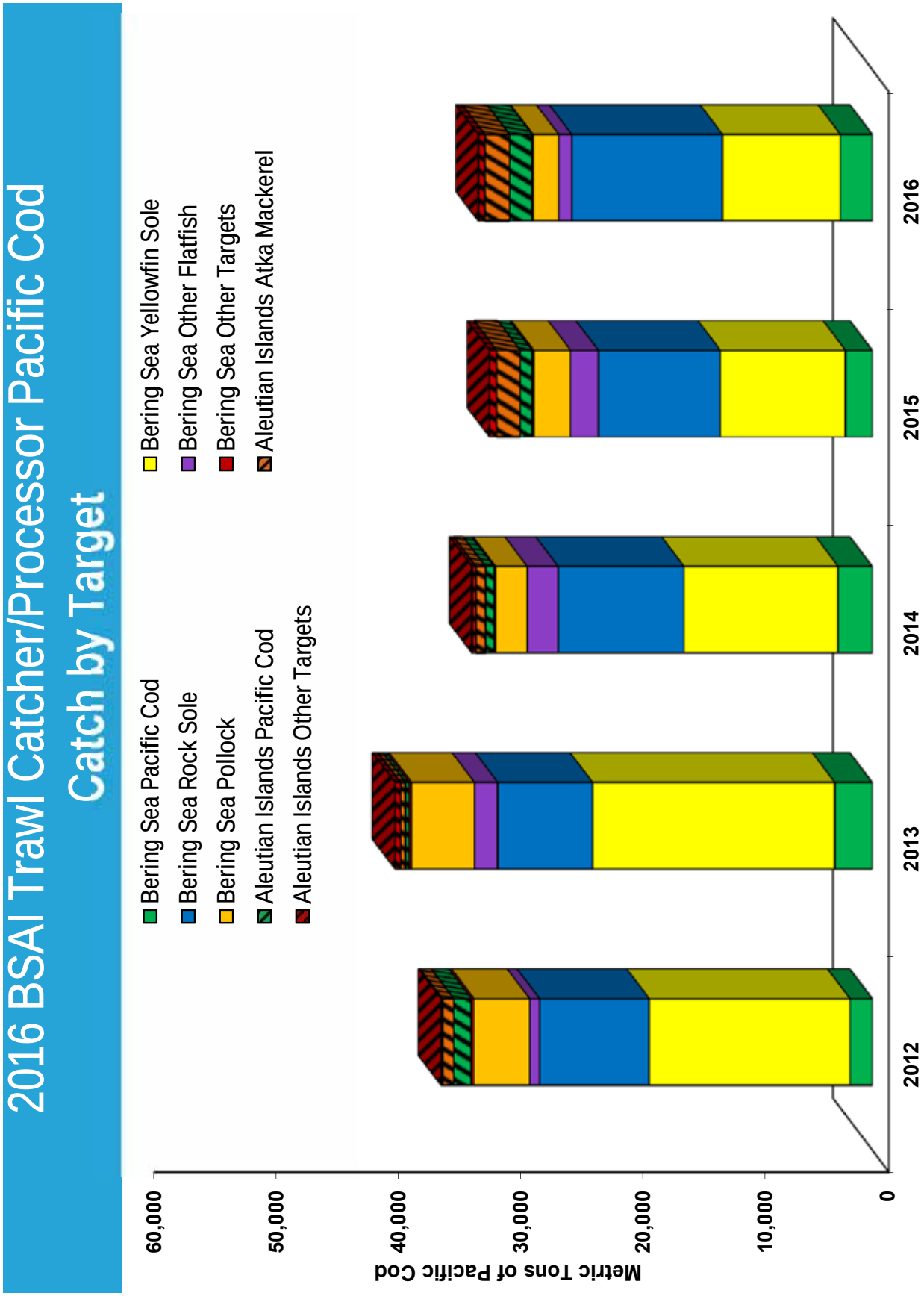


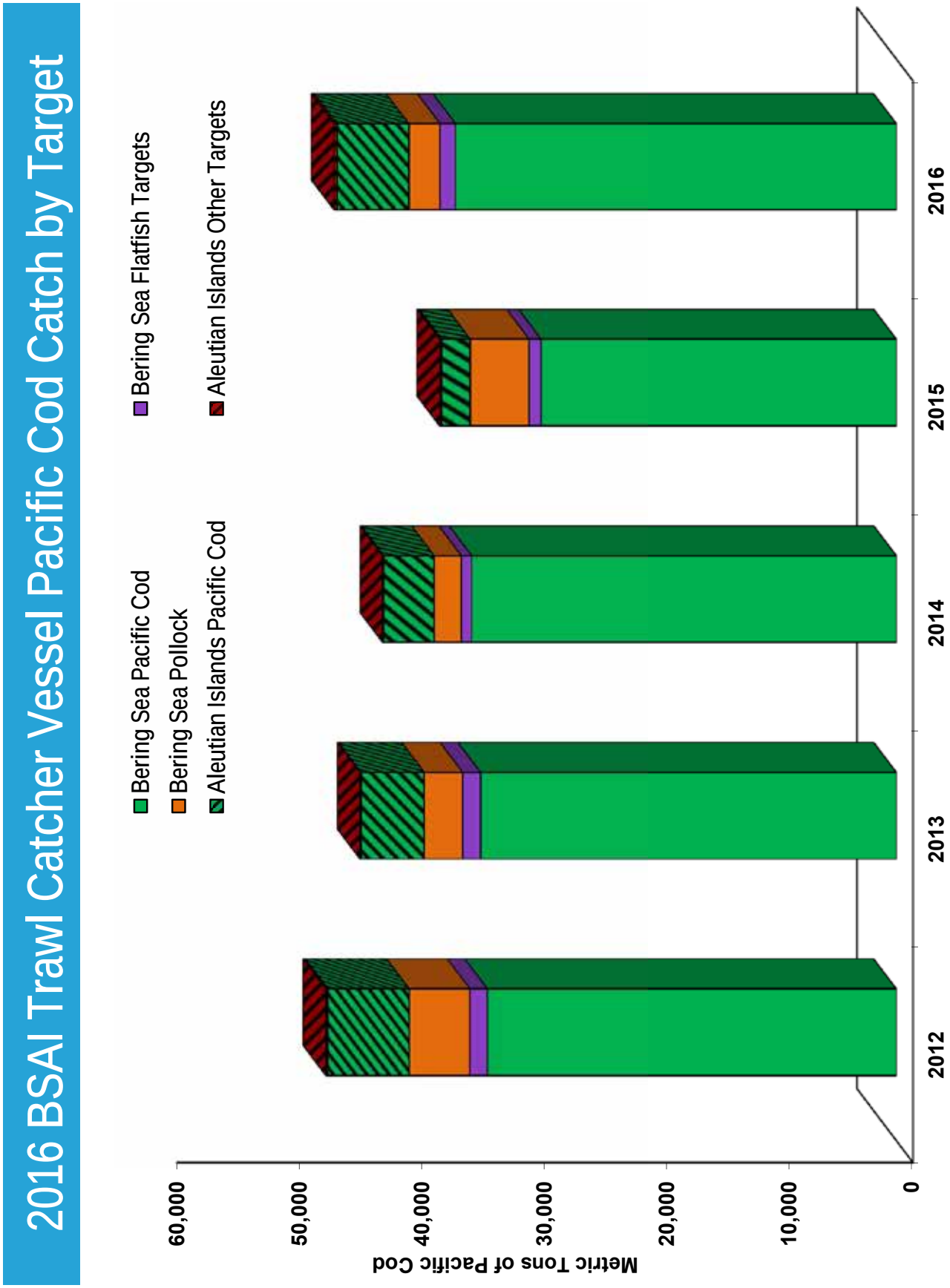
2016 BSAI Trawl Pacific Cod Catch



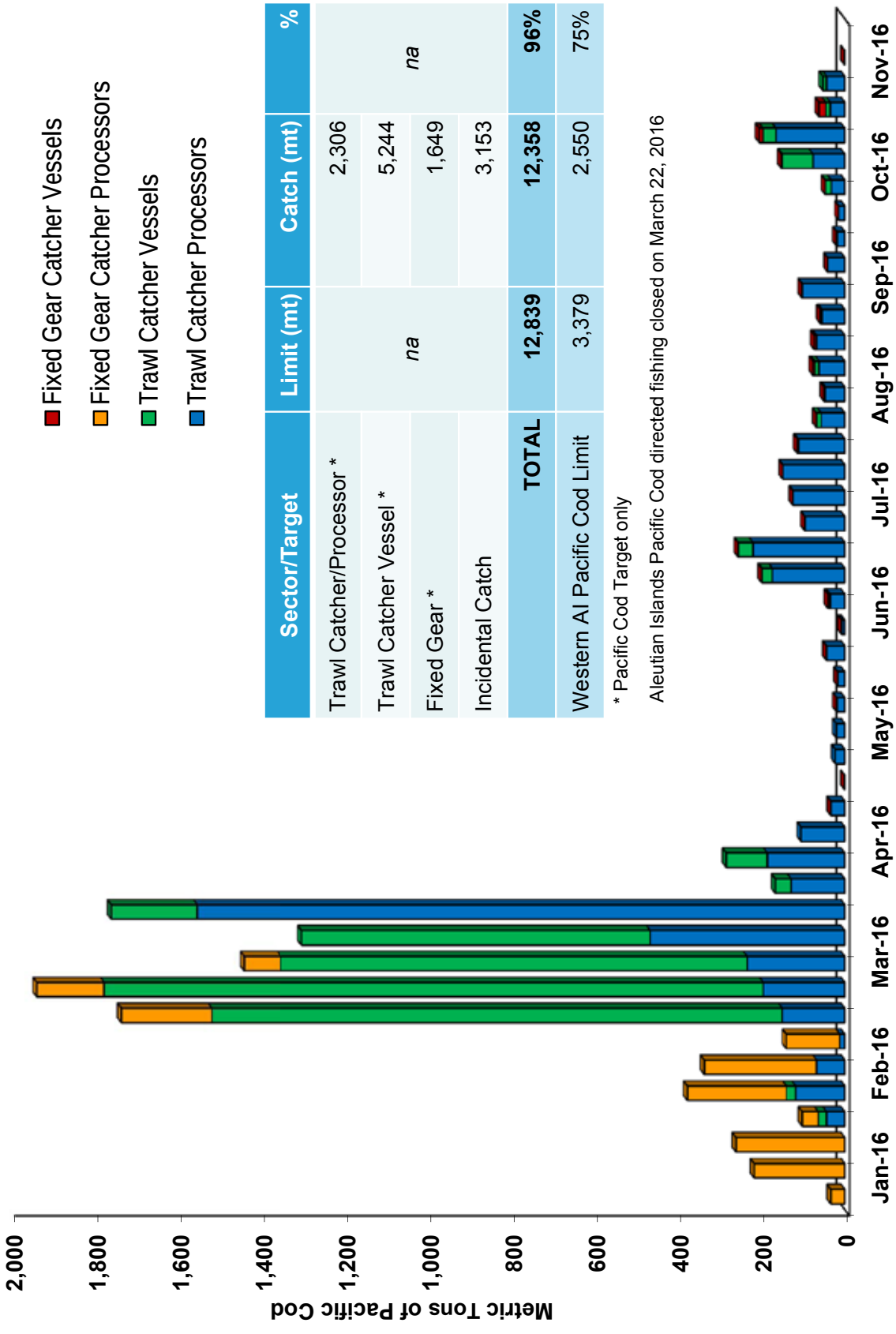
2016	TAC (mt)	Catch (mt)	%
Catcher/Processor AFA	3,816	3,682	96%
Amendment 80 Catcher/Processors	31,397	28,271	90%
Catcher Vessel	45,138	44,976	96%
TOTAL	**80,351**	**76,929**	**96%**

Includes reallocations in August, October, and November


2016 BSAI Trawl Catcher/Processor Pacific Cod Catch by Target
Bering Sea Pacific Cod
Bering Sea Rock Sole
Bering Sea Pollock
Aleutian Islands Pacific Cod
Aleutian Islands Other Targets
Bering Sea Yellowfin Sole
Bering Sea Other Flatfish
Bering Sea Other Targets
Aleutian Islands Atka Mackerel
Metric Tons of Pacific Cod
60,000
50,000
40,000
30,000
20,000
10,000
0
2012
2013
2014
2015
2016


2016 BSAI Trawl Catcher Vessel Pacific Cod Catch by Target
Bering Sea Pacific Cod
Bering Sea Pollock
Aleutian Islands Pacific Cod
Bering Sea Flatfish Targets
Aleutian Islands Other Targets
Metric Tons of Pacific Cod
60,000
50,000
40,000
30,000
20,000
10,000
0
2012
2013
2014
2015
2016

2016 Aleutian Islands Pacific Cod Catch by Sector and Target

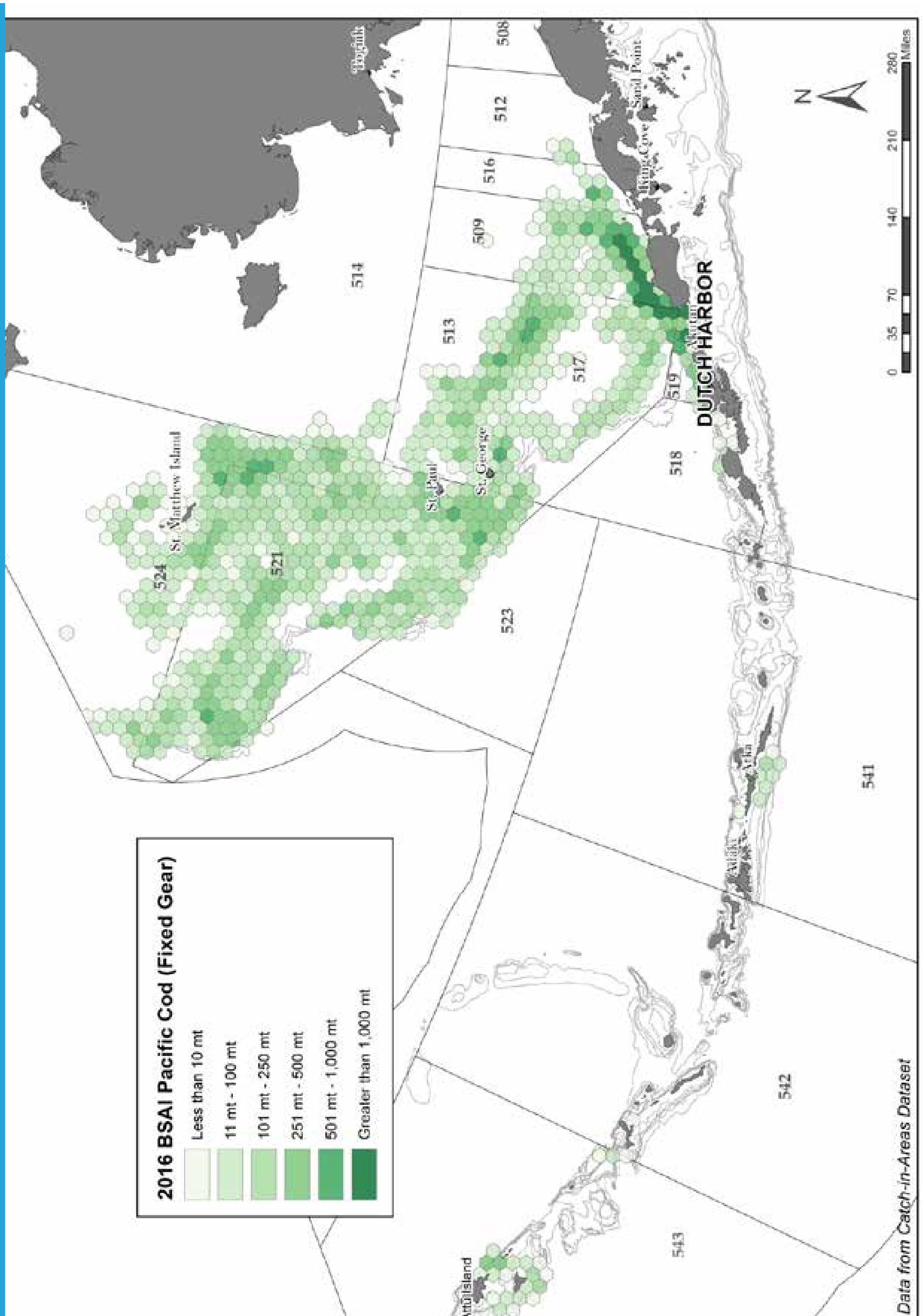


Sector/Target	Limit (mt)	Catch (mt)	%
Trawl Catcher/Processor *		2,306	
Trawl Catcher Vessel *		5,244	
Fixed Gear *	*na*	1,649	*na*
Incidental Catch		3,153	
TOTAL	**12,839**	**12,358**	**96%**
Western AI Pacific Cod Limit	3,379	2,550	75%

* Pacific Cod Target only

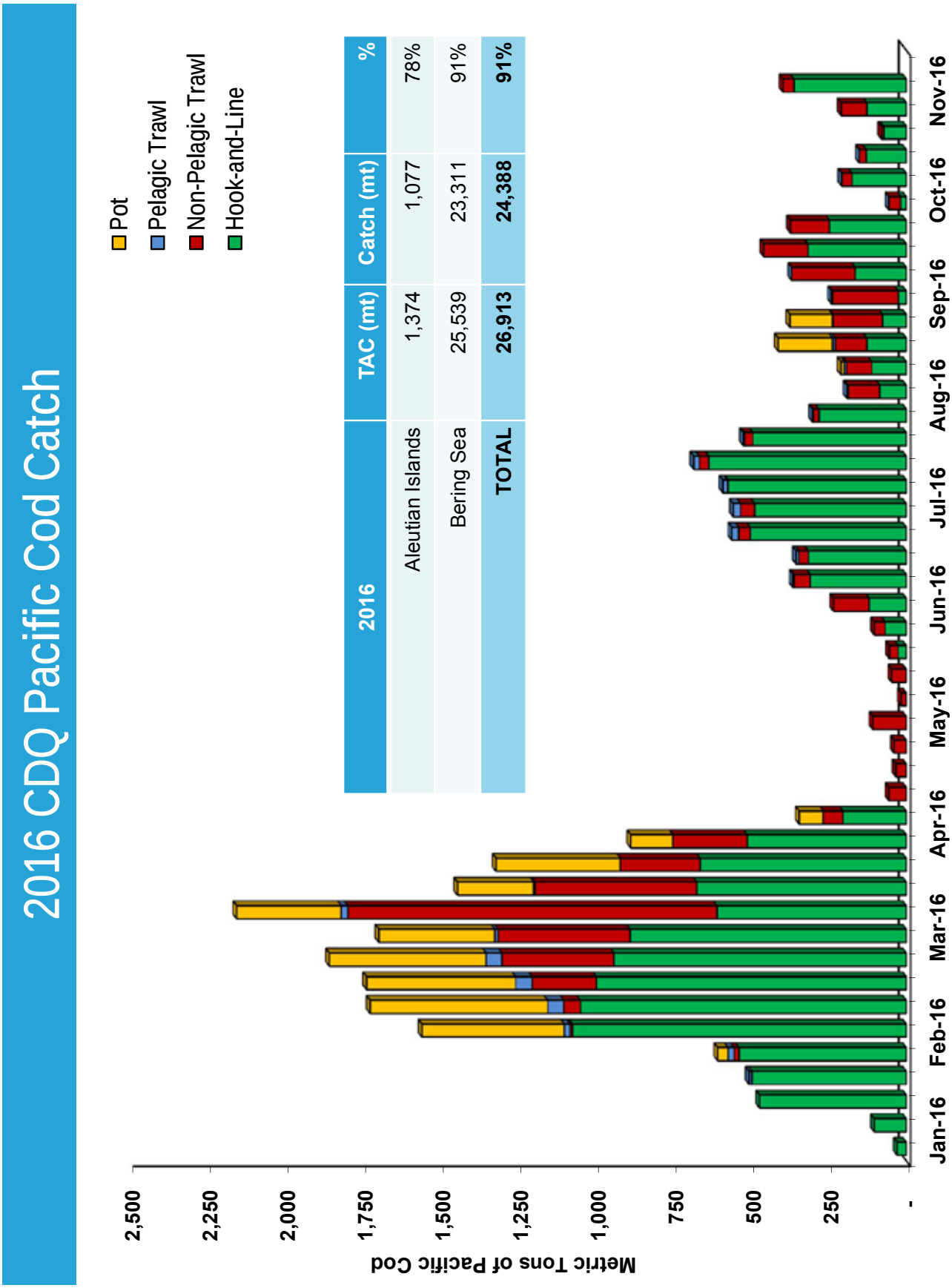
Aleutian Islands Pacific Cod directed fishing closed on March 22, 2016

2016 Pacific Cod Catch by Non-Trawl Gear



2016 BSAI Non-Trawl Pacific Cod Catch

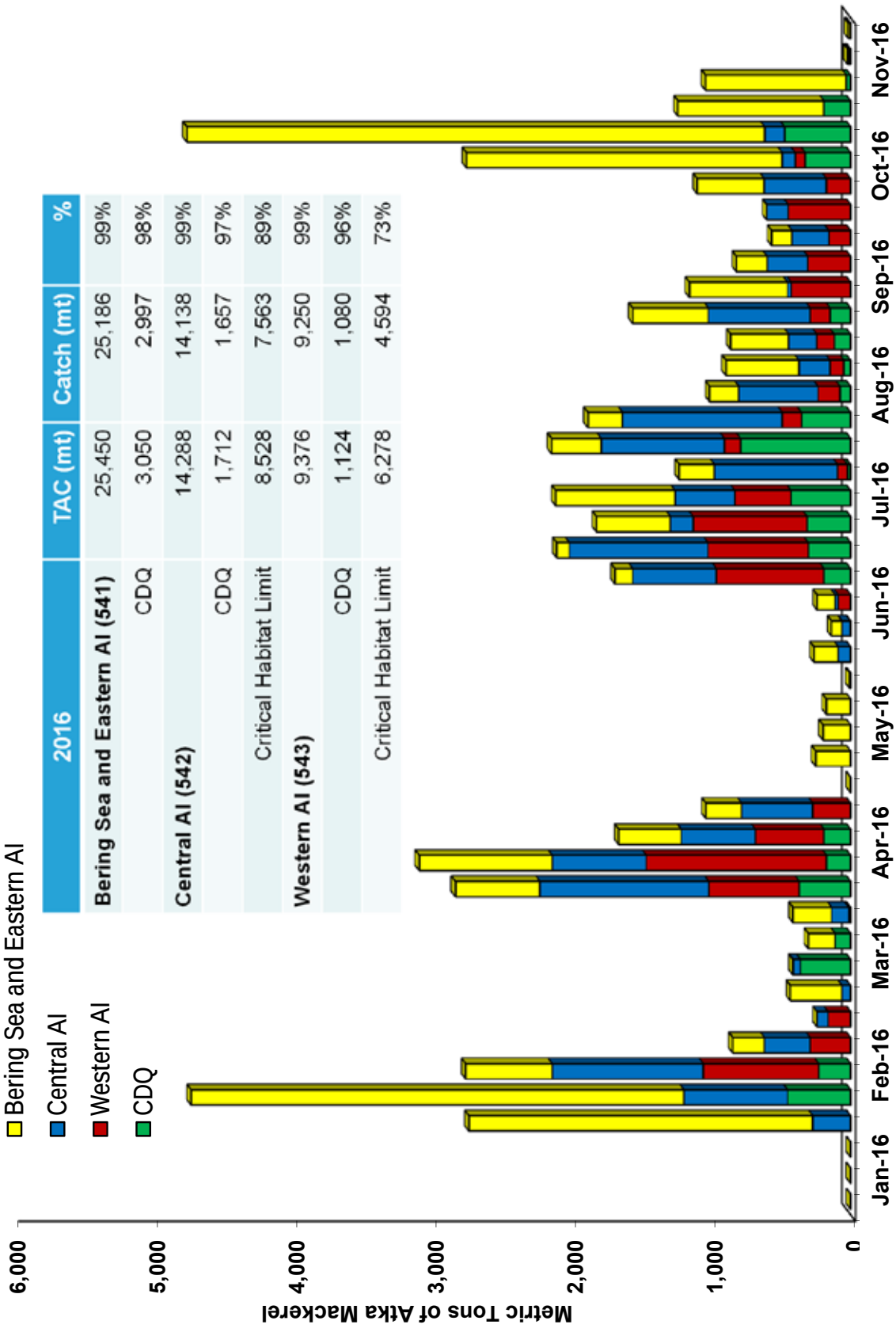
2016	TAC (mt)	Catch (mt)	%
Hook-and-Line / Pot ICA	500	249	50%
Jig Gear	94	47	50%
Hook-and-Line / Pot Catcher Vessels < 60	10,674	8,431	79%
Pot Catcher Vessels >= 60	14,598	10,343	71%
Pot Catcher/Processors	6,607	4,466	68%
Hook-and-Line Catcher Vessels >= 60	0	0	0%
Hook-and-Line Catcher Processors	111,783	105,424	94%
TOTAL	**144,256**	**128,960**	**89%**


2016 CDQ Pacific Cod Catch
Pot
Pelagic Trawl
Non-Pelagic Trawl
Hook-and-Line
2016
TAC (mt)
Catch (mt)
%
Aleutian Islands
1,374
1,077
78%
Bering Sea
25,539
23,311
91%
TOTAL
26,913
24,388
91%
Metric Tons of Pacific Cod
2,500
2,250
2,000
1,750
1,500
1,250
1,000
750
500
250
-
Jan-16
Feb-16
Mar-16
Apr-16
May-16
Jun-16
Jul-16
Aug-16
Sep-16
Oct-16
Nov-16

2016 Pacific Cod Apportionments and Catch in the BSAI

Fishery Component	TAC (mt)	Reallocations	Revised TAC	Catch (mt)	%
Hook-and-Line Gear					
Catcher/Processors	108,983	+ 2,800	111,783	101,577	91%
Catcher Vessels >= 60 Feet	448	- 448	0	0	0%
Pot Gear					
Catcher/Processors	3,357	+ 3,250	6,607	4,602	70%
Catcher Vessels >= 60 Feet	18,798	- 4,200	14,598	10,456	72%
Hook-and-Line and Pot Gear Catcher Vessels < 60 feet	4,476	+ 6,198	10,674	8,659	81%
Trawl Gear					
AFA Catcher/Processors	5,166	- 1,350	3,816	3,682	96%
A80 Catcher/Processors	30,097	+ 1,300	31,397	28,588	91%
Catcher Vessels	49,638	- 4,500	45,138	44,976	100%
Jig Gear	3,144	- 3,050	94	47	50%
CDQ			26,913		
Aleutian Islands	1,374	0	na	1,077	93%
Bering Sea	25,539	0	na	23,830	78%
Hook-and-Line / Pot Gear ICA	500	0		204	41%
TOTAL	**251,520**	**0**	**251,250**	**227,698**	**91%**

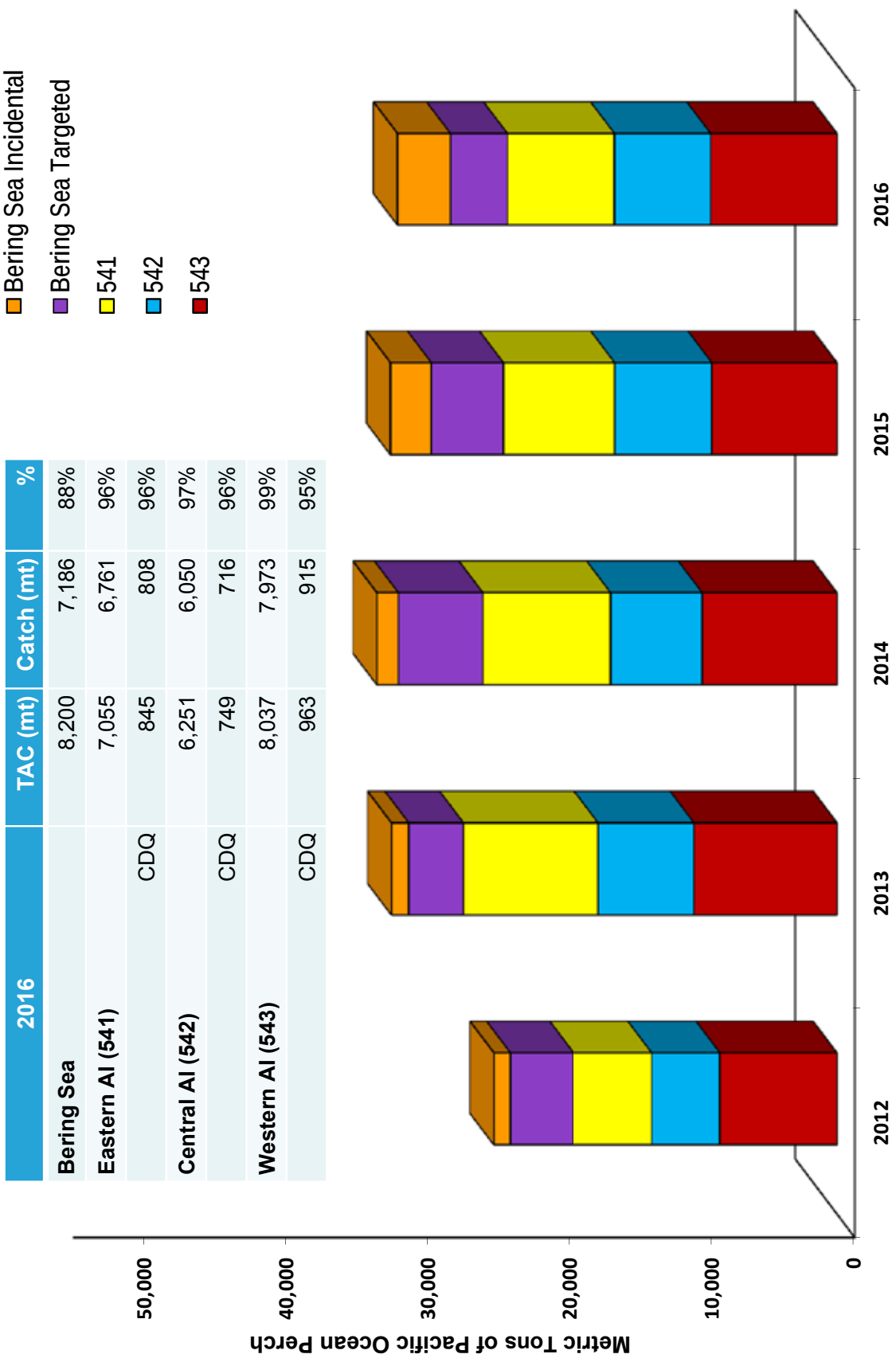
2016 Atka Mackerel Catch by Week and Area

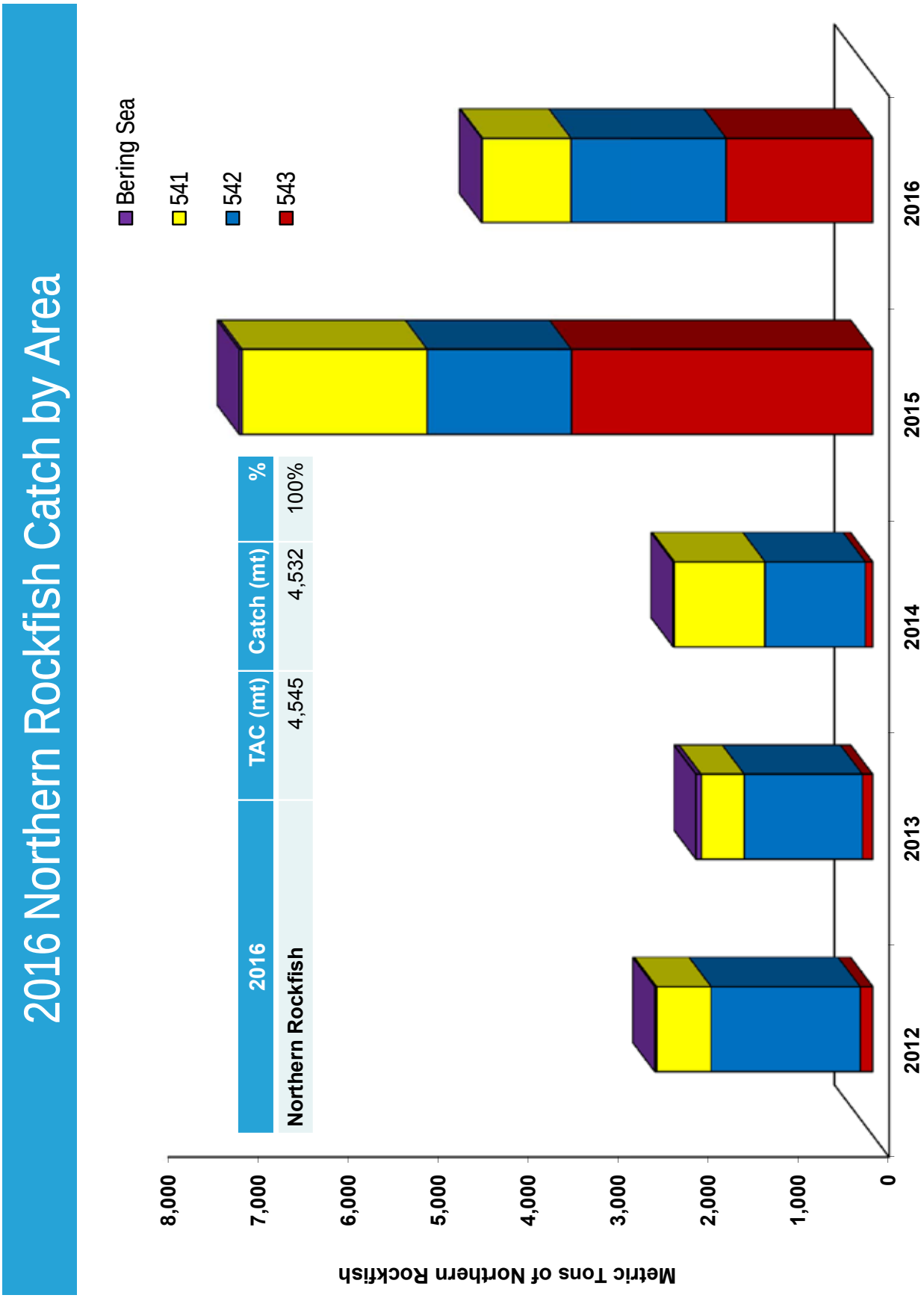


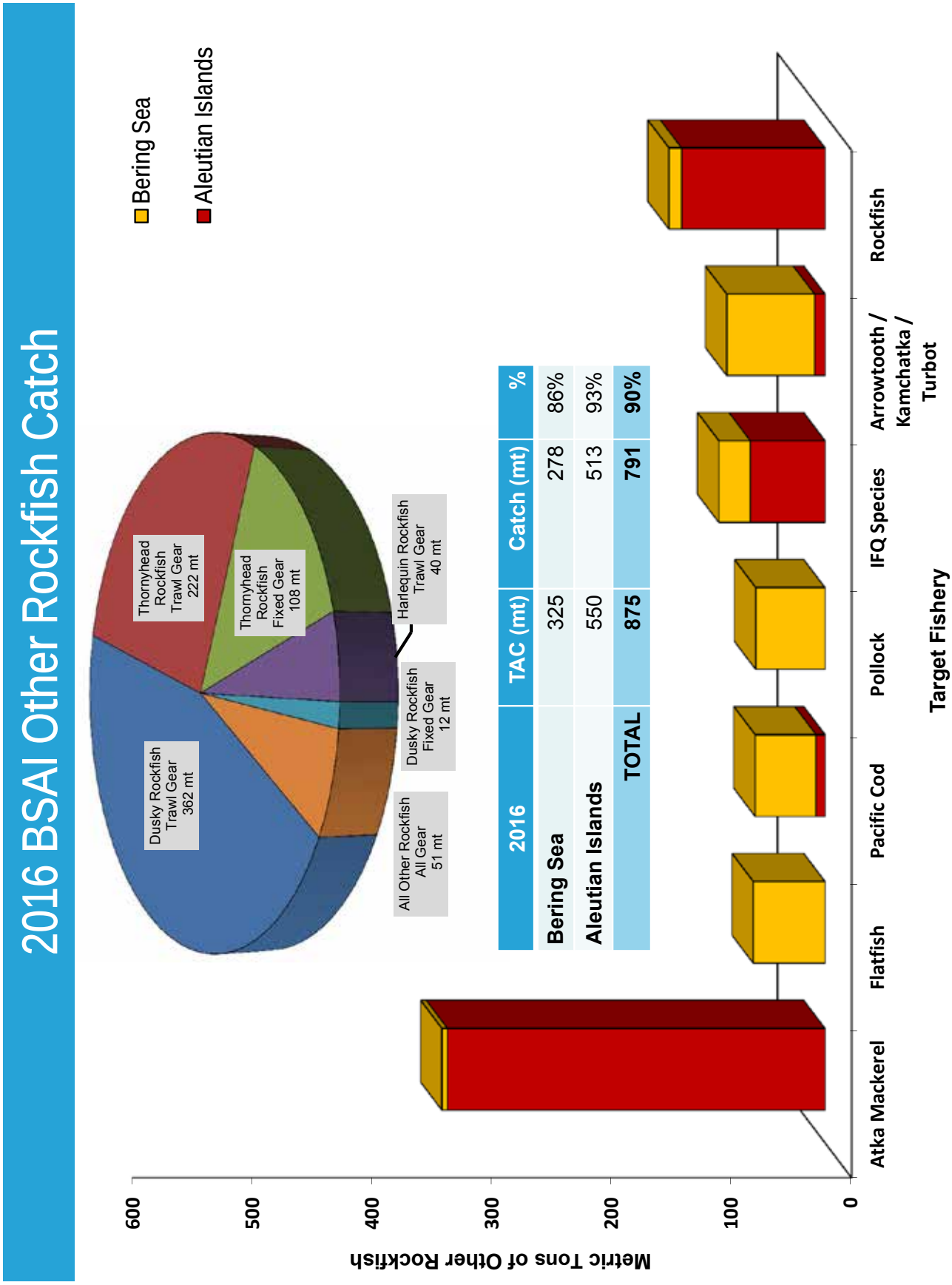
2016	TAC (mt)	Catch (mt)	%
Bering Sea and Eastern AI (541)	25,450	25,186	99%
CDQ	3,050	2,997	98%
Central AI (542)	14,288	14,138	99%
CDQ	1,712	1,657	97%
Critical Habitat Limit	8,528	7,563	89%
Western AI (543)	9,376	9,250	99%
CDQ	1,124	1,080	96%
Critical Habitat Limit	6,278	4,594	73%

2016 Pacific Ocean Perch Catch by Area

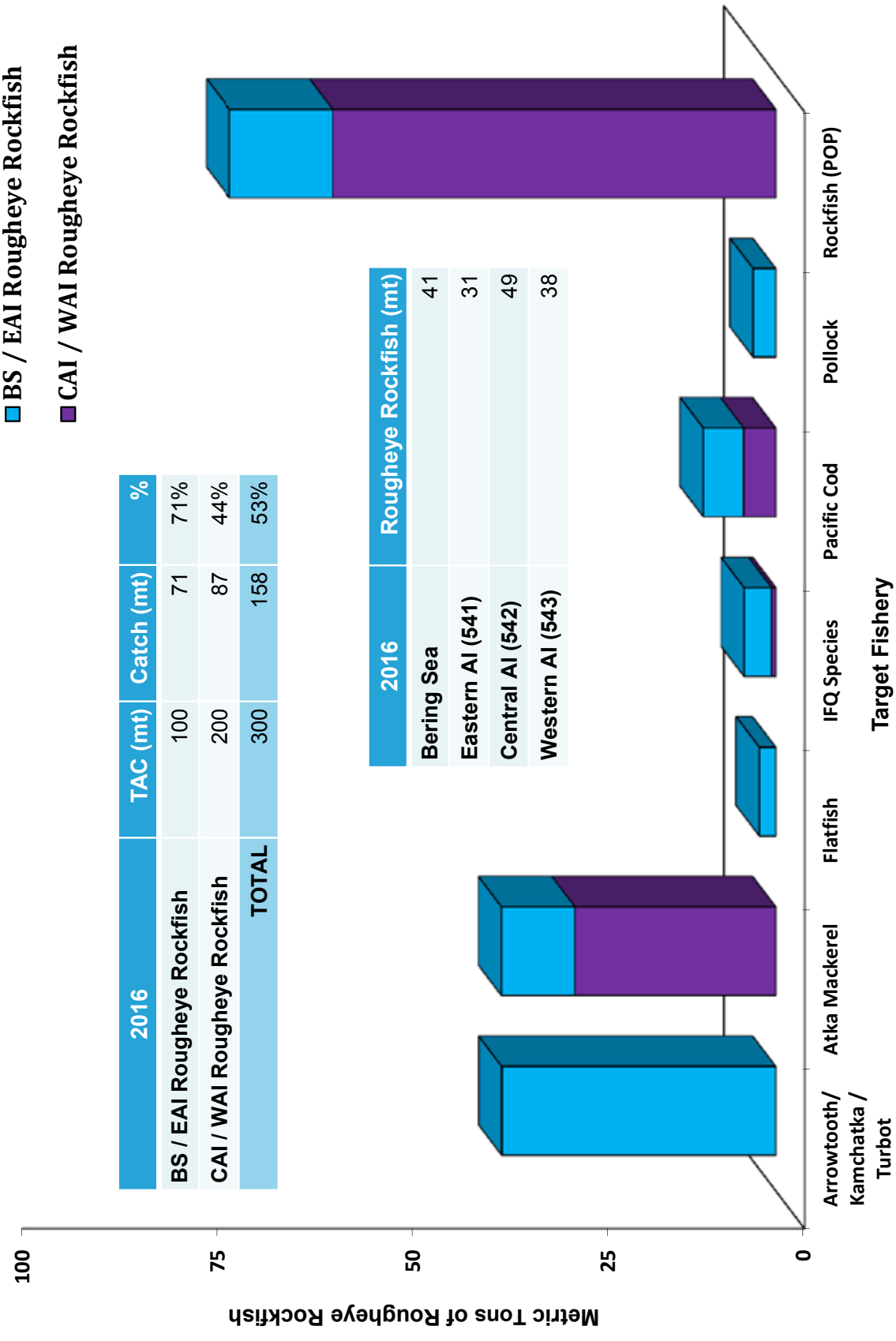
2016		TAC (mt)	Catch (mt)	%
Bering Sea		8,200	7,186	88%
Eastern AI (541)		7,055	6,761	96%
	CDQ	845	808	96%
Central AI (542)		6,251	6,050	97%
	CDQ	749	716	96%
Western AI (543)		8,037	7,973	99%
	CDQ	963	915	95%




2016 Northern Rockfish Catch by Area
Bering Sea
541
542
543
2016
Northern Rockfish
TAC (mt)
4,545
Catch (mt)
4,532
%
100%
Metric Tons of Northern Rockfish
8,000
7,000
6,000
5,000
4,000
3,000
2,000
1,000
0
2012
2013
2014
2015
2016


2016 BSAI Other Rockfish Catch
Bering Sea
Aleutian Islands
Thornyhead Rockfish Trawl Gear 222 mt
Thornyhead Rockfish Fixed Gear 108 mt
Harlequin Rockfish Trawl Gear 40 mt
Dusky Rockfish Trawl Gear 362 mt
Dusky Rockfish Fixed Gear 12 mt
All Other Rockfish All Gear 51 mt
2016 | TAC (mt) | Catch (mt) | %
Bering Sea | 325 | 278 | 86%
Aleutian Islands | 550 | 513 | 93%
TOTAL | 875 | 791 | 90%
Metric Tons of Other Rockfish
600
500
400
300
200
100
0
Atka Mackerel
Flatfish
Pacific Cod
Pollock
IFQ Species
Arrowtooth / Kamchatka / Turbot
Rockfish
Target Fishery

2016 BSAI Blackspotted / Rougheye Rockfish Catch

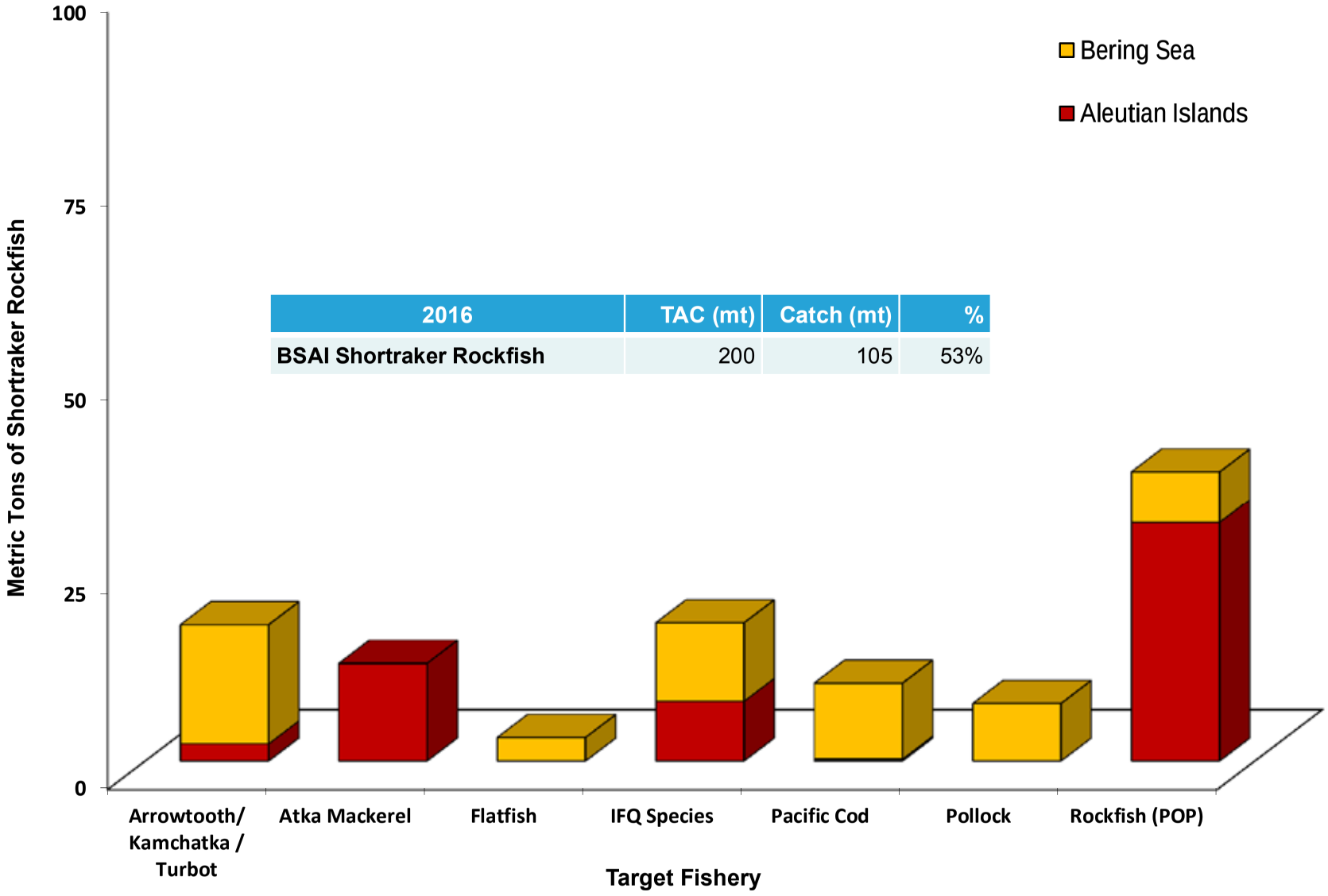


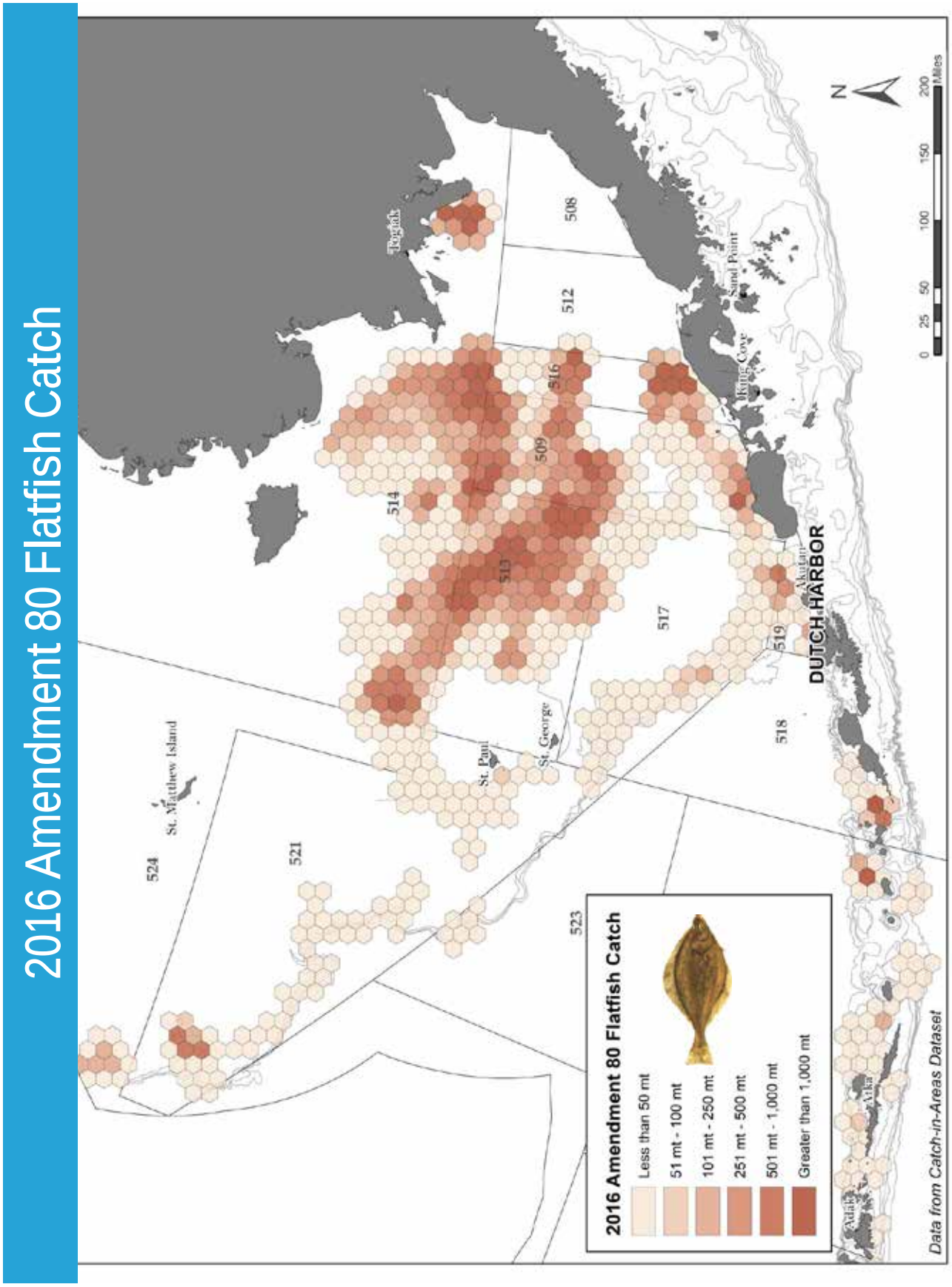
2016	TAC (mt)	Catch (mt)	%
BS / EAI Rougheye Rockfish	100	71	71%
CAI / WAI Rougheye Rockfish	200	87	44%
TOTAL	300	158	53%

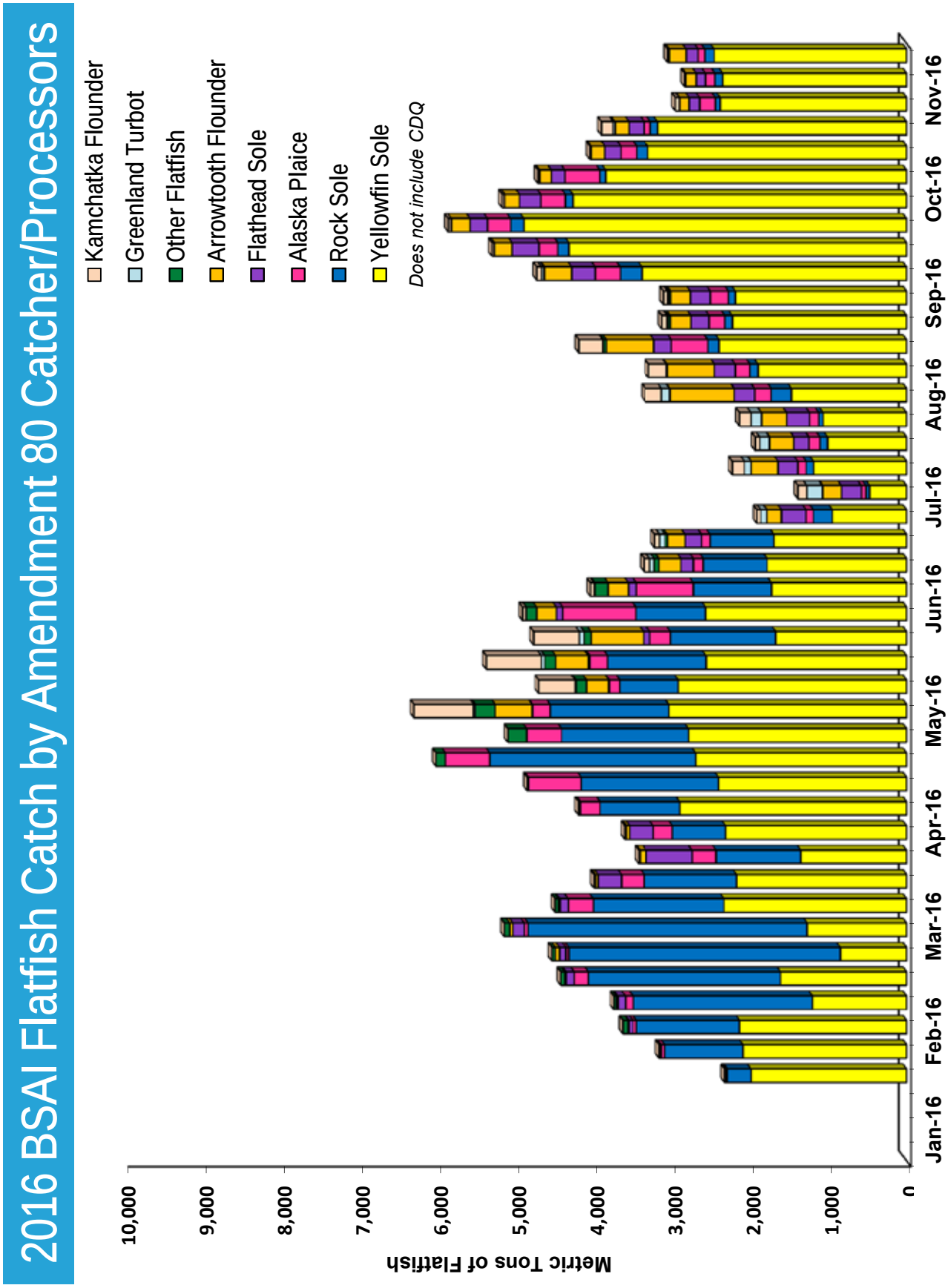
2016	Rougheye Rockfish (mt)
Bering Sea	41
Eastern AI (541)	31
Central AI (542)	49
Western AI (543)	38

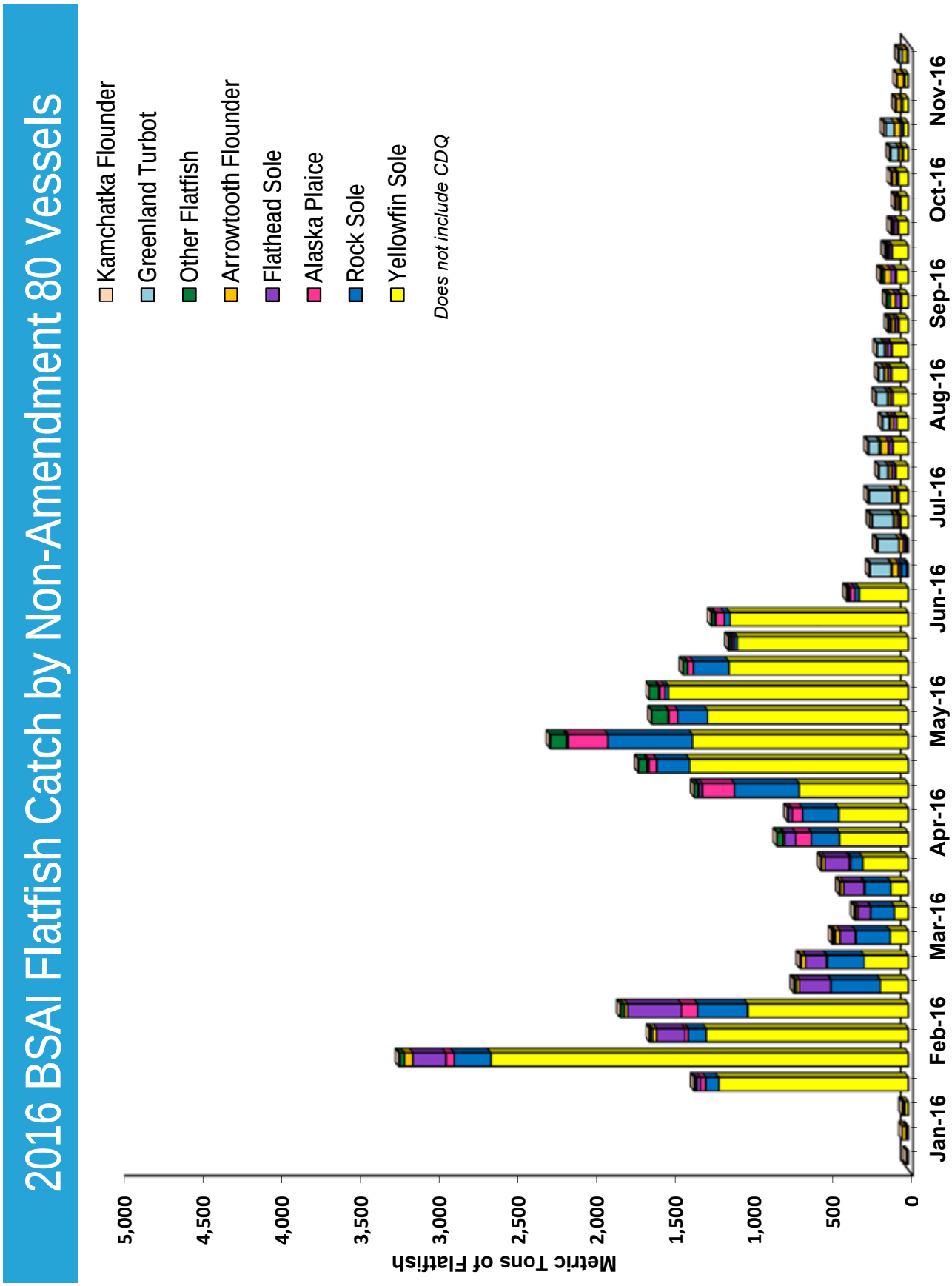
2016 BSAI Shortraker Rockfish Catch

2016	TAC (mt)	Catch (mt)	%
BSAI Shortraker Rockfish	200	105	53%

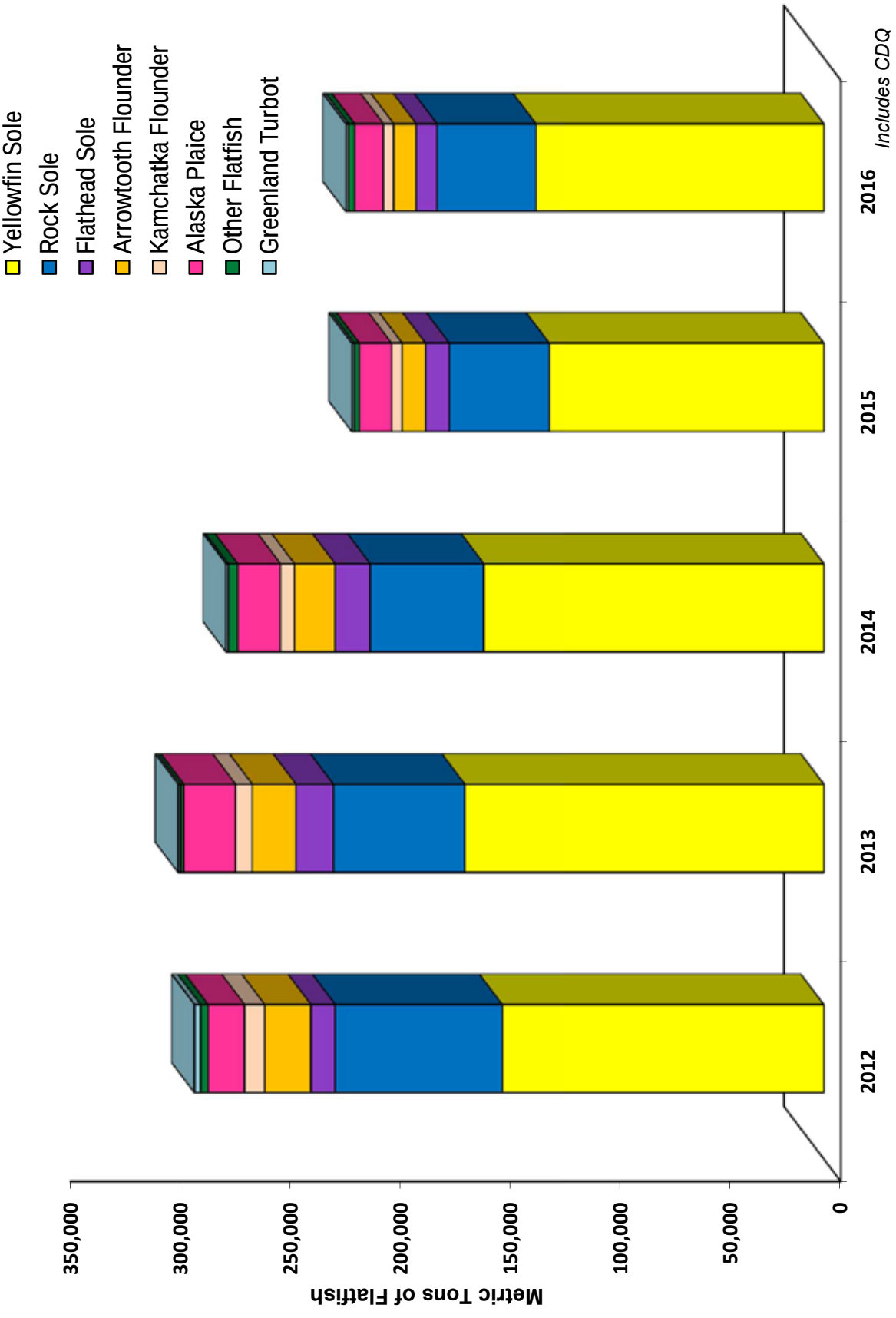



2016 Amendment 80 Flatfish Catch
Togiak
Sand Point
King Cove
DUTCH HARBOR
Akutan
St. Matthew Island
St. Paul
St. George
Atka
Adak
508
512
516
509
514
513
517
519
518
523
521
524
N
0 25 50 100 150 200 Miles
2016 Amendment 80 Flatfish Catch
Less than 50 mt
51 mt - 100 mt
101 mt - 250 mt
251 mt - 500 mt
501 mt - 1,000 mt
Greater than 1,000 mt
Data from Catch-in-Areas Dataset

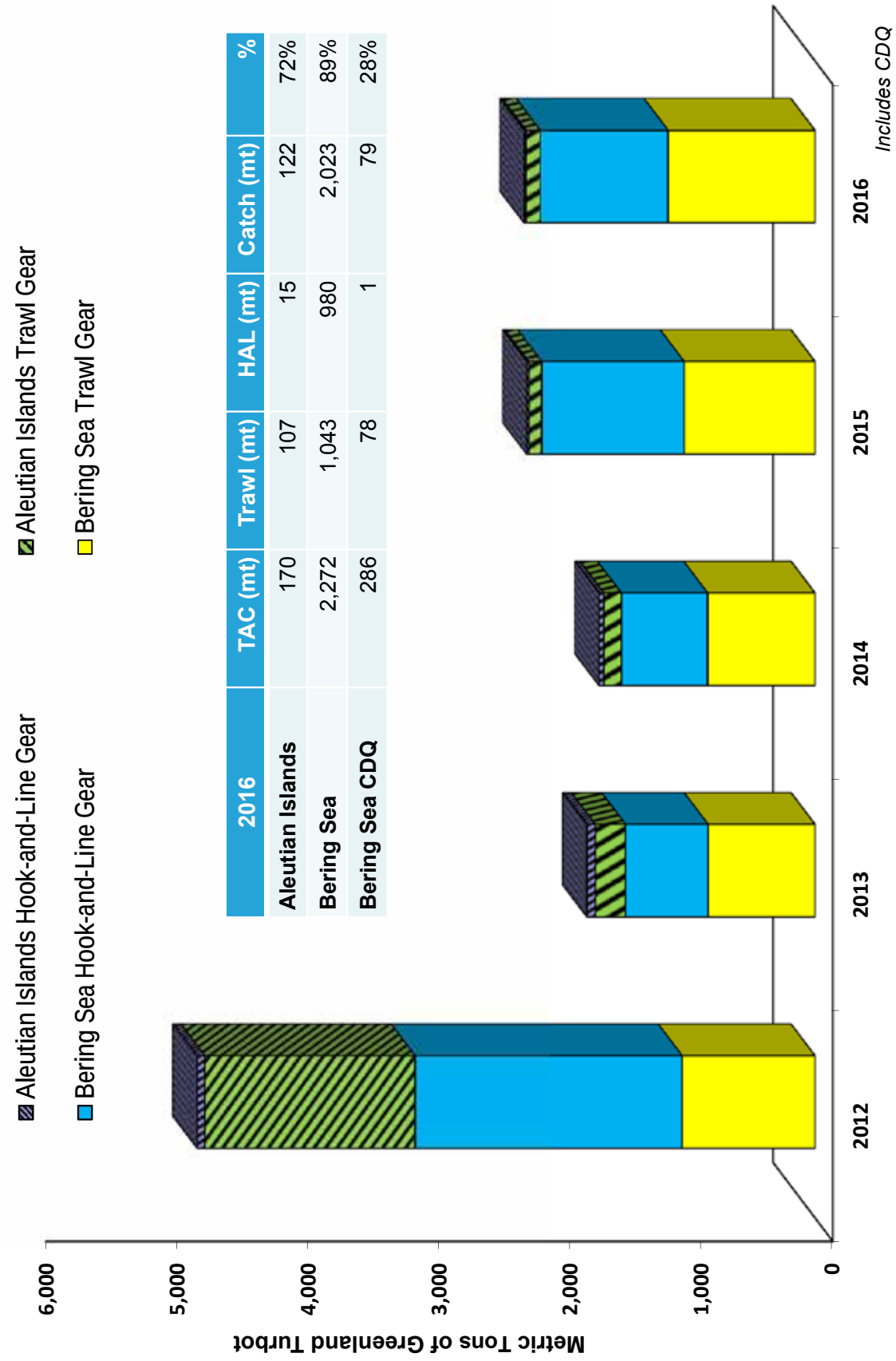

2016 BSAI Flatfish Catch by Amendment 80 Catcher/Processors
Kamchatka Flounder
Greenland Turbot
Other Flatfish
Arrowtooth Flounder
Flathead Sole
Alaska Plaice
Rock Sole
Yellowfin Sole
Does not include CDQ
Metric Tons of Flatfish
10,000
9,000
8,000
7,000
6,000
5,000
4,000
3,000
2,000
1,000
0
Jan-16
Feb-16
Mar-16
Apr-16
May-16
Jun-16
Jul-16
Aug-16
Sep-16
Oct-16
Nov-16


2016 BSAI Flatfish Catch by Non-Amendment 80 Vessels
Kamchatka Flounder
Greenland Turbot
Other Flatfish
Arrowtooth Flounder
Flathead Sole
Alaska Plaice
Rock Sole
Yellowfin Sole
Does not include CDQ
Metric Tons of Flatfish
5,000
4,500
4,000
3,500
3,000
2,500
2,000
1,500
1,000
500
0
Jan-16
Feb-16
Mar-16
Apr-16
May-16
Jun-16
Jul-16
Aug-16
Sep-16
Oct-16
Nov-16

2012-2016 BSAI Trawl Flatfish Catch by Species

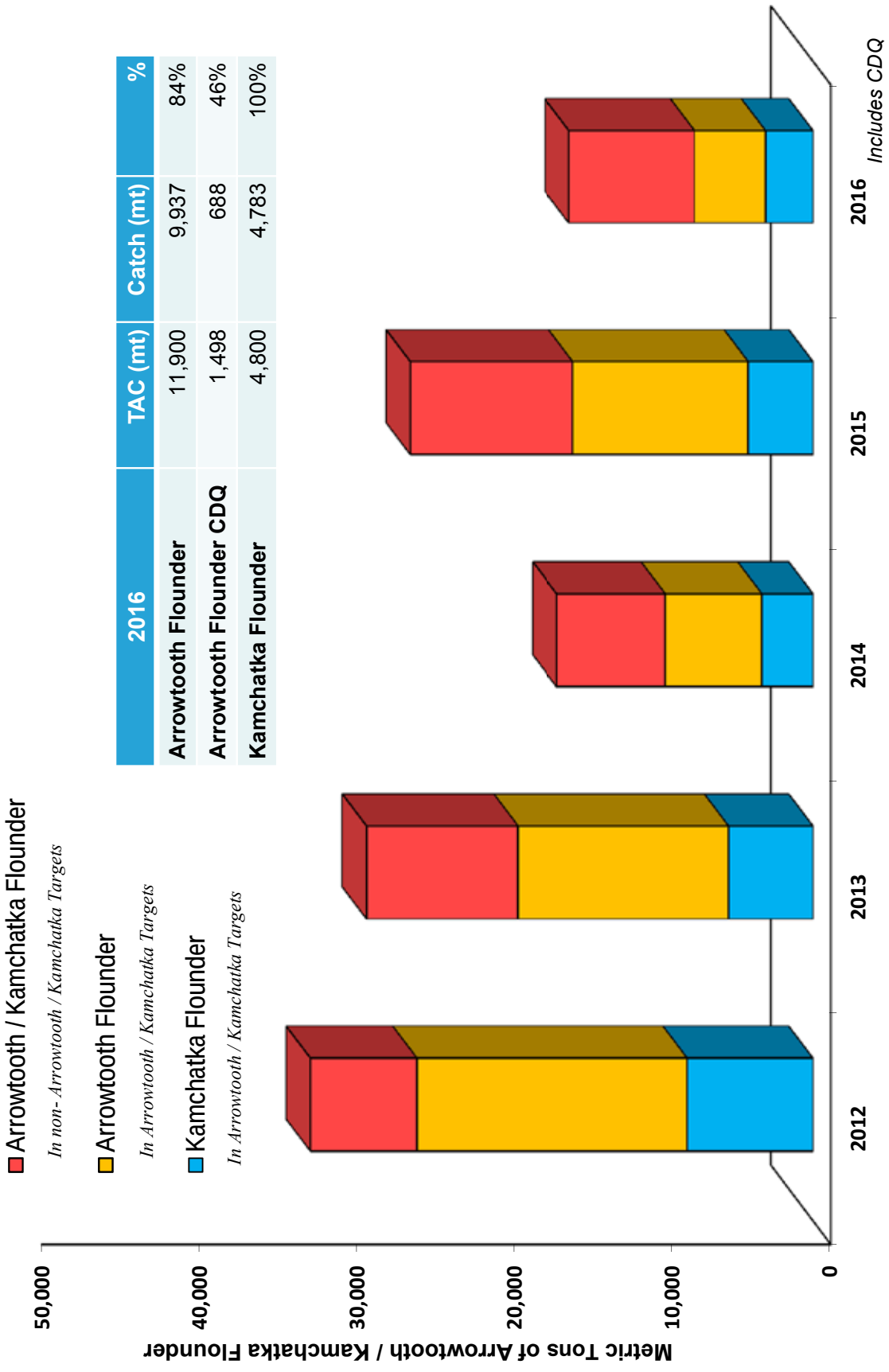


2012-2016 BSAI Greenland Turbot Catch



2016	TAC (mt)	Trawl (mt)	HAL (mt)	Catch (mt)	%
Aleutian Islands	170	107	15	122	72%
Bering Sea	2,272	1,043	980	2,023	89%
Bering Sea CDQ	286	78	1	79	28%

2012-2016 BSAI Arrowtooth / Kamchatka Flounder Catch



2016	TAC (mt)	Catch (mt)	%
Arrowtooth Flounder	11,900	9,937	84%
Arrowtooth Flounder CDQ	1,498	688	46%
Kamchatka Flounder	4,800	4,783	100%

2016 Flatfish Catch in the BSAI

2016	ABC (mt)	Sector	TAC (mt)	Catch (mt)	%
Arrowtooth Flounder	80,701		11,900	9,937	84%
		CDQ	1,498	688	46%
Flathead Sole	66,250		14,003	9,253	66%
		CDQ	1,160	589	51%
Rock Sole	161,000		48,295	41,106	85%
		CDQ	5,164	3,896	75%
Yellowfin Sole	211,700		136,037	116,634	86%
		CDQ	17,441	14,544	83%
Kamchatka Flounder *Includes CDQ*	9,500		4,800	4,783	100%
Alaska Plaice *Includes CDQ*	41,000		13,325	13,067	98%
"Other Flatfish" *Includes CDQ*	13,061		2,862	2,821	99%

Includes CDQ means there is no CDQ allocation for that species

Arrowtooth Flounder

Flathead Sole

Rock Sole

Yellowfin Sole

2016 Changes in Flatfish TAC from Flatfish Exchanges

Group	Date	Flathead Sole		Rock Sole		Yellowfin Sole	
		TAC	Exchange	TAC	Exchange	TAC	Exchange
NSEDC (1)	12-Apr	21,000	0	56,700	-400	144,400	400
YDFDA (1)	24-Jun	20,985	-15	56,750	50	144,365	-35
NSEDC (2)	26-Jul	20,585	-400	57,150	400	144,365	0
APICDA (1)	13-Sep	20,585	0	56,450	-700	145,065	700
ASC (1)	16-Sep	16,685	-3,900	55,425	-1,025	149,990	4,925
CVRF (1)	21-Sep	16,470	-215	55,180	-245	150,450	460
APICDA (2)	6-Oct	16,390	-80	55,180	0	150,530	80
BBEDC (1)	21-Oct	16,086	-304	54,935	-245	151,079	549
YDFDA (2)	1-Nov	16,013	-73	54,329	-606	151,758	679
ASC (2)	4-Nov	15,163	-850	52,659	-1,670	154,278	2,520
Total Change			**-5,837**		**-4,441**		**10,278**

Number of Amendment 80 Catcher/Processors	
2015	18
2016	**19**

Number of Motherships (non-pollock)	
2015	7
2016	**9**

Number of CVs delivering to Motherships (non-pollock)	
2015	7
2016	**19**

2016 A80 Inter-Cooperative and CDQ Inter-Group Transfers

Amendment 80 Inter-Cooperative Transfers

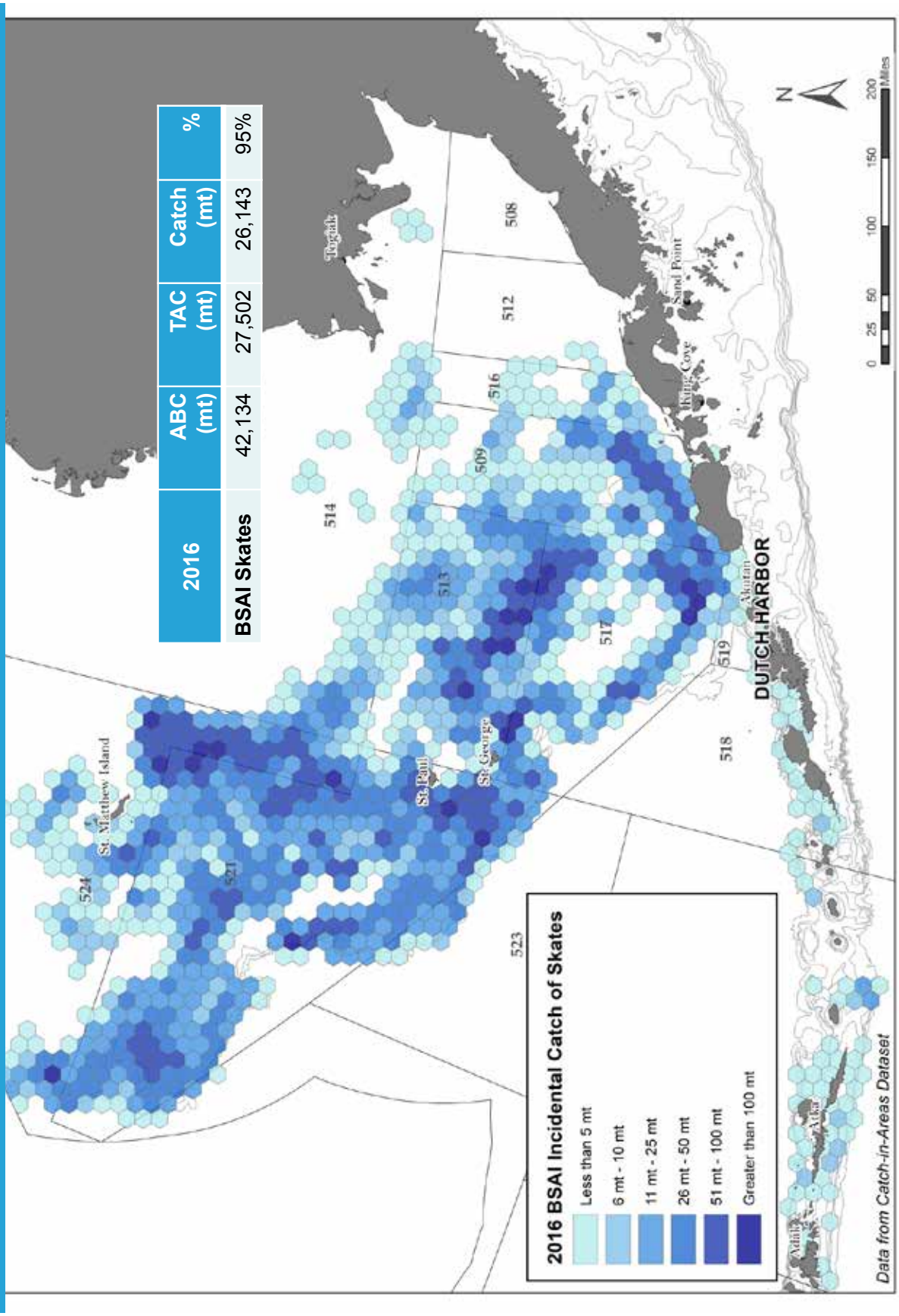
Species	# of Transfers	Weight	Count
Atka Mackerel	7	969	n/a
Flathead Sole	4	396	n/a
Other Groundfish	n/a	n/a	n/a
Pacific Cod	2	158	n/a
Pacific Ocean Perch	0	0	n/a
Rock Sole	4	2,225	n/a
Yellowfin Sole	13	24,407	n/a
Crab Species	4	n/a	11,251
Halibut	1	7.05	n/a
TOTAL	**34**	**28,154**	**11,251**

CDQ Inter-Group Transfers

Species	# of Transfers	Weight	Count
Arrowtooth Flounder	4	326	n/a
Atka Mackerel	12	2,344	n/a
Flathead Sole	3	473	n/a
Greenland Turbot	3	49	n/a
Pacific Cod	6	2,267	n/a
Pacific Ocean Perch	10	906	n/a
Pollock	2	11,810	n/a
Rock Sole	3	966	n/a
Sablefish	3	6	n/a
Yellowfin Sole	3	3,075	n/a
Crab Species	0	n/a	0
Halibut	5	39	n/a
TOTAL	**54**	**22,261**	**0**

2016 Skates Catch

2016	ABC (mt)	TAC (mt)	Catch (mt)	%
BSAI Skates	42,134	27,502	26,143	95%

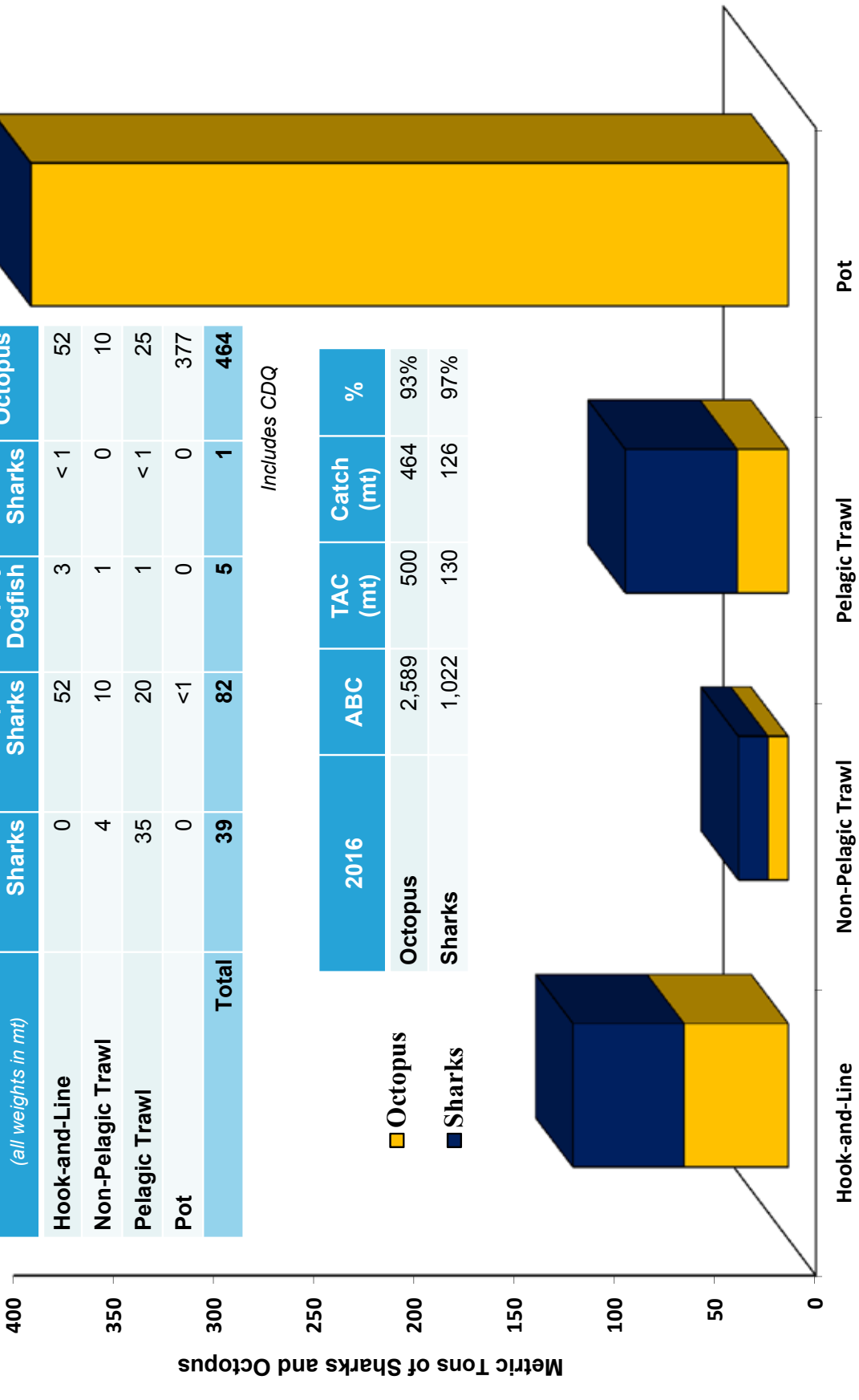


2016 BSAI Sharks and Octopus

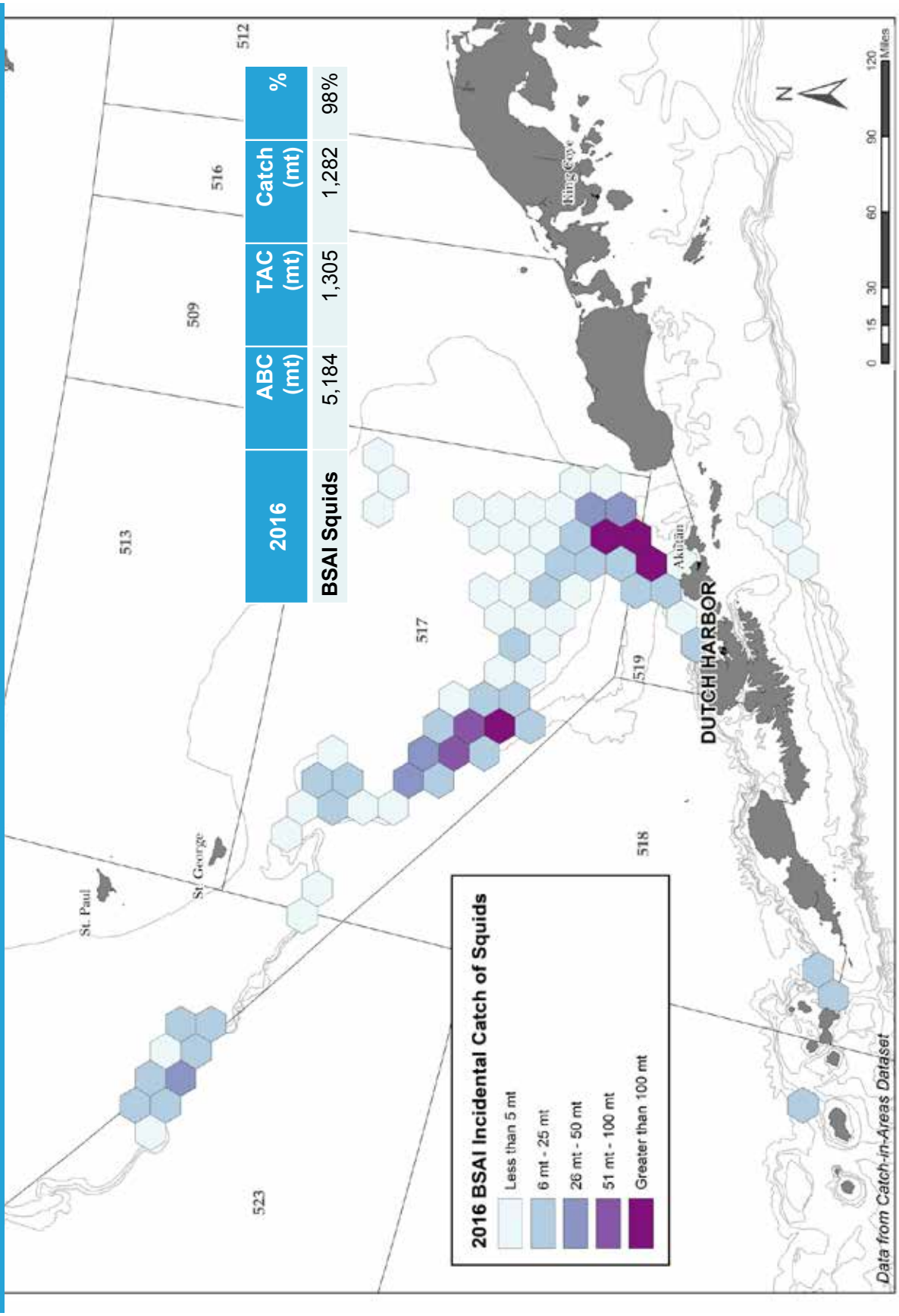
2016 *(all weights in mt)*	Salmon Sharks	Sleeper Sharks	Spiny Dogfish	Other Sharks	Octopus
Hook-and-Line	0	52	3	< 1	52
Non-Pelagic Trawl	4	10	1	0	10
Pelagic Trawl	35	20	1	< 1	25
Pot	0	<1	0	0	377
Total	**39**	**82**	**5**	**1**	**464**

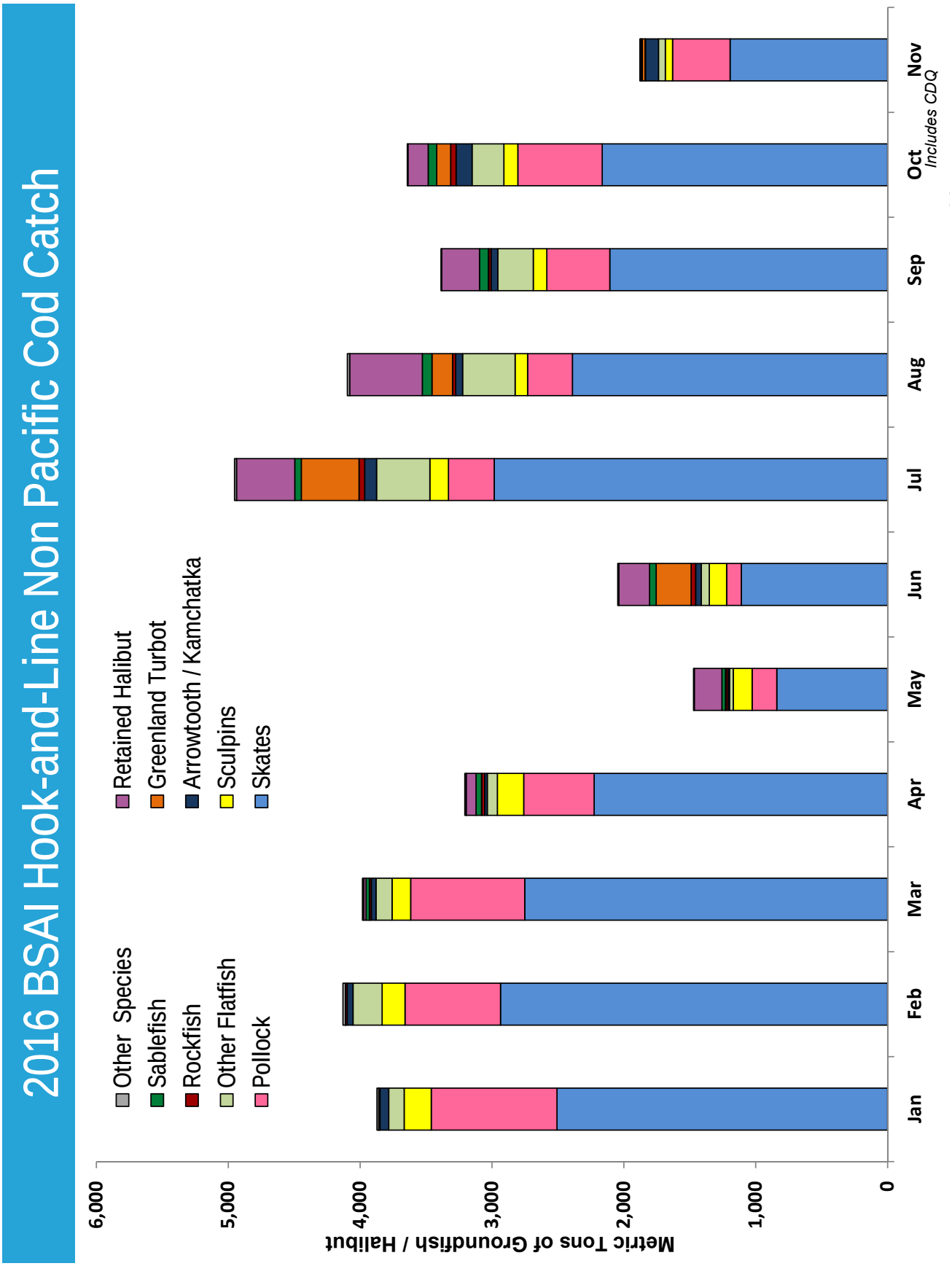
Includes CDQ

2016	ABC	TAC (mt)	Catch (mt)	%
Octopus	2,589	500	464	93%
Sharks	1,022	130	126	97%



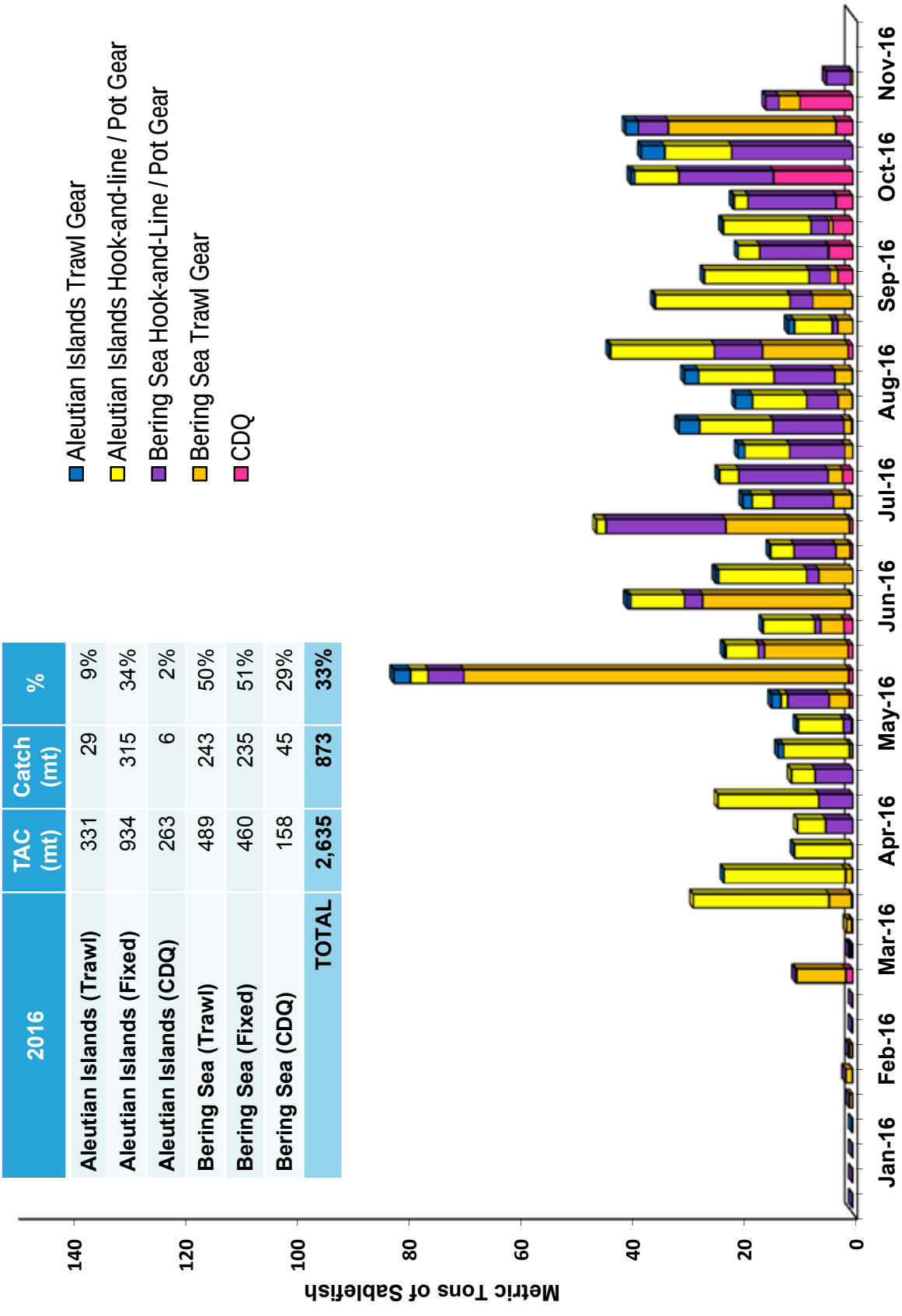
2016 Squids Catch

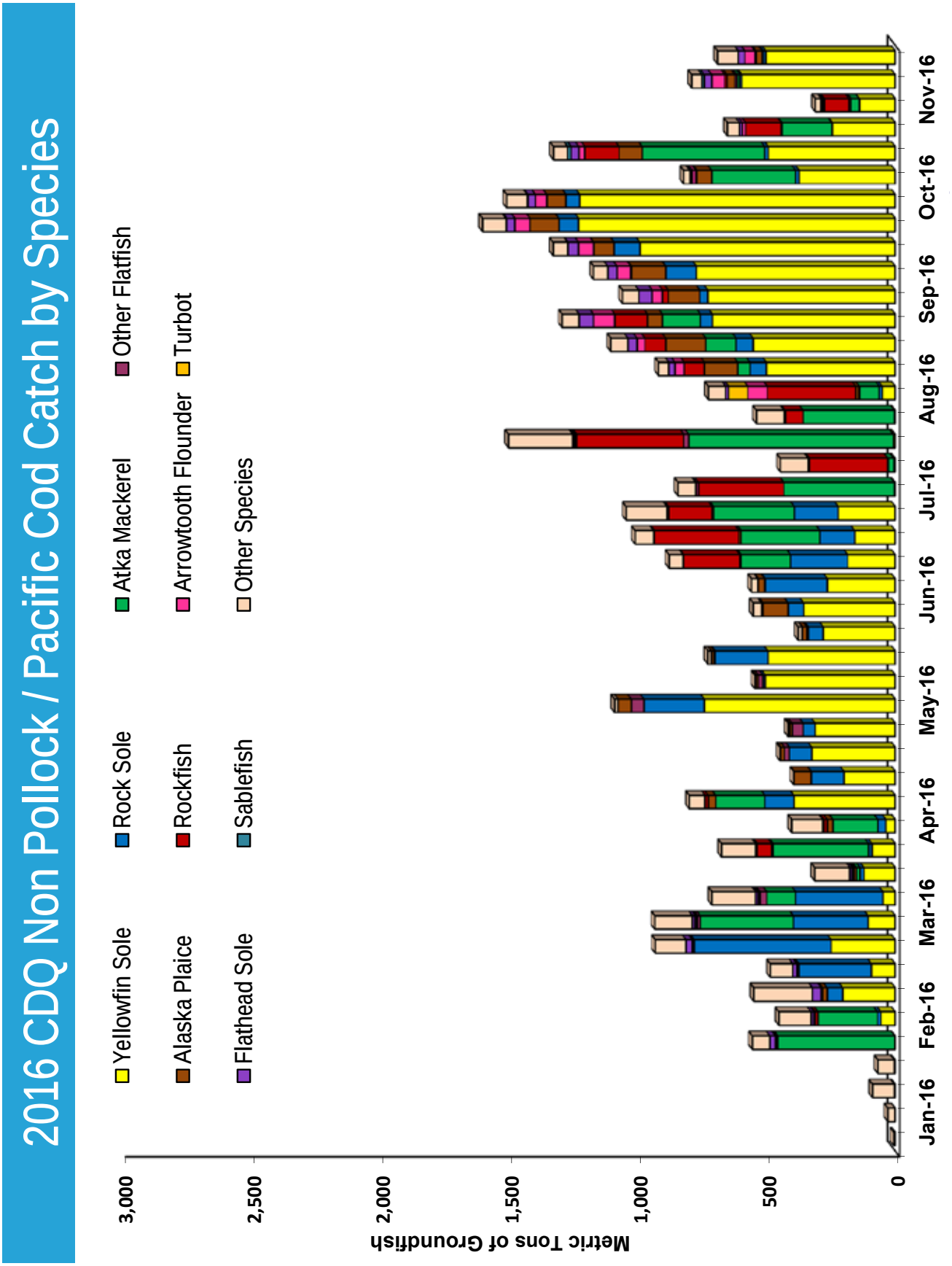



2016 BSAI Hook-and-Line Non Pacific Cod Catch
Retained Halibut
Greenland Turbot
Arrowtooth / Kamchatka
Sculpins
Skates
Other Species
Sablefish
Rockfish
Other Flatfish
Pollock
Metric Tons of Groundfish / Halibut
6,000
5,000
4,000
3,000
2,000
1,000
0
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Includes CDQ

2016 BSAI Sablefish Catch

2016	TAC (mt)	Catch (mt)	%
Aleutian Islands (Trawl)	331	29	9%
Aleutian Islands (Fixed)	934	315	34%
Aleutian Islands (CDQ)	263	6	2%
Bering Sea (Trawl)	489	243	50%
Bering Sea (Fixed)	460	235	51%
Bering Sea (CDQ)	158	45	29%
TOTAL	**2,635**	**873**	**33%**




2016 CDQ Non Pollock / Pacific Cod Catch by Species
Yellowfin Sole
Rock Sole
Atka Mackerel
Other Flatfish
Alaska Plaice
Rockfish
Arrowtooth Flounder
Turbot
Flathead Sole
Sablefish
Other Species
Metric Tons of Groundfish
3,000
2,500
2,000
1,500
1,000
500
0
Jan-16
Feb-16
Mar-16
Apr-16
May-16
Jun-16
Jul-16
Aug-16
Sep-16
Oct-16
Nov-16

2016 Non-specified Reserve Releases

Species	Initial TAC (mt)	Reallocations	Revised TAC	Catch (mt)	%
BSAI Kamchatka Flounder	4,250	+ 600	4,850	4,799	99%
BSAI Other Flatfish	2,125	+737	2,862	2,820	99%
BSAI Alaska Plaice	12,325	+1,000	13,325	13,124	98%
Bering Sea Pacific Ocean Perch	6,800	+1,400	8,200	8,119	99%
BSAI Northern Rockfish	3,825	+720	4,545	4,537	100%
BSAI Skates	22,100	+5,402	27,502	26,710	97%
BSAI Sculpins	3,825	+800	4,625	4,603	100%
BSAI Squids	1,275	+30	1,305	1,282	98%
BSAI Sharks	125	+5	130	127	98%
BSAI Octopus	400	+100	500	492	98%
Reserves	**10,794**	**- 10,794**	**0**	*Na*	*Na*

BSAI Groundfish Species Placed on Prohibited Species Status

2015	Date
Squids in BSAI	30-July-15
Sculpins in BSAI	2-Dec-15
2016	**Date**
No Prohibited Species Closures	

BSAI Trawl Groundfish Retained and Discards

2015 Trawl	Retained	Discards	% Retained
Pollock	1,307,211	8,979	99%
Yellowfin Sole	123,047	1,751	99%
Pacific Cod	72,206	431	99%
Atka Mackerel	52,477	772	99%
Rock Sole	44,330	1,086	98%
Pacific Ocean Perch	30,015	1,404	96%
Alaska Plaice	13,382	1,231	92%
Flathead Sole	10,072	741	93%
Arrowtooth Flounder	9,347	1,220	88%
Northern Rockfish	6,743	392	95%
Kamchatka Flounder	4,610	249	95%
Skates	1,276	2,033	39%
Sculpins *	94	2,687	3%
Squids *	1,302	1,062	55%
Other Flatfish	741	1,594	32%
Greenland Turbot	1,030	65	94%
Other Rockfish	428	51	89%
Rougheye Rockfish	150	6	96%
Shortraker Rockfish	94	7	93%
Other Species	10	73	12%
Sablefish	27	5	84%
TOTAL	**1,678,594**	**25,838**	**98%**

2016 Trawl	Retained	Discards	% Retained
Pollock	1,339,376	8,294	99%
Yellowfin Sole	128,622	2,502	98%
Pacific Cod	82,484	473	99%
Atka Mackerel	53,893	413	99%
Rock Sole	43,199	1,802	96%
Pacific Ocean Perch	30,215	961	97%
Alaska Plaice	11,030	2,066	84%
Flathead Sole	8,598	857	91%
Arrowtooth Flounder	8,683	1,516	85%
Northern Rockfish	4,244	261	94%
Kamchatka Flounder	4,477	192	96%
Skates	1,435	1,776	45%
Sculpins	85	2,790	3%
Squids	459	822	36%
Other Flatfish	984	1,798	35%
Greenland Turbot	1,205	21	98%
Other Rockfish	568	65	90%
Rougheye Rockfish	137	9	94%
Shortraker Rockfish	71	4	94%
Other Species	20	86	19%
Sablefish	281	6	98%
TOTAL	**1,720,065**	**26,714**	**98%**

BSAI Fixed Gear Groundfish Retained and Discards

2015 Hook-and-Line	Retained	Discards	% Retained
Pacific Cod	128,697	2,602	98%
Skates	6,641	18,174	27%
Pollock	6,372	633	91%
Other Flatfish	41	2,406	2%
Sculpins *	0	1,976	0%
Greenland Turbot	1,054	53	95%
Arrowtooth	104	727	12%
Sablefish	475	14	97%
Other Rockfish	103	166	38%
Other Species	5	71	6%
Sharks	0	48	0%
Shortraker Rockfish	18	35	34%
Rougheye Rockfish	5	19	22%
TOTAL	**143,515**	**26,924**	**84%**

2016 Hook-and-Line	Retained	Discards	% Retained
Pacific Cod	113,358	2,461	98%
Skates	4,404	18,803	19%
Pollock	5,006	611	89%
Other Flatfish	1	1,990	0%
Sculpins	0	1,494	0%
Greenland Turbot	948	49	95%
Arrowtooth	36	596	6%
Sablefish	338	70	83%
Other Rockfish	94	97	49%
Other Species	4	53	7%
Sharks	0	55	0%
Shortraker Rockfish	6	24	20%
Rougheye Rockfish	2	10	19%
TOTAL	**124,197**	**26,314**	**83%**

2015 Pot	Retained	Discards	% Retained
Pacific Cod	29,856	70	100%
Other Species	10	582	2%
Octopus	63	297	17%
Sablefish	120	0	100%
TOTAL	**30,049**	**949**	**97%**

2016 Pot	Retained	Discards	% Retained
Pacific Cod	27,386	27	100%
Other Species	27	372	7%
Octopus	56	338	14%
Sablefish	177	1	99%
TOTAL	**27,646**	**738**	**97%**

2016 Salmon, Crab, and Herring PSC Catch

Chinook Salmon (#)	Total Catch	Limit	%
Pollock Fishery	21,920	60,000	37%
Non-Pollock Fisheries	10,530	*na*	*na*
Non-Chinook Salmon (#)	**Total Catch**	**Limit**	**%**
Pollock Fishery	342,920	*na*	*na*
Non-Pollock Fisheries	4,109	*na*	*na*

Trawl Gear

Other PSC Species	Total Catch
Opilio Tanner Crab (#)	175,793
Bairdi Tanner Crab (#)	215,543
Red King Crab (#)	39,858
Blue King Crab (#)	793
Golden King Crab (#)	13,834
Herring (mt)	1,485

Fixed Gear

Other PSC Species	Total Catch
Opilio Tanner Crab (#)	39,034
Bairdi Tanner Crab (#)	305,955
Red King Crab (#)	26,490
Blue King Crab (#)	4,363
Golden King Crab (#)	14,425

2016 BSAI Halibut Catch

Hook-and-Line Halibut Catch

Hook-and-Line Halibut (mt)	Retained	Discard *	% Discarded	Mortality **	Limit	%
IFQ \ CDQ Halibut Fishery	1,961	800	29%	128	*na*	*na*
IFQ \ CDQ Sablefish Fishery	14	10	42%	1	*na*	*na*
Pacific Cod \ Other Species	0	2,240	100%	204	710	29%
TOTAL	**1,975**	**3,050**	**61%**	**333**	***na***	***na***

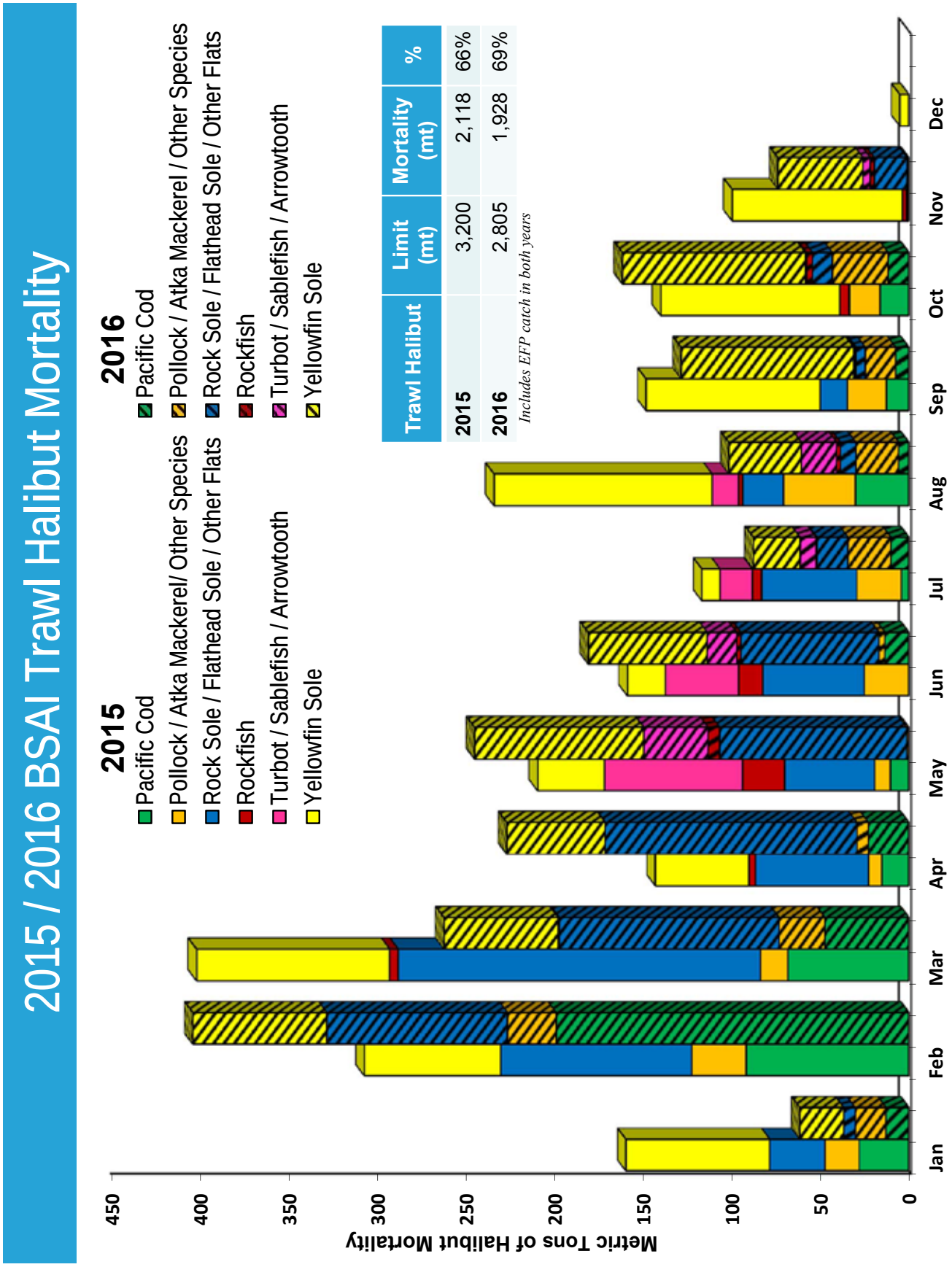
All Catch, retained and discarded is in round weight metric tons

- ** Halibut discards are based on best available information collected by the North Pacific Observer program. Methods used by observers may overestimate total discards because average weights contain both retained and discarded halibut.*
- ***** IFQ Halibut discard mortality rate is 16%***
  - ***Gilroy, H.L. 2012. Incidental mortality of halibut in the commercial halibut fishery (Wastage). Int. Pac. Halibut Comm. Report of Assessment and Research Activities***
- ***** IFQ Sablefish and Pacific cod discard mortality rate is 11%.***

Trawl Halibut Catch

Trip Target	Total Discard	Mortality	Limit
Arrowtooth / Kamchatka / Turbot	77	65	2,805
Atka Mackerel	103	84	
Flathead Sole / Other Flatfish	61	42	
Pacific Cod	486	321	
Pollock	106	92	
Rockfish	22	18	
Rock Sole	619	532	
Yellowfin Sole	702	589	
EFP Catch	*na*	185	
TOTAL	**2,176 ***	**1,928**	

*** Total Discard does not include EFP catch.**


2015 / 2016 BSAI Trawl Halibut Mortality
2015
Pacific Cod
Pollock / Atka Mackerel/ Other Species
Rock Sole / Flathead Sole / Other Flats
Rockfish
Turbot / Sablefish / Arrowtooth
Yellowfin Sole
2016
Pacific Cod
Pollock / Atka Mackerel / Other Species
Rock Sole / Flathead Sole / Other Flats
Rockfish
Turbot / Sablefish / Arrowtooth
Yellowfin Sole
Trawl Halibut
Limit (mt)
Mortality (mt)
%
2015 3,200 2,118 66%
2016 2,805 1,928 69%
Includes EFP catch in both years
Metric Tons of Halibut Mortality
450
400
350
300
250
200
150
100
50
0
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec

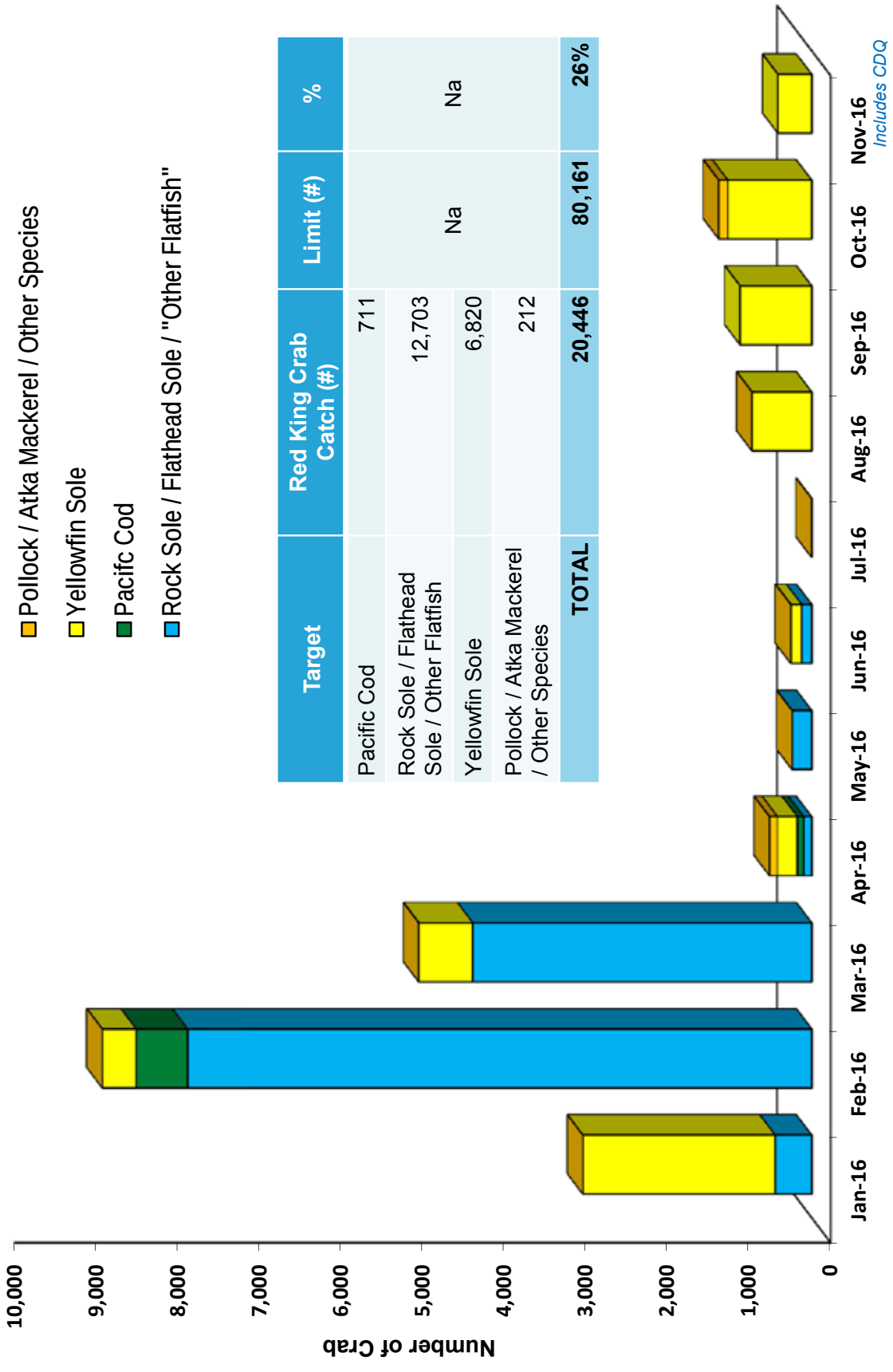
2016 BSAI Reduction in Halibut Mortality Compared to 5 year Average

Sector	2011-2015 Average (mt)	2016 (mt)	% Change (mt)	2011-2015 Rate*	2016 Rate*	% Change (Rate)
Hook-and-line						
Catcher/Processors	437	181	-59%	3.20	1.37	-57%
Catcher Vessels	3	0	-100%	2.68	1.33	-50%
Total	439	181	-59%	3.20	1.37	-57%
Non-Pelagic Trawl						
Amendment 80 Catcher/Processors	1,946	1,327	-32%	6.00	4.33	-28%
AFA Catcher/Processors	123	109	-11%	3.96	5.29	34%
Catcher Vessels	349	410	18%	6.19	6.64	7%
Total	2,418	1,846	-24%	5.87	4.75	-19%
Pelagic Trawl						
AFA Catcher/Processors	133	64	-52%	0.30	0.13	-55%
AFA Catcher Vessels	80	19	-76%	0.12	0.03	-78%
Total	214	83	-61%	0.19	0.07	-63%
CDQ						
Hook-and-line Vessels	49	23	-52%	2.30	1.26	-45%
Non-pelagic Trawl Vessels	163	113	-31%	4.47	2.83	-37%
Pelagic Trawl Vessels	18	9	-52%	0.14	0.06	-56%
Total	230	145	-37%	1.25	0.74	-41%
** Rate is kg of halibut / mt of groundfish* **TOTAL**	**3,301**	**2,255**	**-32%**	**1.79**	**1.19**	**-34%**

2016 BSAI Reduction in Halibut Mortality Compared to 2015

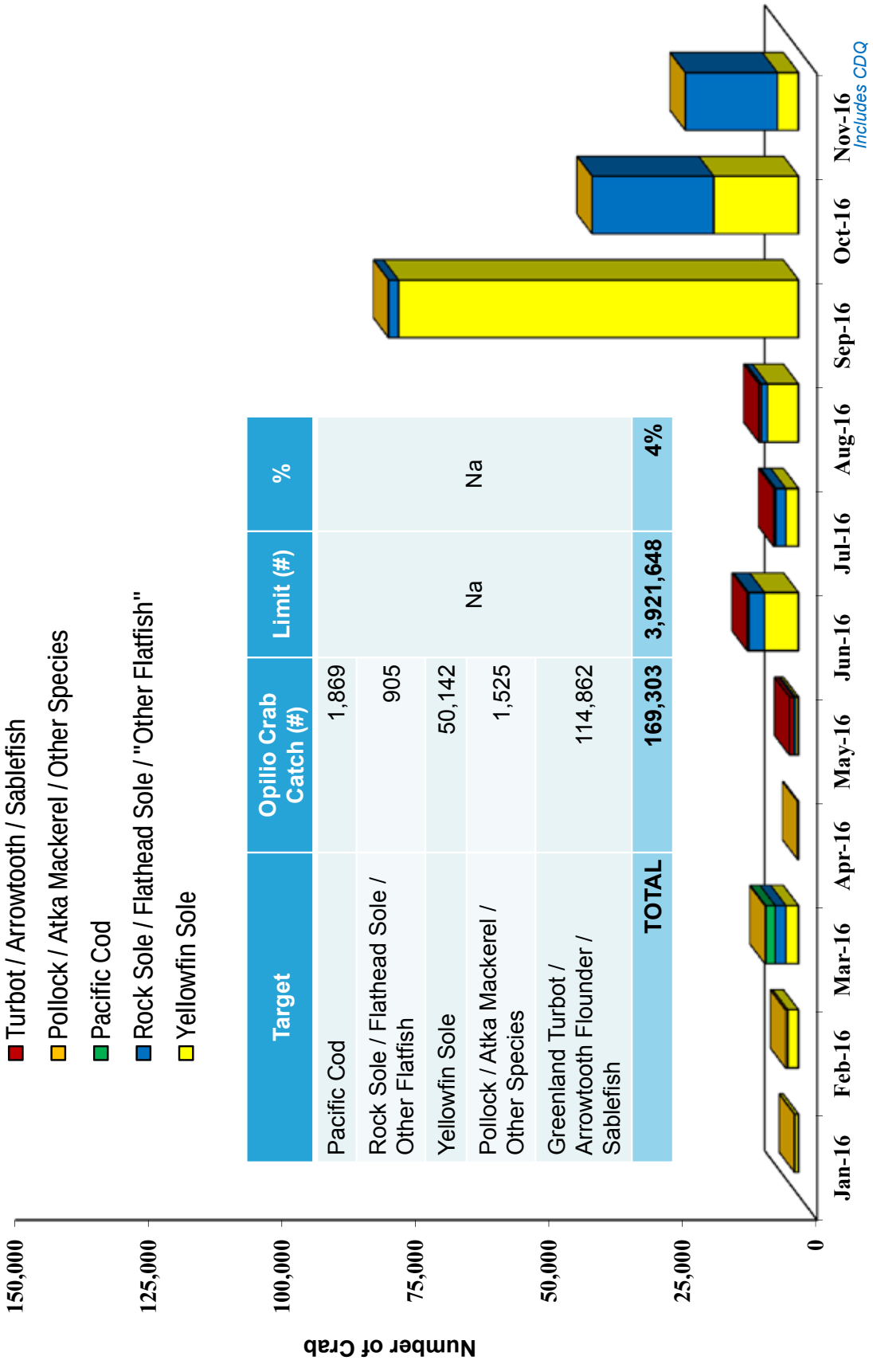
Sector	2015 (mt)	2016 (mt)	% Change (mt)	2015 Rate*	2016 Rate*	% Change (Rate)
Hook-and-line						
Catcher/Processors	292	181	-38%	1.99	1.37	-31%
Catcher Vessels	2	0	-100%	1.96	1.33	-32%
Total	293	181	-38%	1.99	1.37	-31%
Non-Pelagic Trawl						
Amendment 80 Catcher/Processors	1,633	1,327	-19%	5.33	4.33	-19%
AFA Catcher/Processors	71	109	54%	4.65	5.29	14%
Catcher Vessels	310	410	32%	6.01	6.64	11%
Total	2,014	1,846	-8%	5.40	4.75	-12%
Pelagic Trawl						
AFA Catcher/Processors	104	83	-20%	0.16	0.13	-15%
AFA Catcher Vessels	74	64	-13%	0.04	0.03	-39%
Total	30	19	-38%	0.09	0.07	-22%
CDQ						
Hook-and-line Vessels	22	23	5%	1.04	1.26	22%
Non-pelagic Trawl Vessels	100	113	13%	2.74	2.83	3%
Pelagic Trawl Vessels	8	9	15%	0.06	0.06	12%
Total	130	145	12%	0.68	0.74	10%
** Rate is kg of halibut / mt of groundfish* **TOTAL**	**2,541**	**2,255**	**-11%**	**1.36**	**1.19**	**-12%**

2016 Zone 1 Trawl Red King Crab Incidental Catch by Target



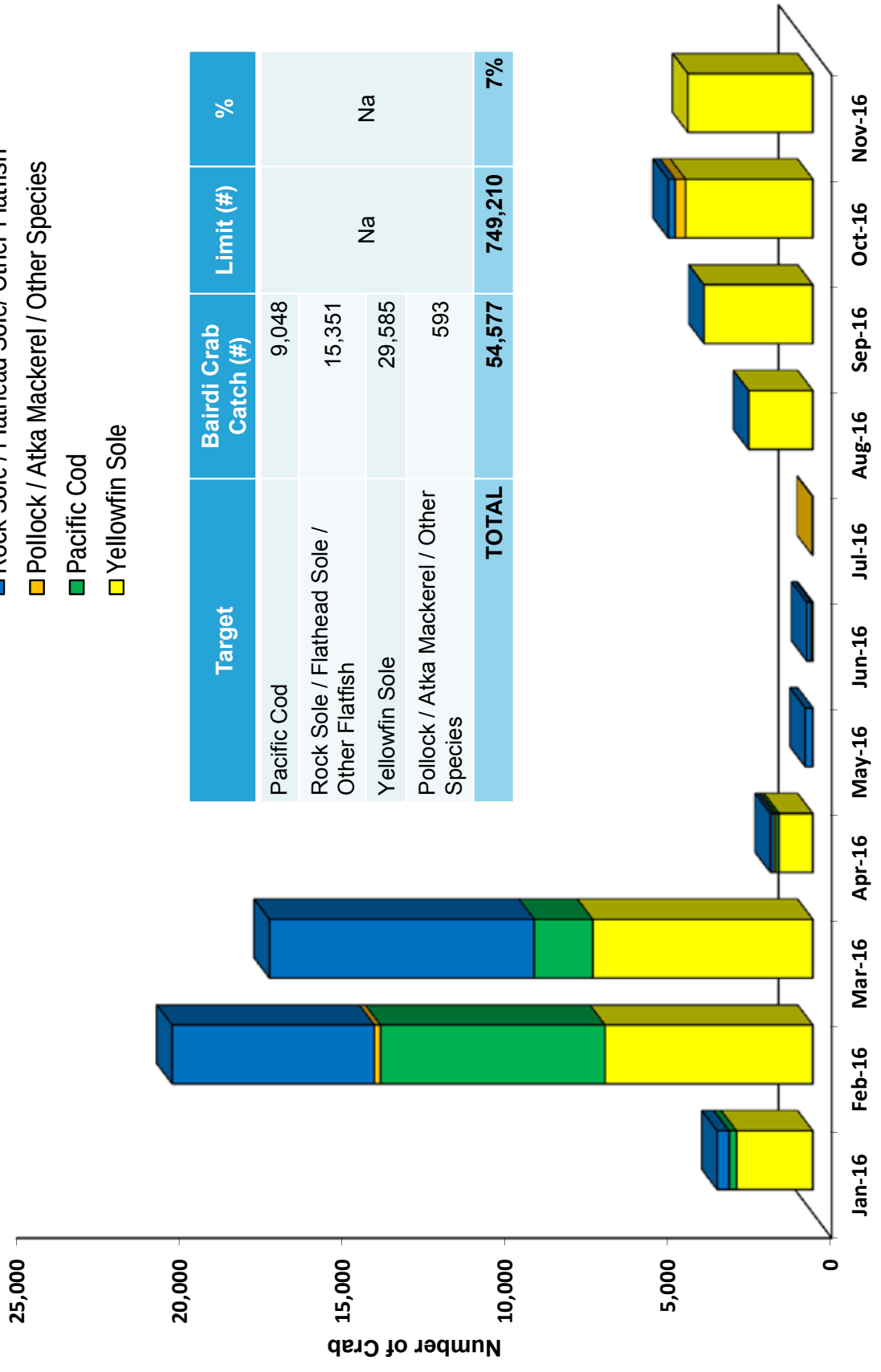
Target	Red King Crab Catch (#)	Limit (#)	%
Pacific Cod	711	Na	Na
Rock Sole / Flathead Sole / Other Flatfish	12,703		
Yellowfin Sole	6,820		
Pollock / Atka Mackerel / Other Species	212		
TOTAL	**20,446**	**80,161**	**26%**

2016 COBLZ Trawl Opilio Crab Incidental Catch by Target



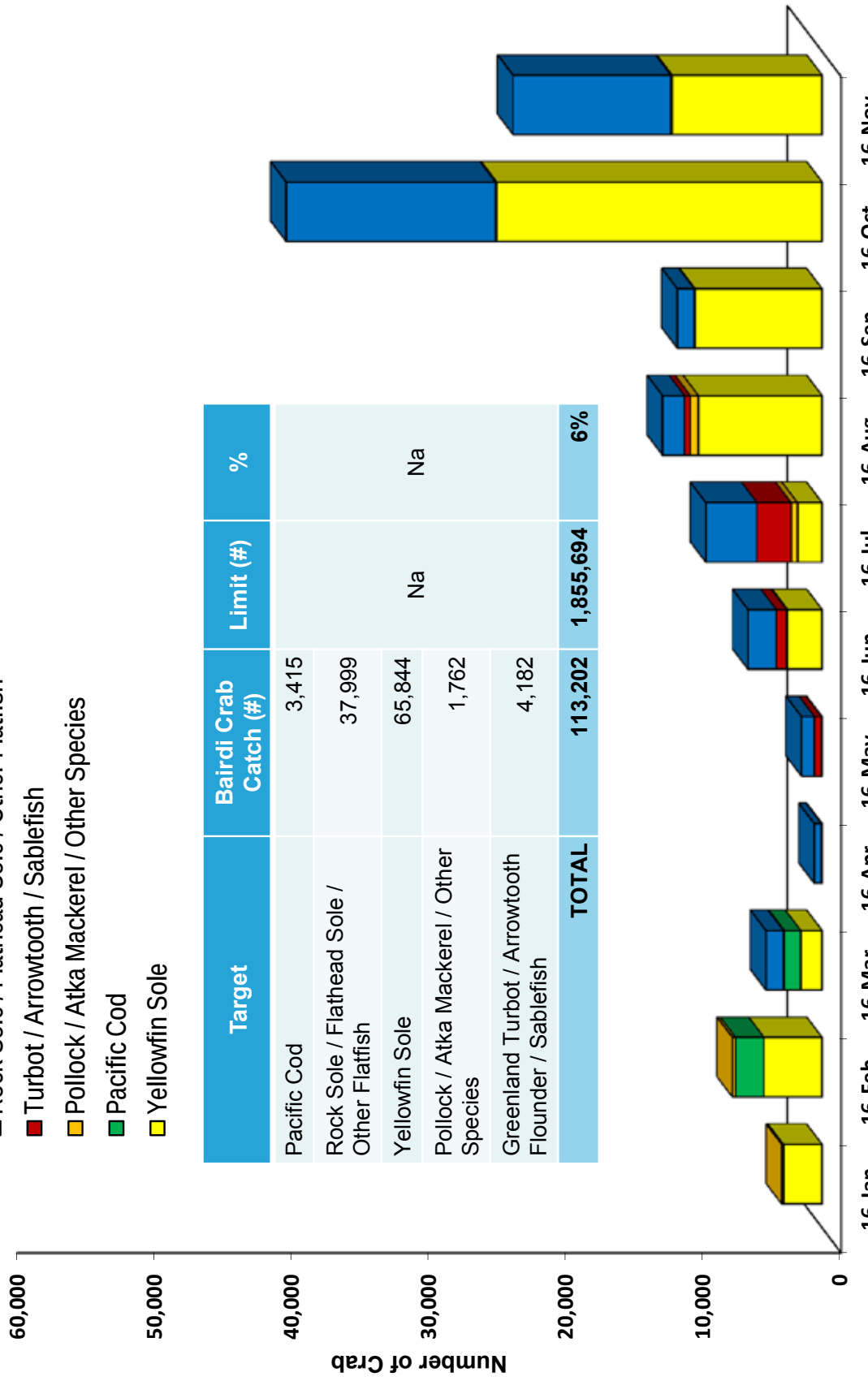
Target	Opilio Crab Catch (#)	Limit (#)	%
Pacific Cod	1,869		
Rock Sole / Flathead Sole / Other Flatfish	905		
Yellowfin Sole	50,142	Na	Na
Pollock / Atka Mackerel / Other Species	1,525		
Greenland Turbot / Arrowtooth Flounder / Sablefish	114,862		
TOTAL	**169,303**	**3,921,648**	**4%**

2016 Zone 1 Trawl Bairdi Crab Incidental Catch by Target



Target	Bairdi Crab Catch (#)	Limit (#)	%
Pacific Cod	9,048	Na	Na
Rock Sole / Flathead Sole / Other Flatfish	15,351		
Yellowfin Sole	29,585		
Pollock / Atka Mackerel / Other Species	593		
TOTAL	**54,577**	**749,210**	**7%**

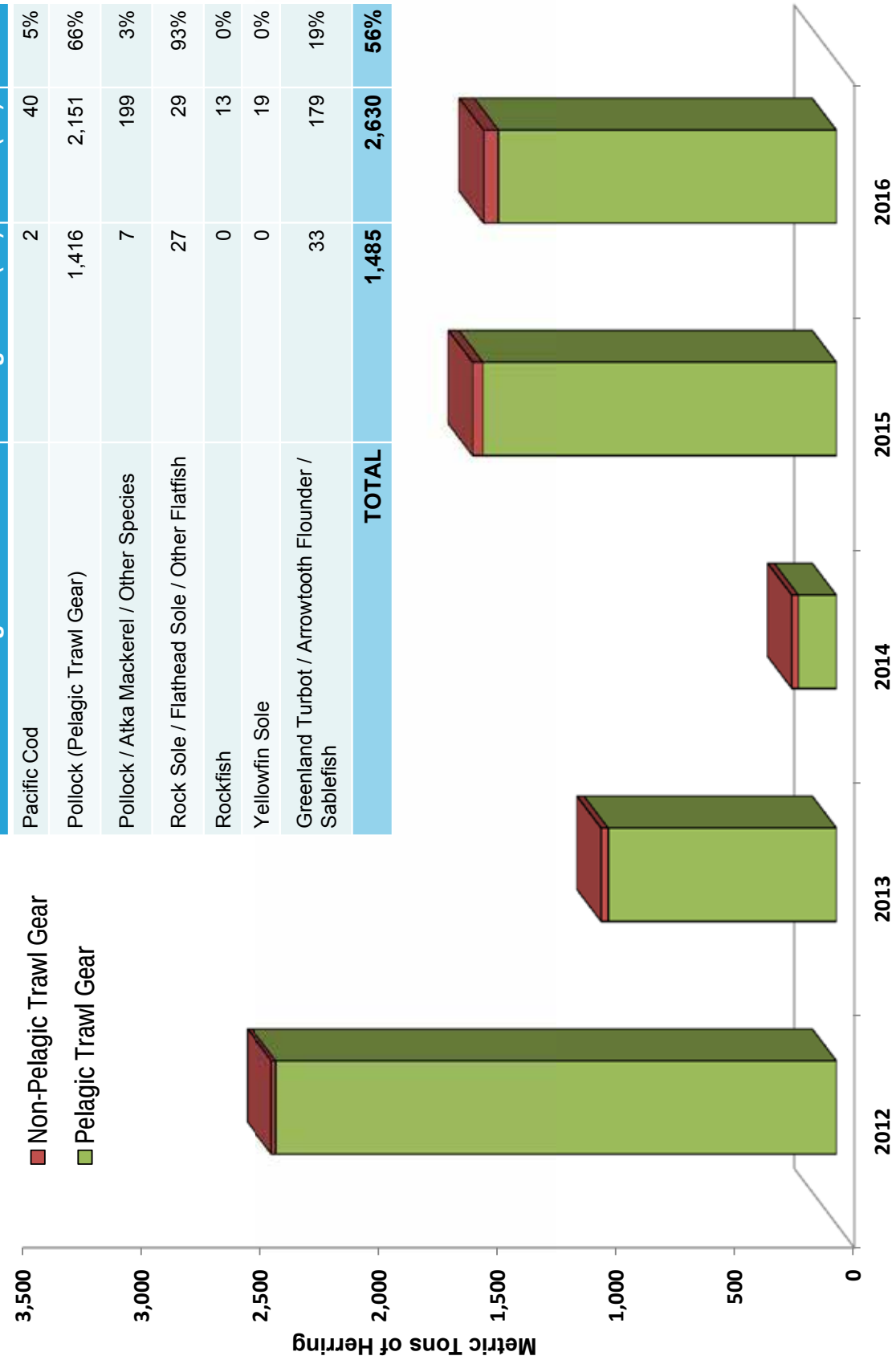
2016 Zone 2 Trawl Bairdi Crab Incidental Catch by Target



Target	Bairdi Crab Catch (#)	Limit (#)	%
Pacific Cod	3,415	Na	Na
Rock Sole / Flathead Sole / Other Flatfish	37,999		
Yellowfin Sole	65,844		
Pollock / Atka Mackerel / Other Species	1,762		
Greenland Turbot / Arrowtooth Flounder / Sablefish	4,182		
TOTAL	**113,202**	**1,855,694**	**6%**

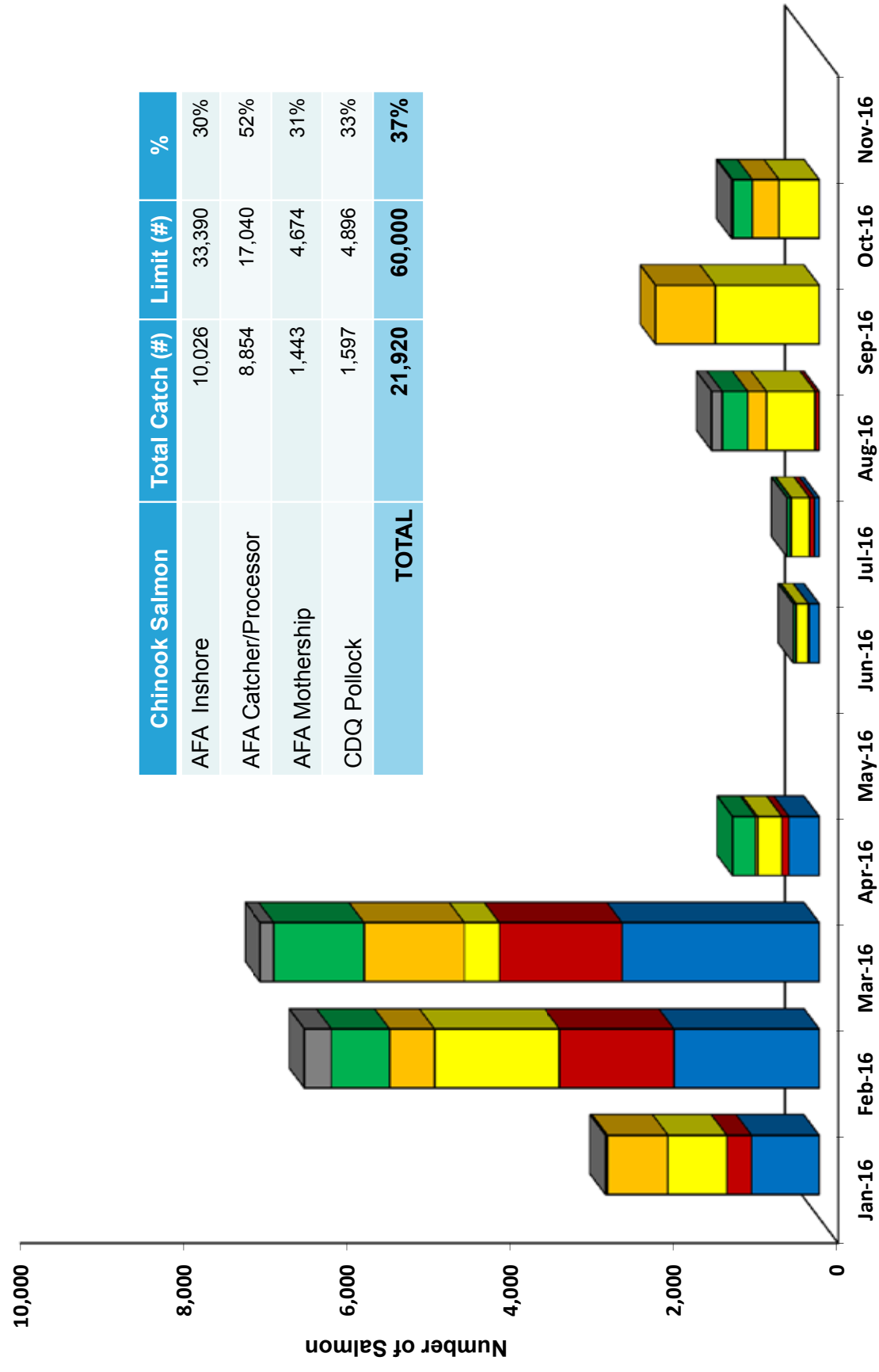
BSAI Trawl Herring Incidental Catch

Target	Herring Catch (mt)	Limit (mt)	%
Pacific Cod	2	40	5%
Pollock (Pelagic Trawl Gear)	1,416	2,151	66%
Pollock / Atka Mackerel / Other Species	7	199	3%
Rock Sole / Flathead Sole / Other Flatfish	27	29	93%
Rockfish	0	13	0%
Yellowfin Sole	0	19	0%
Greenland Turbot / Arrowtooth Flounder / Sablefish	33	179	19%
TOTAL	**1,485**	**2,630**	**56%**

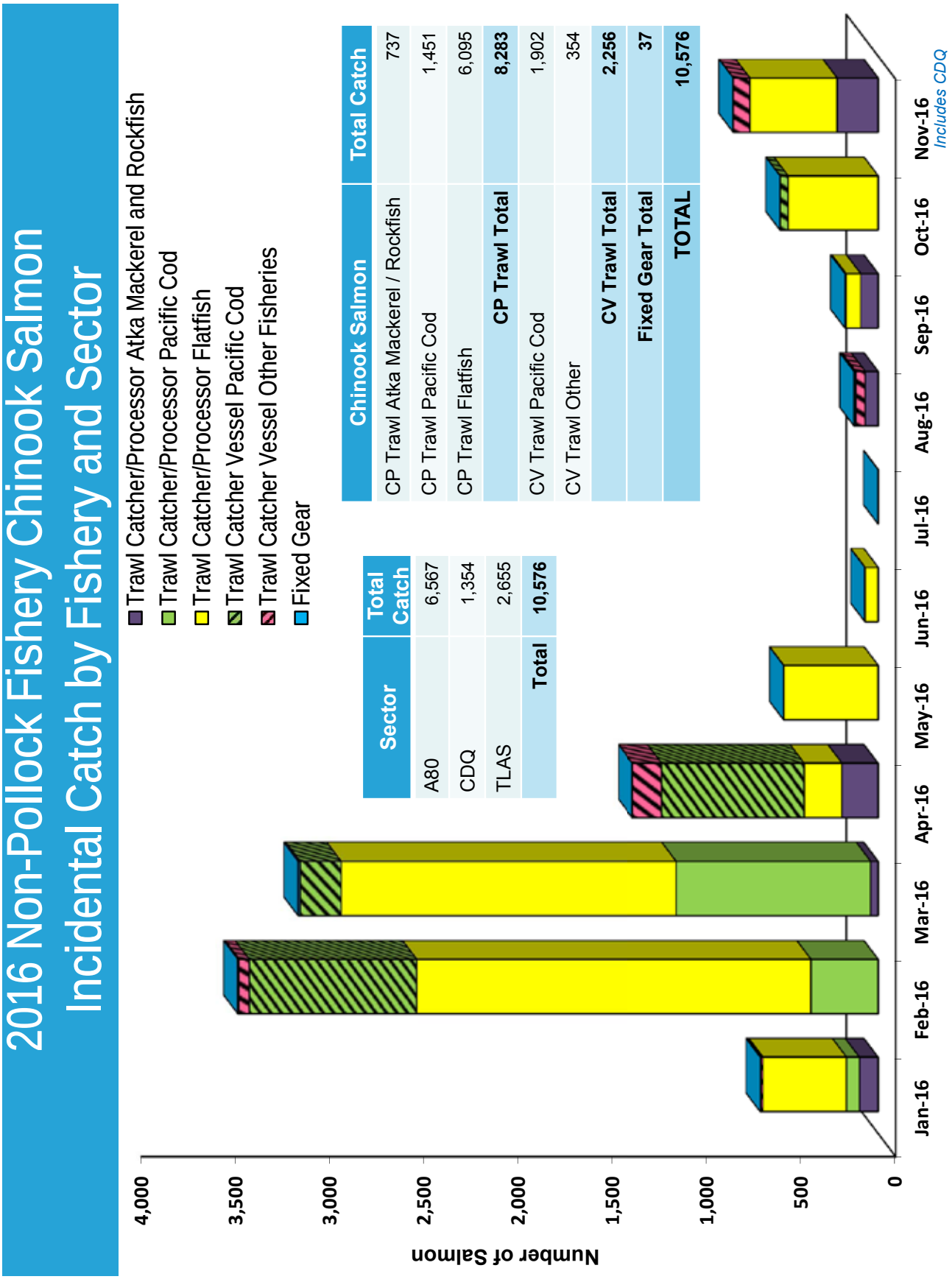


Chinook Salmon	2012	2013	2014	2015	2016
Chinook – Pollock (#)	11,344	13,034	15,031	18,329	21,920
Rate (salmon/mt)	*.009*	*.010*	*.012*	*.014*	*.017*
Chinook - Non-pollock (#)	1,586	2,973	3,065	6,924	10,576
Rate (salmon/mt)	*.003*	*.006*	*.007*	*.017*	*.017*

BSAI Pollock Fishery Chinook Salmon Incidental Catch

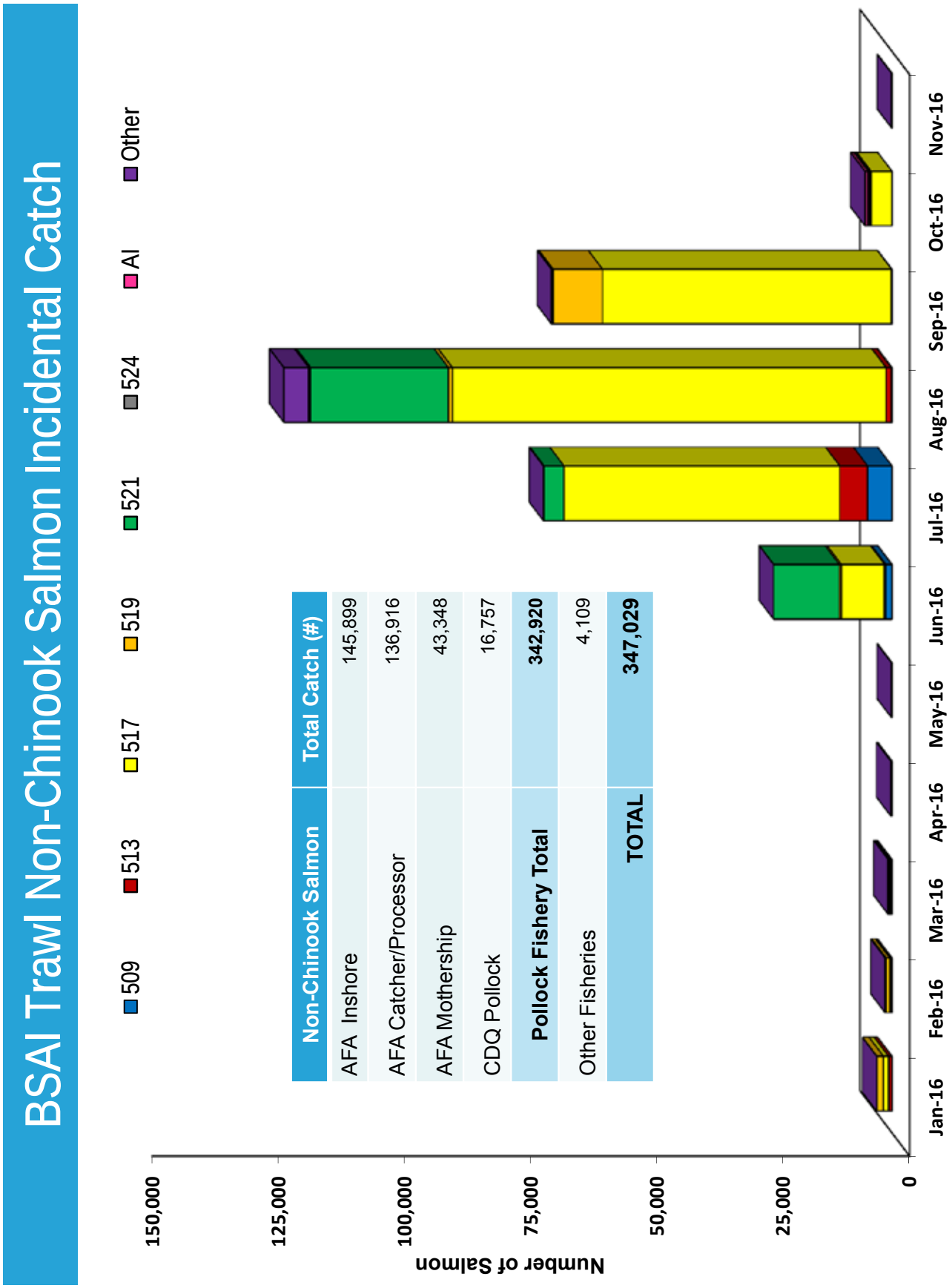


Chinook Salmon	Total Catch (#)	Limit (#)	%
AFA Inshore	10,026	33,390	30%
AFA Catcher/Processor	8,854	17,040	52%
AFA Mothership	1,443	4,674	31%
CDQ Pollock	1,597	4,896	33%
TOTAL	**21,920**	**60,000**	**37%**


2016 Non-Pollock Fishery Chinook Salmon Incidental Catch by Fishery and Sector
Trawl Catcher/Processor Atka Mackerel and Rockfish
Trawl Catcher/Processor Pacific Cod
Trawl Catcher/Processor Flatfish
Trawl Catcher Vessel Pacific Cod
Trawl Catcher Vessel Other Fisheries
Fixed Gear
Sector | Total Catch
A80 | 6,567
CDQ | 1,354
TLAS | 2,655
Total | 10,576
Chinook Salmon | Total Catch
CP Trawl Atka Mackerel / Rockfish | 737
CP Trawl Pacific Cod | 1,451
CP Trawl Flatfish | 6,095
CP Trawl Total | 8,283
CV Trawl Pacific Cod | 1,902
CV Trawl Other | 354
CV Trawl Total | 2,256
Fixed Gear Total | 37
TOTAL | 10,576
Number of Salmon
4,000
3,500
3,000
2,500
2,000
1,500
1,000
500
0
Jan-16
Feb-16
Mar-16
Apr-16
May-16
Jun-16
Jul-16
Aug-16
Sep-16
Oct-16
Nov-16
Includes CDQ

BSAI Trawl Non-Chinook Salmon Incidental Catch

Non-Chinook Salmon	2012	2013	2014	2015	2016
Non-Chinook Pollock (#)	22,276	125,316	219,428	237,796	342,920
Rate (salmon/mt)	*.019*	*.100*	*.175*	*.184*	*.260*
Non-Chinook Non-pollock (#)	1,776	1,476	4,425	5,547	4,109
Rate (salmon/mt)	*.004*	*.003*	*.010*	*.014*	*.010*


BSAI Trawl Non-Chinook Salmon Incidental Catch
509
513
517
519
521
524
AI
Other
Non-Chinook Salmon
Total Catch (#)
AFA Inshore
145,899
AFA Catcher/Processor
136,916
AFA Mothership
43,348
CDQ Pollock
16,757
Pollock Fishery Total
342,920
Other Fisheries
4,109
TOTAL
347,029
Number of Salmon
150,000
125,000
100,000
75,000
50,000
25,000
0
Jan-16
Feb-16
Mar-16
Apr-16
May-16
Jun-16
Jul-16
Aug-16
Sep-16
Oct-16
Nov-16

Acknowledgements
(BSAI and GOA)

Industry Reports:
Catcher vessels
- 1,403 unique vessels with approximately 16,028 landings to 80 unique processors

Catcher processors
- 73 unique vessels fishing approximately 12,500 vessel days

Observer Program
- 50 FMA staff
- 833 contracts of observers

Elandings Team
- ADF&G, IPHC and Enforcement

Inseason Staff
- Mary Furuness
- Josh Keaton
- Obren Davis
- Steve Whitney (A80, Rockfish, CDQ)
- Krista Milani (Dutch Harbor)

Information Services
- 8 Application Development Staff
- 7 Contractors

Permits Staff
- Restricted Access Management

Catch accounting Staff
- Jennifer Mondragon
- Jason Gasper
- Cathy Tide
- Steve Lewis
- Jennifer Watson (Scales)
- Vernon Shoemaker (Scales)
- Suja Hall (Elandings)
- Bill Donaldson (Kodiak)

NOAA FISHERIES

Alaska Region

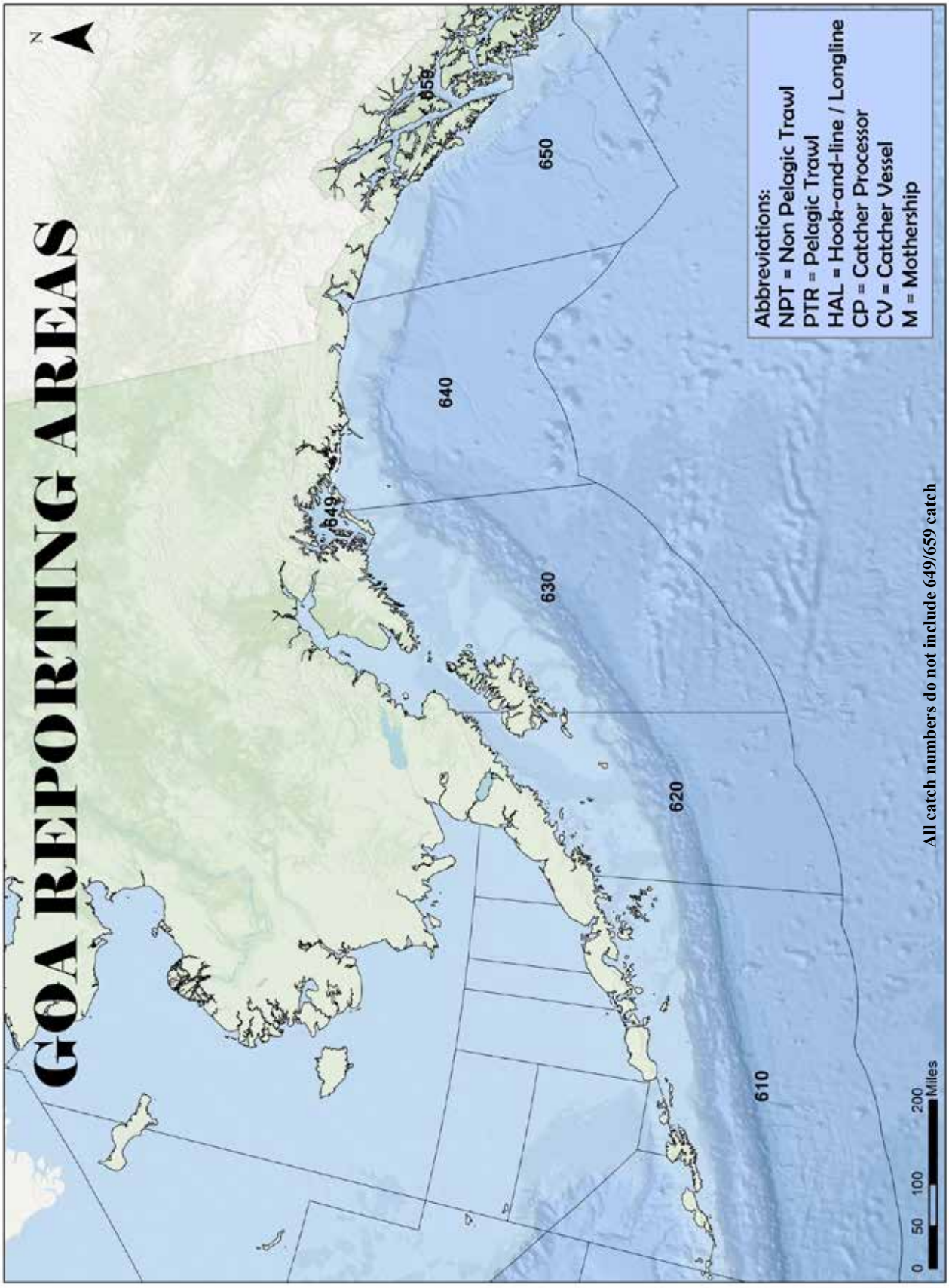
Gulf of Alaska Inseason Management Report

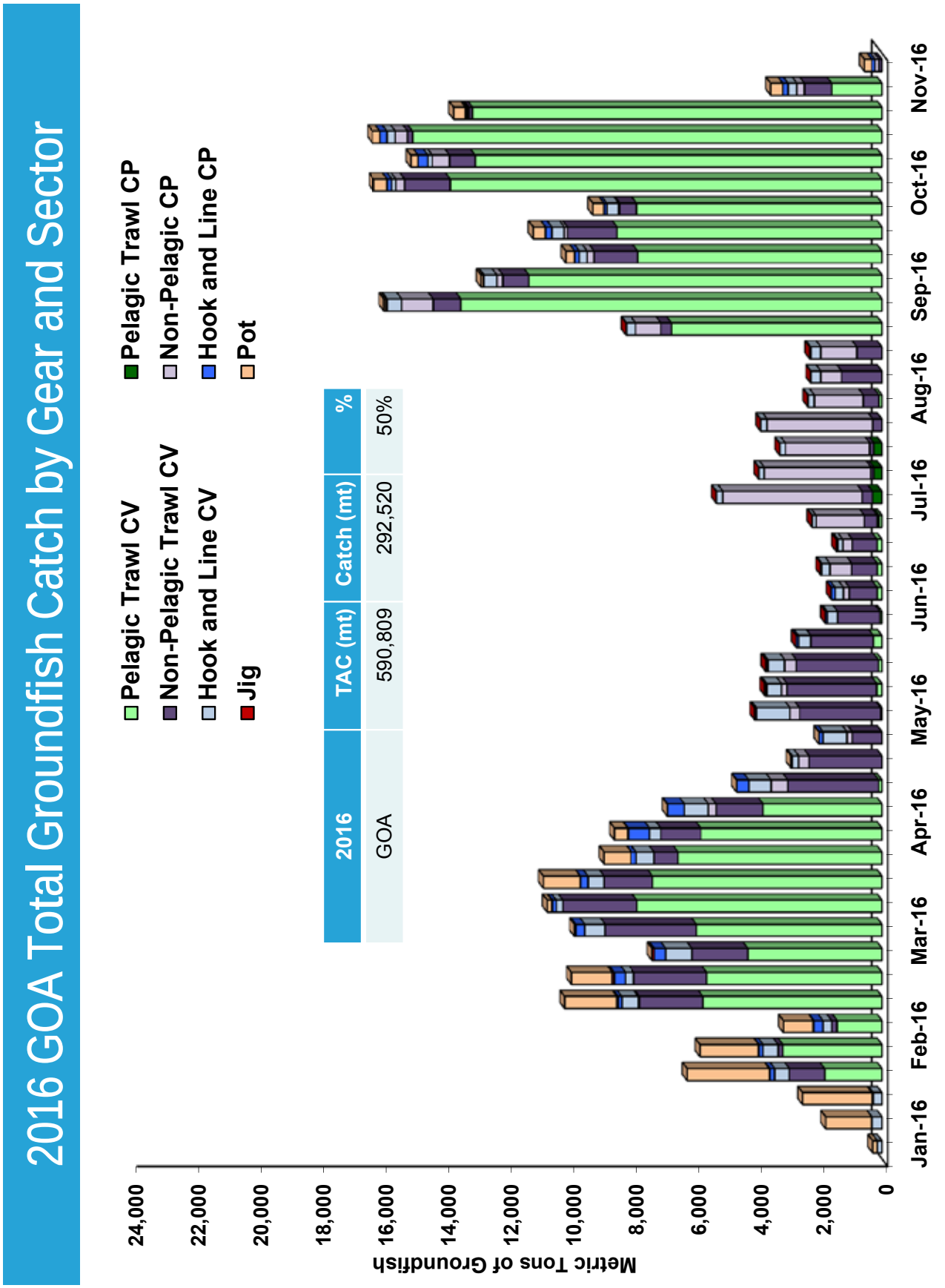
December 2016

Catch data are through November 12, 2016

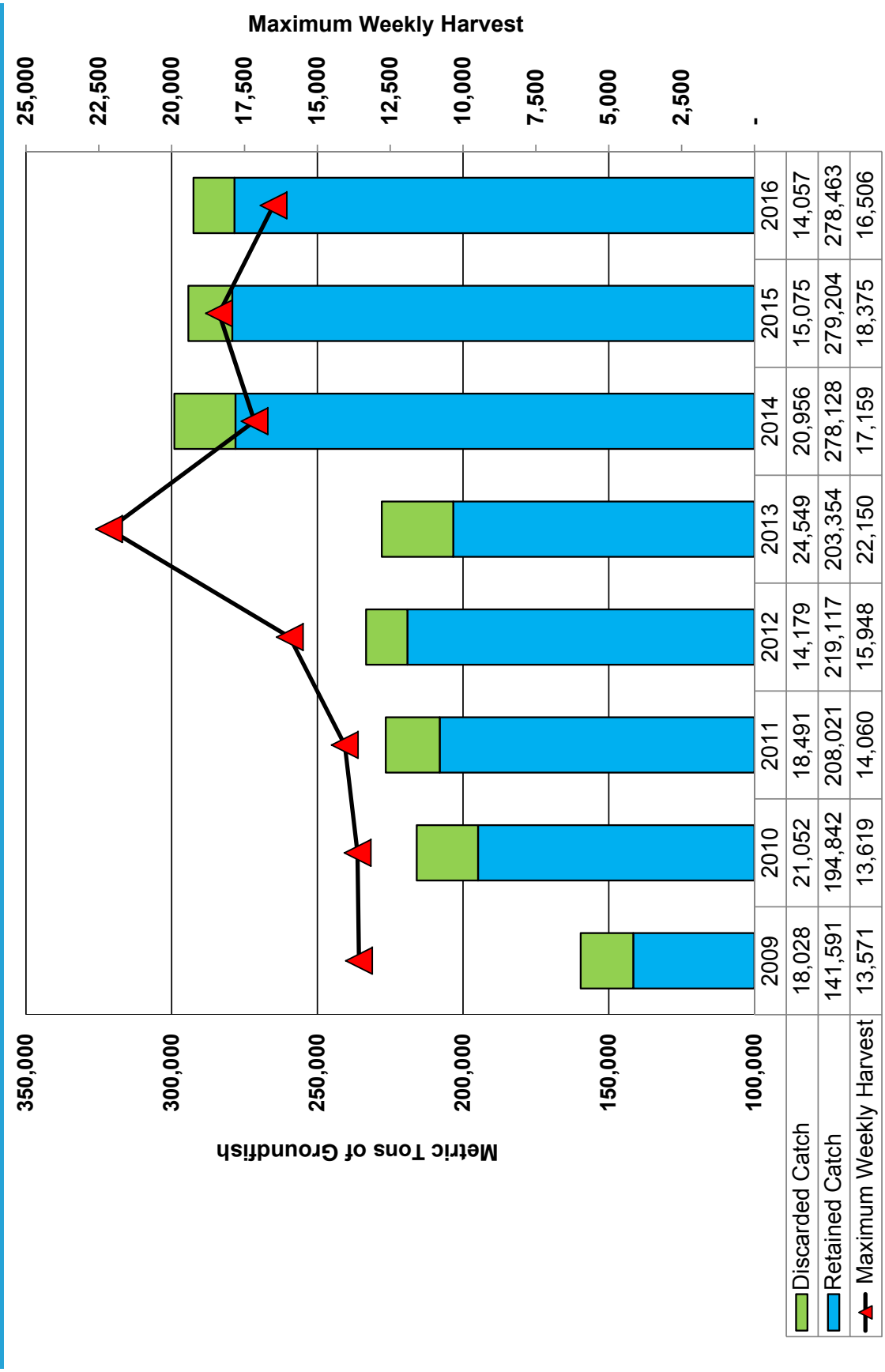
Management reports can be found at:
https://alaskafisheries.noaa.gov/fisheries-data-reports?tid=286

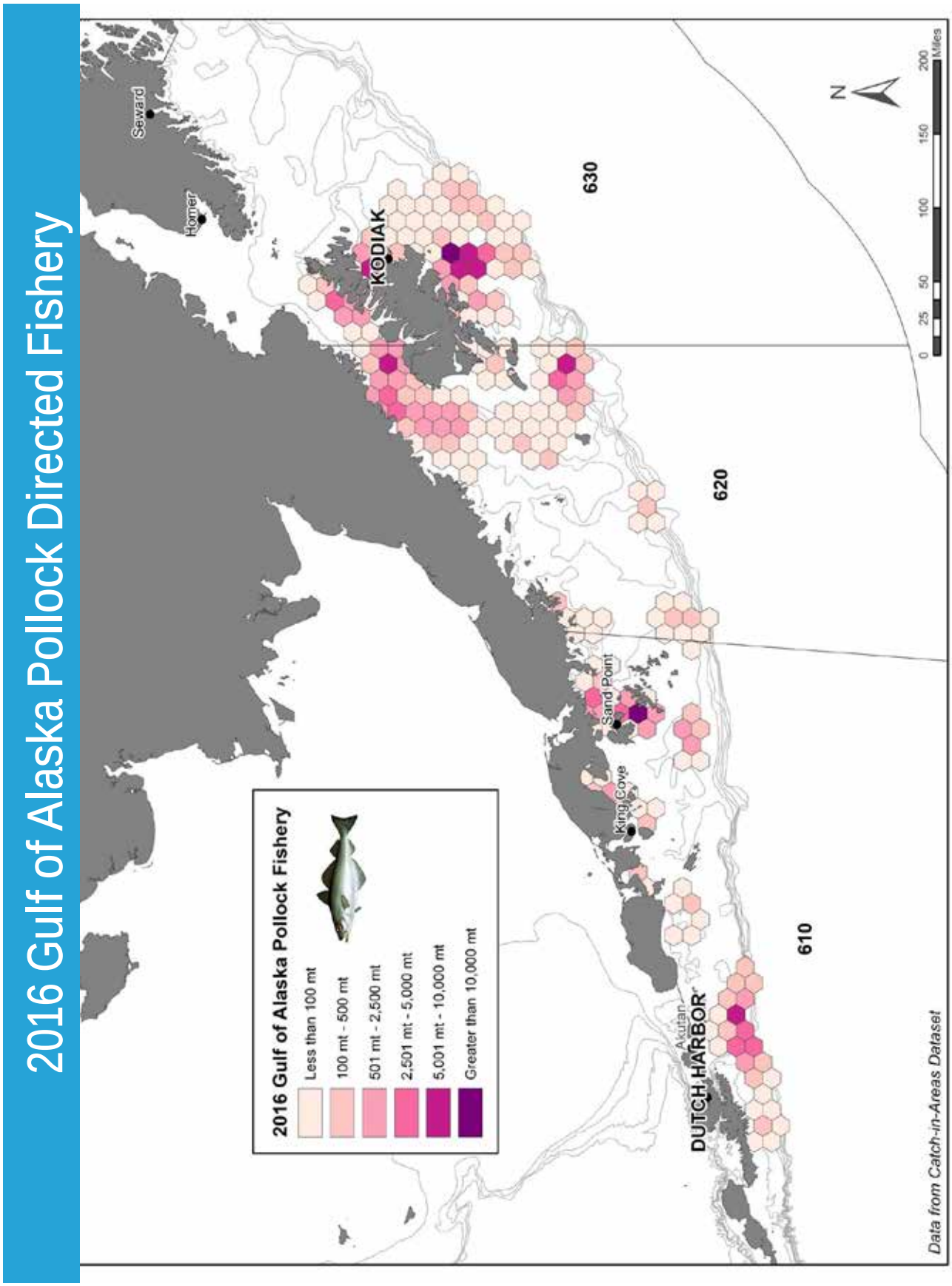
Report Prepared by:
Josh Keaton
November 2016


GOA REPORTING AREAS
N
659
649
650
640
630
620
610
Abbreviations:
NPT = Non Pelagic Trawl
PTR = Pelagic Trawl
HAL = Hook-and-line / Longline
CP = Catcher Processor
CV = Catcher Vessel
M = Mothership
All catch numbers do not include 649/659 catch
0 50 100 200
Miles

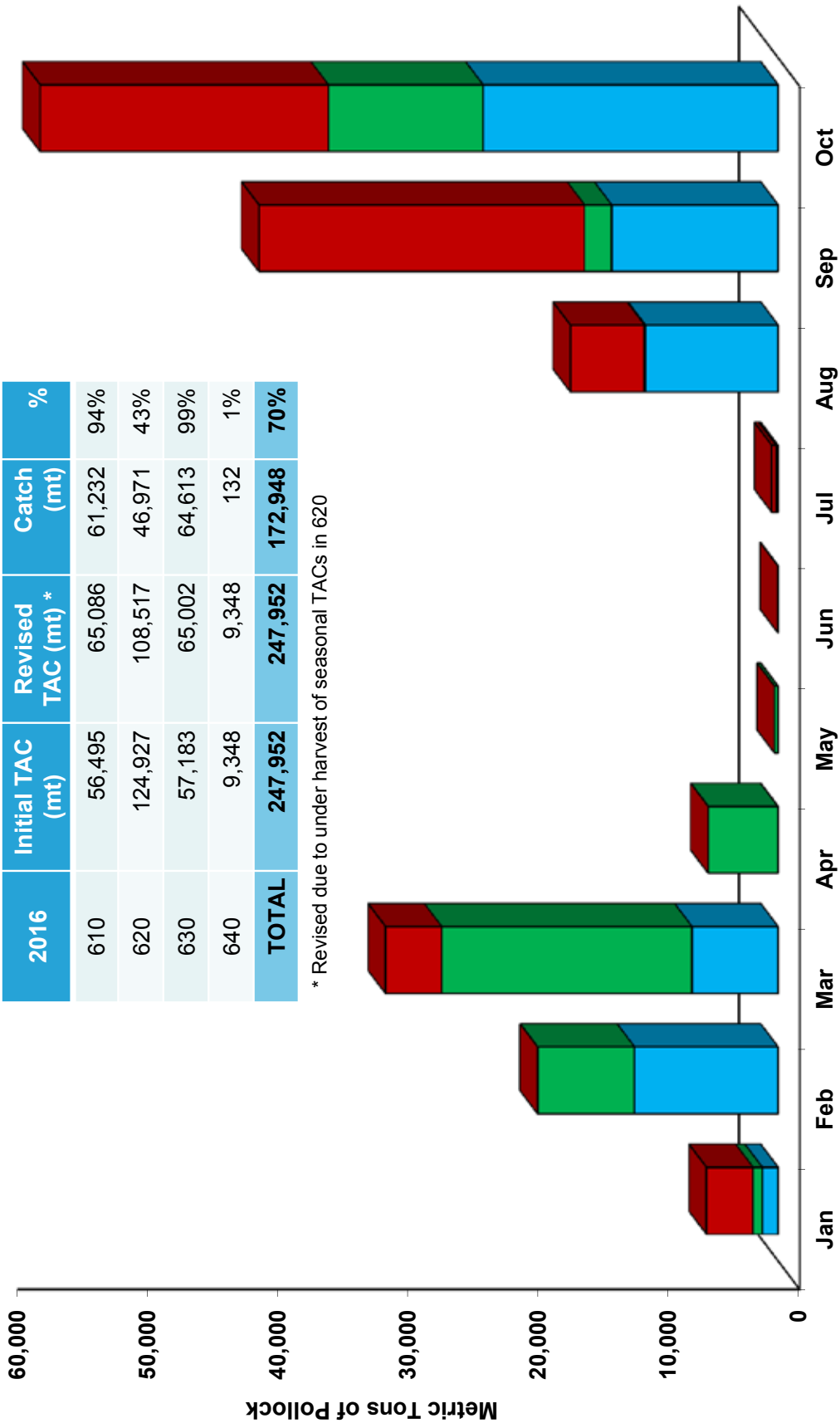

2016 GOA Total Groundfish Catch by Gear and Sector
Pelagic Trawl CV
Non-Pelagic Trawl CV
Hook and Line CV
Jig
Pelagic Trawl CP
Non-Pelagic CP
Hook and Line CP
Pot
2016
TAC (mt)
Catch (mt)
%
GOA
590,809
292,520
50%
Metric Tons of Groundfish
24,000
22,000
20,000
18,000
16,000
14,000
12,000
10,000
8,000
6,000
4,000
2,000
0
Jan-16
Feb-16
Mar-16
Apr-16
May-16
Jun-16
Jul-16
Aug-16
Sep-16
Oct-16
Nov-16

GOA Total Groundfish Catch and Maximum Weekly Harvest




2016 Gulf of Alaska Pollock Directed Fishery
Seward
Homer
KODIAK
630
620
610
Sand Point
King Cove
Akutan
DUTCH HARBOR
2016 Gulf of Alaska Pollock Fishery
Less than 100 mt
100 mt - 500 mt
501 mt - 2,500 mt
2,501 mt - 5,000 mt
5,001 mt - 10,000 mt
Greater than 10,000 mt
N
0 25 50 100 150 200 Miles
Data from Catch-in-Areas Dataset

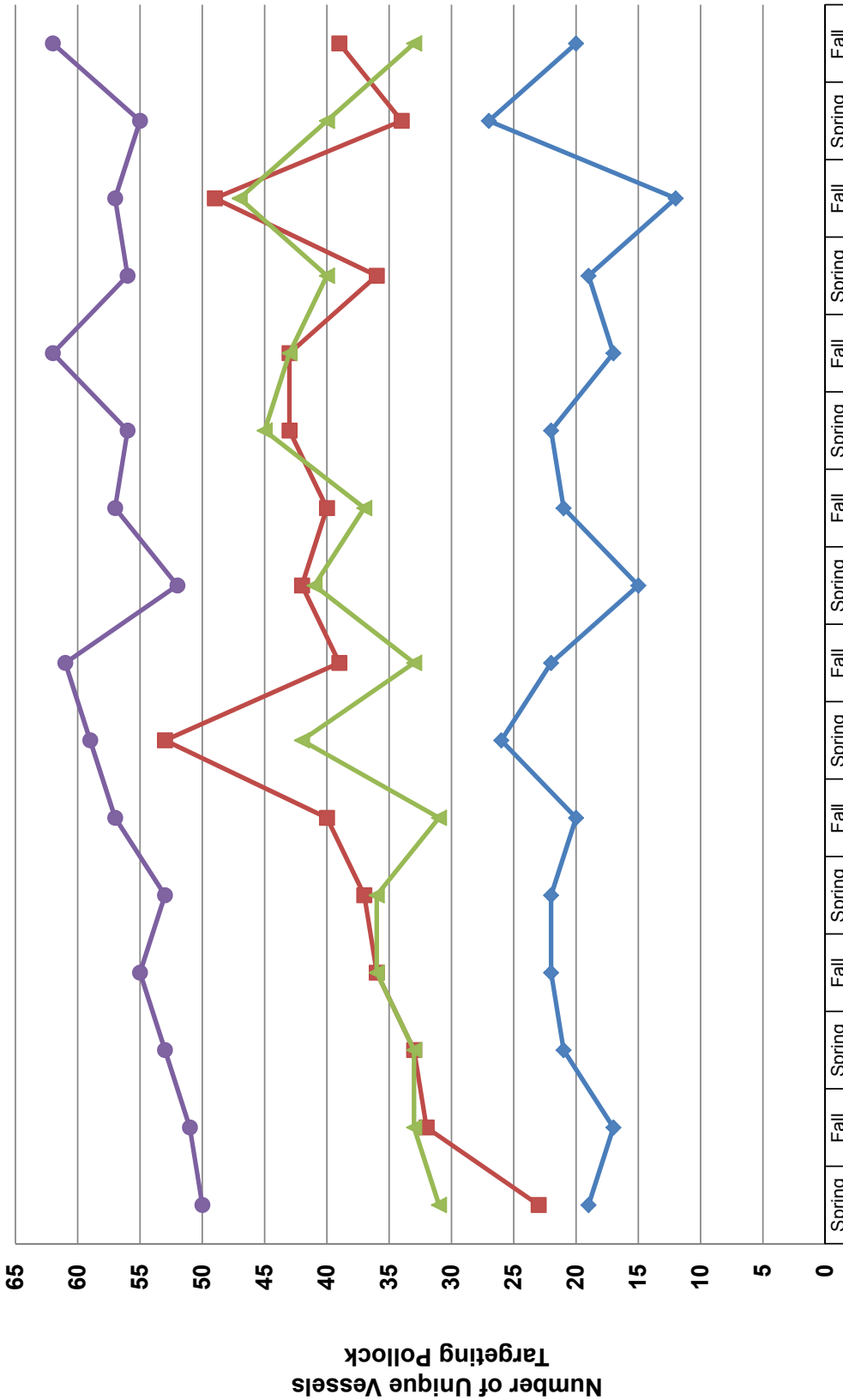
2016 Pollock Catch in the GOA



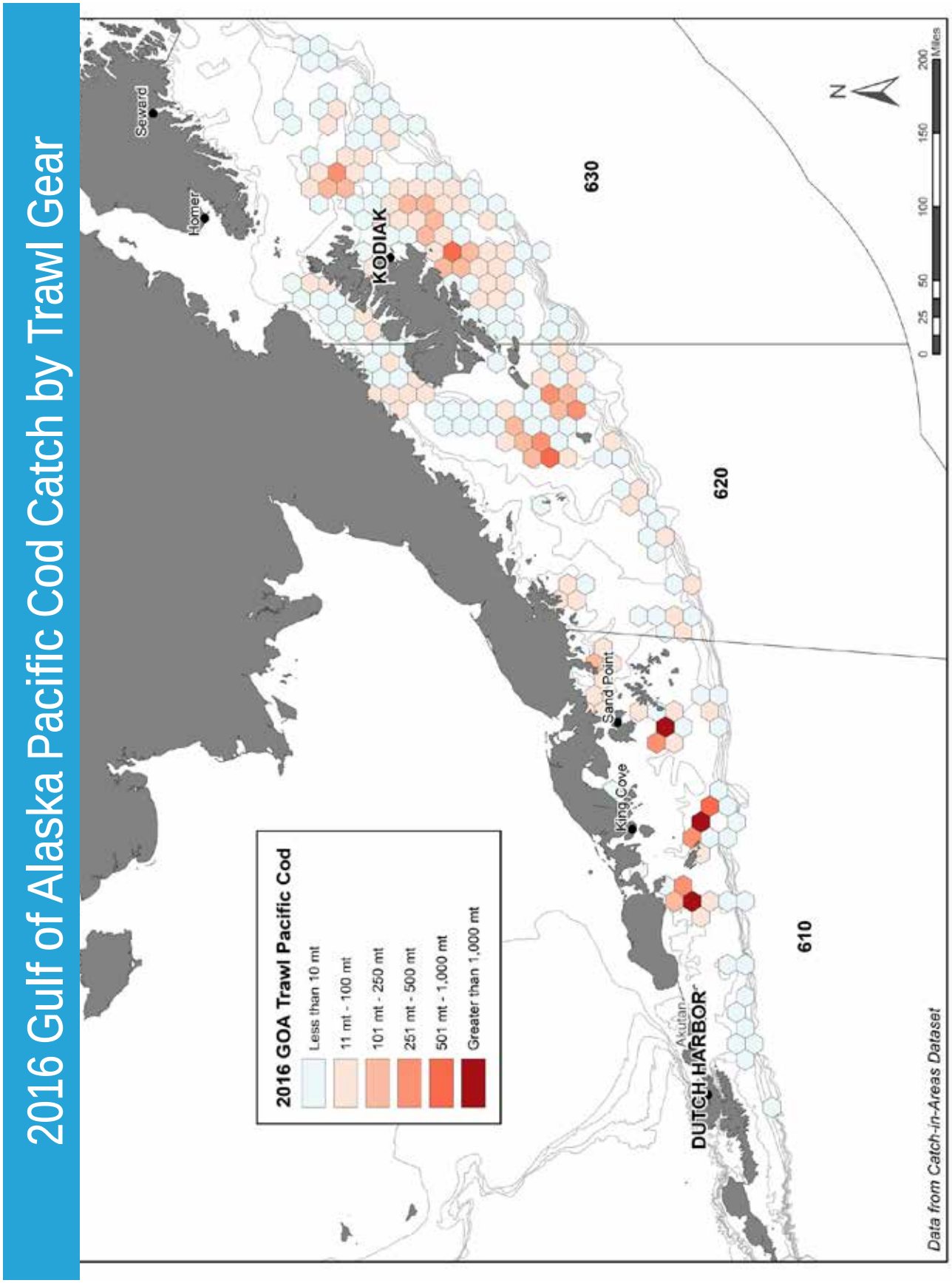
2016	Initial TAC (mt)	Revised TAC (mt) *	Catch (mt)	%
610	56,495	65,086	61,232	94%
620	124,927	108,517	46,971	43%
630	57,183	65,002	64,613	99%
640	9,348	9,348	132	1%
TOTAL	**247,952**	**247,952**	**172,948**	**70%**

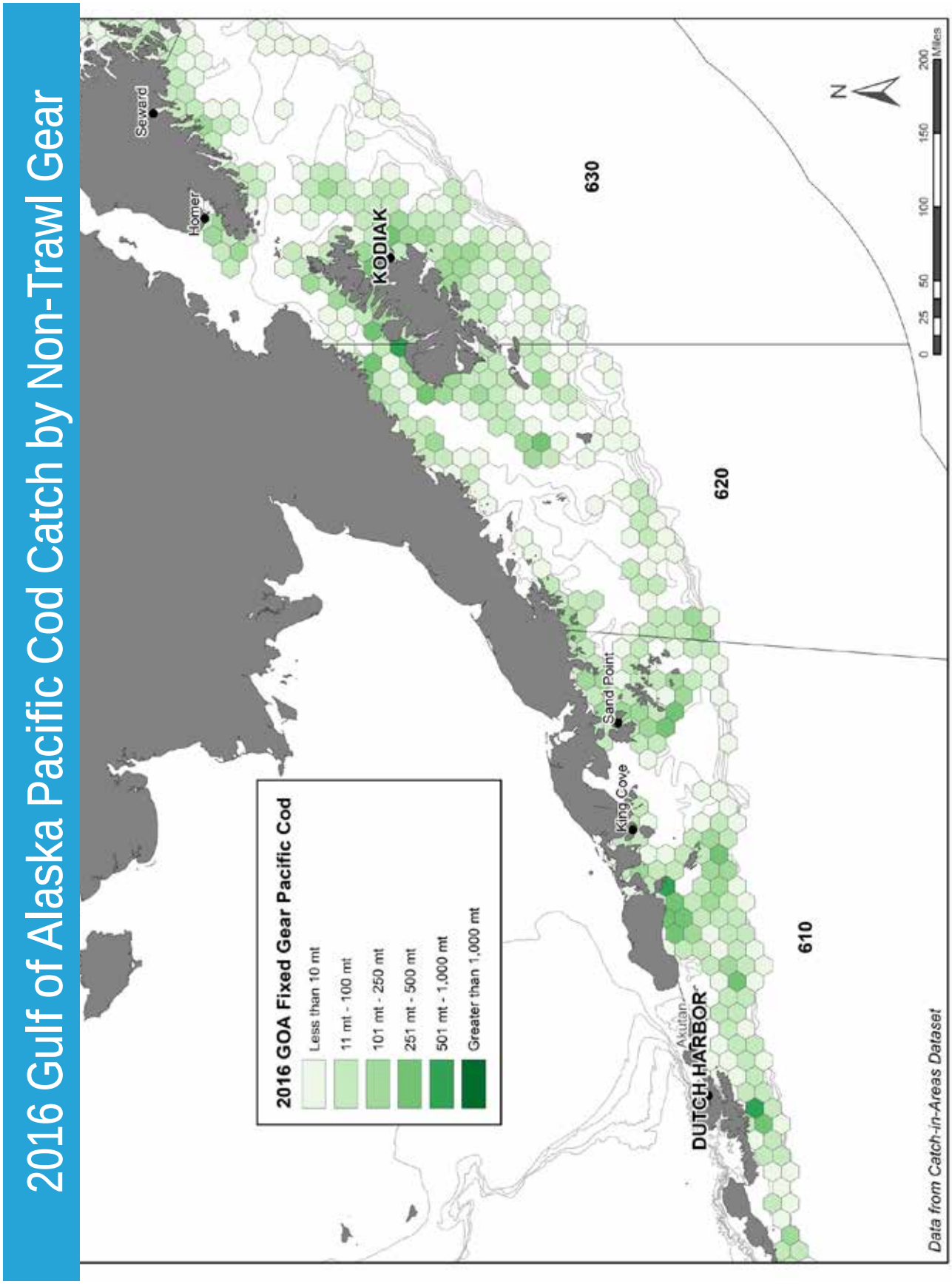
* Revised due to under harvest of seasonal TACs in 620

2009 – 2016 Counts of Vessels Targeting GOA Pollock

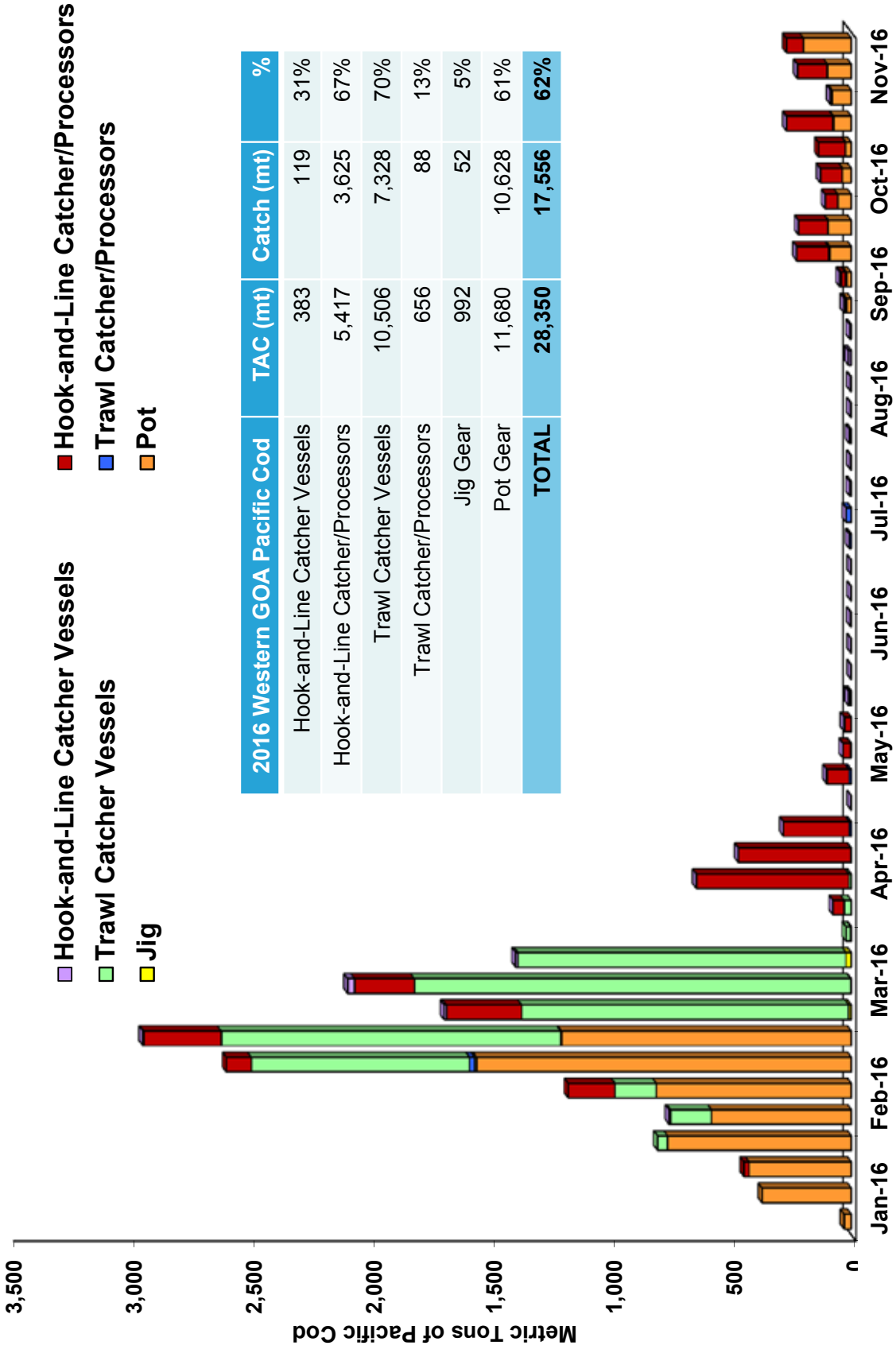


	Spring 2009	Fall 2009	Spring 2010	Fall 2010	Spring 2011	Fall 2011	Spring 2012	Fall 2012	Spring 2013	Fall 2013	Spring 2014	Fall 2014	Spring 2015	Fall 2015	Spring 2016	Fall 2016
610	19	17	21	22	22	20	26	22	15	21	22	17	19	12	27	20
620	23	32	33	36	37	40	53	39	42	40	43	43	36	49	34	39
630	31	33	33	36	36	31	42	33	41	37	45	43	40	47	40	33
All Areas	50	51	53	55	53	57	59	61	52	57	56	62	56	57	55	62


2016 Gulf of Alaska Pacific Cod Catch by Trawl Gear
Seward
Homer
KODIAK
630
620
610
Sand Point
King Cove
Akutan
DUTCH HARBOR
2016 GOA Trawl Pacific Cod
Less than 10 mt
11 mt - 100 mt
101 mt - 250 mt
251 mt - 500 mt
501 mt - 1,000 mt
Greater than 1,000 mt
N
0 25 50 100 150 200 Miles
Data from Catch-in-Areas Dataset

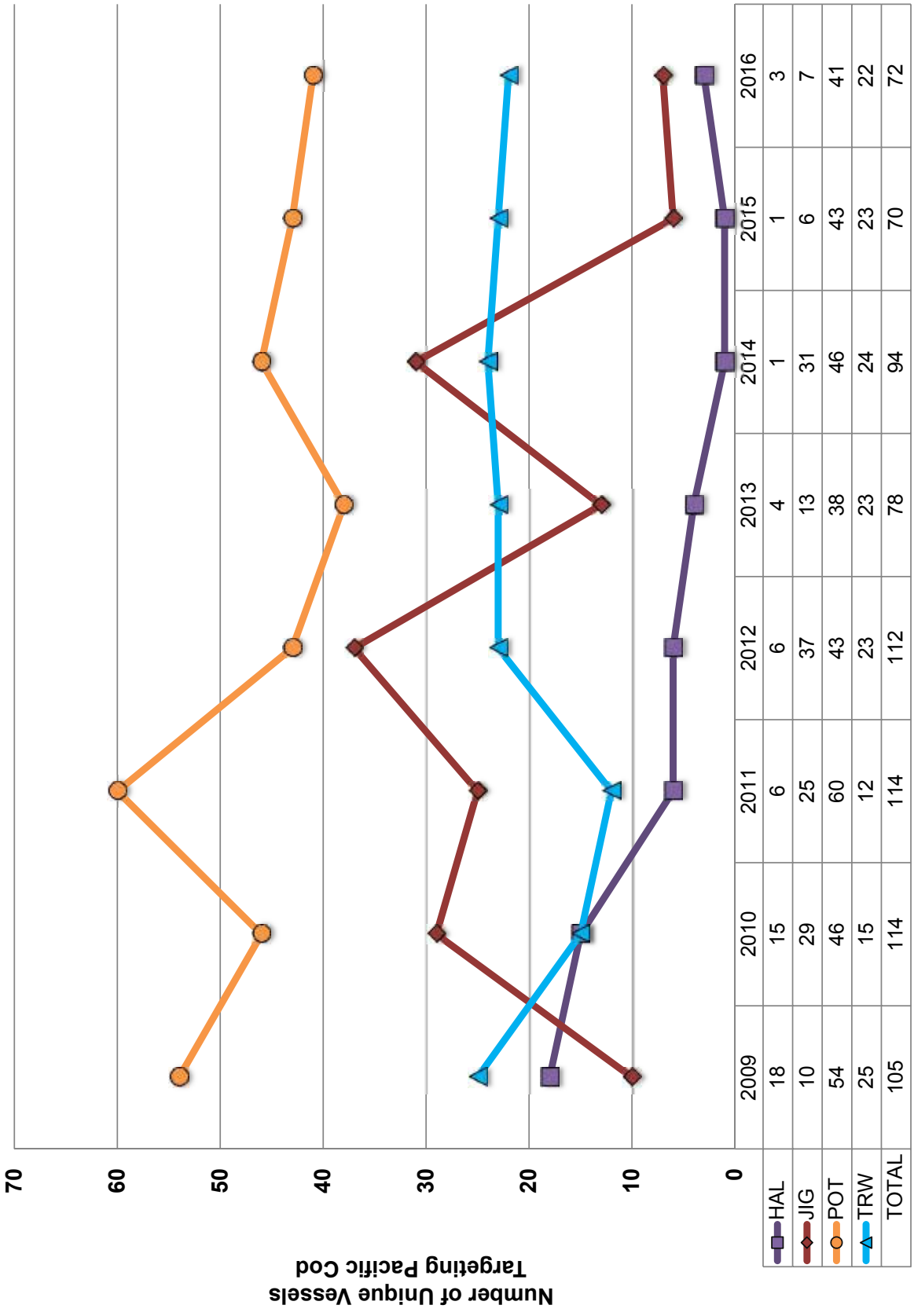

2016 Gulf of Alaska Pacific Cod Catch by Non-Trawl Gear
2016 GOA Fixed Gear Pacific Cod
Less than 10 mt
11 mt - 100 mt
101 mt - 250 mt
251 mt - 500 mt
501 mt - 1,000 mt
Greater than 1,000 mt
Seward
Homer
KODIAK
Sand Point
King Cove
Akutan
DUTCH HARBOR
630
620
610
N
0 25 50 100 150 200 Miles
Data from Catch-in-Areas Dataset

2016 Western GOA Pacific Cod Catch by Week and Sector



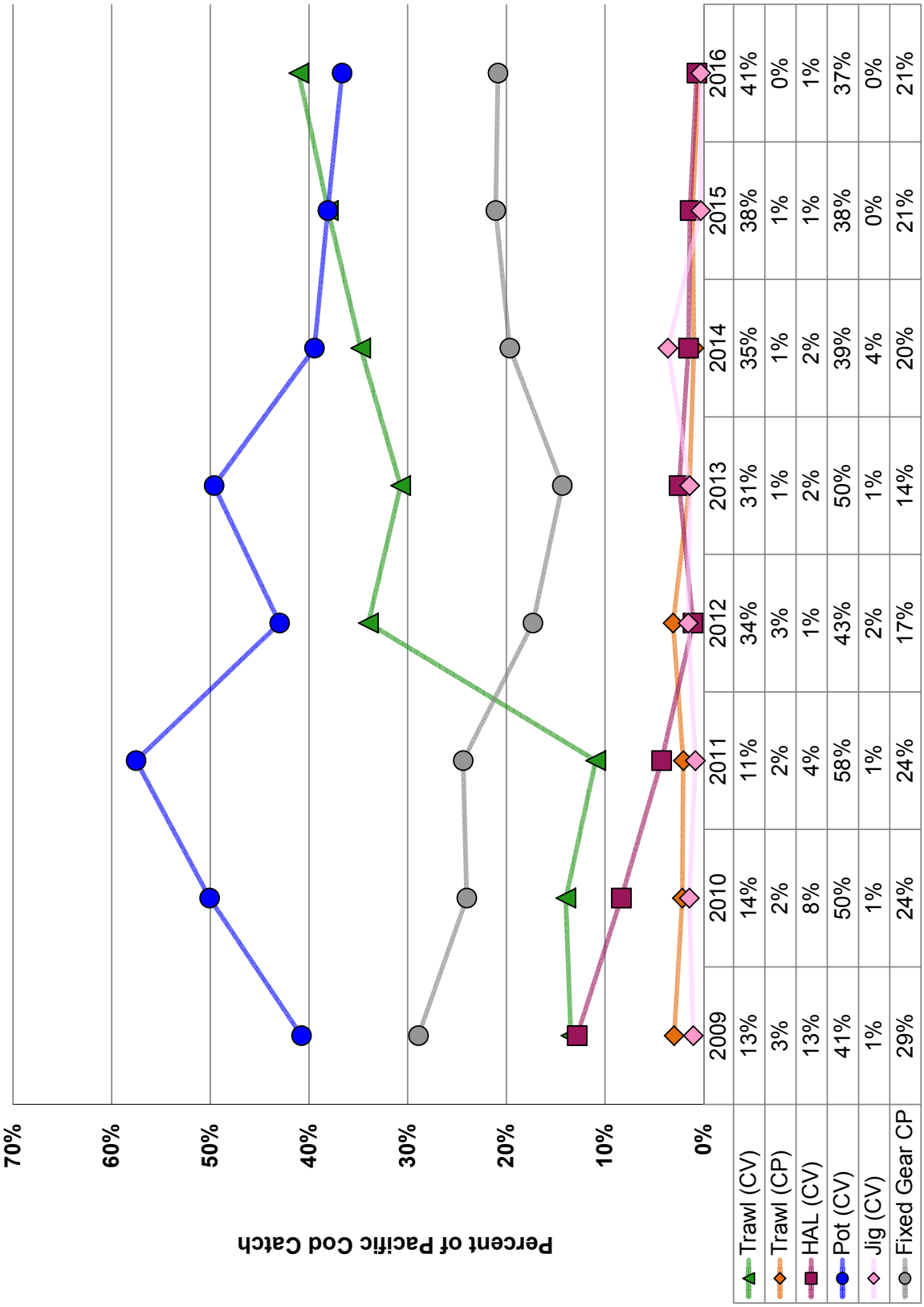
2016 Western GOA Pacific Cod	TAC (mt)	Catch (mt)	%
Hook-and-Line Catcher Vessels	383	119	31%
Hook-and-Line Catcher/Processors	5,417	3,625	67%
Trawl Catcher Vessels	10,506	7,328	70%
Trawl Catcher/Processors	656	88	13%
Jig Gear	992	52	5%
Pot Gear	11,680	10,628	61%
TOTAL	**28,350**	**17,556**	**62%**

2009 – 2016 Counts of Vessels Targeting Western GOA Pacific Cod



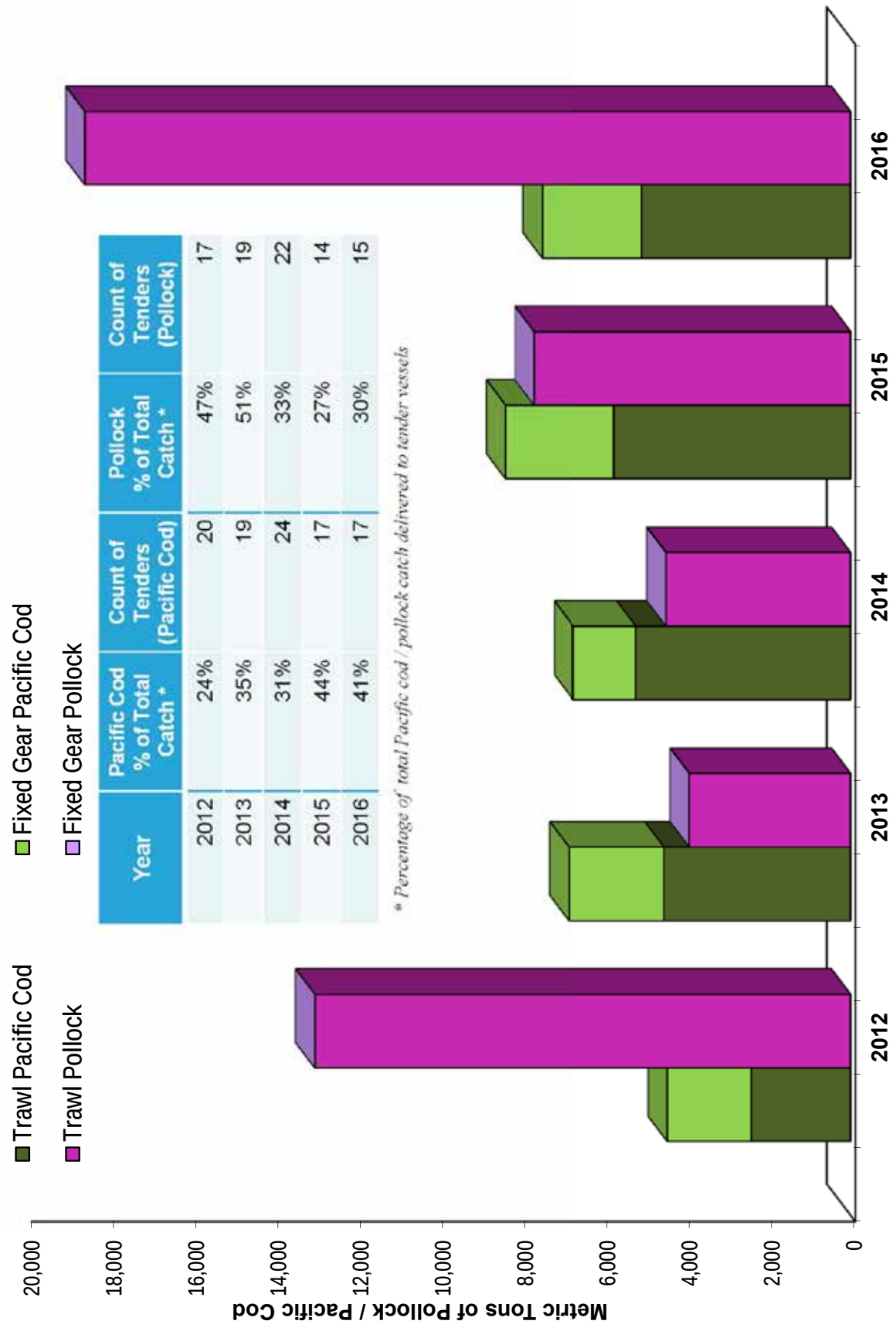
	2009	2010	2011	2012	2013	2014	2015	2016
HAL	18	15	6	6	4	1	1	3
JIG	10	29	25	37	13	31	6	7
POT	54	46	60	43	38	46	43	41
TRW	25	15	12	23	23	24	23	22
TOTAL	105	114	114	112	78	94	70	72

2009 – 2016 Western GOA Pacific Cod Catch by Sector



	2009	2010	2011	2012	2013	2014	2015	2016
Trawl (CV)	13%	14%	11%	34%	31%	35%	38%	41%
Trawl (CP)	3%	2%	2%	3%	1%	1%	1%	0%
HAL (CV)	13%	8%	4%	1%	2%	2%	1%	1%
Pot (CV)	41%	50%	58%	43%	50%	39%	38%	37%
Jig (CV)	1%	1%	1%	2%	1%	4%	0%	0%
Fixed Gear CP	29%	24%	24%	17%	14%	20%	21%	21%

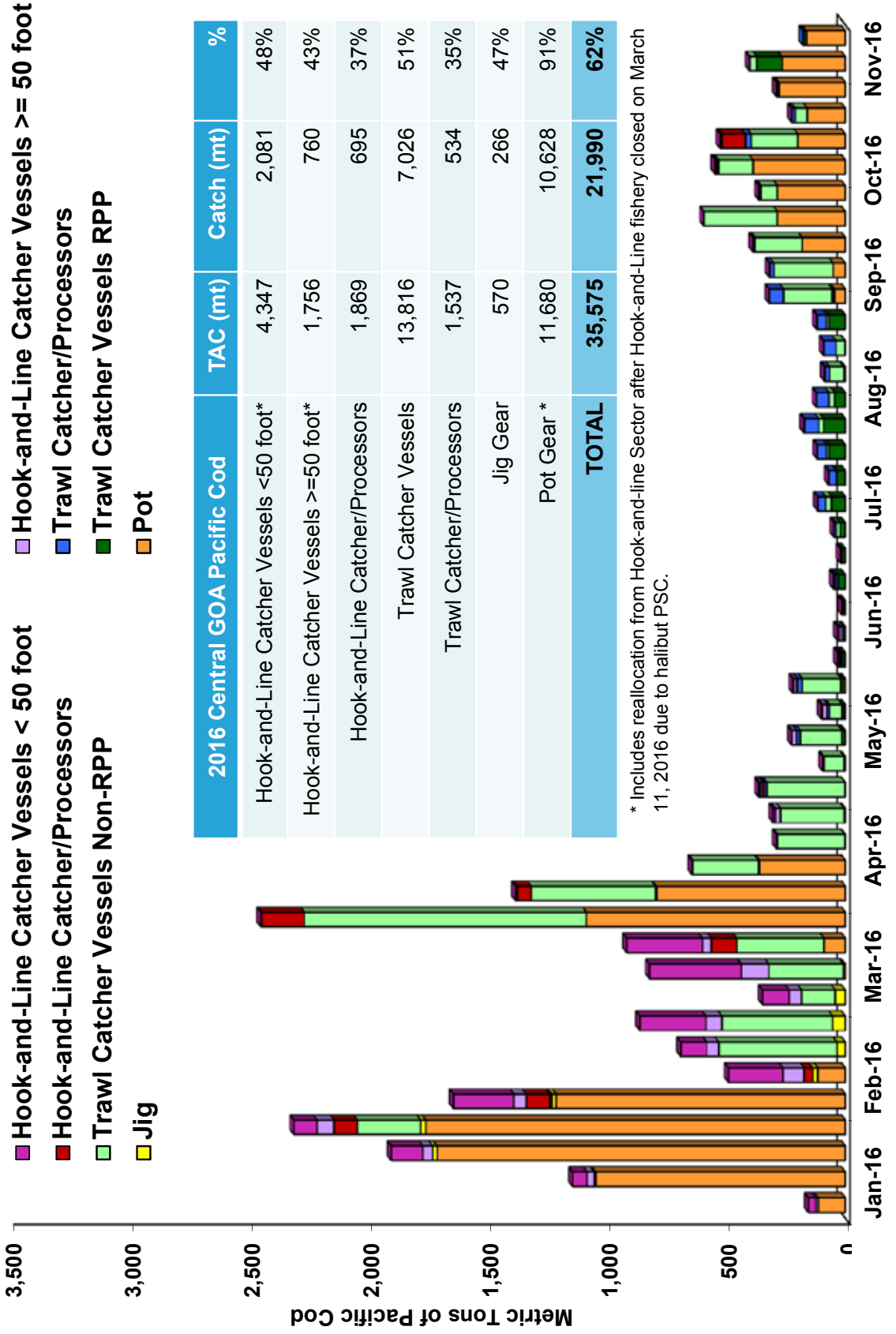
Western GOA Tender Report



Year	Pacific Cod % of Total Catch *	Count of Tenders (Pacific Cod)	Pollock % of Total Catch *	Count of Tenders (Pollock)
2012	24%	20	47%	17
2013	35%	19	51%	19
2014	31%	24	33%	22
2015	44%	17	27%	14
2016	41%	17	30%	15

* *Percentage of total Pacific cod / pollock catch delivered to tender vessels*

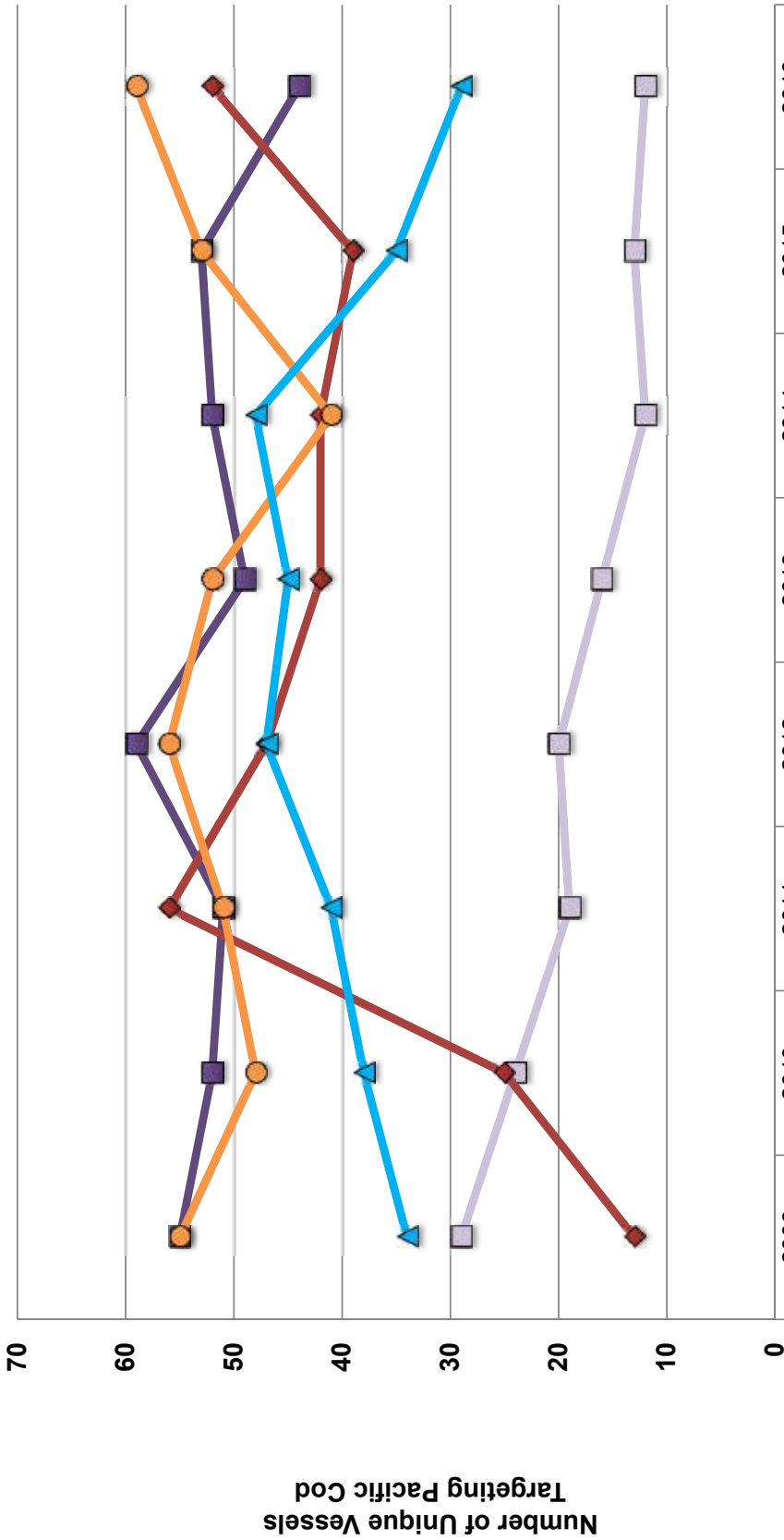
2016 Central GOA Pacific Cod Catch by Week and Sector



2016 Central GOA Pacific Cod	TAC (mt)	Catch (mt)	%
Hook-and-Line Catcher Vessels <50 foot*	4,347	2,081	48%
Hook-and-Line Catcher Vessels >=50 foot*	1,756	760	43%
Hook-and-Line Catcher/Processors	1,869	695	37%
Trawl Catcher Vessels	13,816	7,026	51%
Trawl Catcher/Processors	1,537	534	35%
Jig Gear	570	266	47%
Pot Gear *	11,680	10,628	91%
TOTAL	**35,575**	**21,990**	**62%**

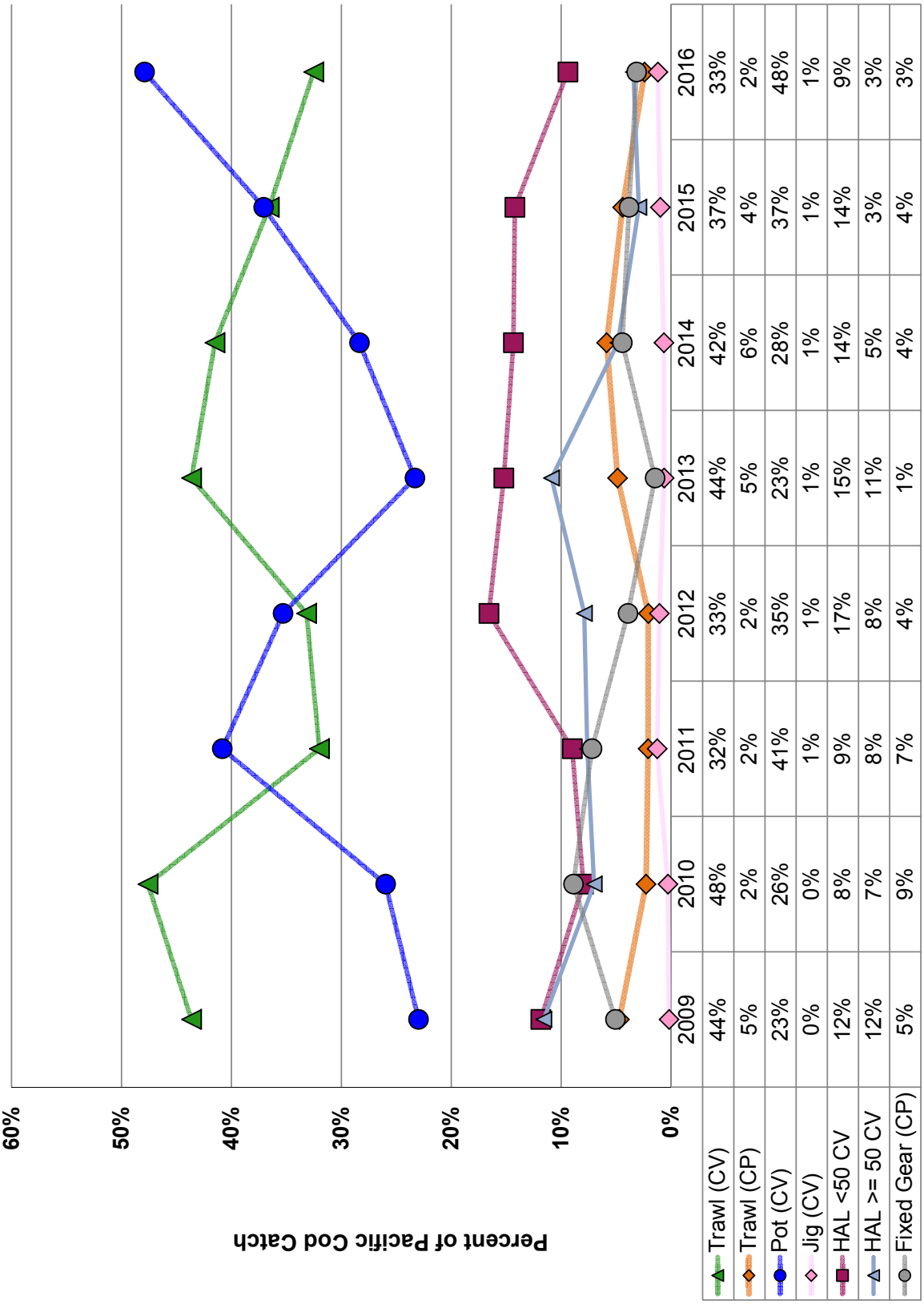
* Includes reallocation from Hook-and-line Sector after Hook-and-Line fishery closed on March 11, 2016 due to halibut PSC.

2009 – 2016 Counts of Vessels Targeting Central GOA Pacific Cod



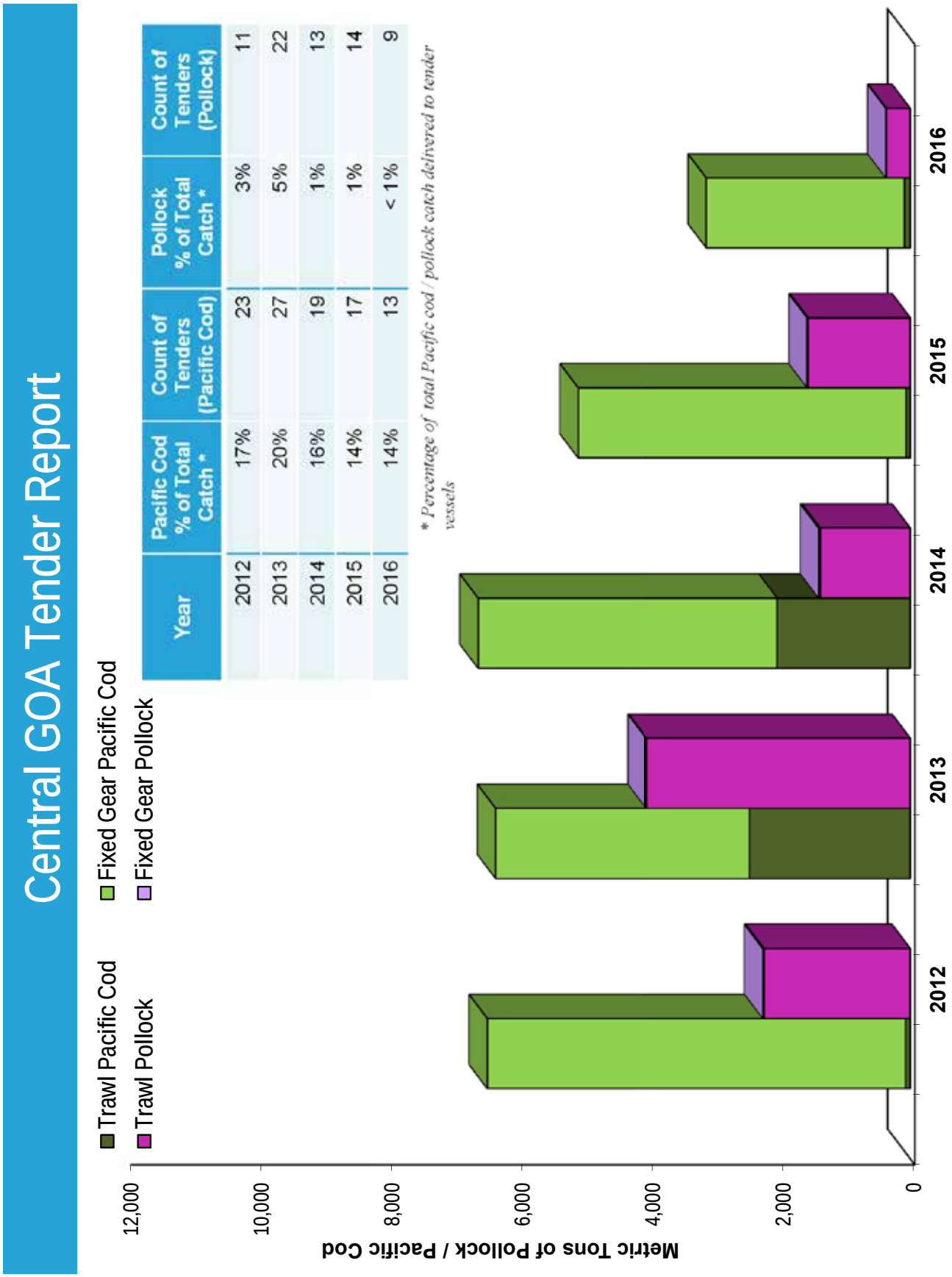
	2009	2010	2011	2012	2013	2014	2015	2016
HAL <50	55	52	51	59	49	52	53	44
HAL >=50	29	24	19	20	16	12	13	12
JIG	13	25	56	47	42	42	39	52
POT	55	48	51	56	52	41	53	59
TRW	34	38	41	47	45	48	35	29
TOTAL	188	190	224	226	200	191	197	199

2009 – 2016 Central GOA Pacific Cod Catch by Sector



	2009	2010	2011	2012	2013	2014	2015	2016
Trawl (CV)	44%	48%	32%	33%	44%	42%	37%	33%
Trawl (CP)	5%	2%	2%	2%	5%	6%	4%	2%
Pot (CV)	23%	26%	41%	35%	23%	28%	37%	48%
Jig (CV)	0%	0%	1%	1%	1%	1%	1%	1%
HAL <50 CV	12%	8%	9%	17%	15%	14%	14%	9%
HAL >= 50 CV	12%	7%	8%	8%	11%	5%	3%	3%
Fixed Gear (CP)	5%	9%	7%	4%	1%	4%	4%	3%

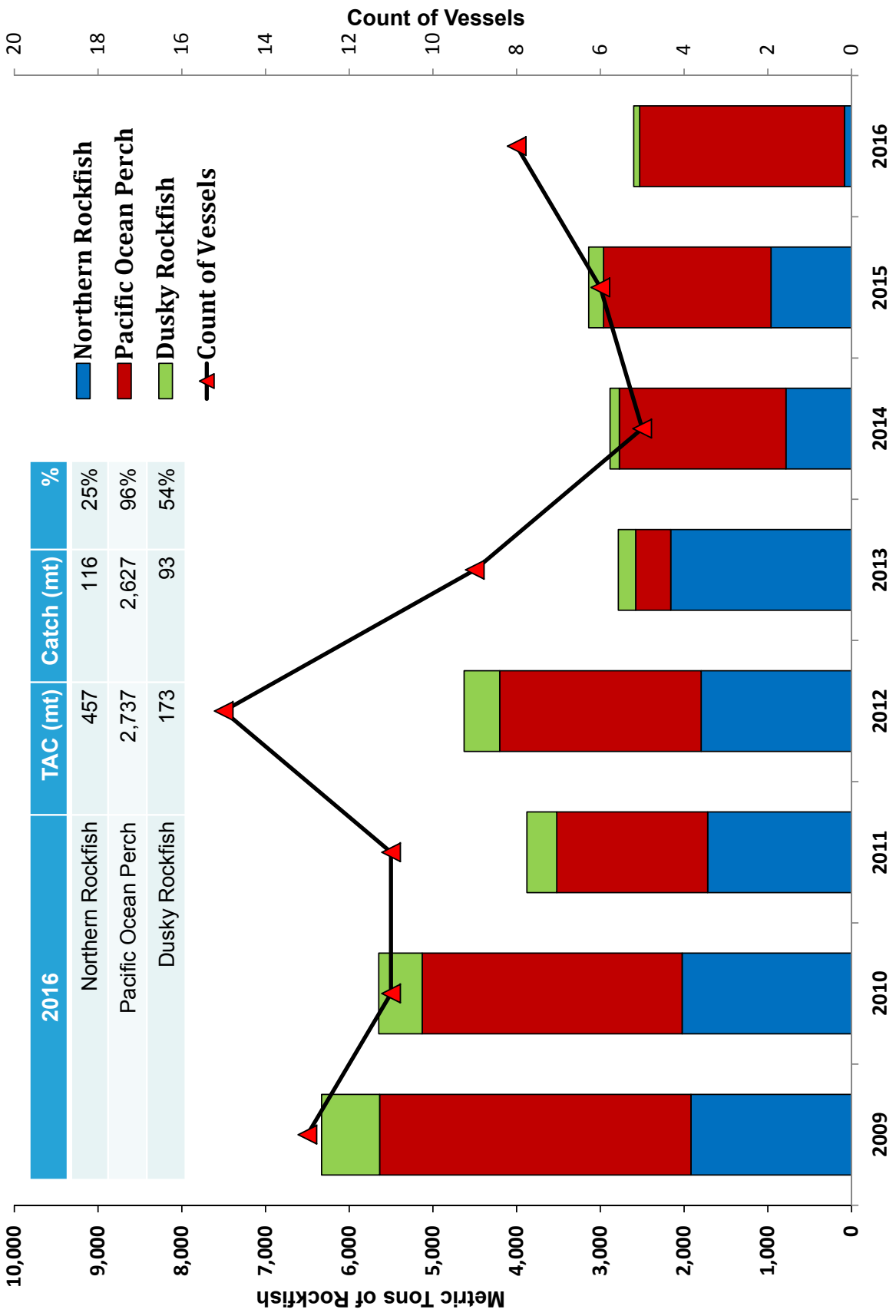
Central GOA Tender Report



Year	Pacific Cod % of Total Catch *	Count of Tenders (Pacific Cod)	Pollock % of Total Catch *	Count of Tenders (Pollock)
2012	17%	23	3%	11
2013	20%	27	5%	22
2014	16%	19	1%	13
2015	14%	17	1%	14
2016	14%	13	< 1%	9

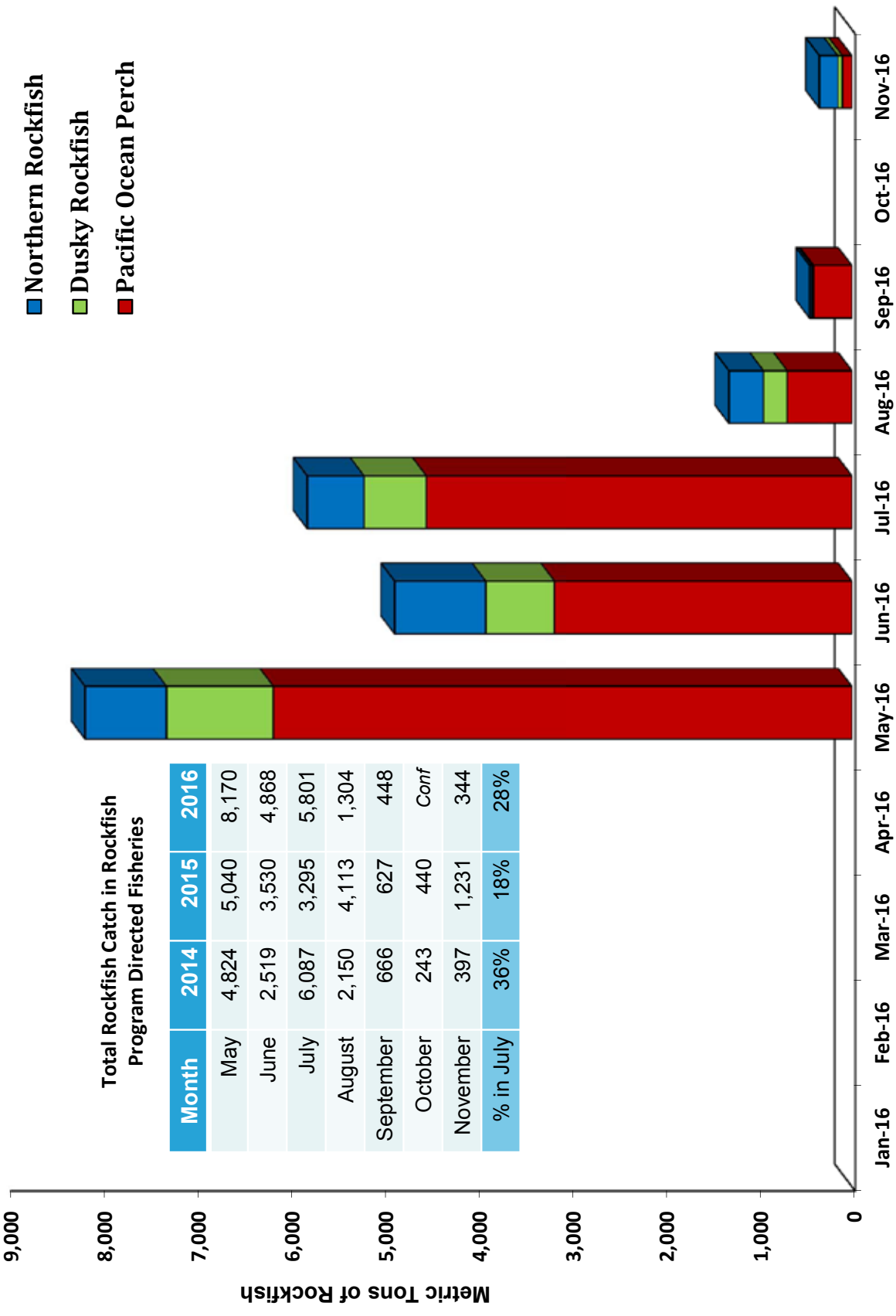
** Percentage of total Pacific cod / pollock catch delivered to tender vessels*

Western GOA Trawl Rockfish Fishery



2016	TAC (mt)	Catch (mt)	%
Northern Rockfish	457	116	25%
Pacific Ocean Perch	2,737	2,627	96%
Dusky Rockfish	173	93	54%

2016 Central GOA Trawl Rockfish Program Fishery by Month

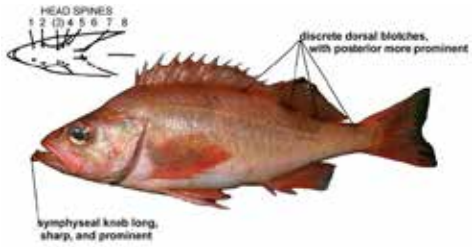


Total Rockfish Catch in Rockfish Program Directed Fisheries

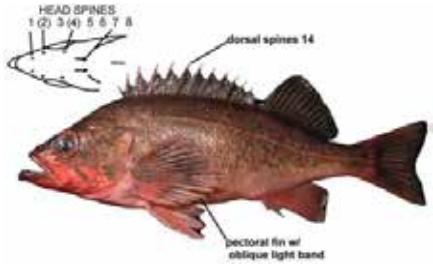
Month	2014	2015	2016
May	4,824	5,040	8,170
June	2,519	3,530	4,868
July	6,087	3,295	5,801
August	2,150	4,113	1,304
September	666	627	448
October	243	440	*Conf*
November	397	1,231	344
% in July	36%	18%	28%

2016 Rockfish Program Allocations and Catch

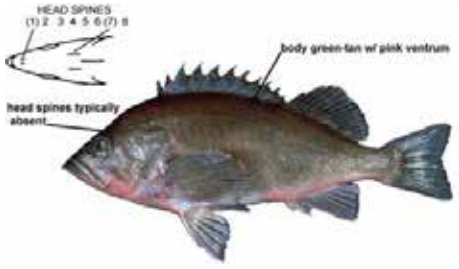
Species	Limit (mt)	Catch (mt)	%
Entry level Fixed Gear			
Pacific Ocean Perch	5	0	0%
Northern Rockfish	5	0	0%
Dusky Rockfish	30	39	139%
Cooperatives			
Pacific Ocean Perch	15,528	15,471	100%
Northern Rockfish	3,242	3,078	95%
Dusky Rockfish	3,867	2,949	72%
Pacific Cod	1,409	196	14%
Sablefish	414	399	96%
Thornyhead Rockfish	339	295	87%
Shortraker Rockfish	120	confidential	confidential
Rougheye Rockfish	416	confidential	confidential
Pacific Halibut PSC	191	69	36%
Primary Species Central GOA Incidental Catch			
Pacific Ocean Perch	1,500	2,140	143%
Northern Rockfish	300	236	79%
Dusky Rockfish	250	209	84%



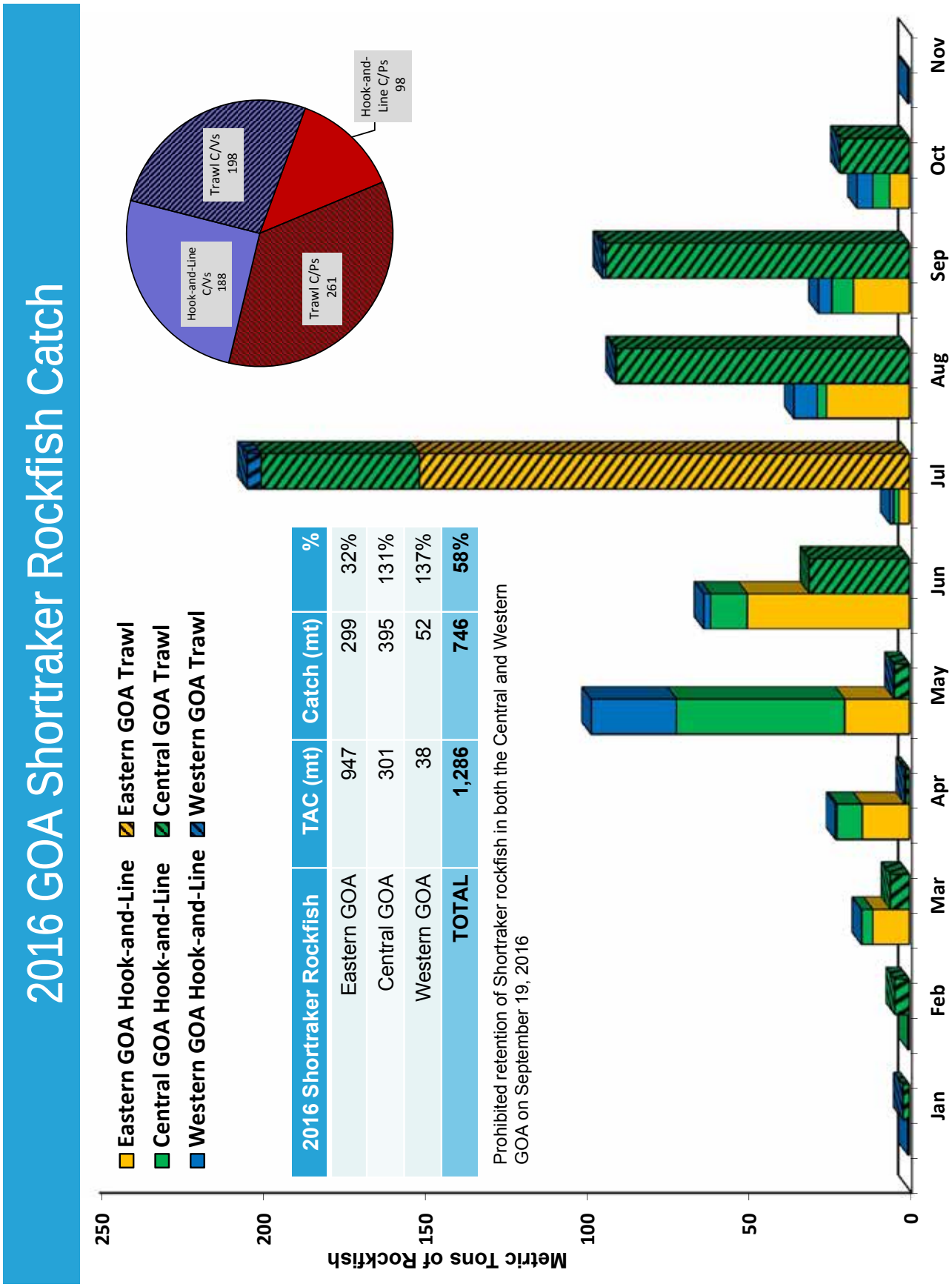
Pacific Ocean Perch



Northern Rockfish

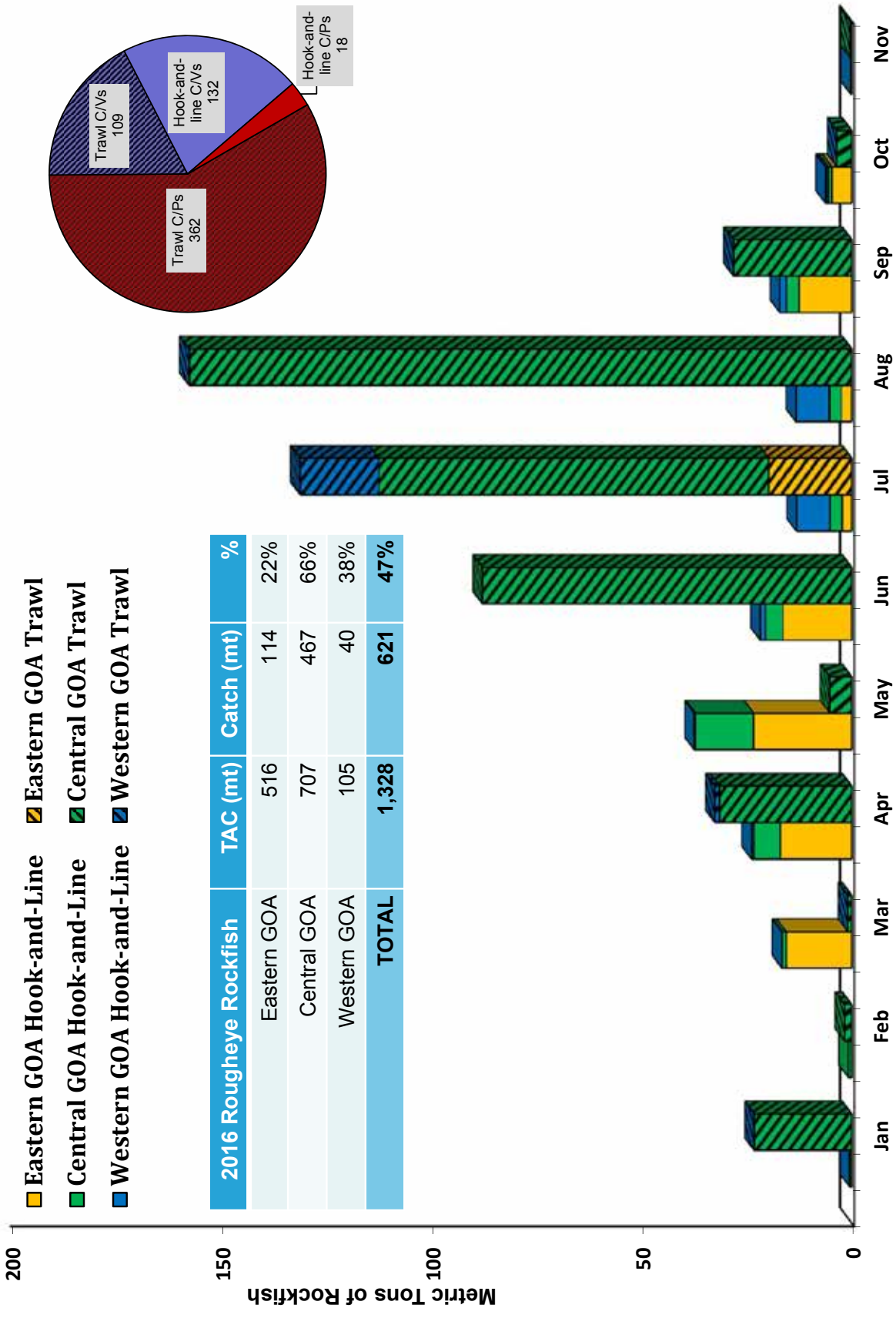


Dusky Rockfish



2016 Shortraker Rockfish	TAC (mt)	Catch (mt)	%
Eastern GOA	947	299	32%
Central GOA	301	395	131%
Western GOA	38	52	137%
TOTAL	**1,286**	**746**	**58%**

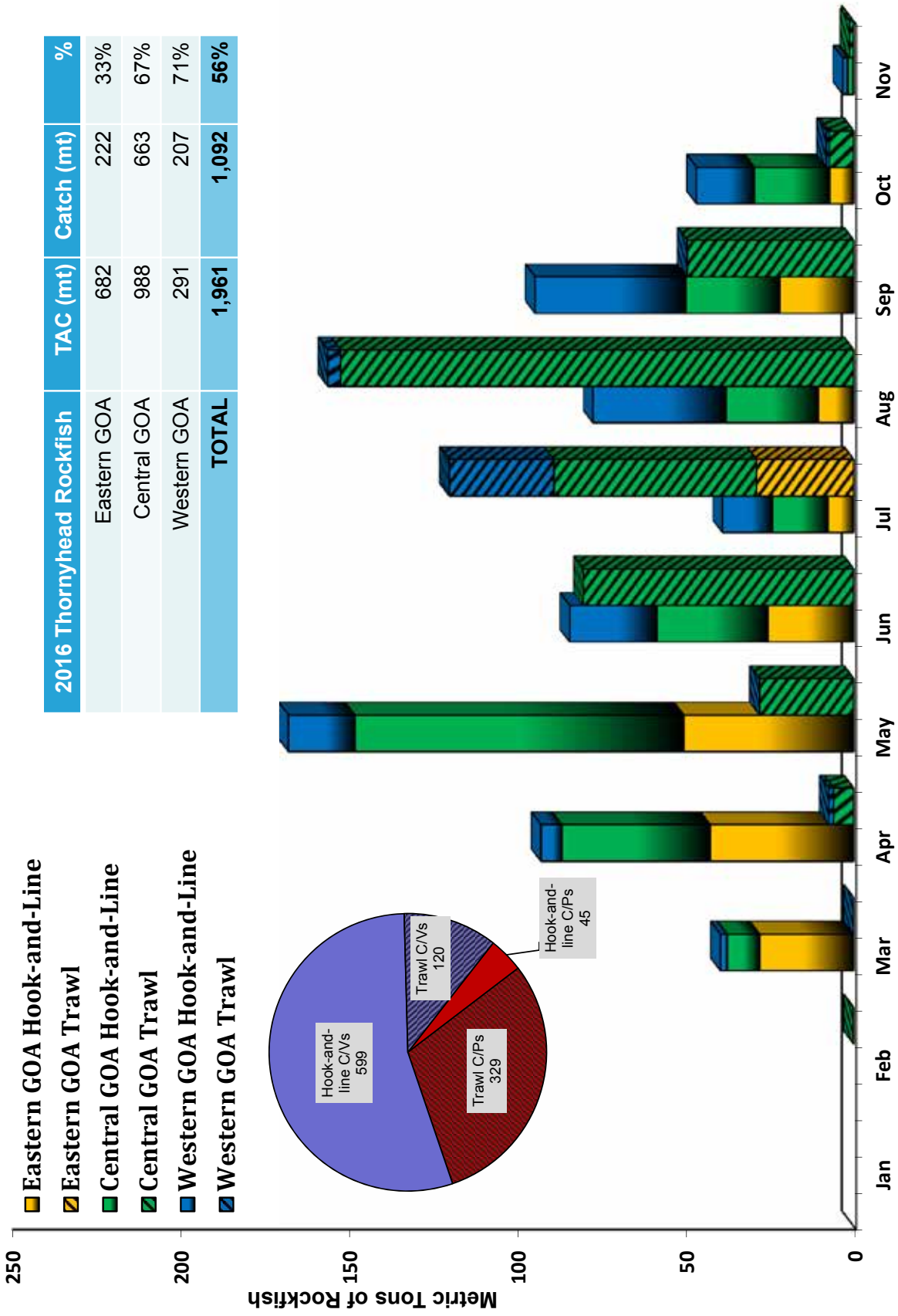
2016 GOA Rougheye Rockfish Catch



2016 Rougheye Rockfish	TAC (mt)	Catch (mt)	%
Eastern GOA	516	114	22%
Central GOA	707	467	66%
Western GOA	105	40	38%
TOTAL	**1,328**	**621**	**47%**

2016 GOA Thornyhead Rockfish Catch

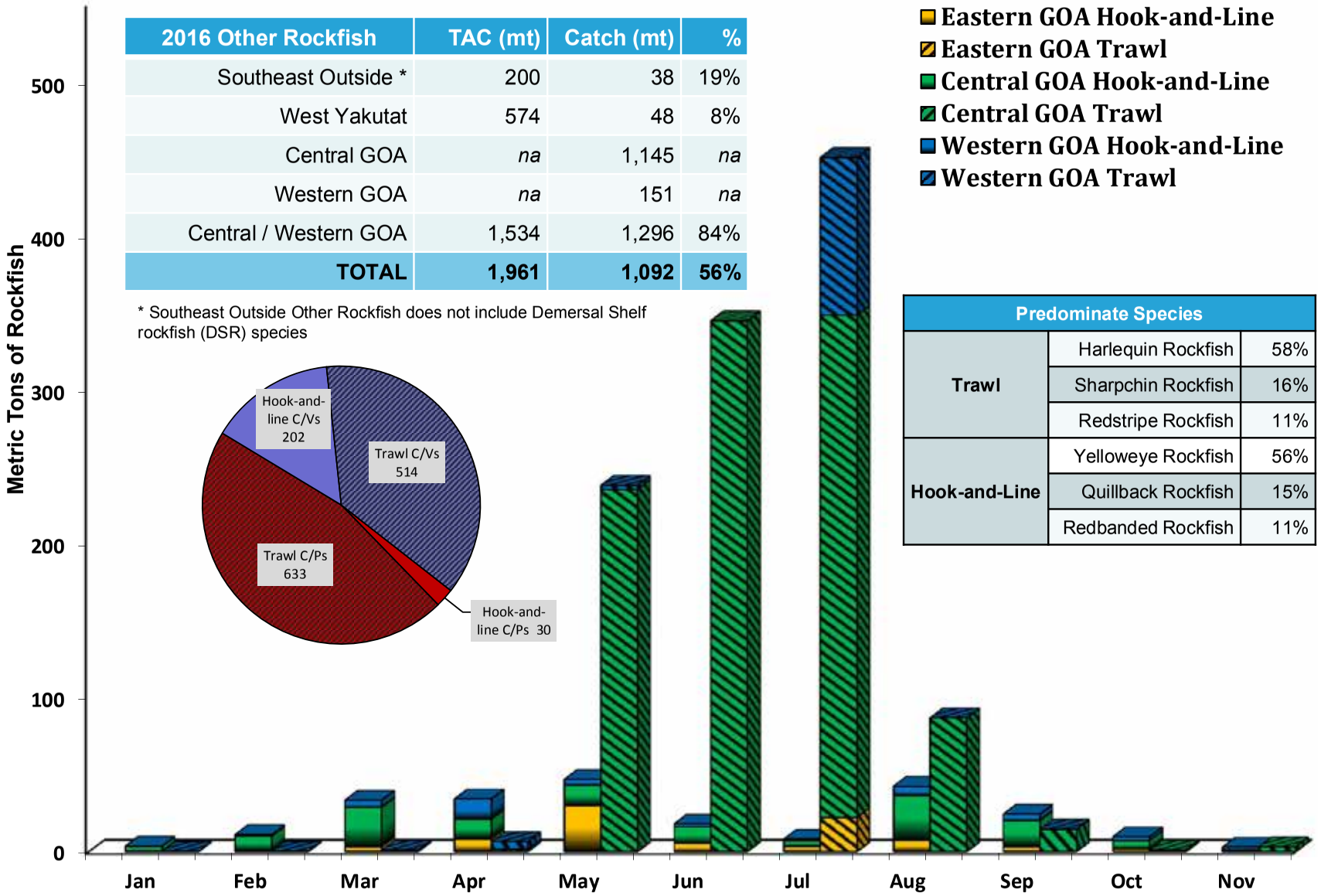
2016 Thornyhead Rockfish	TAC (mt)	Catch (mt)	%
Eastern GOA	682	222	33%
Central GOA	988	663	67%
Western GOA	291	207	71%
TOTAL	**1,961**	**1,092**	**56%**



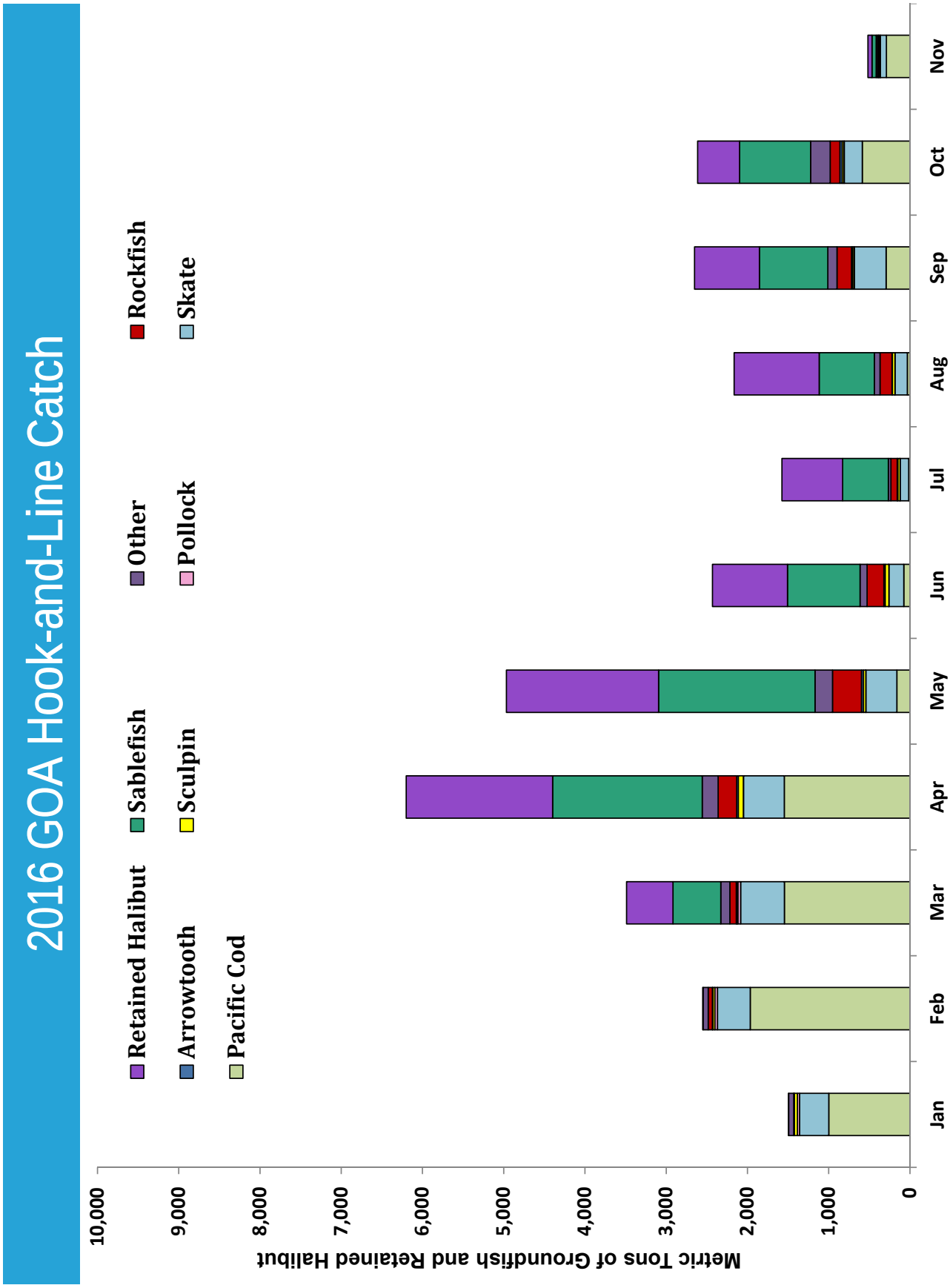
2016 GOA Other Rockfish Catch

2016 Other Rockfish	TAC (mt)	Catch (mt)	%
Southeast Outside *	200	38	19%
West Yakutat	574	48	8%
Central GOA	*na*	1,145	*na*
Western GOA	*na*	151	*na*
Central / Western GOA	1,534	1,296	84%
TOTAL	**1,961**	**1,092**	**56%**

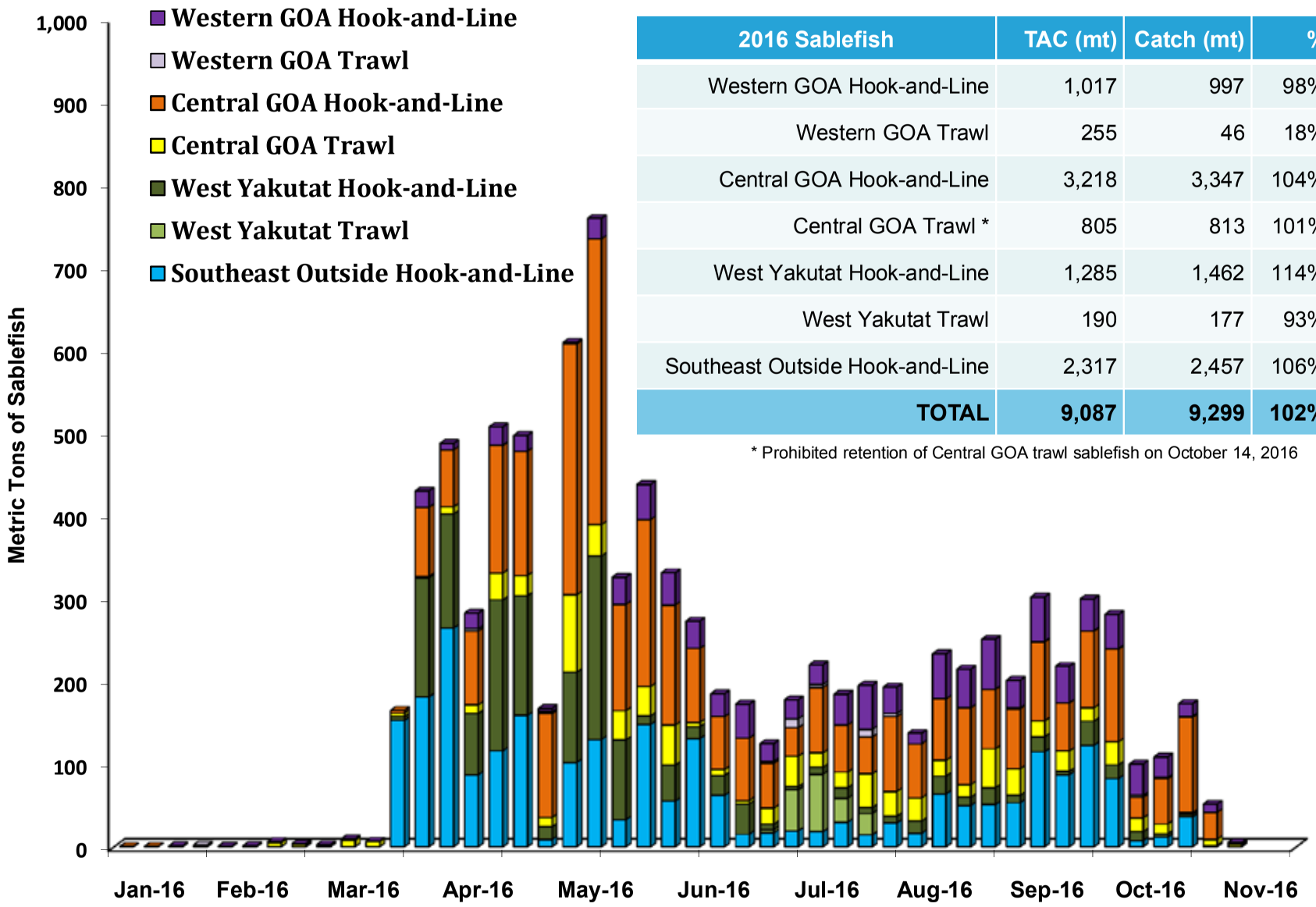
* Southeast Outside Other Rockfish does not include Demersal Shelf rockfish (DSR) species



Predominate Species		
Trawl	Harlequin Rockfish	58%
	Sharpchin Rockfish	16%
	Redstripe Rockfish	11%
Hook-and-Line	Yelloweye Rockfish	56%
	Quillback Rockfish	15%
	Redbanded Rockfish	11%

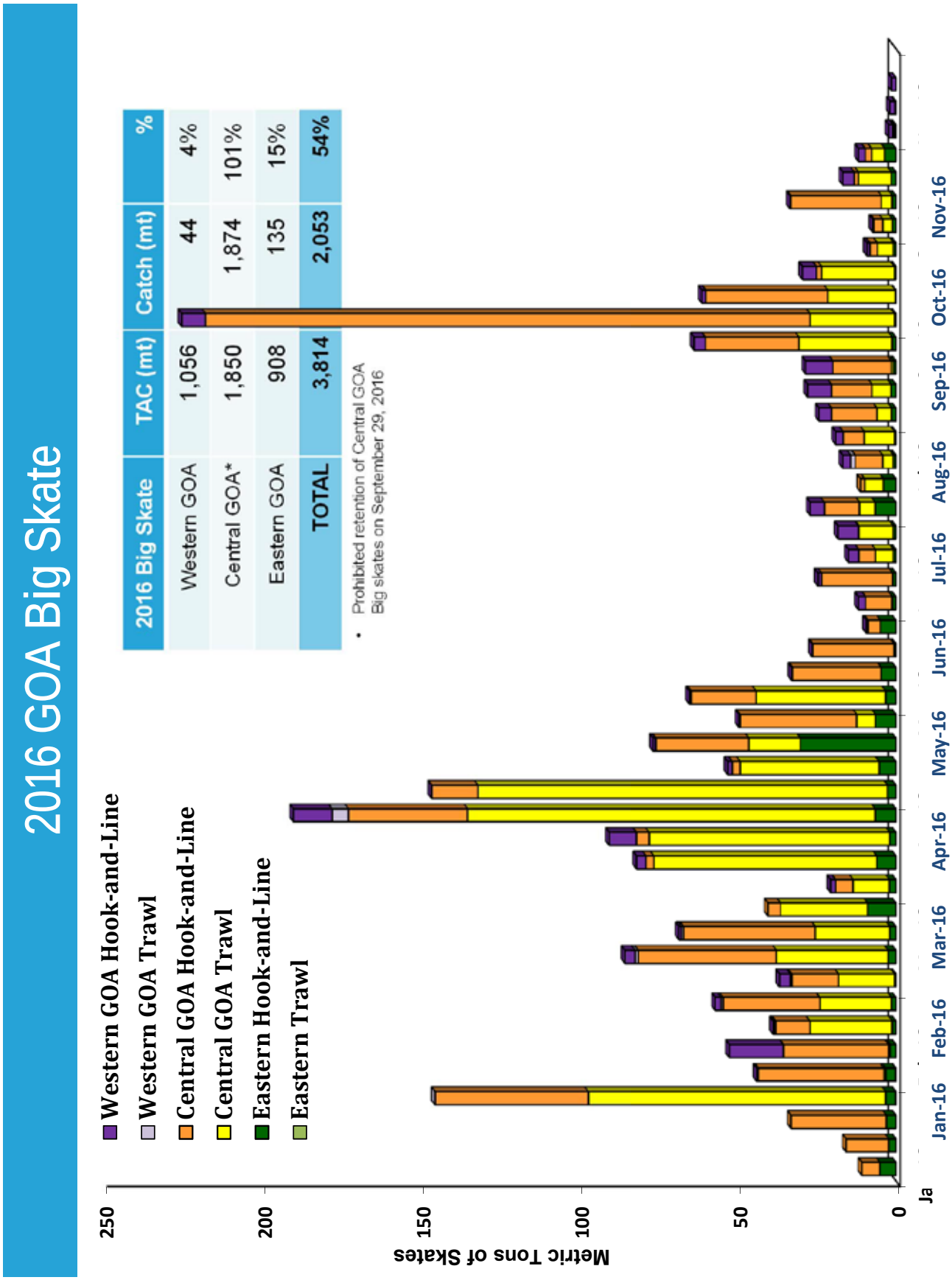

2016 GOA Hook-and-Line Catch
Retained Halibut
Sablefish
Other
Rockfish
Arrowtooth
Sculpin
Pollock
Skate
Pacific Cod
Metric Tons of Groundfish and Retained Halibut
10,000
9,000
8,000
7,000
6,000
5,000
4,000
3,000
2,000
1,000
0
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov

2016 GOA Sablefish Catch

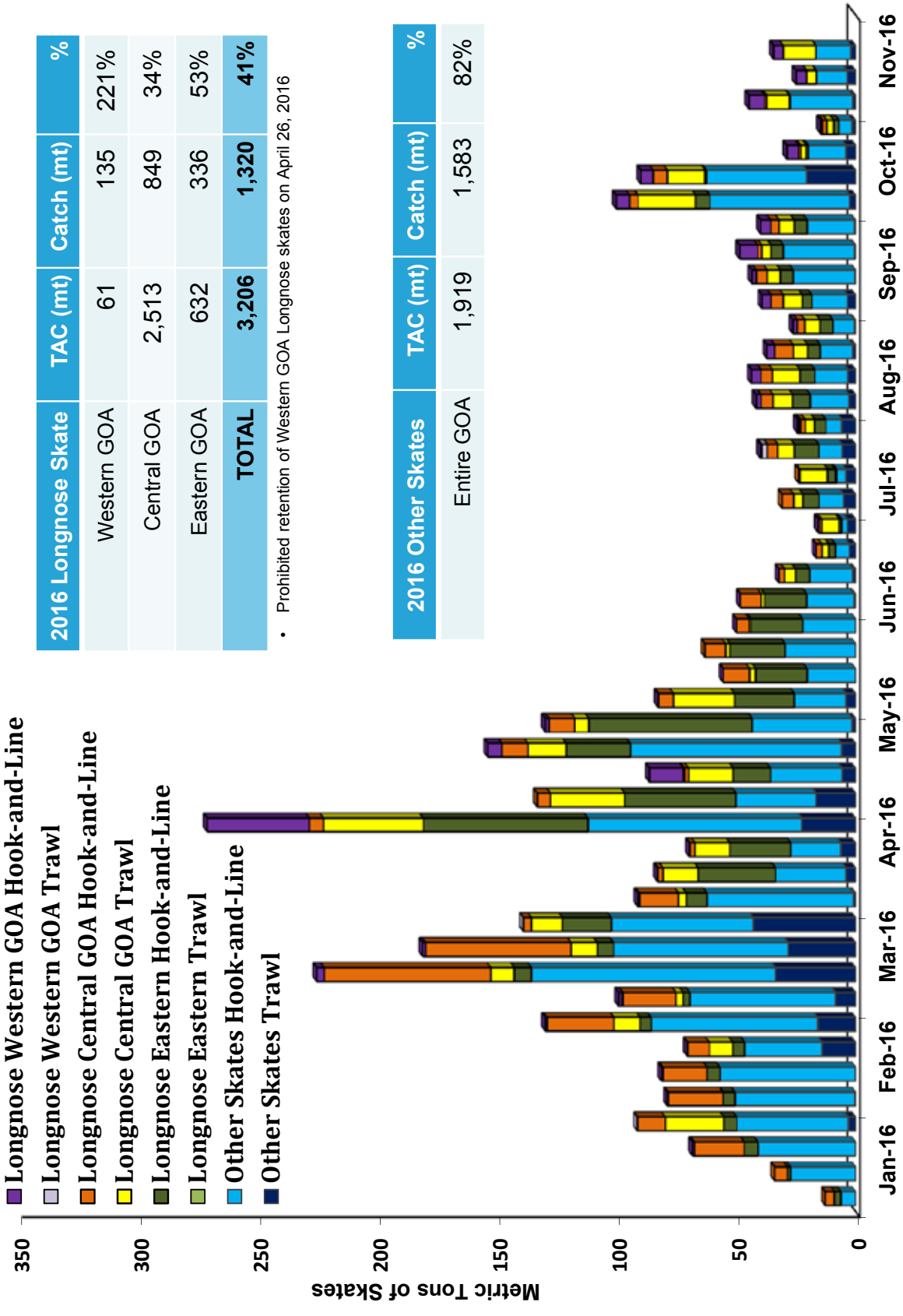


2016 Sablefish	TAC (mt)	Catch (mt)	%
Western GOA Hook-and-Line	1,017	997	98%
Western GOA Trawl	255	46	18%
Central GOA Hook-and-Line	3,218	3,347	104%
Central GOA Trawl *	805	813	101%
West Yakutat Hook-and-Line	1,285	1,462	114%
West Yakutat Trawl	190	177	93%
Southeast Outside Hook-and-Line	2,317	2,457	106%
TOTAL	**9,087**	**9,299**	**102%**

* Prohibited retention of Central GOA trawl sablefish on October 14, 2016


2016 GOA Big Skate
Western GOA Hook-and-Line
Western GOA Trawl
Central GOA Hook-and-Line
Central GOA Trawl
Eastern Hook-and-Line
Eastern Trawl
Metric Tons of Skates
250
200
150
100
50
0
Jan-16
Feb-16
Mar-16
Apr-16
May-16
Jun-16
Jul-16
Aug-16
Sep-16
Oct-16
Nov-16
2016 Big Skate
TAC (mt)
Catch (mt)
%
Western GOA
1,056
44
4%
Central GOA*
1,850
1,874
101%
Eastern GOA
908
135
15%
TOTAL
3,814
2,053
54%
Prohibited retention of Central GOA Big skates on September 29, 2016

2016 GOA Longnose Skate and Other Skates

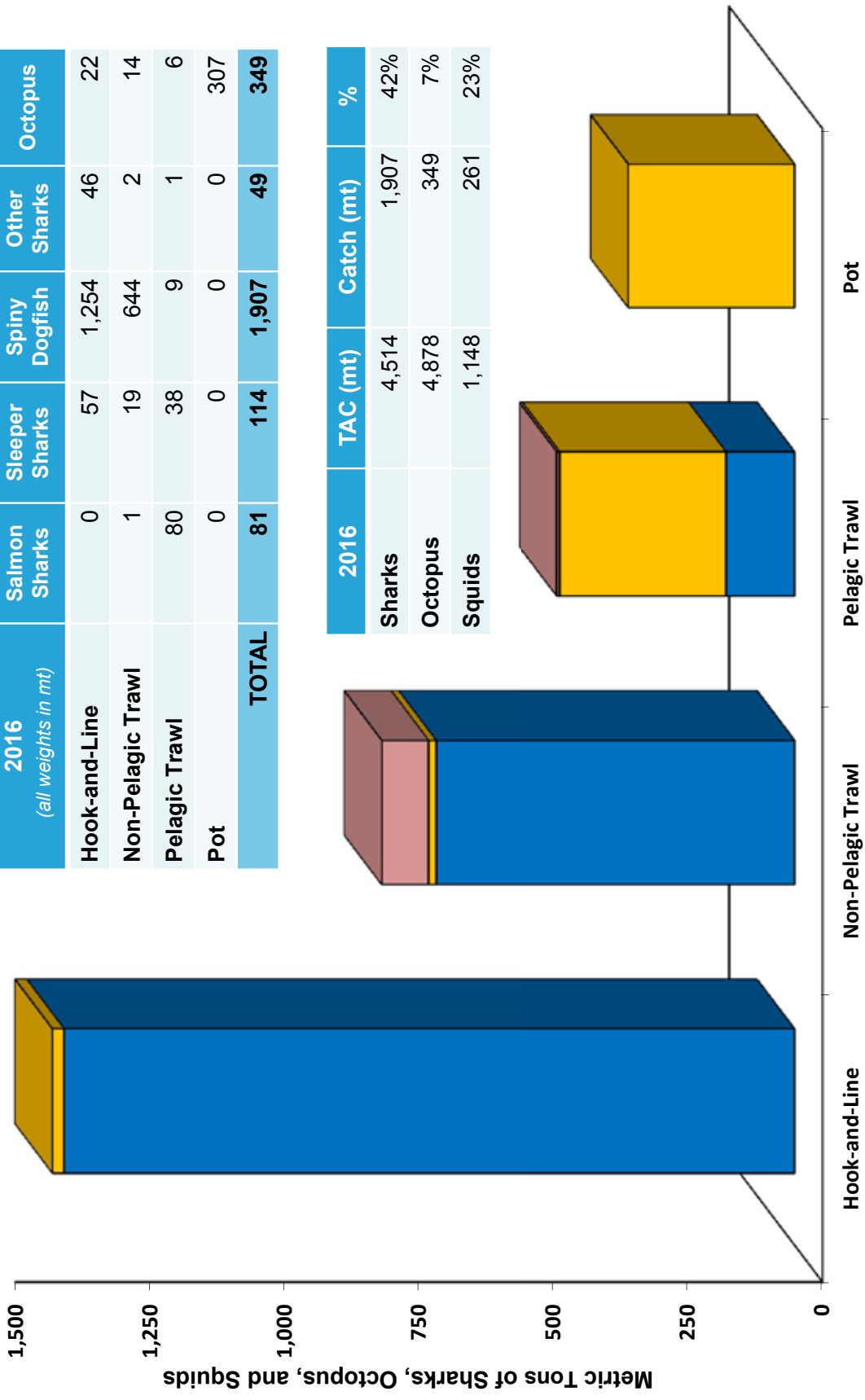


2016 Longnose Skate	TAC (mt)	Catch (mt)	%
Western GOA	61	135	221%
Central GOA	2,513	849	34%
Eastern GOA	632	336	53%
TOTAL	**3,206**	**1,320**	**41%**

- Prohibited retention of Western GOA Longnose skates on April 26, 2016

2016 Other Skates	TAC (mt)	Catch (mt)	%
Entire GOA	1,919	1,583	82%

2016 GOA Sharks, Octopus, and Squids



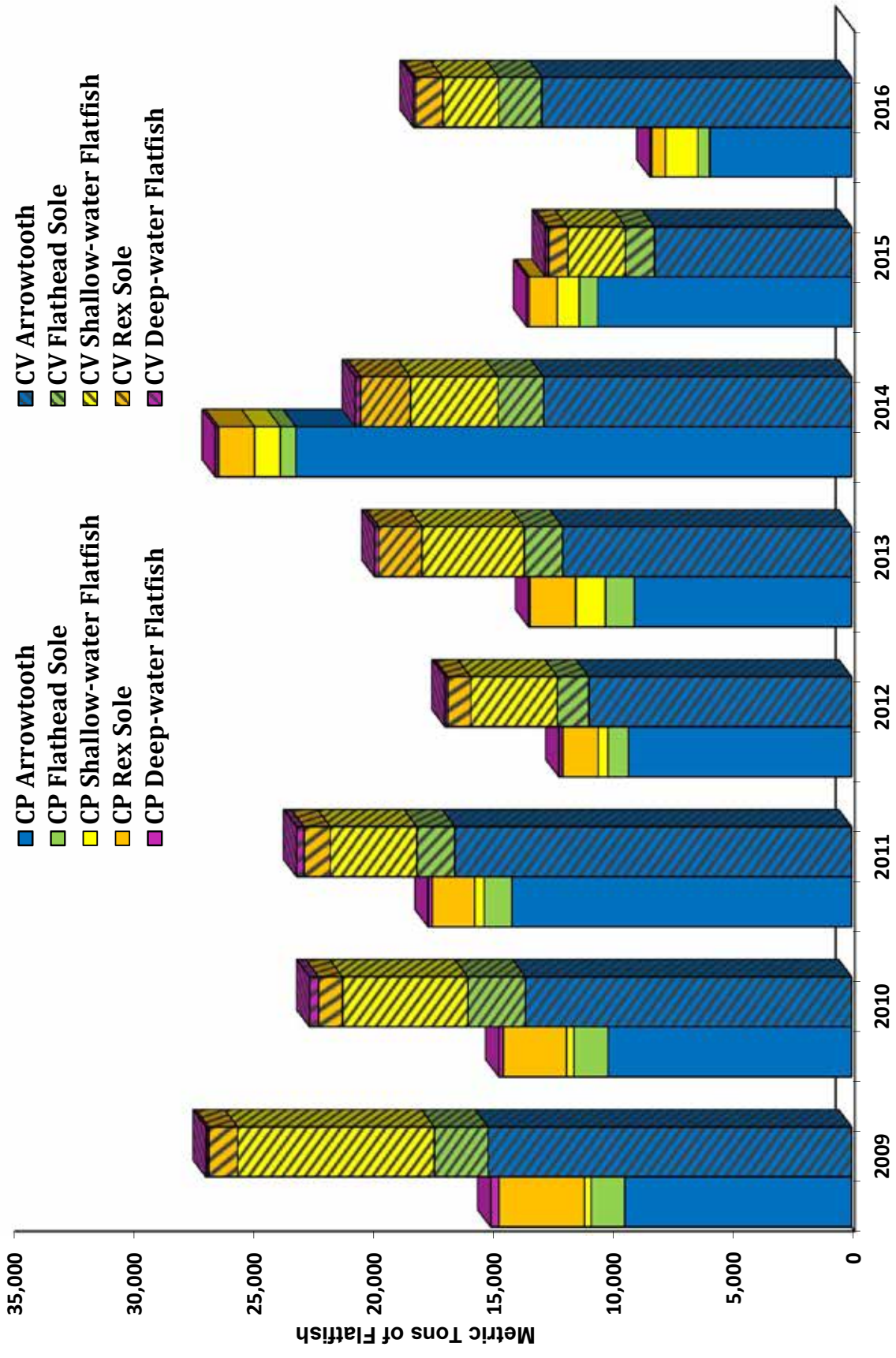
2016 *(all weights in mt)*	Salmon Sharks	Sleeper Sharks	Spiny Dogfish	Other Sharks	Octopus
Hook-and-Line	0	57	1,254	46	22
Non-Pelagic Trawl	1	19	644	2	14
Pelagic Trawl	80	38	9	1	6
Pot	0	0	0	0	307
TOTAL	**81**	**114**	**1,907**	**49**	**349**

2016	TAC (mt)	Catch (mt)	%
Sharks	4,514	1,907	42%
Octopus	4,878	349	7%
Squids	1,148	261	23%

2016 GOA Groundfish Species Placed on Prohibited Species Status

2015	Date
Big Skate in Central GOA	February 11, 2016
Other Rockfish in Central and Western GOA	September 30, 2016
Sablefish in West Yakutat District	October 30, 2016
2016	**Date**
Longnose Skates in Western GOA	April 26, 2016
Shortraker Rockfish in Western GOA	September 19, 2016
Shortraker Rockfish in Central GOA	September 19, 2016
Big Skate in Central GOA	September 29, 2016
Pacific Ocean Perch Incidental Catch Allowance in Central GOA	October 14, 2016
Sablefish by Trawl Gear in Central GOA (non-Rockfish Program)	October 14, 2016

2009 – 2016 GOA Trawl Flatfish Catch by Species



2016 Flatfish and Skate Catch in the GOA

Species	Area	TAC (mt)	Total Catch (mt)	%
Arrowtooth Flounder	Central	75,000	18,167	24%
	Western	14,500	986	7%
Flathead Sole	Central	15,400	2,092	14%
	Western	8,650	214	2%
Rex Sole	Central	4,445	1,521	34%
	Western	1,315	169	13%
Shallow Water Flatfish	Central	19,242	3,520	18%
	Western	13,250	146	1%
Deep Water Flatfish	Central	3,495	165	5%
	Western	186	4	2%
Big Skate	Eastern	1,056	44	4%
	Central	1,850	1,874	101%
	Western	908	135	15%
Longnose Skate	Eastern	632	336	53%
	Central	2,513	849	34%
	Western	61	135	221%
Other Skate	GOA	1,919	1,583	82%

GOA Trawl Groundfish Retained and Discards

2015 Trawl	Retained	Discards	% Retained
Pollock	161,613	1,163	99%
Pacific Ocean Perch	18,014	719	96%
Arrowtooth Flounder	17,076	1,757	91%
Pacific Cod	21,448	812	96%
Shallow-water Flatfish	2,970	365	89%
Northern Rockfish	3,764	175	96%
Dusky Rockfish	2,607	130	95%
Flathead Sole	1,859	125	94%
Rex Sole	1,925	32	98%
Skates *	567	837	40%
Other Rockfish *	415	491	46%
Sablefish *	871	182	83%
Other Species	357	706	34%
Atka Mackerel	901	318	74%
Rougheye Rockfish	308	10	97%
Shortraker Rockfish	263	18	94%
Thornyhead Rockfish	317	28	92%
Sculpins	9	317	3%
Deep-water Flatfish	110	130	46%
TOTAL	**235,390**	**8,313**	**97%**

2016 Trawl	Retained	Discards	% Retained
Pollock	171,999	873	99%
Pacific Ocean Perch *	21,404	1,650	93%
Arrowtooth Flounder	17,731	1,454	92%
Pacific Cod	15,096	81	99%
Shallow-water Flatfish	3,475	199	95%
Northern Rockfish	3,242	172	95%
Dusky Rockfish	3,120	103	97%
Flathead Sole	2,231	84	96%
Rex Sole	1,631	62	96%
Skates *	910	754	55%
Other Rockfish	865	282	75%
Sablefish *	869	169	84%
Other Species	149	876	15%
Atka Mackerel	939	44	95%
Rougheye Rockfish	383	96	80%
Shortraker Rockfish *	285	175	62%
Thornyhead Rockfish	408	41	91%
Sculpins	35	410	8%
Deep-water Flatfish	90	77	54%
TOTAL	**244,862**	**7,603**	**97%**

Sorted by 2016 Total catch; * prohibited retention of that species in that year

GOA Fixed Gear Groundfish Retained and Discards

2015 Hook-and-Line	Retained	Discards	% Retained
Sablefish	8,669	592	94%
Pacific Cod	11,334	608	95%
Skates *	652	2,914	18%
Sharks	0	827	0%
Thornyhead	475	214	69%
Sculpins	1	388	0%
Shortraker Rockfish	125	172	42%
Other Rockfish *	104	118	47%
Rougheye Rockfish	107	125	46%
Other Species	150	101	60%
Arrowtooth Flounder	22	198	10%
Demersal Shelf Rockfish	97	4	96%
Other Flatfish	0	52	0%
TOTAL	**21,735**	**6,314**	**77%**

2016 Hook-and-Line	Retained	Discards	% Retained
Sablefish	7,626	636	92%
Pacific Cod	7,040	471	94%
Skates *	289	3,028	9%
Sharks	3	1,139	0%
Thornyhead	463	181	72%
Sculpins	1	322	0%
Shortraker Rockfish *	93	193	33%
Other Rockfish	84	189	31%
Rougheye Rockfish	87	64	58%
Other Species	84	47	64%
Arrowtooth Flounder	8	128	6%
Demersal Shelf Rockfish	103	4	96%
Other Flatfish	0	42	1%
TOTAL	**15,879**	**6,445**	**71%**

2015 Pot	Retained	Discards	% Retained
Pacific Cod	20,424	219	99%
Other Species	52	342	13%
Octopus	356	489	42%
TOTAL	**20,831**	**1,050**	**95%**

2016 Pot	Retained	Discards	% Retained
Pacific Cod	17,288	113	99%
Other Species	31	602	5%
Octopus	171	131	57%
TOTAL	**17,489**	**846**	**95%**

Sorted by 2016 Total catch; * prohibited retention of that species in that year

2016 GOA Salmon, Crab, and Herring PSC

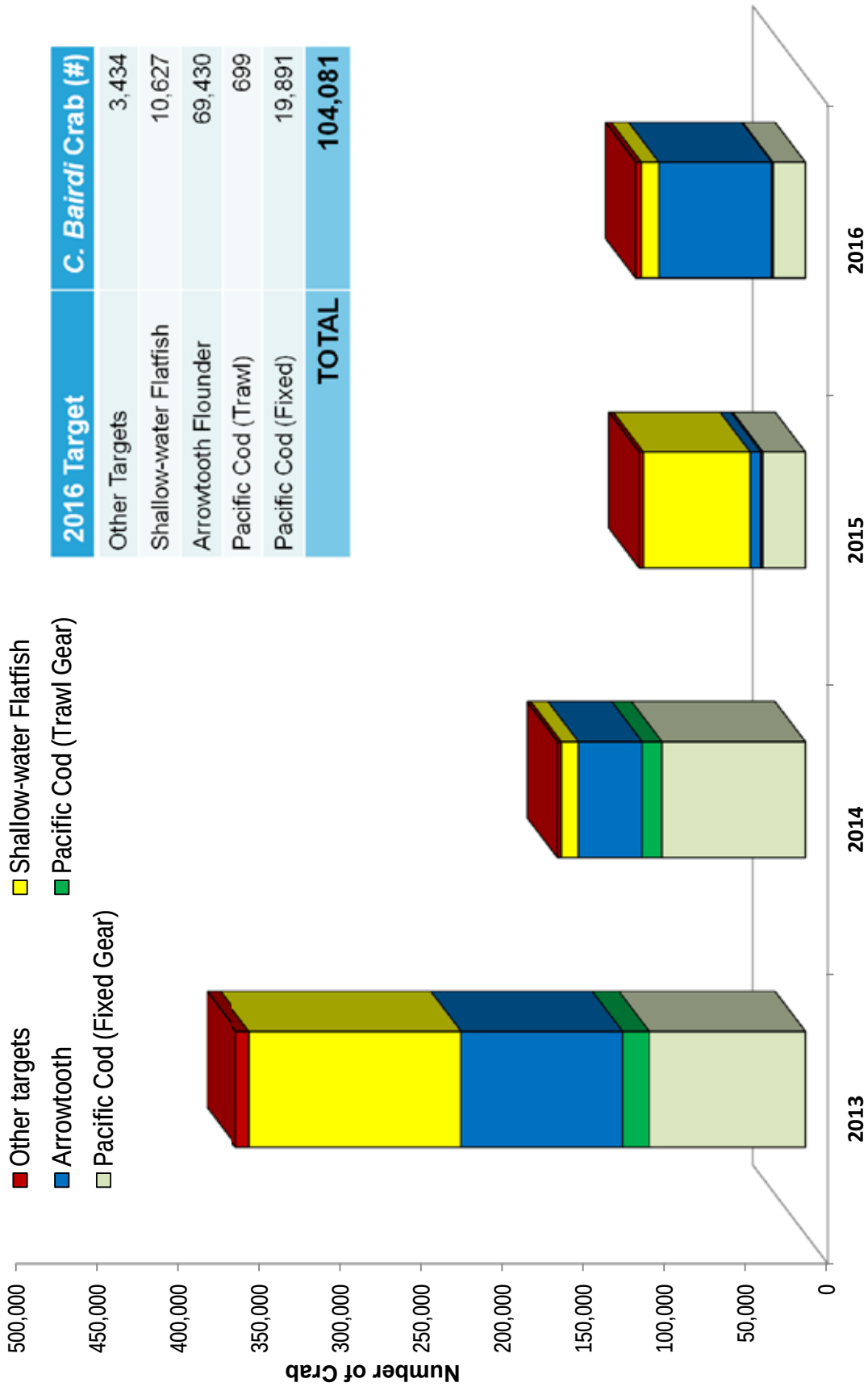
Chinook Salmon	Total Catch	Limit	%
Pollock Western GOA (#)	6,011	6,684	90%
Pollock Central GOA (#)	14,513	18,316	79%
Pollock 640 (#)	4	na	*na*
Catcher Vessel Non-pollock / Non-Rockfish Program (#)	481	2,700	18%
Catcher Vessel Rockfish Program (#)	87	1,200	7%
Catcher Processors (#)	420	4,080	10%
Non-trawl Gear (#)	174	na	*na*
TOTAL (#)	21,680	na	*na*

Other PSC Species	Total Catch	Limit	%
Non-Chinook Salmon (#)	3,522	na	na
Trawl Bairdi Tanner (#)	84,153	na	na
Fixed Gear Bairdi Tanner (#)	19,927	na	na
Red King Crab (#)	177	na	na
Golden King Crab (#)	731	na	na
Herring (mt)	149	na	na

Crab and Salmon PSC is reported in number of animals

2013 – 2016 GOA *C. Bairdi* Tanner Crab Incidental Catch by Target

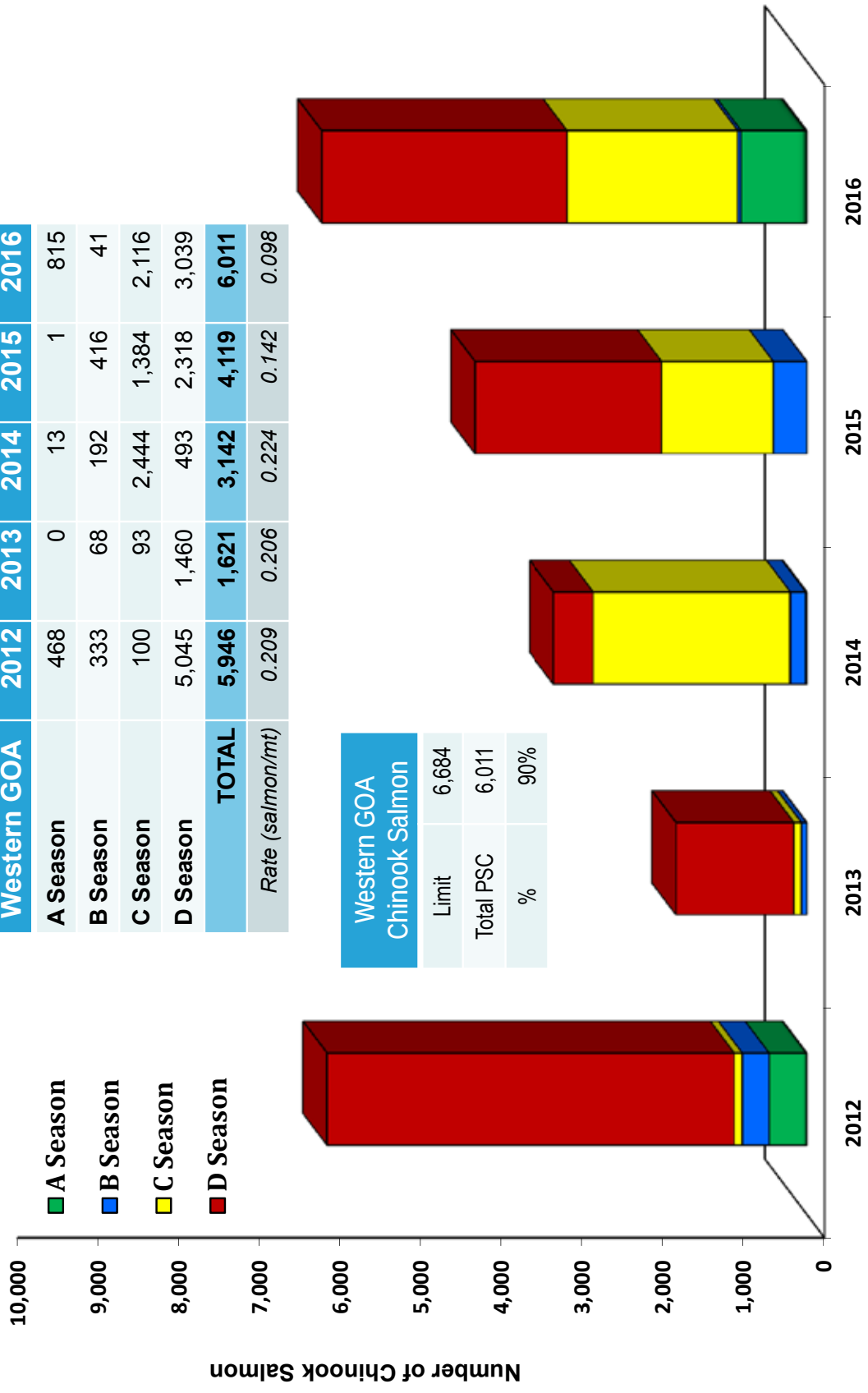
2016 Target	*C. Bairdi* Crab (#)
Other Targets	3,434
Shallow-water Flatfish	10,627
Arrowtooth Flounder	69,430
Pacific Cod (Trawl)	699
Pacific Cod (Fixed)	19,891
TOTAL	**104,081**



2012 – 2016 Chinook Salmon PSC in Western GOA Pollock Fisheries

Western GOA	2012	2013	2014	2015	2016
A Season	468	0	13	1	815
B Season	333	68	192	416	41
C Season	100	93	2,444	1,384	2,116
D Season	5,045	1,460	493	2,318	3,039
TOTAL	**5,946**	**1,621**	**3,142**	**4,119**	**6,011**
Rate (salmon/mt)	*0.209*	*0.206*	*0.224*	*0.142*	*0.098*

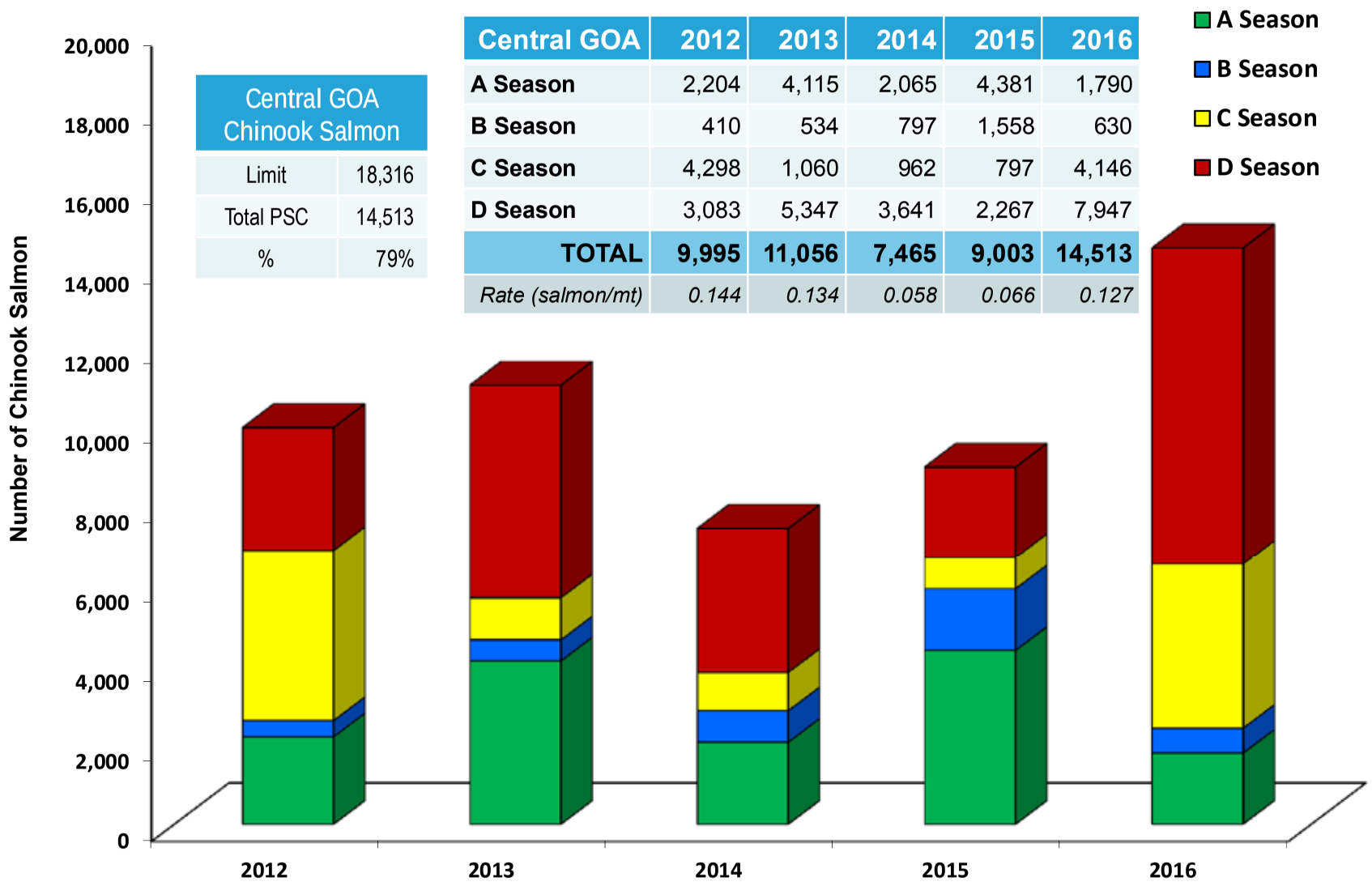
Western GOA Chinook Salmon	
Limit	6,684
Total PSC	6,011
%	90%

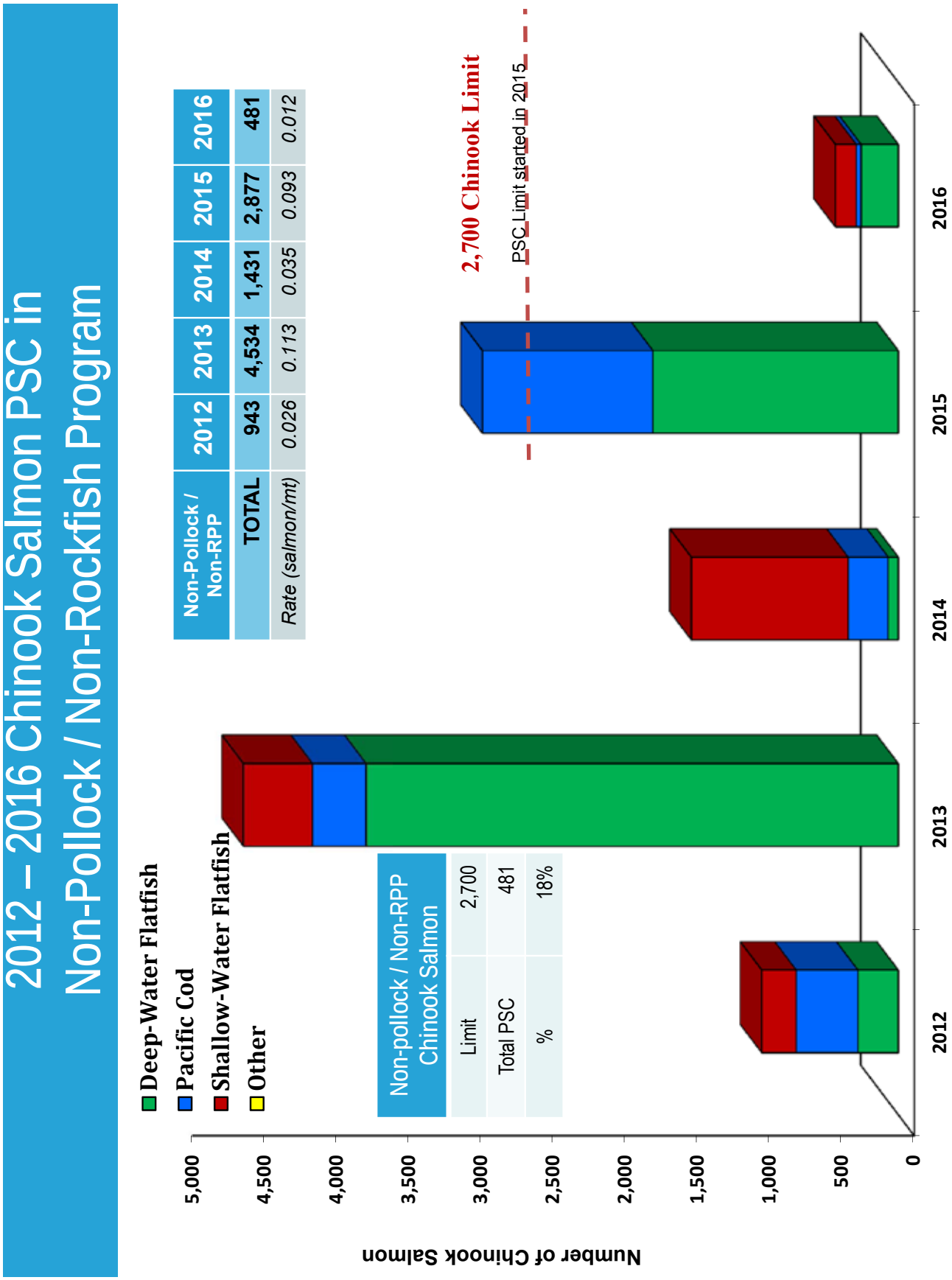


2012 – 2016 Chinook Salmon PSC in Central GOA Pollock Fisheries

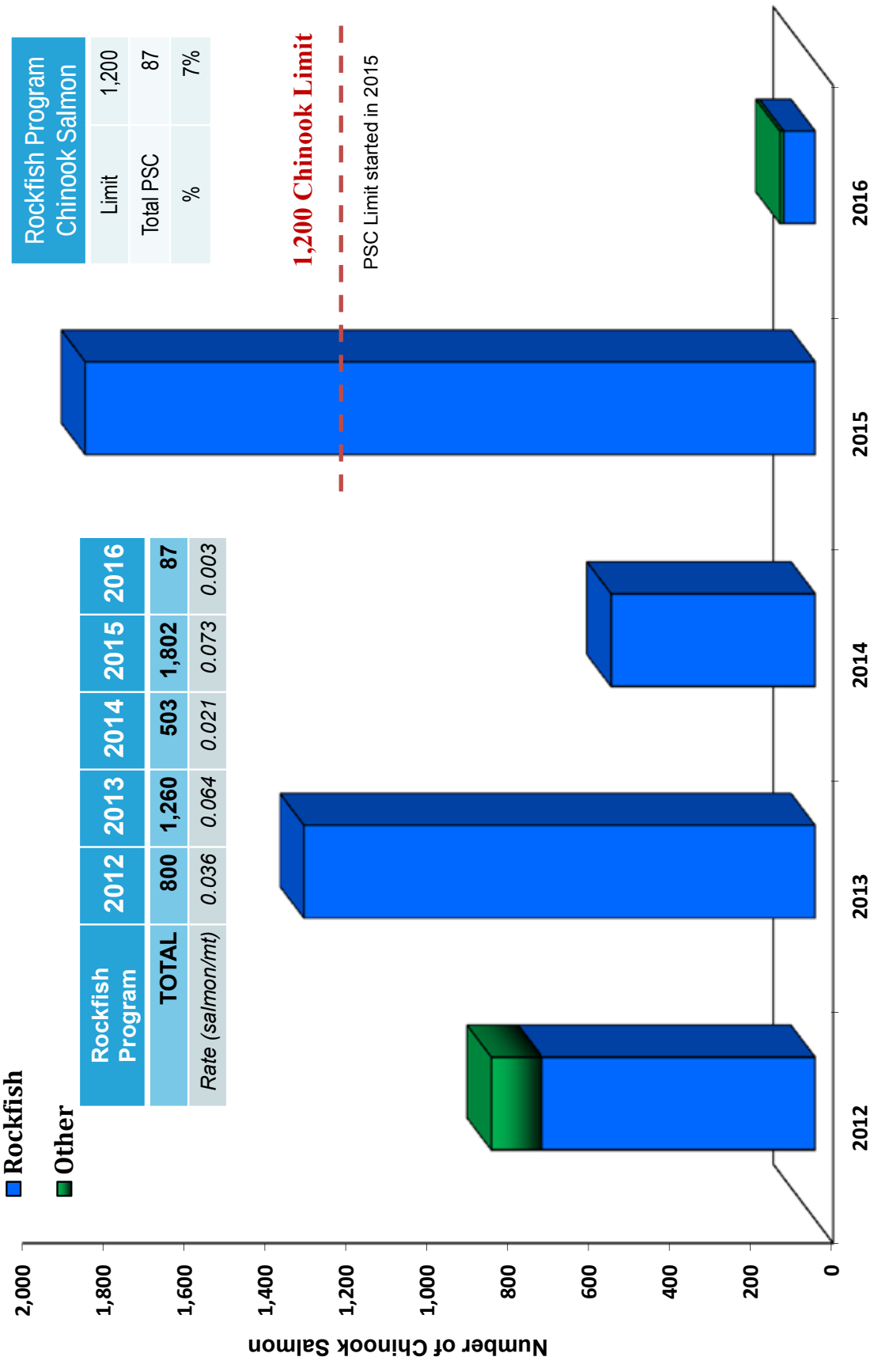
Central GOA Chinook Salmon	
Limit	18,316
Total PSC	14,513
%	79%

Central GOA	2012	2013	2014	2015	2016
A Season	2,204	4,115	2,065	4,381	1,790
B Season	410	534	797	1,558	630
C Season	4,298	1,060	962	797	4,146
D Season	3,083	5,347	3,641	2,267	7,947
TOTAL	**9,995**	**11,056**	**7,465**	**9,003**	**14,513**
Rate (salmon/mt)	*0.144*	*0.134*	*0.058*	*0.066*	*0.127*

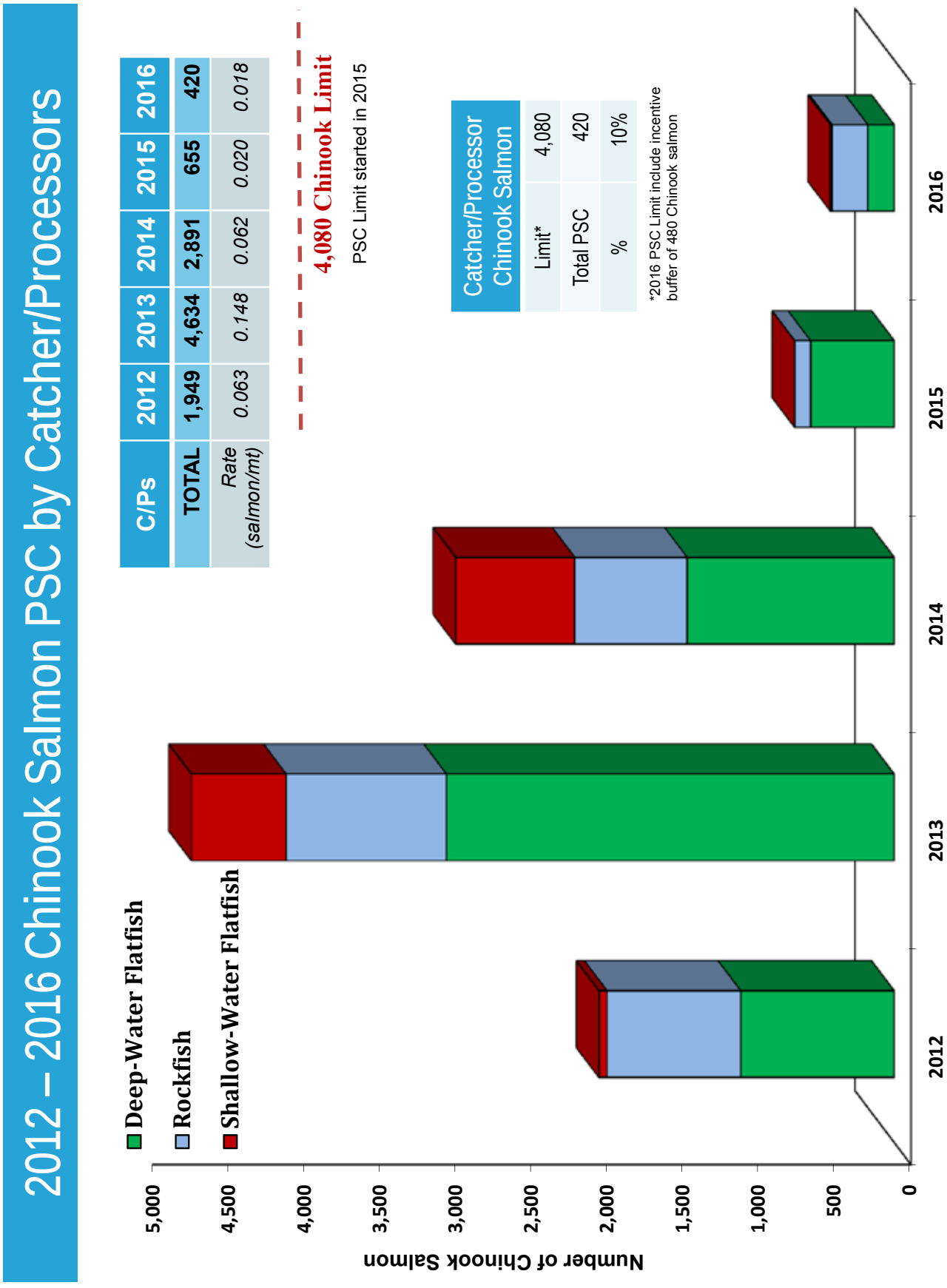



2012 – 2016 Chinook Salmon PSC in Non-Pollock / Non-Rockfish Program
Deep-Water Flatfish
Pacific Cod
Shallow-Water Flatfish
Other
Non-Pollock / Non-RPP
2012 2013 2014 2015 2016
TOTAL 943 4,534 1,431 2,877 481
Rate (salmon/mt) 0.026 0.113 0.035 0.093 0.012
2,700 Chinook Limit
PSC Limit started in 2015
Non-pollock / Non-RPP Chinook Salmon
Limit 2,700
Total PSC 481
% 18%
Number of Chinook Salmon
5,000
4,500
4,000
3,500
3,000
2,500
2,000
1,500
1,000
500
0
2012
2013
2014
2015
2016

2012 – 2016 Chinook Salmon PSC in Rockfish Program



Rockfish Program	2012	2013	2014	2015	2016
TOTAL	800	1,260	503	1,802	87
Rate (salmon/mt)	*0.036*	*0.064*	*0.021*	*0.073*	*0.003*


2012 – 2016 Chinook Salmon PSC by Catcher/Processors
Deep-Water Flatfish
Rockfish
Shallow-Water Flatfish
Number of Chinook Salmon
5,000
4,500
4,000
3,500
3,000
2,500
2,000
1,500
1,000
500
0
2012
2013
2014
2015
2016
C/Ps | 2012 | 2013 | 2014 | 2015 | 2016
TOTAL | 1,949 | 4,634 | 2,891 | 655 | 420
Rate (salmon/mt) | 0.063 | 0.148 | 0.062 | 0.020 | 0.018
4,080 Chinook Limit
PSC Limit started in 2015
Catcher/Processor Chinook Salmon
Limit* 4,080
Total PSC 420
% 10%
*2016 PSC Limit include incentive buffer of 480 Chinook salmon

2016 GOA Halibut Catch

Hook-and-Line Halibut (mt)	Retained	Discard*	% Discarded	Mortality**	Limit	%
IFQ Halibut Fishery	7,453	5,471	42%	875	na	na
IFQ Sablefish Fishery	834	843	50%	90	na	na
Pacific Cod \ Other Targets	47	2,342	98%	234	257	91%
TOTAL	**8,334**	**8,656**	**51%**	**1,199**	*na*	*na*

All Catch, retained and discarded is in round weight metric tons

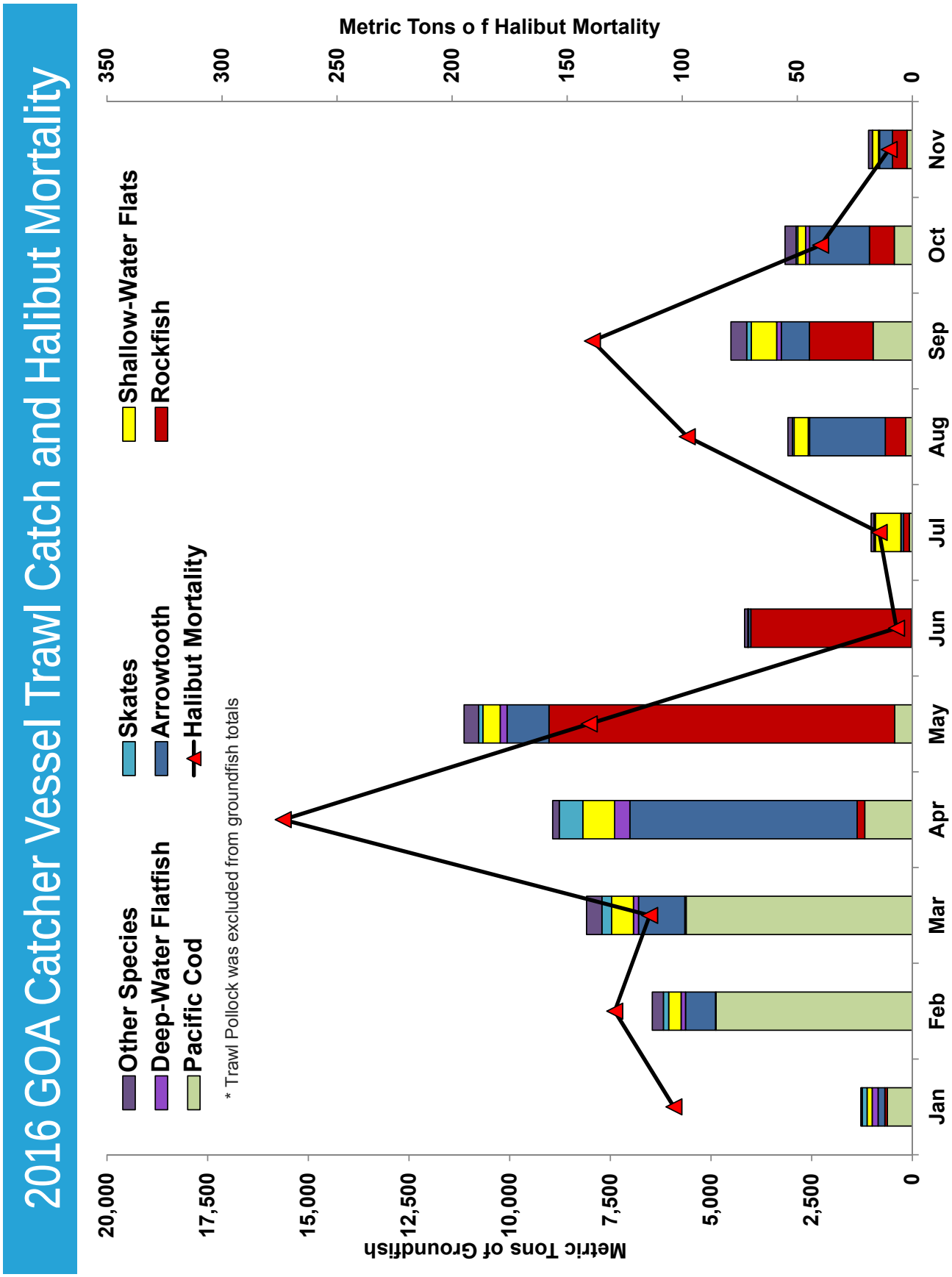
** Halibut discards are based on best available information collected by the North Pacific Observer program. Methods used by observers may overestimate total discards because average weights contain both retained and discarded halibut.*

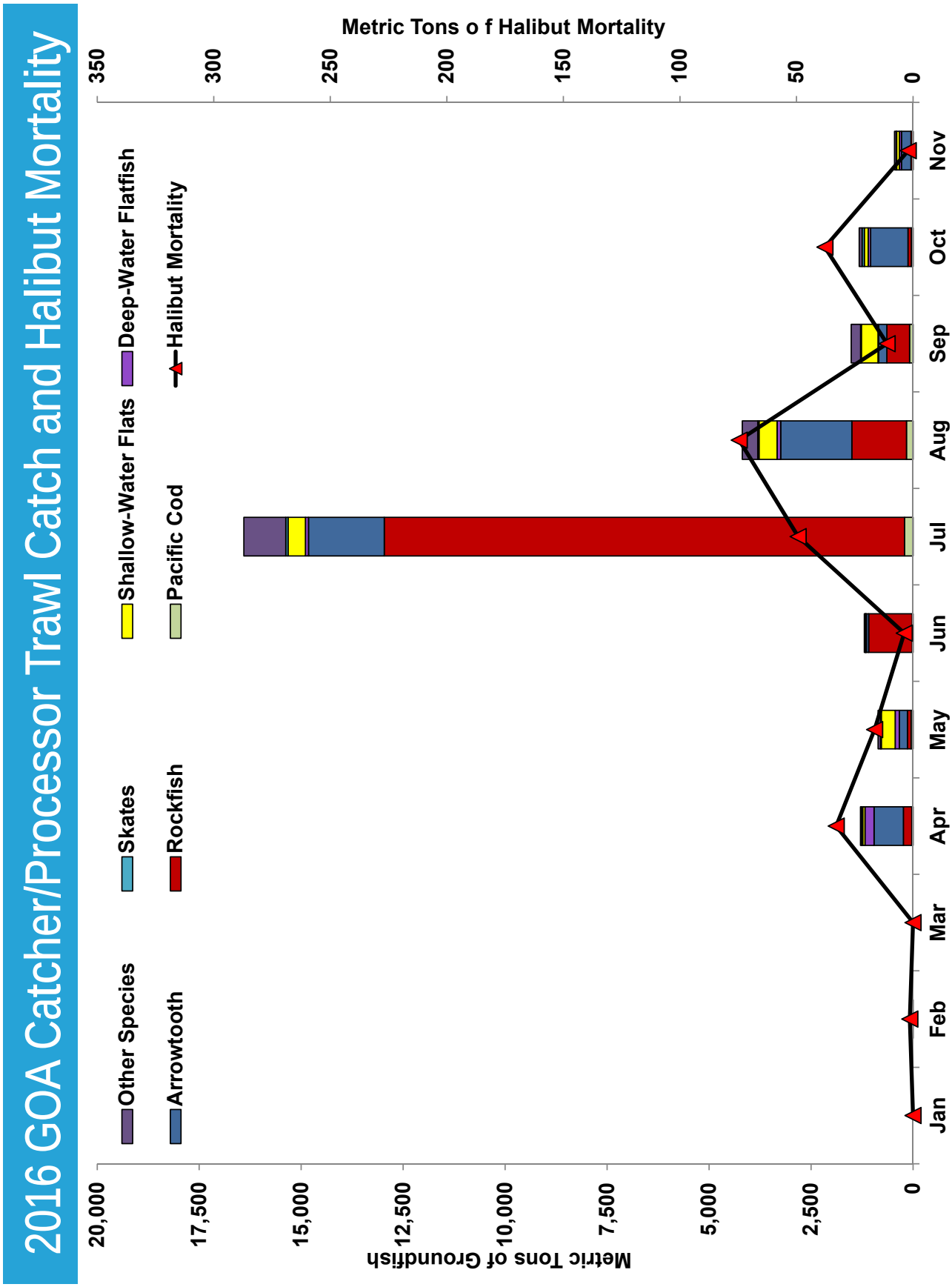
***Halibut Mortality rate in IFQ Halibut is 16%,*

Gilroy, H.L. 2012. Incidental mortality of halibut in the commercial halibut fishery (Wastage). Int. Pac. Halibut Comm. Report of Assessment and Research Activities

IFQ Sablefish and Pacific cod halibut mortality rate is 11%.

Trawl Halibut (mt)	Total Discard	Mortality	Mortality Limit	%
Pollock	224	130	1,706	76%
Pacific Cod	673	417		
Rockfish \ Sablefish	126	82		
Arrowtooth Flounder	772	586		
Deep Water Flatfish	20	14		
Shallow Water Flatfish	107	71		
TOTAL	**1,922**	**1,299**	**1,706**	**76%**


2016 GOA Catcher Vessel Trawl Catch and Halibut Mortality
Metric Tons o f Halibut Mortality
350
300
250
200
150
100
50
0
Shallow-Water Flats
Rockfish
Skates
Arrowtooth
Halibut Mortality
Other Species
Deep-Water Flatfish
Pacific Cod
* Trawl Pollock was excluded from groundfish totals
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Metric Tons of Groundfish
20,000
17,500
15,000
12,500
10,000
7,500
5,000
2,500
0


2016 GOA Catcher/Processor Trawl Catch and Halibut Mortality
Metric Tons o f Halibut Mortality
350
300
250
200
150
100
50
0
Halibut Mortality
Deep-Water Flatfish
Shallow-Water Flats
Pacific Cod
Skates
Rockfish
Other Species
Arrowtooth
Metric Tons of Groundfish
20,000
17,500
15,000
12,500
10,000
7,500
5,000
2,500
0
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov

2016 Trawl Halibut Mortality

	Season	Start Date	End Date	Limit (mt)	Total Mortality (mt)	%
Deep Water Species	1	Jan 20	Apr 1	92	92	100%
	2	Apr 1	Jul 1	299	300	100%
	3	Jul 1	Sep 1	159	157	99%
	4	Sep 1	Sep 30	0	1	n/a
			TOTAL	**550**	**551**	**100%**
Shallow Water Species	Season					
	1	Jan 20	Apr 1	257	256	100%
	2	Apr 1	Jul 1	144	144	100%
	3	Jul 1	Sep 1	180	45	25%
	4	Sep 1	Sep 30	128	147	115%
			TOTAL	709	593	84%
Rockfish Program				191	69	36%
Season 5 Halibut Allocation		Oct 1	Dec 31	256	86	36%
TOTAL Halibut Mortality				1,706	1,299	76%

*Includes reallocation between Deep water and Shallow water in July

2016 GOA Reduction in Halibut Mortality Compared to 5 year Average

Sector	2011-2015 Average (mt)	2016 (mt)	% Change (mt)	2011-2015 Rate*	2016 Rate*	% Change (rate)
Hook-and-line						
Catcher/Processors	73	69	-6%	11.19	11.91	6%
Catcher Vessels	132	165	25%	12.73	30.76	142%
Total	205	234	14%	12.22	20.99	72%
Trawl Catcher Vessels						
Central GOA Catcher Vessels (NPT)	1,008	949	-6%	21.37	21.43	0%
Western GOA Catcher Vessels (NPT)	72	107	50%	12.86	13.94	8%
Pelagic Trawl Catcher Vessels	12	13	15%	0.12	0.08	-38%
Total	1,091	1,069	-2%	6.87	4.67	-32%
Trawl Catcher/Processors						
Total	431	230	-47%	11.71	8.42	-28%
All Sectors						
TOTAL	**1,727**	**1,533**	**-11%**	**8.06**	**5.73**	**-29%**

**** Rate is kg of halibut / mt of groundfish***

2016 GOA Reduction in Halibut Mortality Compared to 2015

Sector	2015 (mt)	2016 (mt)	% Change (mt)	2015 Rate*	2016 Rate*	% Change (rate)
Hook-and-line						
Catcher/Processors	69	69	-1%	10.07	11.91	18%
Catcher Vessels	148	165	11%	16.52	30.76	86%
Total	217	234	7%	13.73	20.99	53%
Trawl Catcher Vessels						
Central GOA Catcher Vessels (NPT)	977	949	-3%	24.23	21.43	12%
Western GOA Catcher Vessels (NPT)	47	107	127%	6.35	13.94	120%
Pelagic Trawl Catcher Vessels	13	13	3%	0.08	0.08	-3%
Total	1,037	1,069	3%	4.86	4.67	-4%
Trawl Catcher/Processors						
Total	375	230	-39%	10.81	8.42	-22%
All Sectors						
TOTAL	**1,629**	**1,533**	**-6%**	**6.17**	**5.73**	**-7%**

**** Rate is kg of halibut / mt of groundfish***

Kodiak/Aleutians Subsistence Regional Advisory Council

U.S. Fish and Wildlife Service
c/o Office of Subsistence Management
1011 East Tudor Road, MS 121
Anchorage, Alaska 99503

RAC KA15085.KD

NOV 0 9 2016

Anthony Christianson
Interim Chair
Federal Subsistence Board
1011 E. Tudor Road
Anchorage, AK 99503

Re: Comments on the Draft Nonrural Determination Policy

Dear Chairman Christianson,

The Kodiak/Aleutians Subsistence Regional Advisory Council (Council) appreciates the opportunity to submit comments regarding the draft Nonrural Determination Policy.

The Council was established by the authority in Title VIII of the Alaska National Interest Lands Conservation Act (ANILCA) and is chartered under the Federal Advisory Committee Act. Section 805 of ANILCA and the Council's charter recognize the Council's authority to initiate, review and evaluate proposals for regulations, policies, management plans, and other matters related to subsistence uses of fish and wildlife on Federal public lands within the region. The Council provides a forum for the expression of opinions and recommendations regarding any matter related to the subsistence uses of fish and wildlife within the region. The Council represents subsistence harvesters of fish and wildlife resources on Federal public lands and waters of the Kodiak and Aleutian Islands region, including the Kodiak, Izembek, and Alaska Maritime National Wildlife Refuges.

At its recent public meeting held on August 15-16, 2016 in Unalaska the Council heard a brief presentation from Orville Lind, Native Liaison, Office of Subsistence Management, on the proposed Rural Determination Policy which outlines the administrative process for future nonrural determinations.

The Council appreciates the Board's efforts to include flexibility in this policy. However, there now appears to be no guidance on proposing a status change. There are no limits on who may propose a status change, or how often. This lack of criteria could allow for numerous frivolous or arbitrary proposals, which for obvious reasons would make communities nervous. For that reason, both Council and community members have requested that any proposal to change the status of a community come from either a member of the community or the Council itself.

We are disappointed that deference for this important issue will not be afforded to the Councils. The Council believes it is best suited to make determinations on rural status for the community it serves.

Mr. Christianson 2

Finally, the Council would like to know what baseline information will be used to substantiate a "demonstrated change" in the community under *Limitation on Submission of Proposals to Change from Rural to Nonrural.* Will the "demonstrated change" to the community be based on 2007 when nonrural communities were identified, or on the current conditions of the community?

Thank you once again for the opportunity to comment. Please contact Karen Deatherage, Council Coordinator, Office of Subsistence Management, at (907) 786-3564 or karen_deatherage@fws.gov with any questions.

Sincerely,

Speridon M. Simeonoff Sr.

Speridon M. Simeonoff, Sr.
Chair

cc: Kodiak/Aleutians Subsistence Regional Advisory Council
Federal Subsistence Board
Interagency Staff Committee
Eugene R. Peltola, Jr., Assistant Regional Director, Office of Subsistence Management
Stewart Cogswell, Acting Deputy Assistant Regional Director,
Office of Subsistence Management
Amee Howard, Policy Coordinator, Office of Subsistence Management
Carl Johnson, Council Coordination Division Chief, Office of Subsistence Management
Administrative Record

Fall 2017 Regional Advisory Council Meeting Calendar

August - November 2017

Meeting dates and locations are subject to change.

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Aug. 20	*Aug. 21* *Window Opens*	*Aug. 22*	*Aug. 23*	*Aug. 24* **NS — Wainwright**	*Aug. 25*	*Aug. 26*
Aug. 27	*Aug. 28*	*Aug. 29*	*Aug. 30*	*Aug. 31*	*Sept. 1*	*Sept.2*
Sept. 3	*Sept. 4* ***LABOR DAY HOLIDAY***	*Sept. 5*	*Sept. 6*	*Sept. 7*	*Sept. 8*	*Sept. 9*
Sept. 10	*Sept. 11*	*Sept. 12*	*Sept. 13*	*Sept. 14*	*Sept. 15*	*Sept. 16*
Sept. 17	*Sept. 18*	*Sept. 19* **K/A - Cold Bay**	*Sept. 20*	*Sept. 21*	*Sept. 22*	*Sept. 23*
Sept. 24	*Sept. 25*	*Sept. 26*	*Sept. 27*	*Sept. 28*	*Sept. 29*	*Sept. 30*
Oct. 1	*Oct. 2*	*Oct. 3*	*Oct. 4*	*Oct. 5*	*Oct. 6*	*Oct. 7*
Oct. 8	*Oct. 9* ***COLUMBUS DAY HOLIDAY***	*Oct. 10* **WI - Galena**	*Oct. 11* **YKD — Bethel**	*Oct. 12*	*Oct. 13*	*Oct. 14*
Oct. 15	*Oct. 16*	*Oct. 17*	*Oct. 18*	*Oct. 19* **AFN - Anchorage**	*Oct. 20*	*Oct. 21*
Oct. 22	*Oct. 23*	*Oct. 24* **SP — Nome**	*Oct. 25* **NW - Shungnak**	*Oct. 26*	*Oct. 27*	*Oct. 28*
Oct. 29	*Oct. 30*	*Oct. 31* **SE - Juneau**	*Nov. 1* **BB — Dillingham**	*Nov. 2*	*Nov. 3*	*Nov. 4*
Nov. 5	*Nov. 6* **SC — Seldovia/Soldotna**	*Nov. 7*	*Nov. 8* **EI — Tanana**	*Nov. 9*	*Nov. 10* *Window Closes* ***VETERANS DAY HOLIDAY***	*Nov. 11*

Winter 2018 Regional Advisory Council Meeting Calendar

February-March 2018

Meeting dates and locations are subject to change.

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Feb. 4	*Feb. 5* *Window Opens*	*Feb. 6*	*Feb. 7*	*Feb. 8*	*Feb. 9*	*Feb. 10*
Feb. 11	*Feb. 12*	*Feb. 13*	*Feb. 14*	*Feb. 15*	*Feb. 16*	*Feb. 17*
Feb. 18	*Feb. 19* ***PRESIDENT'S DAY*** ***HOLIDAY***	*Feb. 20*	*Feb. 21*	*Feb. 22*	*Feb. 23*	*Feb. 24*
Feb. 25	*Feb. 26*	*Feb. 27*	*Feb. 28*	*Mar. 1*	*Mar. 2*	*Mar. 3*
Mar. 4	*Mar. 5*	*Mar. 6*	*Mar. 7*	*Mar. 8*	*Mar. 9*	*Mar. 10*
Mar. 11	*Mar. 12*	*Mar. 13*	*Mar. 14*	*Mar. 15*	*Mar. 16* *Window Closes*	*Mar. 17*

Department of the Interior
U. S. Fish and Wildlife Service

Kodiak/Aleutians Subsistence Regional Advisory Council

Charter

1. **Committee's Official Designation.** The Council's official designation is the Kodiak/Aleutians Subsistence Regional Advisory (Council).

2. **Authority.** The Council is renewed by virtue of the authority set out in the Alaska National Interest Lands Conservation Act (16 U.S.C. 3115 (1988)), and under the authority of the Secretary of the Interior, in furtherance of 16 U.S.C. 410hh-2. The Council is regulated by the Federal Advisory Committee Act (FACA), as amended, 5 U.S.C. Appendix 2.

3. **Objectives and Scope of Activities.** The objective of the Council is to provide a forum for the residents of the Region with personal knowledge of local conditions and resource requirements to have a meaningful role in the subsistence management of fish and wildlife on Federal lands and waters in the Region.

4. **Description of Duties.** The Council has authority to perform the following duties:

    a. Recommend the initiation of, review, and evaluate proposals for regulations, policies, management plans, and other matters relating to subsistence uses of fish and wildlife on public lands within the Region.

    b. Provide a forum for the expression of opinions and recommendations by persons interested in any matter related to the subsistence uses of fish and wildlife on public lands within the Region.

    c. Encourage local and regional participation in the decisionmaking process affecting the taking of fish and wildlife on the public lands within the Region for subsistence uses.

    d. Prepare an annual report to the Secretary containing the following:

        (1) An identification of current and anticipated subsistence uses of fish and wildlife populations within the Region.

        (2) An evaluation of current and anticipated subsistence needs for fish and wildlife populations within the Region.

        (3) A recommended strategy for the management of fish and wildlife populations within the Region to accommodate such subsistence uses and needs.

(4) Recommendations concerning policies, standards, guidelines, and regulations to implement the strategy.

e. Make recommendations on determinations of customary and traditional use of subsistence resources

f. Make recommendations on determinations of rural status.

g. Provide recommendations on the establishment and membership of Federal local advisory committees.

5. **Agency or Official to Whom the Council Reports.** The Council reports to the Federal Subsistence Board Chair, who is appointed by the Secretary of the Interior with the concurrence of the Secretary of Agriculture.

6. **Support.** The U.S. Fish and Wildlife Service will provide administrative support for the activities of the Council through the Office of Subsistence Management.

7. **Estimated Annual Operating Costs and Staff Years.** The annual operating costs associated with supporting the Council's functions are estimated to be $150,000, including all direct and indirect expenses and 1.0 staff years.

8. **Designated Federal Officer.** The DFO is the Subsistence Council Coordinator for the Region or such other Federal employee as may be designated by the Assistant Regional Director – Subsistence, Region 7, U.S. Fish and Wildlife Service. The DFO is a full-time Federal employee appointed in accordance with Agency procedures. The DFO will:

- Approve or call all of the advisory committee's and subcommittees' meetings,
- Prepare and approve all meeting agendas,
- Attend all committee and subcommittee meetings,
- Adjourn any meeting when the DFO determines adjournment to be in the public interest, and
- Chair meetings when directed to do so by the official to whom the advisory committee reports.

9. **Estimated Number and Frequency of Meetings.** The Council will meet 1-2 times per year, and at such times as designated by the Federal Subsistence Board Chair or the DFO.

10. **Duration.** Continuing.

11. **Termination.** The Council will be inactive 2 years from the date the Charter is filed, unless prior to that date it is renewed in accordance with the provisions of Section 14 of the FACA. The Council will not meet or take any action without a valid current charter.

12. **Membership and Designation.** The Council's membership is composed of representative members as follows:

Ten members who are knowledgeable and experienced in matters relating to subsistence uses of fish and wildlife and who are residents of the Region represented by the Council. To ensure that each Council represents a diversity of interests, the Federal Subsistence Board in their nomination recommendations to the Secretary will strive to ensure that seven of the members (70 percent) represent subsistence interests within the Region and three of the members (30 percent) represent commercial and sport interests within the Region. The portion of membership representing commercial and sport interests must include, where possible, at least one representative from the sport community and one representative from the commercial community.

For geographic membership balance, it is a Council goal to seat four members who reside on the Kodiak Archipelago, three members who reside on the Alaska Peninsula, and three who reside on the Aleutian and Pribilof Islands.

The Secretary of the Interior will appoint members based on the recommendations from the Federal Subsistence Board and with the concurrence of the Secretary of Agriculture.

Members will be appointed for 3-year terms. A vacancy on the Council will be filled in the same manner in which the original appointment was made. Members serve at the discretion of the Secretary.

Council members will elect a Chair, Vice-Chair, and Secretary for a 1-year term.

Members of the Council will serve without compensation. However, while away from their homes or regular places of business, Council and subcommittee members engaged in Council, or subcommittee business, approved by the DFO, may be allowed travel expenses, including per diem in lieu of subsistence, in the same manner as persons employed intermittently in Government service under Section 5703 of Title 5 of the United States Code.

13. **Ethics Responsibilities of Members.** No Council or subcommittee member will participate in any specific party matter in which the member has a direct financial interest in a lease, license, permit, contract, claim, agreement, or related litigation with the Department.

14. **Subcommittees.** Subject to the DFO's approval, subcommittees may be formed for the purpose of compiling information and conducting research. However, such subcommittees must act only under the direction of the DFO and must report their recommendations to the full Council for consideration. Subcommittees must not provide advice or work products directly to the Agency. The Council Chair, with the approval of the DFO, will appoint subcommittee members. Subcommittees will meet as necessary to accomplish their assignments, subject to the approval of the DFO and the availability of resources.

15. **Recordkeeping.** Records of the Council, and formally and informally established subcommittees or other subgroups of the Council, shall be handled in accordance with General Records Schedule 6.2, and other approved Agency records disposition schedule. These records shall be available for public inspection and copying, subject to the Freedom of Information Act, 5 U.S.C. 552.

Secretary of the Interior

NOV 2 0 2015

Date Signed

DEC 0 3 2015

Date Filed

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