Prince William Sound Regional Citizens' Advisory Council

Board of Directors Meeting September 21-22, 2023
Islands & Oceans Visitor Center in Homer, Alaska

Zoom link for virtual users meeting audio and presentations: https://pwsrcac.zoom.us/j/81906519192
Teleconference: 1-888-788-0099 Meeting ID: 819 0651 9192

Final Agenda

Thursday, September 21, 2023

8:30	A	Call to Order and Roll Call • Welcome – President Robert Archibald • Introductions/Director reports on activities since the last meeting
8:45	B	1-0 Approve Agenda
8:50	C	1-1 Approve Minutes of May 4-5, 2023 Board Meeting 1-2 Approve Minutes of April 14, 2023 Special Board Meeting
8:55	D	Public Comment Period, limit five minutes per person
9:05	E	Internal Opening Comments ***(Please limit to general information not contained in Agenda)*** • Technical Committee Updates (SAC, TOEM, IEC, OSPR, & POVTS) • PWSRCAC Board Sub Committee Updates (Legislative, Finance, & Governance)
9:45		BREAK
9:55	F	External Opening Comments ***(Please limit to general information not contained in Agenda)*** • PWSRCAC Ex-Officio Members • Trans Alaska Pipeline System Shippers, Owner Companies, and Pilots
11:00		BREAK
11:10	G	Alyeska / SERVS Activity Report • Update on Alyeska efforts to address concerns in VMT System & Safety Culture Issues report
12:00		BREAK – *Lunch provided for those attending in-person.*
1:00	H	Consent Agenda 3-1 Approval of Annual Sage Intacct Licensing Fee 3-2 Approve Deferral of Project 5591 – Crude Oil Piping Inspection Review 3-3 Contract Authorization: Marine Winter Bird Survey
1:05	I	Presentation by Polar Tankers on Vetting Process for Foreign Flagged Tankers – Chris Hiatt, Manager Marine Assurance and Jon Novak, Marine Assurance Advisor
2:05		BREAK
2:15	J	4-5 Report Acceptance: Port Valdez Weather Buoy Data Analysis 2019-2022 – Roy Robertson with Dr. Rob Campbell of the PWSSC
2:40	K	4-2 Approval of Resolution in Support of Coast Guard Cutter Homeporting – Alan Sorum
3:05	L	4-3 Update on PWSRCAC Efforts to Address VMT System Integrity & Safety Culture Issues Report – Joe Lally and Donna Schantz with Billie Garde of Clifford & Garde, LLP
3:30		BREAK
3:40	M	Executive Session to discuss: • Update on PWSRCAC Class I Recreation Member Entity
4:45		RECESS

Shaded Items Require Board Action

Friday, September 22, 2023

9:00	A	Call to Order & Roll Call
9:05	B	Report on Executive Session
9:10	C	4-4 Report Acceptance: Oxygenated Hydrocarbons – Dr. Danielle Verna with Dr. David Podgorski of UNO
10:00	D	4-1 Report Acceptance: PWS Marine Bird Winter Surveys – Dr. Danielle Verna with Dr. Mary Anne Bishop of PWSSC

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10:30		*BREAK*
10:45	E	4-6 Report Acceptance: Peer Listener Training Manual – Dr. Danielle Verna with contractor Agnew::Beck
11:30	F	4-7 PWSRCAC Long Range Planning – KJ Crawford
12:00		*BREAK* – *Lunch provided for those at the meeting.*
1:00	G	President's Report to the Board
1:15	H	Executive Director's Report to the Board
1:30	I	Financial Manager's Report to the Board
1:45	J	Consideration of Consent Agenda Items
2:00	K	Closing Comments
2:35		ADJOURN

Shaded Items Require Board Action

Additional items provided for information only:

- PWSRCAC Name Roster *(Board Members only)*
- PWSRCAC Expense Reimbursement Form
- 2-1 List of Commonly Used Acronyms
- 2-2 Budget Status Report
- 2-3 Director Attendance Record
- 2-4 Committee Member Attendance Record
- 2-5 List of Board Committee Members
- 2-6 PWSRCAC One-Page Strategic Plan
- 2-7 List of Board and Executive Committee Actions
- 2-8 PWSRCAC Organizational Chart
- 5-1 September 2023 Program/Project Status Report

PRINCE WILLIAM SOUND
REGIONAL CITIZENS' ADVISORY COUNCIL
MINUTES
ANNUAL BOARD MEETING
May 4 and 5, 2023
Valdez, Alaska

Members Present

Robert Archibald	City of Homer
Amanda Bauer	City of Valdez
Robert Beedle	Cordova District Fishermen United
Mike Bender	City of Whittier
Mike Brittain	City of Seward
Nick Crump	Prince William Sound Aquaculture Corporation
Ben Cutrell	Chugach Alaska Corporation
Wayne Donaldson *(via videoconference)*	City of Kodiak
Mako Haggerty	Kenai Peninsula Borough
Luke Hasenbank	Alaska State Chamber of Commerce
Jim Herbert	Temporary Recreation Seat
David Janka	City of Cordova
Melvin Malchoff	Port Graham Corporation
Dorothy Moore	City of Valdez
Angela Totemoff	Tatitlek Corporation & Tatitlek Village IRA Council
Michael Vigil	Chenega Corporation & Chenega IRA Council
Aimee Williams *(via videoconference)*	Kodiak Island Borough
Kirk Zinck	City of Seldovia

Members Absent

Elijah Jackson	Kodiak Village Mayors Association
Bob Shavelson	Oil Spill Regional Environmental Coalition

Committee Members Present

Mikkel Foltmar	TOEM Committee
Harold Blehm	TOEM Committee
Tom Kuckertz	TOEM Committee
Steve Lewis *(via videoconference)*	POVTS Committee
Max Mitchell	POVTS Committee
Davin Holen *(via videoconference)*	SA Committee
Savannah Lewis *(via videoconference)*	IE Committee
Ruthie Knight	IE Committee
Matt Melton	OSPR Committee
John Kennish *(via videoconference)*	SA Committee

Staff Members Present

Donna Schantz	Executive Director
Joe Lally	Director of Programs
KJ Crawford	Director of Administration
Brooke Taylor	Director of Communications
Ashlee Hamilton	Director of Finance
Danielle Verna	Project Manager
Roy Robertson	Project Manager
Linda Swiss	Project Manager
Austin Love	Project Manager
Jeremy Robida	Project Manager
Alan Sorum	Project Manager
Amanda Johnson	Project Manager
Maia Draper-Reich	Outreach Coordinator
Nelli Vanderburg	Project Manager Assistant
Hans Odegard	IT Coordinator
Jaina Willahan	Administrative Assistant

Ex Officio Members Present

Allison Natcher	Alaska Dept. of Environmental Conservation
Lisa Fox *(via videoconference)*	U.S. Department of the Interior
Tori Huelskoetter *(via videoconference)*	U.S. Environmental Protection Agency
Graham Wood	Alaska Department of Natural Resources
CDR Patrick Drayer *(via videoconference, Friday only)*	USCG MSU Valdez
Paul Degner *(via videoconference)*	Bureau of Land Management

Others Present

John Kurz *(via videoconference)*	Alyeska Pipeline Service Company
Andres Morales	Alyeska Pipeline Service Company
Mike Day	Alyeska Pipeline Service Company/SERVS
Klint VanWingerden	Alyeska Pipeline Service Company
Kate Dugan	Alyeska Pipeline Service Company
Diana Bouchard	Alyeska Pipeline Service Company
Capt. Ian Maury *(via videoconference)*	Southwest Alaska Pilots Association
Eileen Oliver *(via videoconference)*	Bureau of Land Management
LT Caroline Wilkinson *(via videoconference)*	NOAA Office of Coast Survey
LCDR Hadley Owen *(via videoconference)*	NOAA Office of Coast Survey
LCDR Bryson Jacobs	USCG MSU Valdez
Sierra Fletcher	Nuka Research & Planning Group, LLC
Haley Griffin	Nuka Research & Planning Group, LLC
Rob Kinnear	Hilcorp Alaska
Chris Merten	Alaska Tanker Company

Patrick O'Halloran	OSG Management
Andrea West	Polar Tankers
Angelina Fuschetto	Crowley Alaska Tankers
Melissa Woodgate	Alaska Dept. of Environmental Conservation
Anna Carey	Alaska Dept. of Environmental Conservation
Mo Radotich	Alaska Dept. of Environmental Conservation
Sonja Mishmash	Alaska Dept. of Environmental Conservation
Rebecca Spiegel *(via videoconference)*	Alaska Dept. of Environmental Conservation
Dianne Munson *(via videoconference)*	Alaska Dept. of Environmental Conservation
Sarah Moore *(via videoconference)*	Alaska Dept. of Environmental Conservation
Dr. Lizbeth Bowen *(via videoconference)*	U.S. Geological Survey
Dr. Merv Fingas *(via videoconference)*	Spill Science
Joe Levesque	Levesque Law Group
Roy Jones *(via videoconference)*	PWSRCAC legislative monitor (Federal)
Gene Therriault *(via videoconference)*	PWSRCAC legislative monitor (State)
Governor Bill Walker	Citizen
Rick Steiner *(via videoconference)*	Oasis Earth
Michael Kelley *(via videoconference)*	Citizen

Thursday, May 4, 2023

CALL TO ORDER, WELCOME, AND INTRODUCTIONS

The annual meeting of the Board of Directors of the Prince William Sound Regional Citizens' Advisory Council was held May 4 and 5, 2023, at the Valdez Civic Center, Valdez, Alaska. President Robert Archibald called the meeting to order at 8:15 a.m. on May 4, 2023.

A roll call was taken. The following 17 Directors were present at the time of the roll call, representing a quorum for the conduct of business: Archibald, Bauer, Beedle, Bender, Crump, Cutrell, Donaldson (via Zoom), Haggerty, Hasenbank, Herbert, Janka, Malchoff, Moore, Totemoff, Vigil, Williams (via Zoom) and Zinck.

President Archibald welcomed everyone to the meeting and made the following statement regarding the recent release of the Council's commissioned report titled "Assessment of Risks and Safety Culture at Alyeska's Valdez Marine Terminal" by Billie Pirner Garde.

> *As most here are aware, on April 24, 2023, the Council released the report titled "Assessment of Risks and Safety Culture at Alyeska's Valdez Marine Terminal" by Billie Pirner Garde. We recognize this is a fairly complex report, and that Council ex officio members have only had it for a little over a week. We are pleased that Alyeska leadership is taking the report seriously, and we hope to continue to support Alyeska's work to address the issues raised in the report. The Council will be following up with*

Alyeska, the Alaska Congressional Delegation, the Governor, members of the Alaska Legislature, and regulatory agencies over the coming weeks and months on the findings and recommendations contained in the report. We certainly encourage Alyeska and our ex officio members to acknowledge receipt of the report during your opening comments, and offer any initial responses you may have, but we do not expect an in-depth discussion on the report at this meeting. I also encourage Board members to provide updates on your efforts to transmit the report to your member entities during the introductions and director reports on activities since the last meeting.

Introductions and Directors' reports followed.

1-0 AGENDA

President Archibald presented the agenda (green-colored sheet) for approval.

Michael Vigil **moved to approve the agenda** (green-colored sheet). Jim Herbert **seconded** and **the agenda was approved as presented**.

4-1 PWSRCAC ANNUAL DIRECTOR APPOINTMENTS

As outlined in the briefing sheet (Item 4-1) in the meeting notebook, the Board took up the annual seating of member representatives for those seats expiring at this meeting. President Archibald read the names of those Directors nominated for appointment to the Board.

Dorothy Moore **moved to confirm the appointment** of the selected representatives for each of the member entities listed for two-year terms expiring May 2025, as follows:

City of Homer	Robert Archibald
City of Kodiak	Wayne Donaldson
City of Seldovia	Kirk Zinck
City of Seward	Mike Brittain
City of Valdez	Amanda Bauer
Kenai Peninsula Borough	Mako Haggerty
Kodiak Village Mayors Association	Elijah Jackson
Prince William Sound Aquaculture Corp.	Nick Crump
Tatitlek Corporation & Tatitlek IRA Council	Angela Totemoff

Kirk Zinck **seconded** and the **motion passed** without objection.

1-1 MINUTES

Jim Herbert **moved to approve the minutes** of the Regular Meeting of the Board of Directors of January 26 & 27, 2023. Ben Cutrell **seconded** and the **minutes were approved** as presented.

1-2 MINUTES

Michael Vigil **moved to approve** the minutes of the Special Meeting of the Board of Directors of March 14, 2023. Ben Cutrell **seconded** and **the minutes were approved** as presented.

PUBLIC COMMENTS

Former Governor Bill Walker thanked the Council for its work and said he was struck by the Council's recently commissioned Garde report on the Valdez Marine Terminal. He commended the Council for doing great work and the work it was created to do. He emphasized the importance of everyone staying vigilant on the operations at the Valdez Marine Terminal and not letting complacency creep into the regulatory oversight of the TAPS operations and the terminal—noting complacency as being the greatest threat to continued safe operations and transportation of oil from Valdez.

INTERNAL OPENING COMMENTS – PWSRCAC TECHNICAL COMMITTEES

SCIENTIFIC ADVISORY COMMITTEE (SAC)

Committee Chair Davin Holen outlined the committee's role and reported on the committee's activities since the Board's last meeting in January.

- **Long-Term Environmental Monitoring Program (LTEMP).** 2023 is an expanded monitoring year, which occurs every five years. Planning is underway to procure vessel and float plane charters to reach the sites. Passive sampling devices will be deployed in May and retrieved in June. Mussel and sediment samples will be collected in June. The Council's contractor, Owl Ridge Natural Resource Consultants, Inc., will continue to interpret and report results, as well as upload LTEMP data to the Alaska Ocean Observing System (AOOS) database. A final report of the mussel transcriptomics work in response to the April 2020 oil spill will be presented to the Board at this meeting. SAC has recommended the Board accept the report.

- **ANS Oil Properties Report.** SAC had recently reviewed the Alaska North Slope (ANS) oil properties report written by Dr. Merv Fingas of Spill Science. In the report, Dr. Fingas reviewed the analysis results from a 2019 sample of ANS crude oil conducted by Environment and Climate Change Canada. The report will be presented to the Board at this meeting by Dr. Fingas. SAC has recommended the Board accept the report.

- **Winter Marine Bird Survey.** The third year of Council-supported winter marine bird surveys in Prince William Sound were conducted by staff from the Prince William Sound Science Center in early March. SAC will discuss the results of the survey this spring.

- **Oxygenated Hydrocarbons.** Twelve complete sample sets have been collected from the Valdez Marine Terminal Ballast Water Treatment Facility and shipped to the University of New Orleans for analysis. SAC will review draft results this spring. The lead contractor, Dr. David Podgorski, will be presenting this project at the Arctic & Marine Oil Spill Program (AMOP) in June.

- **Marine Invasive Species.** A broadscale survey of marine invasive species in Prince William Sound will take place for the first time in 20 years this summer, led by contractors at the Smithsonian Environmental Research Center. Settlement plates will be deployed in June and retrieved in September for analysis. The contractor is actively working on logistics to access sites throughout Prince William Sound.

- Student internships will begin in May to monitor for invasive European green crab and tunicates in Valdez, Cordova, and Kodiak.

- **Peer Listener Training Program.** Phase 2 of this project will result in updates to the Council's Peer Listener Training Manual, which is an appendix to the Guidebook for Coping with Technological Disasters. A request for proposals was advertised early this year. The project team and SAC chose to award the contract to Agnew::Beck Consulting. SAC will review a draft of the updated manual this summer.

- **Community Social Science Workshop.** To better understand potential social science data needs for Prince William Sound area communities, SAC has begun to explore a workshop to be held in the Spring of 2024 to bring together area communities and Tribes to define what science questions and projects could be potentially funded by SAC. This bottom-up approach would address community-derived science questions while also meeting Goal 6 of SAC to investigate and provide input on the social and economic consequences of oil-related accidents. This includes Objective 1 to monitor and evaluate the long-term social, cultural, and economic impacts of technological disasters on coastal communities, and Objective 2 to provide guidance for mitigating future sociocultural stress to coastal communities.

- **Conferences.** SAC member Roger Green will attend the AMOP conference this June in Edmonton, Alberta.

INFORMATION AND EDUCATION COMMITTEE (IEC)

Aimee Williams reported for the IEC in the absence of Chair Trent Dodson. Williams reported IEC had held two regular meetings and two project team meetings since the Board met in January.

- **Community Outreach.** Since the last Board meeting, Outreach Coordinator Maia Draper-Reich worked with volunteers and staff to coordinate various outreach events throughout the region, including hosting the Council's booth, giving presentations, and facilitating guest lessons for school groups. She will share details of the Council's Outreach efforts over the past year in the Community Outreach report on the following day's agenda. A few highlights since January were:

  In addition to staff and volunteers hosting a booth at the Alaska Forum on the Environment in February, Alan Sorum of staff and contractor Peter Soles presented a session titled "Throwing a Lifeline to Oil Tankers: New Technology for Emergency Towing." The presentation included a showing of the summary video for the project, which was also played during the Forum's film festival session.

  In early March, Draper-Reich and Board member Jim Herbert went to Seward to serve as competition officials for the Alaska Tsunami Ocean Sciences Bowl. The Tsunami Bowl is an annual competition event where 12 high school teams from around the state participate in quiz game play.

  In mid-March, Draper-Reich brought the Council's booth to Kodiak for ComFish. IEC members Jane Eisemann and Trent Dodson, as well as Board member Wayne Donaldson, all helped to staff the booth at this event, engaging the Kodiak community in conversations about the Council's work.

  In the past week there have been several outreach events in Valdez, including the Youth Involvement Bligh Reef Expedition with the Copper River Watershed Project, the research symposium poster session with students from the Prince William Sound College on May 2, and the Fishing Vessel Program Community Outreach tour that occurred the day before this Board meeting.

- **Youth Involvement**. Recently, a project team made up of Kate Morse, Cathy Hart, and Maia Draper-Reich met to revise the Youth Involvement Request for Proposals (RFP). The Youth Involvement RFP application is typically posted twice a year. This revision project set out to increase clarity, ease of use, and equity for those submitting funding proposals, while also streamlining the review process. In April, IEC voted to accept the revisions. The updated version was released on April 6, and the committee is accepting proposals through May 19.

  There are currently six open Youth Involvement contracts. Two of those contracts are scheduled to end in June, and four projects are scheduled to take place over the summer months and will close in September.

Unfortunately, one of the Youth Involvement projects the committee chose to fund in January could not complete their project as proposed. A project team of Cathy Hart, Trent Dodson, and Maia Draper-Reich met to develop a plan to redistribute those additional funds to projects that were partially funded in January. The committee approved their recommendations.

- **Web Presence Best Available Technology.** Amanda Johnson has been working with the new contractor, Cindy Bouchard of FlipFlop Freelance, on several security and technical upgrades to the Council's WordPress websites and site hosting.

- **Other.** In mid-April, staff member Amanda Johnson and IEC member Cathy Hart attended the Nonprofit Technology Conference in Denver, Colorado. This conference taught essential nonprofit technology best practices while also allowing them to connect with other community members committed to social change.

  IEC was still looking for a new committee member and the Board was encouraged to let the committee know of any recommendations.

OIL SPILL PREVENTION & RESPONSE COMMITTEE (OSPR)

Chair Jim Herbert outlined the OSPR Committee's mission and reported on the committee's activities since the January Board meeting:

- The OSPR committee welcomed new member Matt Melton and said goodbye to retiring member John LeClair.

- The committee was kept updated on area and regional planning efforts for the Alaska Regional Contingency Plan, and the Prince William Sound, Arctic and Western Alaska, and Inland Alaska c-plans and area committees. Both the Arctic and Western Alaska and Prince William Sound Area Contingency Plans were signed in January 2023. There will not be a formal public review process for these plans in 2023.

- The committee was kept apprised on staff participation in an ARRT-initiated Regional Stakeholder Committee (RSC) task force. The group is working to construct job aids to inform and assist liaison officers and RSC members with their roles and responsibilities as part of the RSC process.

- The committee was updated on the status of the VMT East Tank Farm secondary containment liner. It was reported that Alyeska is considering using electrical leak location (ELL) to test the integrity of the secondary containment liner. Alyeska is considering conducting a pilot study in the West Tank Farm in 2024.

- The committee was updated on the ADEC Article 4 regulatory update. More information was on the agenda for later in this Board meeting.

- The committee received a presentation from ADEC representative Mike Donnellan on the ongoing conversion of Geographic Response Strategies (GRS) from PDF to Geographic Information System (GIS) format. The status of this ADEC project can be followed at the ArcGIS hub site.

- The committee took action on various drill reports, including the 2022 Annual Drill Monitoring Report which is on the agenda for later in this Board meeting.

- The committee has been kept updated on various weather-related projects, including repair and maintenance on the Port Valdez weather buoys. The committee was also updated on the Port Valdez weather buoy data analysis for 2022.

- A new weather station will be erected on Kokenhenik Island, potentially within the next month, in the Copper River Flats. The idea is that it will be right in the path of the winds that come down the Copper River and will provide active information to the fishing fleet there and the tankers.

- Members of the committee participate in the Alyeska/SERVS fishing vessel response fleet. Alyeska has recently raised their compensation by 10%.

- The committee is asking the Board for approval at this meeting of its c-plan review contractor pool which is on the consent agenda (Item 3-5), and also the seating of its committee members who are up for renewal on the consent agenda (Item 3-4).

TERMINAL OPERATIONS AND ENVIRONMENTAL MONITORING COMMITTEE (TOEM)

Committee Chair Amanda Bauer updated the Board on the TOEM Committee's activities since the last Board meeting:

- The Council received a written response from Andres Morales on the two recommendations from Taku Engineering's ballast water Tank 93 memo, which was distributed to industry and regulators in January 2023. Alyeska will not upgrade Tank 93's cathodic protection system, but Alyeska will install a "drip ring" around the perimeter of the tank as recommended by Taku Engineering.

- The committee accepted a Taku Engineering memo regarding the crude oil Tank 2 maintenance project and site visit. This memo will be distributed to Alyeska and regulators after it has been accepted by the Board as final. It includes one

recommendation for Alyeska to consider adding a "drip ring" around the perimeter of the bottom of Tank 2, to prevent water from migrating underneath the tank floor.

- On February 21, 2023, the Council sent Alyeska and ADEC the final secondary containment report by Dr. Craig Benson and a letter listing four recommendations for consideration by Alyeska. On February 23, Alyeska informed the Council that they would be implementing two of the recommendations: one to use the "electrical leak location" method to inspect the CBA liner; and another to conduct a pilot study in the West Tank Farm to evaluate the effectiveness of "electrical leak location" to find damage in the liner.

- Progress on two of TOEM's tank maintenance projects continues to be stalled because of Alyeska's inability to provide requested information. Some of this information was first requested back in October 2021 and should be readily available.

- The committee received an update from Valdez Marine Terminal (VMT) Manager Klint VanWingerden on the updated VMT snow removal plan, which revealed that significant revisions were made to the plan in response to the tank vent damage incident from the previous year.

- The committee received updates on upcoming and ongoing projects at the VMT.

- Mercedes "Sadie" Blancaflor has been hired as the new TOEM project manager (replacing Austin Love). She holds a Master of Science in Earth Systems from Stanford University and currently teaches Environmental Law as an Adjunct Professor at the University of Alaska, Fairbanks. Her first day of work with the Council will be on Monday, May 22, 2023.

PORT OPERATIONS AND VESSEL TRAFFIC SYSTEMS COMMITTEE (POVTS)

Committee Chair Steve Lewis outlined the POVTS Committee's efforts since the January Board meeting.

- The committee continued to stay informed about the weather-based projects led by the OSPR Committee and on matters pertaining to the Port Valdez weather buoys.

- The Committee heard a presentation by Rick Steiner on his work advocating for vessel speed reduction in Prince William Sound for the purpose of reducing the risk of tanker-whale strikes. The committee later met two more times to discuss the matter further. The Board will hear more about this issue later in this meeting.

- POVTS Project Manager Alan Sorum has started meeting with Dr. Bretwood Higman and Valdez Emergency Manager Aaron Baczuk for the tsunami workshop project.

- Project 8300 - Sustainable Shipping: Sierra Fletcher from Nuka Research and Planning Group will present phase one of this project later in this Board meeting.

- Project 8520 - Miscommunication in Maritime Contexts: Contractor Dr. Nicole Ziegler began work on phase one of this project but then reported she needed to take some time out from working on this project as she is dealing with some family health issues. Work on the project will resume once those issues are resolved, and the committee will be informed when that happens.

- Future work for the committee will include continuing to follow autonomous vessels and artificial intelligence (AI) use in navigation. The committee has recognized that the field is evolving rapidly which has made identifying a project for the committee to define difficult at this point. The committee will continue to watch and follow these issues and will report any newsworthy information in the POVTS news bulletin that issues approximately every six weeks. The committee will also continue to follow greenhouse gas emissions in the industry and report those in the POVTS news bulletins as well.

(This concluded the technical committee reports.)

INTERNAL OPENING COMMENTS -- PWSRCAC BOARD SUBCOMMITTEES

LEGISLATIVE AFFAIRS COMMITTEE (LAC)

Chair Dorothy Moore outlined the committee's role and reported on its activities since the January Board meeting:

Activities Since the Last Board Meeting:

- The Legislative Affairs Committee (LAC) has had six project team meetings and one regular meeting since the January Board meeting. At these meetings, the committee received updates from the Council's state and federal legislative monitors on legislation (and potential legislation) of interest to the Council.

State:

- **Alaska Department of Environmental Conservation (ADEC) Spill Prevention and Response (SPAR) budget deficit**
  The Council has been concerned with the long-term sustainability of the SPAR Division budget, which will go into deficit in FY2029, based on the latest

Prevention Account projection. Recently, Senator Giessel introduced SB 137, which would increase the refined fuels surcharge to 1.5 cents per gallon. If this legislation passes, it will provide stable funding for SPAR well into the future.

- **PFAS Use, Regulation, and Testing (SB 67)**
  This bill would allow the state fire marshal to determine an alternative safe and effective firefighting substance and adopt regulations requiring use of the alternative substance. The legislation also allows for the disposal of up to 40 gallons of PFAS-containing firefighting substance per household, per year.

- **Invasive Species Council**
  The Governor's office intends to create an Alaska Invasive Species Council through issuance of an administrative order. The wording for this order is under review by various executive branch agencies.

Federal**:**

- A major item of discussion has been the Billie Garde report and methods of transmittal. This report was accepted by the Board and transmitted to the Alaska Congressional Delegation, Alyeska, regulators, legislators, and the public in late April. The Council's federal legislative monitor is focused on encouraging Alaska's Delegation to make a request to the Government Accountability Office to initiate an audit to determine adequacy of the current regulatory oversight of operations at the VMT.

- LAC was kept updated on the Council's recertification, which was finalized in February.

- Two staff members and two LAC members will be traveling to Washington, D.C., later this month to meet with members of the Alaska Delegation to thank them for their support of PWSRCAC's recertification and continued support of the Council's mission and work, and to discuss and answer questions related to Billie Garde's report.

LAC Priorities Going Forward:

- LAC's top state legislative priority continues to be the sustainability of the SPAR budget. The Council, through LAC and our state legislative monitor, will support SB 137 to increase the refined fuels surcharge that will provide a stable funding source for SPAR in the future.

- LAC will also support PFAS legislation (SB 67) and the Governor establishing an Alaska Invasive Species Council.

BOARD GOVERNANCE COMMITTEE (BGC)

Committee Chair Luke Hasenbank reported for the Board Governance Committee (BGC) on its activities since the January Board meeting.

- The committee met twice since the January Board meeting.

- In late February, the Council was successfully recertified by the U.S. Coast Guard. In response to questions which arose during the recertification process, the BGC has posted a Request for Qualifications (RFQ) to identify potential entities to fill a Recreation seat on the PWSRCAC Board of Directors.
    - The Temporary Recreation Seat currently held by Jim Herbert will sunset at the January 2024 Board meeting, or when the permanent Recreation seat is filled through the RFQ process, whichever comes first.

- In drafting the RFQ, and in response to a question posed at the January Board meeting, the BGC project team considered many aspects of recreation, and agreed on the following definitions for the purpose of this RFQ:
    - Recreation means an experience, activity, or the opportunity to enjoy the natural environment, cultural, and historic resources for the use, enjoyment, and welfare of citizens.
    - Recreational organizations are entities promoting recreation within the EVOS area.

- The BGC Project Team considered more than 20 possible recreation entities. Based on the established definitions of recreation, the BGC identified four priority organizations to solicit as part of the RFQ process: Alaska Geographic Association, Friends of Kachemak Bay State Park, Prince William Sound Stewardship Foundation, and Valdez Adventure Alliance.
    - PWSRCAC staff has sent a solicitation email to each of these organizations, detailing the RFQ and encouraging their participation.

- The RFQ is currently live on the PWSRCAC website. Any interested recreational organization may submit materials until the deadline of July 15, 2023.
    - All materials submitted by proposers will be distributed to the BGC Project Team for review. The BGC intends to provide a recommendation to the Board, ahead of the September 2023 Board meeting.
    - Any Board members who would like to join the project team were asked to contact Director of Administration KJ Crawford.

FINANCE COMMITTEE

Treasurer Wayne Donaldson reported for the Finance Committee as follows:

The Finance Committee met twice since the January Board meeting. During the February meeting the committee reviewed the December 31, 2022, financial statements.

- The committee reviewed the agreed-upon procedures from BDO, PWSRCAC's auditor, for travel and lobbying expenses, as well as non-contract revenue expenditures in FY2022. This expanded look at travel, lobbying, and non-Alyeska fund expenditures is conducted to highlight expenditures in areas previously audited by Alyeska and is separate from the annual financial audit conducted by BDO. There were no exceptions noted from BDO in the report.

- The committee reviewed the Council's IRS Form 990 nonprofit tax form for 2021 and the Board approved the Form 990 at a Special Board Meeting in March. The IRS accepted the Form 990 on March 24, 2023.

During the April meeting the committee reviewed the March 31, 2023, financial statements.

- Director of Finance Ashlee Hamilton gave an in-depth review of historical income and expense components back to FY2010. The current budget, as well as the upcoming budget, were compared to historical trends. Data was presented on historical annual CPI, Alyeska funding, year-end net assets, expenses for the Board, committees, administration and projects, personnel, rents, external professionals, office expenses, travel, depreciation, insurance, and miscellaneous expenses.

- The committee reviewed the contract compliance report that is compiled by the Executive Director and Director of Finance. This report is written for the Board, referencing the agreed-upon procedures that BDO reviews with our annual audit. This is on the consent agenda, under Item 3-6, at this Board meeting. The Finance Committee has recommended the Board accept the contract compliance report.

Finally, staff presented the FY2024 budget to the Finance Committee and the Finance Committee has recommended the Board accept the FY2024 budget. Approval of the budget is on this Board meeting agenda.

(This concluded the Opening Comments of PWSRCAC's Board Subcommittees.)

For the Good of the Order

Going back to ADEC's assurances of follow-up answers to Council questions at the January Board meeting that were reported in the minutes of that meeting, Michael Vigil

pointed out that the Council had not received a sufficient answer from ADEC/Tiffany Larson as to the justification for reducing drills and exercise requirements under the new Article 4 regulations (18 AAC 75) that ADEC had just approved. He stated that he did not want to risk there being another spill because of reductions/relaxation of c-plan requirements and that the system had worked well for over 30 years since the EVOS, and he saw no reason to change it.

Break: 9:25 a.m. – 9:42 a.m.

ALYESKA/SERVS ACTIVITY REPORT

Andres Morales, Alyeska's Emergency Preparedness and Response Director gave the Alyeska/SERVS Activity Report for the first quarter 2023.

VMT Operations:

- Operations: *(As of 3/31/2023)*

	2023
Tankers Loaded	57
Tankers Escorted	57
Barrels Loaded	43,641,221

	Since start up
Tankers Loaded	23,343
Tankers Escorted	14,662
Barrels Loaded	17,831,394,070

- Safety: *(As of 3/31/2023)*

Days away from work cases	0
TAPS Combined Recordable Rate %	0.20%

- Environment (Valdez): *(As of 3/31/2023)*

Spill Volume (Gallons)	2.07
Number of Spills	5

Fishing Vessel Availability by Port (end of 1Q 2023**):**

Port	Tier 1	Tier 2
Valdez	19	12
Cordova	21 (+8 Rapid Resp.)	106
Whittier	6	15
Seward		18

Homer		39
Kodiak		35
Totals	**54**	**225**

2023 Contingency Plan Activities:

- Reviewing scope of revisions – 18 AAC 75, Article 4.
- Three Contingency Plans need to be rewritten.
- VMT Contingency Plan expires in Nov. 2024.

1st Quarter 2023 – VMT/PWS Training & Exercises:

- 2/8 Cordova Rapid Response Vessel Exercise.
- 3/6 VALDEZ STAR Open Water Deployment.
- 3/11 Otter Rehabilitation Responder Training.
- 3/16 VMT IMT Exercise.
- 3/31 – 4/2 Kodiak Fishing Vessel Training.

Upcoming 2023 VMT/PWS 2Q Training & Exercises:

- Spring 2023 Fishing Vessel Training:
  - Kodiak 3/31 - 4/2.
  - Homer 4/3 - 4/8.
  - Seward 4/9/ - 4/12.
  - Whittier 4/13 -4/17 with non-Mechanical ORE on 4/17.
  - Cordova 4/17 – 4/26 with Near Shore ORE on 4/19 & 4/20.
  - Valdez 4/27 – 5/3 with Near Short ORE on 5/3.

- 4/22 International Bird Rescue Training with Bird Rehabilitation Demonstration Exercise.
- 5/4 – 5/8, 5/11 – 5/14, and 5/19 – 5/22 Initial Response Training.
- 5/16 – 5/18 Hilcorp Prince William Sound Tanker Exercise.

2023 Valdez Projects:

- Replace sulfuric acid tank with HDPE tank.
- Tank 93 Internal API653 Inspection.
- Tank 93 – Annular Ring Replacement.
- DAF Cell 5 and 6 – Repair and Coat.
- Tank 8 – Isolate and Clean.
- Berth 4 Header and TK-93 Branch Leg Ballast System Inspection.
- VMT 48" Crude A and B Header ILI Inspection.
- OSRB 5 -Arrived in Prince William Sound.
- Allison Creek replacement – Construction.
- 500-2 Reconditioning.

Following the status report, Morales took questions:

Several Board members thanked Alyeska for the boat ride and terminal tour the previous day.

Jim Herbert asked about otter training in Anchorage in the winter and whether there had been a good turnout. Morales stated that it had been trending up and down but did not have figures on hand. He will get that information from his team and send it on after the meeting.

Herbert also commented on his recent experience with the fishing vessel training in that there seemed to him to be a lot of new faces since the pandemic interruptions and that presentations and exercises seemed a "little rough." Morales concurred that there had been people new to the program on the SERVS side and on the fishing vessels. To that end, Alyeska was focusing on getting more of the new personnel involved in that training and was going back to some of the basics in order to do that.

Herbert asked whether Morales had received any feedback on the new Weavix radio that was used during the fishing vessel training. Morales reported that the Weavix radios were better than other new technologies they had tried and more popular than the CB radios with some individuals, but there were still coverage gaps and that would be a problem in a response. Morales said that SERVS likes the Weavix and will keep testing it but would need to see its capabilities expanded appropriately to integrate with other technologies, such as cell phones, etc. In his opinion, it is not yet ready.

In response to a question from Herbert about the c-plan renewal schedules, Morales noted that the tanker plan and the pipeline plan will expire in 2027. If possible, Alyeska would like to stagger their renewals by pulling one forward in time and then find a schedule to get all of them done by 2027.

David Janka questioned why there was talk about a fourth generation of tankers when there seemed to be no plans to update the Tank Farm storage tanks and the outdated secondary containment and CBA liners, which were outdated only a few years after they were originally installed. Morales stated that the CBA liner is an amazing product in its thickness and ability to self-repair, and after working with some of the newer products he is still impressed with the CBA product.

Dorothy Moore raised the issue of the risk of tree roots combined with the freeze-thaw weather cycles of Valdez winters making the rock faces at the terminal unstable. Morales stated that Alyeska inspects the rock faces routinely to check their stability and they have done different things over the decades to mitigate the dangers as they have learned more about rock face stabilization. Moore thanked Morales for the tour the previous day and the expertise of Alyeska/SERVS staff to explain the terminal systems to the Council's volunteers.

Beedle applauded Alyeska's ingenuity in trying new and different radios and technologies for better communications capabilities in Prince William Sound and he encouraged Alyeska to continue experimenting with technologies. But he also asked Alyeska to help the fishing fleet get better communication options with CB radios. He pointed out that the fishing fleet simply needs to be able to talk in close proximity to each other in real time. Morales pointed out that some like CBs and others do not, and Alyeska has tried several different technologies to improve communications and will continue to do so.

Beedle also asked Alyeska to look at GRSs for the Copper River Delta which, despite SERVS' claims that it is not in its area, it is, but the GRS information is outdated and the area is ignored in the c-plans.

Amanda Bauer asked about the status of Alyeska-PWSRCAC's contract funding addendum for FY2023-26. Morales stated that he did not anticipate any problems with it. The contract simply has to work its way through the Alyeska's internal contract review process.

Bauer thanked Morales for Alyeska's attention to the recommendations in the Taku Engineering report and the secondary containment issues, and she said she was pleased with Alyeska's intention to use the West Tank Farm to do electrical leak location (ELL) testing of the CBA liners.

In following up with her comments at the January meeting, Bauer again reminded Morales that PWSRCAC had made information requests to Alyeska that had been outstanding for a long time. That information should be available at this point and PWSRCAC would like to get the information requested as soon as possible.

Bauer asked if Alyeska/SERVS anticipated any changes in the number of exercises it conducts as a result of the changes under Article 4 of the contingency plan regulations. Morales reported that Alyeska/SERVS is not at that point yet. They are still in the process of understanding what the changes are and how they will affect their three contingency plans because each plan has different components.

Bauer thanked Alyeska, and in particular Mike Day, for the terminal tour the previous day, and for his interactions with the students who were part of PWSRCAC's Youth Involvement project.

President Archibald asked about the number of TCC personnel still hired. Morales stated that the base number of response personnel had not changed, but turnover is a concern to him as many have retired since 2020 and continue to retire, and therefore there are new hires. In addition, SERVS hired many of those TCC personnel. He pointed

out that there are a lot of people looking for work, but there is so much work available it has been more difficult to recruit throughout the entire industry.

Archibald commented that practice with the equipment and finding out what works and what does not work makes operations better and he was an advocate of practice. Morales pointed out that Alyeska/SERVS personnel practice and train daily on many things that are "invisible" to the observer. They are trying to bring up the new hires' base knowledge and skills on Alyeska's priorities and then how they interact with other exercises.

Dave Janka commended Alyeska for taking the opportunity of the West Tank Farm as a testing and experimental site, not only for secondary containment, but also for addressing other alternatives for tank farm issues, where it is safe and away from active tanks.

EXTERNAL OPENING COMMENTS - EX OFFICIOS

ALASKA DEPT. OF ENVIRONMENTAL CONSERVATION (ADEC)

ADEC's Allison Natcher made the following statement:

> *With regard to the assessment of risks and the safety culture at Alyeska's Valdez Marine Terminal (VMT), ADEC has received the assessment of risk and safety culture [Garde report], which is currently under review, and ADEC appreciates PWSRCAC's efforts to promote safe operations at the VMT. The SPAR Division of ADEC is remains dedicated to protecting public safety, public health, and the environment by providing consistent training opportunities for its staff and stationing responders in strategic locations, like Valdez, and continuing to hold companies like Alyeska accountable. Direct questions to be submitted to Kelly Rawalt in the Commissioner's Office.*

Natcher went on to review the status of bills going through the Alaska Legislature at that time:

- Senate Bill 137 – proposal to increase the refined fuels surcharge. This bill was currently in the Senate Resources Committee and scheduled for its first hearing and public comment on May 5.
- SJR 11 -Western Alaska Arctic Oil Spill Response – recognizing the Don Young Coast Guard Authorization Act of 2022 and the importance of certain provisions intended to enhance oil spill response capabilities in Western Alaska and the U.S. Arctic; urging USCG to consider the unique challenges of the state when developing spill response requirements for those areas; and urging the deployment of individual spill response resources for the state that use modern technologies to track the operation of large vessels in the region and local service providers with knowledge of the region and local wildlife. This Resolution was heard at the May 2 hearing of the House Transportation Committee which is

currently working on a committee substitute and that should be made public for the hearing on May 5. The committee substitute will address the last outstanding concerns of industry regarding alternative planning criteria. The committee plans to take action on it on May 5 and it will likely pass from committee and move to the House floor for a final vote.

- House Bill 128 – Oil Terminal Facility – proposal relating to the operation of a tank vessel or oil barge as an oil terminal facility; the definition of 'oil terminal facility; and providing for an effect date. This was heard and then held on May 2 at the meeting of Senate Transportation Committee. They will likely hear it at the committee's meeting on May 4, and pass it out of committee and move to the Senate for a final vote.

As feedback to ADEC on its newly adopted Article 4 c-plan regulations, which removed the RCACs as named reviewers and put all c-plans and their amendments on ADEC's website, Jim Herbert commented that it is an unwieldy, unsearchable, and difficult process to use. He said it would be better to have a way to quickly locate things that affect the VMT and the tankers instead of having to search through entities all over the state.

Herbert asked for a status update on the Clean Air Permit or potentially the Clean Water Permit that the VMT needs to operate. Natcher reported that the air permit was in process and was ready to go out for public comment. She did not have updates on the water permit at that time but when received she will provide to PWSRCAC.

Mako Haggerty asked Natcher to pass on to Commissioner Brune PWSRCAC's appreciation for the Commissioner's comments on the state budget where he advocated for the SPAR Division's budget. Echoing former Governor Walker's comments earlier in the meeting that complacency in the operation of TAPS/VMT was Prince William Sound's greatest threat, Haggerty emphasized to Natcher that lack of regulatory oversight is part of the equation of that complacency, and ADEC plays a huge part in that. He commented that it would be good if ADEC/Natcher could assist in conveying that message to the legislators in Juneau because it is not only ADEC that has regulatory oversight of the TAPS/VMT operations, but also other agencies. Haggerty emphasized that his greatest concern is that nobody is paying attention.

Amanda Bauer asked for someone from ADEC to explain sufficiently to this Council how reducing the number of exercises under the revised Article 4 c-plan regulations was going to protect the environment and ensure that personnel are properly trained and resources are readily available when needed. She pointed out that she brought this up at the January meeting but the Council has not yet received a clear explanation. She asked for an explanation of how those reductions were going to be better than what was in the previous regulations. Natcher stated she would bring this up to the department.

Herbert commented that staff reductions within SPAR appear to have reduced the ability of the division to do unannounced drills. He said the OSPR Committee believes that the ability to do unannounced drills is a true test of the readiness and ability to mount a response. The committee is concerned that this is a burden to SPAR because it has such a small staff.
Natcher said SPAR was planning to do exercises this summer but she did not know if they would be unannounced drills. Morales stated that Alyeska gets both federal and state unannounced drills as well as internal unannounced drills.

Haggerty asked ADEC/Natcher to provide information to PWSRCAC on how much SPAR had collected in fines for oil spills and the number of fines issued in the past two years. Natcher will report back.

Archibald asked Natcher about ADEC's staffing in the Prince William Sound area and whether SPAR would need to pull personnel from other areas of the state for response because Valdez is short staffed. Natcher said she believed that for any large spill, SPAR would pull people from other areas, and that would be the same for the federal response agencies as well. She commented that while her current position is the Interagency Coordination Unit Manager, in the event of a large spill she could be folded into the Incident Management Team in the Unified Command. Personnel could be pulled in from other areas that are not currently in spill prevention and response to fill positions in the event of a large spill. In response to a question from Archibald about comparison of staffing levels compared to 10 years ago, Natcher said that staffing levels have changed since she first came into the division in 2015 but ADEC/SPAR has been hiring as needed.

Executive Director Donna Schantz pointed out that PWSRCAC had recently done an analysis and also heard from SPAR Director Tiffany Larson on staffing issues. Since 2015, 23 staff positions had been eliminated from SPAR in addition to a really high turnover the division experienced over the past few years.

Archibald emphasized that PWSRCAC always has concerns ADEC/SPAR does not have enough staff to adequately do its job for the state.

Break: 10:46 a.m. – 10:58 a.m.

ALASKA DEPT. OF FISH AND GAME (ADF&G)
(No report.)

ALASKA DEPT. OF NATURAL RESOURCES (ADNR)
Graham Wood announced that he had recently moved over to ADNR/Division of Oil & Gas from ADEC/SPAR Division about a month prior to this meeting and he was filling in

for State Pipeline Coordinator Tony Strupulis at this meeting. He acknowledged that the State Pipeline Coordinator's Office (SPCO) in the Joint Pipeline Office (JPO) was in receipt of the Billie Garde report but had not yet had the opportunity to read it in depth. If the SPCO has questions about the report, they will come back to the Council.

Wood briefly explained the role of the SPCO which is to oversee all the oil pipelines across Alaska which are under Alaska Statute 38.35 rights-of-way and enforce their leases, TAPS being the biggest 38.35 pipeline in the state.

U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA)

Tori Huelskoetter acknowledged that the U.S. EPA had received the Billie Garde report. She briefly outlined the EPA's permitting and oversight roles at the VMT which include the Clean Air Act, the Clean Water Act, the NPDES permit, etc., as well as its prevention oversight role in Region 10. The last FRP inspection conducted by the EPA at the VMT was in 2017 and was done by Matt Carr. The EPA remains part of the JPO and works with the other JPO agencies as appropriate.

She announced the following:

- The fall Alaska Regional Response Team meeting will be held on September 12 - 14, 2023.
- The U.S. EPA and the Department of the Army has issued an educational webinar video "Waters of the United States Final Overview" which explains the final ruling in *Sackett v. EPA* which had been contested in several states.

UNITED STATES COAST GUARD (USCG)

LCDR Bryson Jacobs, filling in for CDR Drayer (who would join the meeting the following day), reported on USCG and Marine Safety Unit Valdez activities since the January Board meeting.

LCDR Jacobs reported that the Valdez Vessel Traffic System (VTS) was fully functional and mission capable and all communication systems were working in Prince William Sound. He had no updated information on the national VTS needs assessment, other than it was still in progress. There had been no significant pollution events or casualties to report since the Board's January meeting.

Robert Beedle emphasized the need for USCG to get the Rescue 21 system working in Alaska and any information on the progress of that would be helpful.

Dave Janka commented that the old VHF high sites radio coverage goes down in Prince William Sound regularly. When they went down about a week before this meeting, USCG had no VHF coverage anywhere in Prince William Sound. Jacobs stated that the needs assessment was ongoing, but that was the extent of the information he had on

updates or replacement of the system, other than that the USCG was satisfied with the contract with Tatitlek for repair response.

Robert Beedle asked if MSU Valdez could coordinate better with USF&G in Cordova to avoid bringing tankers in through the Narrows during a fishing opener. Amanda Bauer added that mariners on the water have a responsibility to listen to their radios because USCG does announce when tankers are in transit and in the Narrows.

BUREAU OF LAND MANAGEMENT (BLM)

Paul Degner reported that he is back in his normal position with Pipeline Monitoring and Environmental Compliance. He reported that the BLM office focused on various permitting issues this spring and attended a couple of exercises. It will continue to observe exercises in the Prince William Sound region, will continue to coordinate with ADEC and other agencies to review any changes to the c-plans, and will continue to coordinate with BLM's JPO partners to coordinate oversight at the VMT. He confirmed his office's receipt of the Billie Garde report and stated that staff had gone through the report and prepared comments for BLM management on the findings.

Eileen Oliver reported on the Alyeska's compliance under the Alaska Native Hire Utilization Agreement, as follows: Combined work force 23.5%; Alyeska 26.3%; Contractors 20.6%

In response to a question from Jim Herbert about which agencies within the JPO take the lead, Degner stated that under the TAPS operating agreement, the JPO has two executive members: BLM and the State Pipeline Coordinator Section (SPCS). Their regular meeting schedule is a "hot topics" meeting with Alyeska to discuss current events; a monthly JPO Coordination Meeting where the agencies coordinate with one another; and a monthly BLM and SPCS managers' meeting with Alyeska. Degner said the monthly coordination meetings have been helpful in terms of bringing all the agencies together.

Mako Haggerty pointed out to Degner the Council's concern about complacency within the JPO and reduced oversight by the regulators, and he asked about staffing levels within BLM. Degner reported that BLM's side of the JPO has nine full-time employees and seven part-time employees that are dedicated to permitting the TAPS right-of-way, as well as others who can be called upon as needed. That level has been fairly consistent since 2019 and BLM has not hired any more employees since 2019.

U.S. FOREST SERVICE (USFS)

(No report.)

ALASKA DEPT. OF HOMELAND SECURITY AND EMERGENCY MANAGEMENT (ADHSEM)

(No report.)

OIL SPILL RECOVERY INSTITUTE (OSRI)
(No report.)

NATIONAL OCEANIC & ATMOSPHERIC ADMINISTRATION (NOAA)
(No report.)

EXTERNAL OPENING COMMENTS: TAPS SHIPPERS & OWNER COMPANIES, & PILOTS

CROWLEY ALASKA TANKERS (CAT)
Angelina Fuschetto thanked PWSRCAC for the cruise the previous day and to ATC and Hilcorp for the reception the previous evening. She noted that 2023 is CAT's fifth anniversary of operations and it now has a new logo and branding.

She reported the following operations and fleet updates for 2023 YTD:

- CAT moved 9.6 million barrels of oil out of Valdez YTD 2023 without incident and had completed its first season of operating in Cook Inlet with no issues.
- The California and the Washington were still operating on the West Coast. The Oregon is being operated in the Gulf of Alaska in the gasoline trade.
- In June, the Washington will do its out-of-service period in Port Angeles, WA, and then the California will do its out-of-service in August. During that time, they will focus on big maintenance and repair issues, as well as annual inspections and surveys. Both vessels will have their regulatory dry-dock inspections in 2024, with one vessel going out of service at a time.

POLAR TANKERS/CONOCOPHILLIPS
Andrea West thanked PWSRCAC for the boat ride the previous day and gave a fleet update for Polar Tankers, as follows:

- 32 loads completed YTD 2023 with 23.8 million barrels delivered without incident.
- In March, Polar hosted an officers and stewards conference.
- In September, Polar is planning two bridge resource management courses in Seward.
- There will be two out-of-service periods this summer. The Resolution will go to Singapore for its regulatory dry-docking at the end of this month, and then the Discovery will go to Singapore later this summer and will have its Ballast Water Treatment system installed.

ALASKA TANKER COMPANY (ATC)
Chris Merten thanked everyone who attended the reception the previous evening. He went on to give an operations and fleet update for ATC for 2023:

- ATC is still operating three vessels in the TAPS trade.
- 20 loads completed with 19.7 million barrels delivered without incident.
- Zero spills to sea and no incidents or near misses.

- There will be two shipyards in 2023. The Alaska Navigator will start its overseas drydocking in July in either Korea or Singapore, followed by the Alaska Legend in October in either Korea or Singapore.
- Currently preparing for the upcoming ATC-Hilcorp spill response drill in two weeks' time in Anchorage and Valdez.
- Preparing for new regulations coming in that affect emissions, including installing new software on the ships to collect data and report.
- Looking at energy savings through voyage optimization, etc.
- Working with partners OSG Shipping on sharing resources.

HILCORP

Rob Kinnear also thanked everyone for attending the reception. He went on to give a brief update on Hilcorp operations YTD 2023.

- In addition to the cargos that ATC carried for Hilcorp YTD, there had been no foreign flagged loadings for Hilcorp in YTD 2023 and there were no plans for any for the remainder of the year.
- In June it will be three years since Hilcorp took over BP TAPS operations. During the first 18 months, Hilcorp chartered 10 foreign flagged tankers out of Valdez, there was a lot of disruption in the market from COVID at the time, and circumstances were a lot different from what they are at the present time. In the last 18 months, Hilcorp had only one foreign flagged charter. He opined that the last 18 months was more indicative of what Hilcorp expects going forward with the frequency of foreign flagged charters that they would use.
- Hilcorp is working hard and closely with ATC on the joint spill exercise that is scheduled at the end of May.
- The Navigator will be the first of ATC-Hilcorp's ships going into shipyard in 2023 and it will be taking a load with her. The Legend will follow later, but it was not yet determined if it will carry cargo or be in ballast.
- Operation of the BWTS is going well now but it was a learning curve at the beginning. There are no longer exchanges of ballast at sea unless it is mitigation for a failed BWTS.

MARATHON (formerly Tesoro/Andeavor)

(No report.)

SOUTHWEST ALASKA PILOTS ASSOCIATION (SWAPA)

Capt. Ian Maury reported that SWAPA had one retirement in January, added two additional VLCC (third year) pilots, and now have four deputy pilots becoming Valdez qualified. They have four trainees and are about to bring in one more. They can bring in more pilots for the cruise season in addition to the TAPS trade. He noted that SWAPA gets emails from ADF&G in Cordova regarding the fishing openers.

Lunch Break: 12:00 p.m. – 1:00 p.m.

PWSRCAC VOLUNTEER RECOGNITION

President Archibald recognized the following volunteers who had reached a milestone in their service to PWSRCAC and the award they would receive in recognition of that service:

5 Years (Verbal recognition):

- Matt Cullin – TOEM
- Gordon Terpening – POVTS

10 Years (Gift -engraved clock):

- Robert Beedle
  - Board member Cordova District Fishermen United (2023-present)
  - Board member City of Cordova (2013-2023)
  - OSPR, XCOM, BGC, LAC
- Jim Herbert
  - Temporary Board member Recreation (2023-present)
  - OSPR, LRP
  - Board member City of Seward (2013-2015)
- Andrea Korbe
  - IEC
  - Board member City of Whittier (2013-2015)

15 Years (Gift – photo print):

- Cathy Hart
  - IEC, LRP
  - Board member Alaska Wilderness Recreation & Tourism Association (2008-2015)

20 Years (Gift – PWSRCAC blanket):

- Roger Green – SAC

Departing Volunteer (Verbal Recognition):

- John LeClair – departing OSPR after 18 years of active service.

APPROVAL OF FY2024 BUDGET

Director of Finance Ashlee Hamilton presented the FY2024 budget for adoption. The Board was previously given an opportunity to review and work on this budget at a workshop on April 29, 2023.

Wayne Donaldson **moved to adopt the FY2024 budget** as presented during the budget workshop on April 29, 2023, and as described in the Draft FY2024 Budget dated April 25,

2023. Total income is assumed to be $4,264,106, total expenses are $4,745,278, contingency of $75,000, capital budget of $15,000 for a total of $571,172 net assets used. Dorothy Moore **seconded** and the **motion passed** without objection.

CONSENT AGENDA

The consent agenda consisted of six items (3-1, 3-2, 3-3, 3-4, 3-5, and **3-6**). President Archibald read the requested action for each of the items on the consent agenda.

Robert Beedle **moved to approve the consent agenda** as read:

- **3-1 APPROVAL OF RESOLUTION DESIGNATING PWSRCAC CHECK SIGNERS**
  Adoption of the resolutions provided by First National Bank Alaska to update the list of authorized individuals to sign checks and conduct financial transactions on PWSRCAC's account.

- **3-2 APPROVAL OF FY2024 LTEMP CONTRACT AUTHORIZATION**
  a) Authorization of individual contracts with Alpha Analytical and Owl Ridge Natural Resource Consultants, Inc. with the aggregate total not to exceed the amount approved in the final FY2024 LTEMP budget (Project #9510) for contract expenses.
  b) Authorization of contract work to commence prior to the start of the 2024 fiscal year to accommodate timing considerations and purchasing needs. It is estimated that up to $15,000 of the above contract work may be performed before June 30, 2023.

- **3-3 FY2024 MARINE INVASIVE SPECIES SURVEY ANALYSIS CONTRACT INCREASE**
  Authorization of a contract increase of $156,629 to contract #9520.23.01 - Marine Invasive Species Broadscale Survey in Prince William Sound - with the Smithsonian Environmental Research Center for a new cumulative contract total of $216,883. (Note: $60,254 of the proposed contract was approved in FY2023. This action is contingent upon approval of the FY2024 budget adding new funding of $156,629 for a cumulative contract total of $216,883.)

- **3-4 ANNUAL TECHNICAL COMMITTEE MEMBER APPOINTMENTS**
  Appointment of committee members to two-year terms on their respective committees.

Scientific Advisory Committee (SAC)	
Wei Cheng	Renewal
John Kennish	Renewal
Dorothy Moore	Renewal

Roger Green	Renewal
Wayne Donaldson	Renewal

Note: The committee consists of nine members including renewals.
Directors on SAC: Dorothy Moore, Wayne Donaldson.

Terminal Operations and Environmental Monitoring Committee (TOEM)

Harold Blehm	Renewal
Mikkel Foltmar	Renewal
Steve Goudreau	Renewal
Tom Kuckertz	Renewal

Note: The committee consists of seven members including renewals.
Directors on TOEM: Amanda Bauer.

Oil Spill Prevention and Response Committee (OSPR)

Gordon Scott	Renewal
Skye Steritz	Renewal
Matt Melton	New

Note: The committee consists of seven members including renewals and new members.
Directors on OSPR: Robert Beedle, Mike Bender, Jim Herbert.

Port Operations and Vessel Traffic Systems (POVTS)

Gordon Terpening	Renewal
Max Mitchell	Renewal
Steve Lewis	Renewal

Note: The committee consists of five members including renewals.
Directors on POVTS: Amanda Bauer, Robert Archibald.

Information and Education Committee (IEC)

Trent Dodson	Renewal
Jane Eisemann	Renewal
Cathy Hart	Renewal
Andrea Korbe	Renewal
Savannah Lewis	Renewal

Note: The committee consists of eight members including renewals.
Directors on IEC: Aimee Williams.

- **3-5 APPROVAL OF FY2023 CONTINGENCY PLAN CONTRACTOR POOL**
  Authorization of individual contracts with Nuka Research and Planning, LLC, and Attorney Breck Tostevin for professional services with the aggregate total not to exceed the amount approved for Project 651 Contingency Plan Review in the final FY2024 budget, and delegation of authority to the Executive Director to enter into individual contracts with selected consultants.

- **3-6 APPROVAL OF PWSRCAC/ALYESKA CONTRACT COMPLIANCE VERIFICATION REPORT**
  Acceptance of the PWSRCAC/Alyeska Annual Contract Compliance Verification Report.

Jim Herbert **seconded** and the **motion passed** without objection.

4-2 REVIEW OF ADEC'S CHANGES TO ARTICLE 4 REGULATORY UPDATE

Project Manager Linda Swiss provided an update on ADEC's changes to Article 4 of 18 AAC 75 (the oil discharge prevention and contingency plan regulations). A 60-day public review of the proposed changes ran from November 2021 to January 2022 and the changes became effective February 5, 2023.

Swiss reviewed with the Board the actions PWSRCAC took following the release of the proposed changes and the opening of the public review process, including outreach to its member entities, and submitting comments. PWSRCAC's comments included recommendations to ADEC: to increase the number of annual exercises (which were reduced in the new regulations); to retain the Best Available Technology Conference and retain the language on the regional citizens advisory councils (RCACs) both of which were eliminated in the new regulations; and to require emergency towing arrangements that meet international standards. Swiss pointed out that the effect of removing the RCACs as named reviewers of c-plans means that the RCACs are no longer recognized in state regulations, which also resulted in changes to ADEC's notification methods to the RCACs.

The full updated regulations are available at htpps://dec.alaska.gov/spar/ regulation-projects/oil-discharge- prevention-contingency-plan- update/

Following Swiss' presentation, ADEC's Rebecca Spiegel and Allison Natcher answered some questions from the Board:

- There is not a regulatory requirement for planholders to incorporate exercise planning into their c-plans. ADEC could decide either way whether it will require exercise planning for a certain planholder. There is not a specific mandate attached to the regulation and therefore a decision will be made for the tanker plan and the terminal plan by ADEC's Valdez team on how they wish to go.

- No information on whether the Governor and/or Commissioner intends to now look at a regulatory scoping review of the corresponding statutes governing c-plans.

- There is a "paper trail" on ADEC's website that documents each regulatory change, the comments received, how it was reviewed, and how ADEC came to its decisions.

- Spiegel has not personally heard back from planholders across the state if they are happy or unhappy with the changes and the work that ADEC has done. ADEC has received a number of questions on how the new regulations will be implemented from planholders, stakeholders, and others.

Swiss added that the process of finding information on a planholder's c-plan submittal is not easy to find through ADEC's online information. While PWSRCAC was a named reviewer it would receive notifications of plan submittals, and staff is familiar with the various steps needed to locate the information because they had been doing it now for many years. Locating the information may not come readily or easily to some of PWSRCAC's member entities who are not familiar with the process and have relied on PWSRCAC to get the information in the past.

By way of feedback to ADEC, Executive Director Schantz stated that at the January Board meeting SPAR Director Larson had made it seem very easy for a user to filter out the plans one is not interested in, but PWSRCAC staff have not found a way to do that, partly because there is no consistency in the way the notifications are sent out by ADEC so that a filtering rule that staff can have confidence in can be created. Even staff's IT consultants could not figure out an accurate filter rule. Schantz added that, at a minimum, if there was a way to narrow down to the region of the state, it would be an improvement.

Swiss pointed out that the new regulations definitely have increased the administrative burden on PWSRCAC staff. Whereas previously ADEC would direct the planholder to send the plan submittal to PWSRCAC either in hard copy or electronically with redline edits and highlighted changes, now PWSRCAC staff has to go to the website, find and then download all that information.

In response to the issue of inconsistency of input within the list serve, Spiegel reported that ADEC is aware of the issue and has been working with its IT staff to improve consistency and those concerns seem to have worked themselves out. They have been working with staff to make sure they follow the subject line protocols that ADEC has established and that should allow anyone to do sorting. She noted that one bracketed part of the email subject line that should be consistent is the geographic zone, such as Prince William Sound or Cook Inlet, that will allow accurate sorting. She acknowledged that the consistency issues have been a challenge but hoped it would be settled during this transition period to the new regulations. She also expressed appreciation for PWSRCAC's comments about the challenge of having to go from one site to another to find information and she would have ADEC's staff look into that.

ADEC's Diane Munson and Rebecca Spiegel both clarified that if a company has multiple plans throughout the state the exercise requirements apply per plan.

4-3 REPORT ACCEPTANCE: LTEMP TRANSCRIPTOMICS

Project Manager Austin Love with Dr. Lizbeth Bowen of United States Geological Survey (USGS) presented two related reports for Board acceptance:

- "Executive Summary: Effects of the April 2020 oil spill detected in study of mussel genes." The executive summary was written for the Board as the intended audience.
- The second report was titled "Transcriptomic responses to an Alaskan oil spill over time reveal a dynamic multisystem involvement in exposed mussels (Mytilus trossulus)." This full-length report was written for the scientific audience and the authors plan to submit this report to a peer reviewed journal for publication.

The two reports summarize and detail additional research conducted to understand the environmental impacts of the April 12, 2020 oil spill from the VMT, as well as future potential spills.

A briefing sheet and copies of both reports were included in the meeting notebook as Item 4-3.

Dr. Bowen, the lead author on the reports, provided a presentation of the key results of the research and recommendations for further related work and answered questions related to the reports' conclusions.

Jim Herbert **moved to accept** the reports titled "Executive Summary: Transcriptomic responses to an Alaskan oil spill over time reveal a dynamic multisystem involvement in exposed mussels" and "Transcriptomic responses to an Alaskan oil spill over time reveal a dynamic multisystem involvement in exposed mussels (Mytilus trossulus)" by Lizabeth Bowen, William B. Driskell, Brenda Ballachey, James R. Payne, Shannon Waters, Eric Litman, and Austin Love as meeting the terms and conditions of research contribution number 951.22.07, and for distribution to the public. Robert Beedle **seconded** and the **motion passed** without objection.

Break: 2:29 p.m. – 2:50 p.m.

NOMINATIONS FOR OFFICERS AND EXECUTIVE COMMITTEE MEMBERS-AT-LARGE

President Archibald opened the floor for nominations for the 2023-2024 Officers and three Member-at-Large seats on the Executive Committee:

Mako Haggerty **moved** that the current Officers and Members-at-Large be elected/seated to serve another term in their current positions as follows:

Office of President:	Robert Archibald.
Office of Vice President:	Amanda Bauer.
Office of Secretary:	Bob Shavelson.
Office of Treasurer:	Wayne Donaldson.
Members-at-Large:	Robert Beedle, Ben Cutrell, Angela Totemoff.

There were no objections from the nominees, and President Archibald stated that Bob Shavelson (who was absent from this meeting) had previously indicated that he would be willing to serve another term in his present position of Secretary. Michael Vigil **seconded** the motion. There being no further nominations, nominations were closed by consensus. Hearing no objection, President Archibald declared the **present Officers and Members-at-Large elected and seated** for another term.

4-4 REPORT ACCEPTANCE: 2019 ALASKA NORTH SLOPE CRUDE OIL PROPERTIES

The Board was asked to accept a report by Dr. Merv Fingas titled "Review of the 2019 Alaska North Slope Oil Properties Relevant to Environmental Assessment and Prediction." This report is based on analytical laboratory testing results provided by Environment and Climate Change Canada on a November 2019 sample of Alaska North Slope (ANS) crude. A briefing sheet and a copy of the report were included as Item 4-4 in the meeting notebook.

Dr. Fingas presented his report and then answered technical questions from the Board.

David Janka stated that it was his hope this report would be added to the Council's dispersants literature files.

Jim Herbert **moved to accept** the report titled "Review of the 2019 Alaska North Slope Oil Properties Relevant to Environmental Assessment and Prediction" by Dr. Merv Fingas as meeting the terms and conditions of Contract #5640.23.01, and for distribution to the public. Robert Beedle **seconded** and the **motion passed** without objection.

4-5 SUSTAINABLE SHIPPING PHASE I – REGULATORY MANDATE REVIEW

PWSRCAC Project Manager Alan Sorum and Sierra Fletcher from Nuka Research and Planning Group, LLC, presented an informational briefing on Phase I: Regulatory Mandate Review (Project 8300).

This project, Phase I: Regulatory Mandate Review, will review and report on the evolution of regulatory requirements affecting the transition of ocean shipping, and tankers in particular, to a sustainable model.

Sierra Fletcher briefed the Board on the current findings of the study. Based on feedback from the Board and the POVTS Committee, the final report will be finished before the end of FY2023.

(This was an information item. No action was requested from the Board.)

Recess:
The meeting recessed at approximately 4:15 p.m. to reconvene the following day.

Friday, May 5, 2023

CALL BACK TO ORDER
President Archibald called the meeting back to order at 9:05 a.m. on May 5, 2023. A roll call was taken. There were 17 Directors present at the time of the call back to order (Archibald, Bauer, Beedle, Bender, Brittain, Crump, Cutrell, Donaldson (via Zoom), Haggerty, Hasenbank, Herbert, Janka, Malchoff, Moore, Totemoff, Vigil, and Zinck). Aimee Williams joined the meeting shortly thereafter at 9:07 a.m. via Zoom.

FEDERAL & STATE GOVERNMENT AFFAIRS UPDATE
PWSRCAC's Director of Programs, Joe Lally, along with the Council's legislative monitors Roy Jones in Washington, D.C. (federal issues), and Gene Therriault in Juneau (state issues), reported on developments and prospects related to PWSRCAC's legislative priorities.

Lally thanked the Legislative Affairs Committee (Chair Dorothy Moore, Vice Chair Robert Beedle, and members Robert Archibald, Mako Haggerty, Elijah Jackson, and Kirk Zinck) for all their time and support working towards PWSRCAC's legislative concerns. Lally also thanked Roy Jones and Gene Therriault for their support and guidance on Council legislative priorities and concerns. He then turned the floor over to Gene Therriault and Roy Jones for their respective reports.

State legislative issues

- ADEC/SPAR budget. Gene Therriault reported that the Governor submitted basically a status quo budget for ADEC/SPAR for the upcoming fiscal year and there was indication that it would be adopted. If this is the case then there would be no erosion of the ADEC/SPAR budget. The legislature simply needs to make sure that the funds are deposited into the correct account at the appropriate times. Therriault was confident that would occur this year.

- Refined Fuels Surcharge. A proposed increase in the refined fuels surcharge which PWSRCAC had advocated for in the past (that it be increased to 1.5 cents/gal.) had failed last session. Sen. Cathy Giessel was interested in supporting that legislation and had introduced it. It was pending in the Senate

Resources Committee at that time. PWSRCAC submitted a letter of support and background information, and PWSRCAC's Executive Director Schantz was scheduled to testify before the Senate Resources Committee later that afternoon. Sen Giessel is interested in finding a House member in the majority to co-sponsor.

- Invasive species. Legislation to create an invasive species council did not pass last session, but a working group has continued to work with the Administration, and the Governor has indicated a willingness to administratively create an invasive species council. Therriault reported there is every indication that the Governor intends to follow through with that administrative action.

- Senate Joint Resolution 11. This deals with a statement of support for the implementation of the resolution in the Don Young sponsored Coast Guard Re-Authorization Act. There was concern that some wording might disadvantage some competition among those interested players that provide spill response capability in different areas of the state. There are likely to be further amendments to that resolution which will deal with that lingering concern. Therriault reported that Joe Lally had had conversations with the staff of the sponsor of SJR 11 (Sen. Kiehl) and that the senator appreciated the input.

- House Bill 128 – dealing with the definition "oil terminal facility" which dealt with the state law that covers oil barges that deliver product primarily in Western Alaska, and whether those barges would have the same spill contingency specifications in place that oil terminals do. PWSRCAC had input into that with the prime sponsor to ensure that the language was modified so as to have no impact to the contingency plan requirements for the Valdez Marine Terminal.

<u>Federal legislative issues</u>

- Billie Garde Report. Roy Jones reported that he had helped with drafting a cover letter to Alaska's Congressional Delegation on the Garde report. The delegation is in receipt of it. As a result of that, the staffs of the Alaska Delegation are working with each other to schedule Ms. Garde to brief them by phone or in person in the next couple of weeks. There are meetings set up with the delegation for May 17 and 18 and Jones' staff is waiting for one office to answer back. After that Joe Lally will set up the USCG meeting.

- Jones stated that he cannot think of another body set up by Congress that does as much work as PWSRCAC. He commended the Council for the incredible amount of work that it does, and he felt sure that the Alaska Delegation also appreciates all that the Council does.

- The Alaska Delegation is aware of the request in the Garde report for a Government Accountability Office (GAO) audit. They want to hear the briefing from Billie Garde before making a GAO request. He said it was an excellent report.

- The Billie Garde report has not been shared beyond the Alaska Delegation in Congress as far as he was aware, but it may be shared with the committees of jurisdiction over the Valdez Marine Terminal (VMT) after they hear from Ms. Garde, because it is not only the Alaska Delegation that is concerned with the VMT.

Therriault followed up that, on the state side, the report was sent to both the President of the Senate and the Speaker of the House, with a request that it be made available to the different bodies by the Senate Secretary's Office or the Chief Clerk's Office. An announcement is made during a floor session by the Secretary or the Clerk that copies are available upon request from their respective office. It was also sent to the Chairman and the Joint Chairmen of the Joint Budget and Audit Committee for the Alaska Legislature. That is the entity that can authorize an audit of the state entities that oversee the VMT. Therriault stated he would follow up with those heads as well as other committee members so that when they discuss the report, PWSRCAC will be available to provide input. He hoped the committee would request an audit of the state entities at that time that oversee the VMT.

(This was an information item. No action was requested of the Board.)

4-7 REPORT ACCEPTANCE: 2022 DRILL MONITORYING ANNUAL REPORT

Project Manager Roy Robertson presented an overview of staff's 2022 Drill Monitoring Annual Report for Board acceptance. The report summarizes the drills and exercises that were attended and evaluated by PWSRCAC staff in 2022. A copy of the report and a briefing sheet were included in the meeting notebook as Item 4-7.

Robertson noted that Polar Tankers does more arrest and towing exercises than the other shippers. Staff would like to see each of the four shippers do an exercise, as one per quarter is required and it seems logical for all to participate. Robertson also discussed future exercise activities the Council suggests would be prudent to practice; more open water deployments, nearshore response and sensitive area protection, exercises in fog and darkness, and unannounced exercises.

Planned exercises and trainings for 2023 are:

- Valdez Marine Terminal Field Exercise – April 20.
- ATC/Hilcorp Prince William Sound Shipper Exercise – May 16-18.
- Valdez Marine Terminal IMT Exercise – October.

Michael Vigil **moved to accept** the 2022 Annual Drill Monitoring Report for distribution. Angela Totemoff **seconded** and the **motion passed** without objection.

4-8 COMMUNITY OUTREACH ANNUAL REPORT

Outreach Coordinator Maia Draper-Reich reported on the community outreach events that Council volunteers and staff undertook in 2022, as well as work accomplished by the Fishing Vessel Program Community Outreach (3410) and Youth Involvement (3530) projects during FY2023. A briefing sheet was included in the meeting notebook as Item 4-8.

(This was an information-only item. No action was requested of the Board.)

Break: 10:35 a.m. – 10:50 a.m.

4-9 ANNUAL BOARD COMMITTEE APPOINTMENTS

The annual appointment to Board subcommittees was led by Executive Director Schantz and President Archibald. A briefing sheet was included in the meeting notebook as Item 4-9 which outlined each of the committee's functions.

The following Directors volunteered to serve on each Board committee and were **confirmed by a motion made** by Ben Cutrell, **seconded** by Mako Haggerty, and **passed** without objection. (It was agreed that Directors who wanted to serve on a subcommittee but were not present at this meeting could be added later.)

- FINANCE:
  Treasurer Wayne Donaldson (chair), Robert Archibald, Mako Haggerty, Angela Totemoff, Jim Herbert.

- LONG RANGE PLANNING COMMITTEE:
  The chairs of all the technical committees, Robert Archibald, Jim Herbert, Angela Totemoff, and Cathy Hart from the IE Committee.

- BOARD GOVERNANCE COMMITTEE:
  Luke Hasenbank, Dorothy Moore, Robert Beedle, Mike Bender.

- LEGISLATIVE AFFAIRS COMMITTEE:
  Robert Beedle, Robert Archibald, Mako Haggerty, Kirk Zinck, Dorothy Moore, Elijah Jackson.

4-10 ANNUAL BOARD REQUIRED DOCUMENTS COMPLETION

Director of Finance Ashlee Hamilton reminded Board members to acknowledge PWSRCAC's Code of Conduct, complete a Statement of Residency, and complete the Conflict of Interest and Transactions with Interested Parties form. A copy of the documents was included in the meeting notebook under Item 4-10 along with a briefing

sheet explaining their purpose and the requirement. They were sent to all Board members electronically. Board members had the option to complete the documents electronically through the DocuSign software or sign them in person. Those who had not completed them were asked to complete them as soon as possible.

For the Good of the Order – USCG Opening Comments (Revisit)

CDR Drayer followed up with information that was discussed the previous day during the USCG Opening Comments portion of the meeting and some questions posed by Board members.

- The VHF communications outages in Prince William Sound that some Board members raised the previous day with LCDR Jacobs were caused by construction in the Cordova area. The outages have been repaired.

- Aviation assets – Air Facility Cordova will be doing operations all summer long. MSU Valdez is not always aware of what other USCG Sectors are doing around the state of Alaska or if operations are going on in the airspace. CDR Drayer offered to arrange a presentation on the structure of USCG and the lines of communication and the authorities within the organization if the Board wants that information.

- The Rescue 21 system is up and operating, but it is not a system that is under MSU Valdez control. The Valdez VTS system does not use Rescue 21. The USCG Sectors Juneau and Anchorage are the Rescue 21 users.

- MSU Valdez does not have an individual Facebook page. Their social media information goes to USCG District 17 and is posted to the District 17 page.

CDR Drayer announced his rotation out of MSU Valdez in June. He thanked the Council for all the work it does and has done in the past. He also thanked the Council and its member for their patience in allowing the USCG into their communities to learn things that they do not necessarily need to know elsewhere in the country. His replacement will be new to Alaska. The change of command ceremony will occur on June 20.

Executive Director Schantz thanked CDR Drayer for his dedication and service to the safe transportation of oil through Valdez and Prince William Sound, noting that he came into the Valdez command at a difficult and challenging time of the COVID pandemic. On behalf of the Council, Schantz presented CDR Drayer with a framed print of Prince William Sound in appreciation of his service and stewardship of Prince William Sound.

4-11 POVTS TANKER SPEED REDUCTION OPERATIONAL REVIEW

Project Manager Alan Sorum and POVTS Committee Chair Steve Lewis presented an overview of the POVTS Committee's initial look at potential vessel-whale strike mitigation

recommendations in Prince William Sound. This agenda item and review came to the Council through a public comment request at a prior Board meeting from Mr. Rick Steiner of Oasis Earth for the Council to look at vessel-whale strike mitigation efforts. He had requested the Council's support of the establishment of a Vessel Speed Reduction (VSR) for the TAPS tanker fleet and SERVS tug fleet operating within Prince William Sound and the Gulf of Alaska.

A POVTS project team was formed at the request of President Archibald and Executive Director Schantz to look at the maritime operational impact of proposed speed reductions on the TAPS fleet, and to subsequently produce recommendations pertaining to Mr. Steiner's requested actions of the Board.

A briefing sheet and a draft internal memo were included in the meeting notebook as Item 4-7, which included the POVTS Committee's recommendations that came out of the POVTS Committee's project team investigation into possible mitigation measures to avoid vessel-whale strikes including a reduction in transit speeds.

Lewis briefly reviewed with the Board the project team's investigative efforts and how it approached the work and recommendations made in its report. The committee agreed that it needed to follow the issues but was not sure if POVTS could come up with a project. With that said, their recommendations at this point were:

- The POVTS Committee recommends that PWSRCAC *should not* at this time send a letter to NOAA requesting the issuance of a rulemaking for a tanker vessel speed reduction (VSR) in Prince William Sound and the Gulf of Alaska.

- The POVTS Committee recommends that the PWSRCAC *should not* at this time send a letter to all Prince William Sound tanker owners/charterers requesting that, as NOAA considers the proposed rulemaking, they voluntarily adopt an interim VSR as proposed.

- The POVTS Committee recommends that the PWSRCAC should continue to monitor statements made, or actions taken by NOAA, Prince William Sound tanker owners/operators/charterers, and other interested parties concerning vessel-whale interaction in Prince William Sound and VSR rulemaking.

- The POVTS Committee recommends that the PWSRCAC should be prepared to comment, as is appropriate and timely, on statements made, or actions taken by NOAA, Prince William Sound tanker owners/operators/charterers, and other interested parties concerning vessel-whale interaction in Prince William Sound and VSR rulemaking.

A general discussion followed.

Executive Director Schantz pointed out that the POVTS project team's investigative efforts were done without input from the TAPS tanker owners, and she also pointed out that some of the VSR could be an issue in the ability of bridge crews to maintain a heading at 8 knots to control a tanker in advanced sea states, such as around Hinchinbrook Entrance.

Mako Haggerty pointed out that it is not only speed that impacts whales but also noise from the vessels.

(This was an information-only item. No action was requested of the Board at this time.)

PRESIDENTS REPORT TO THE BOARD

President Archibald thanked the Board for electing him to the office of President for another year.

He talked about defining moments in Alaska. Creation of the Council was born out of a defining moment in Alaska's history and was also born out of lack of responsibility on the community's part, industry's part, the government's part, and the public's part. He emphasized that the Council's common goal, with partners, is to maintain safe VMT operations, maintain the world's best TAPS tanker fleet, and to make sure all personnel involved in those operations go home safe -- and everyone has that responsibility.

Lunch Break: 12:00 p.m. – 1:00 p.m.

DISCUSSION WITH JOHN KURZ, Alyeska President

John Kurz, incoming Alyeska President, introduced himself to the Council and gave a brief history of his background.

He acknowledged receipt of the Billie Garde report and expressed appreciation for PWSRCAC's making some adjustments in the draft that Alyeska had asked for. He announced that internally Alyeska has formed a team to look into the specific areas that need to be adjusted that were identified in the Garde report. The team will be led by Scott Hicks. Alyeska has also created a management action plan looking at six different themes that were identified in the report. That action plan has specific actions, accountable persons, and due dates assigned to those actions. Additionally, he is meeting with the team every morning to understand what is happening internally and externally, and how Alyeska is progressing on the action plan. The executive team is paying close attention to that action plan, meeting internally with employees, and taking seriously the issues and how to address them. He emphasized that Alyeska is taking the report seriously and using it as an opportunity to learn and grow to achieve the standards it has set for itself.

He emphasized that his first priority is safety, a safe environment for the workforce, personal safety, and process safety.

A brief discussion followed Mr. Kurz' remarks.

Angela Totemoff pointed out to Mr. Kurz that she was nine years old in Tatitlek when the EVOS happened. She knew even then the implications of the spill and she grew up with the repercussions of the aftermath. She emphasized that the Council and its communities are dedicated to protecting Prince William Sound from another spill and appreciated that Alyeska is taking the report seriously. She wished Kurz well as he takes the helm at Alyeska and said she prayed he and his team had the vision and leadership skills it takes to make Alyeska the safest company in the world -- and PWSRCAC exists to help with that. She invited Kurz to visit the Council's communities to see the beauty of the land and the waters the Council and its communities are protecting.

Mako Haggerty pointed out that the report would probably never have been commissioned if Alyeska' s employees had not come to PWSRCAC with their concerns. He did not want Alyeska employees to have to come to the Council in the future to get their concerns addressed.

EXECUTIVE DIRECTOR'S REPORT TO THE BOARD

Executive Director Schantz noted that she had provided a written report a few days before the meeting via email and asked the Board to refer to that for a more comprehensive overview of activities since the January meeting.

She stated that she was pleased to hear Alyeska was taking the Garde report seriously and that Scott Hicks would be coming back to the lead the team looking into the issues.

She pointed out that the Council recognizes there are great employees at Alyeska and the regulatory agencies who are doing good work, but the report indicates there are not enough of them, and they do not have the resources they need to do their job. She also pointed out that every incident highlighted in the Garde assessment confirms that the tension between cost on the one hand, and compliance and safety on the other, contributed to that event. She emphasized the importance of making sure that employees have the resources they need to do their jobs.

She reminded the Board that a Council delegation would be going to Washington, D.C., in mid-May to discuss the Garde assessment. She emphasized that this would be only the first step and that there would be follow-up visits and discussions with the goal of promoting positive change to prevent accidents. She said that the Council is pleased that Alyeska has been open to the report and is taking it as seriously as they are.

She also pointed out two internal recommendations in the report that the Council needed to follow up on: (1) for PWSRCAC to develop a protocol for dealing with safety concerns that it might receive in the future, and (2) for PWSRCAC to create a human factors committee or a project to assess the status of risks.

She reminded everyone that there were still some outstanding PWSRCAC information requests in at Alyeska. While PWSRCAC has received some information, the items that remain are not moving quickly off the list and some have been outstanding for two years, and it has become more of a challenge in the last few years to follow up on issues. She stated that in order for PWSRCAC to follow up on some of Billie Garde's recommendations to PWSRCAC, such as the formation of a human factors committee, PWSRCAC needed to have access to information that had been extremely challenging for PWSRCAC to obtain. Under the current situation, Schantz opined that the recommendation from Billie Garde was an impossible task. Schantz pointed out that under its contract obligations to the Council, Alyeska is to provide access to documents and records "*with reasonable promptness*" and they "*shall provide a complete response of all written advice and recommendations within 10 business days or notify PWSRCAC when it will make a complete response.*"

Schantz said PWSRCAC had been very patient, but it appeared Alyeska did not have the resources to meet those obligations and PWSRCAC would need to elevate those issues in terms of how PWSRCAC would move forward.

Schantz reported that the Council received a clean recertification from USCG in February and it is advertising for candidate organizations to apply to fill a Recreation Seat. The deadline to apply is July 15, 2023. She pointed out that at a recent meeting with USCG, certain District 17 staff still seemed to believe that PWSRCAC is out of compliance with OPA 90 by not having a designated recreation seat, but that it is PWSRCAC's long-standing belief, based on its legal counsel's opinion that there is no legal requirement for PWSRCAC to have a dedicated recreation member. There is only a legal requirement that it be broadly representative of the interests in the area. Going back into the Council's history and minutes of Board meetings, she reported that a recreation seat was not added until 1992. The opinion of legal counsel at the time was that it was not required, but Board members at the time thought that it was a good thing to strive to meet. Schantz also pointed out that the original certification of the organization in 1991, signed by President George H.W. Bush, did not include a recreation seat. She emphasized that PWSRCAC is currently striving to find a recreation organization to serve on the Board, even though it is not required by OPA 90 to do so.

She announced that the Strategic Planning Workshop will be held the day before the September Board meeting on Wednesday, September 20, 2023, in Homer, and PWSRCAC's contractor Agnew::Beck will be reaching out over the summer to solicit ideas from Board members and committee volunteers.

Schantz welcomed new Board member Michael Brittain and committee member Matt Melton, and new staff Project Manager for the TOEM Committee, Mercedes "Sadie" Blancaflor. She said farewell to outgoing TOEM Project Manager Austin Love and Financial Manager Gregory Dixon. She thanked all the Board and committee member volunteers for their dedication to the organization and expressed her appreciation to staff for their hard work.

For the Good of the Order

President Archibald recognized Joe Levesque for his steady legal advice to the organization over several years. Levesque responded that he is constantly impressed with not only the dedication of all the volunteers, but the passion with which they serve the Council.

FINANCIAL MANAGER'S REPORT

Director of Finance Ashlee Hamilton thanked the Finance Committee for all their work over the past year and appreciated those who volunteered to serve on the committee for another year, as well as to Jim Herbert for joining the committee. She also thanked the Anchorage-based Board check signers this past year (Luke Hasenbank, Angela Totemoff, and Ben Cutrell) for their time.

She reported that she had been working on the FY2024 budget since the January Board meeting. That budget was approved at this meeting.

Over the next few months, she will close out the FY2023 books and start preparing for the annual audit. She plans to schedule an in-person Finance Committee meeting sometime in July or August for the committee to meet with the auditors to review the audit report.

She reported she was getting closer to offering Automated Clearing House (ACH) payments and was working with IT contractor Sockeye Consulting on setting this up. It has a 30-90 day implementation period so it is unlikely it will be ready until around September. Hamilton said she was also looking into new budgeting software through Sage Intacct for the FY2024-25 budget.

She reported that she and Executive Assistant Jennifer Fleming would be working on an electronic reporting form for volunteer expense reimbursements that could be completed online and submitted electronically.

CONSIDERATION OF CONSENT AGENDA ITEMS

(None.)

CLOSING COMMENTS

Directors were given the opportunity to make closing comments.

Robert Beedle quoted a communication he had received from the Executive Director of Cordova District Fishermen United reporting on the feedback coming in over and over from the fleet to the Billie Garde report, and the response was “Thank you, RCAC.”

ADJOURNMENT

There being no further business to come before the Board and there being no objection, **the meeting was adjourned** at 2:21 p.m.

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Secretary

Prince William Sound Regional Citizens' Advisory Council
Special Board of Directors Meeting Minutes
April 14, 2023

Members Present: Robert Archibald, Amanda Bauer, Robert Beedle, Mike Bender, Ben Cutrell, Wayne Donaldson, Mako Haggerty, Jim Herbert, David Janka, Melvin Malchoff, Dorothy Moore, Bob Shavelson, Michael Vigil, Aimee Williams, Kirk Zinck

Members Absent: Nick Crump, Patrick Domitrovich, Luke Hasenbank, Elijah Jackson, Angela Totemoff

Staff Present: Donna Schantz, Jennifer Fleming, KJ Crawford, Brook Taylor, Linda Swiss, Joe Lally

Others Present: Andrea West (Polar Tankers), Joe Levesque (PWSRCAC Legal Counsel), Michelle Egan (Alyeska), Billie Garde, Gene Therriault, Roy Jones, Mike Brittain

Call to Order
President Archibald called the meeting to order at 9:00am. A roll call was taken. The following 15 directors were present, representing a quorum for the conduct of business: Archibald, Bauer, Beedle, Bender, Cutrell, Donaldson, Haggerty, Herbert, Janka, Malchoff, Moore, Shavelson, Vigil, Williams, and Zinck.

Approve Agenda
Vigil moved to approve the agenda as presented. Herbert seconded. Archibald asked for objection; hearing none, the agenda was approved.

Public & Opening Comments (please limit as appropriate) Archibald asked for comments from the public. There were none.

Executive Session to review and accept the report titled "Assessment of Employee Concerns Regarding the Valdez Marine Terminal".
Moore moved to enter in executive session to review the report titled "Assessment of Risks and Safety Culture at Alyeska's Valdez Marine Terminal" by Billie Garde. Cutrell seconded.

The Board entered into Executive Session at approximately 9:05am. Staff members Donna Schantz, Joe Lally, Brooke Taylor, KJ Crawford, Linda Swiss, Alan Sorum and Jennifer Fleming, were invited to join the Board in Executive Session along with GeneTherriault, Roy Jones, Billie Garde, Joe Levesque and Mike Brittain. The Executive Session ended at approximately 11:00am.

Report on Executive Session and Resulting Action
Archibald stated that the Board reviewed the draft report titled "Assessment of Risks and Safety Culture at Alyeska's Valdez Marine Terminal" by Billie Garde. He noted that two action items were identified in Executive Session.

Herbert moved to accept the report titled "Assessment of Risks and Safety Culture at Alyeska's Valdez Marine Terminal" by Billie Garde as meeting the terms of contract 5053.22.01. Janka seconded.

A roll call vote was taken:

Archibald	Yes
Bauer	Yes
Beedle	Yes
Bender	Yes
Cutrell	Yes
Donaldson	Yes
Haggerty	Yes
Herbert	Yes
Janka	Yes
Malchoff	Yes
Moore	Yes
Shavelson	Yes
Vigil	Yes
Williams	Yes
Zinck	Yes

The motion passed with 15 votes in favor.

Haggerty moved to approve the letter transmitting the report to the Alaska Delegation, to be signed by all PWSRCAC Board members, with the release of the report to other government regulators, elected officials, formal transmittal to Alyeska, and availability to the public to occur 7-10 days after transmittal of the report to Congress. Vigil seconded.

A roll call vote was taken:

Archibald	Yes
Bauer	Yes
Beedle	Yes
Bender	Yes
Cutrell	Yes

Donaldson	Yes
Haggerty	Yes
Herbert	Yes
Janka	Yes
Malchoff	Yes
Moore	Yes
Shavelson	Yes
Vigil	Yes
Williams	Yes
Zinck	Yes

The motion passed with 15 votes in favor.

Closing Comments

Archibald asked for closing comments from the group. Garde thanked the Council for the opportunity to prepare the report and the opportunity to interface with past and former Alyeska staff who undoubtedly care about the safety of the Valdez Marine Terminal and environment. Archibald thanked Garde for her work preparing such a comprehensive product.

Beedle thanked Garde and Council staff for their work on this document, noting it is hard to quantify prevention.

Archibald again thanked Billie Garde, along with Roy Jones, Donna Schantz and staff, and everyone who worked tirelessly on this project.

Adjourn

Moore moved to adjourn. The meeting adjourned at 11:05am.

PWSRCAC
Acronym List
Updated July 10, 2019

AAC	Alaska Administrative Code
ABS	American Bureau of Shipping
ACMP	Alaska Coastal Management Program
ACS	Alaska Clean Seas
ADEC	Alaska Department of Environmental Conservation
ADF&G	Alaska Department of Fish and Game
ADNR	Alaska Department of Natural Resources
AIMS	Alaska Incident Management System
AMOP	Arctic & Marine Oil Spill Program (Technical Seminar)
ANC	Anchorage
ANS	Alaska North Slope or Aquatic Nuisance Species
ANSTF	Aquatic Nuisance Species Task Force
ANWR	Arctic National Wildlife Reserve
AOOS	Alaska Ocean Observing System
APSC	Alyeska Pipeline Service Company
ARRT	Alaska Regional Response Team
AS	Alaska Statute
ATC	Alaska Tanker Company
ATOM	Alyeska Tactical Oil Spill Model
AVTEC	Alaska Institute of Technology (formerly Alaska Vocational Technical Center)
BAT	Best Available Technology
BBL	Barrel (42 Gallons = 1 bbl)
BGC	Board Governance Committee (PWSRCAC Committee)
BTEX	Benzene, Toluene, Ethylbenzene, Xylene
BLM	Bureau of Land Management
BOO	Barge of Opportunity
BMPP	Best Management Practices Plan
BP	British Petroleum or bollard pull
BTT	Biological Treatment Tanks
BWT(F)	Ballast Water Treatment (Facility)
C-Plan	Contingency Plan
CAA	Clean Air Act

CAOS	Coastal Alaska Observing System
CDFU	Cordova District Fishermen United
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CFR	Code of Federal Regulations
CIP	Community Impacts Planning
CIRCAC	Cook Inlet Regional Citizens Advisory Council
CISPRI	Cook Inlet Spill Prevention and Response, Incorporated
CMT	Crisis Management Team
COA	Condition of Approval
COSRS	Community Oil Spill Response System
COTP	Captain of the Port (USCG)
CWA	Clean Water Act
DAF	Dissolved Air Flotation
DEIS	Draft Environmental Impact Statement
DES	Division of Emergency Services
DMR	Discharge Monitoring Report
DNV	Det Norske Veritas – Norwegian Quality Assurance consultant
DOI	U.S. Department of the Interior
DOT	U.S. Department of Transportation
DPS	Dynamic Positioning System
DR&R	Dismantling, Removal and Restoration
DTTS	Disabled Tanker Towing Study
DWT	Deadweight ton
ECO	Edison Chouest Offshore
EIA	Environment Impact Assessment
EIS	Environmental Impact Statement
EOC	Emergency Operations Center
EPA	U.S. Environmental Protection Agency
EPPR	Emergency Prevention Preparedness and Response
ERB	Emergency Response Building
ERP	Emergency Response Plan
ERV	Emergency Response Vessel
ETT	Enhanced Tractor Tug
EVOS	Exxon Valdez Oil Spill

EVOSTC	Exxon Valdez Oil Spill Trustees Council
FBU	Fairbanks Business Unit, Alyeska
FLIR	Forward-looking infrared
FOIA	Freedom of Information Act
FOSC	Federal On-Scene Coordinator
FV	Fishing Vessel
FWPca	Federal Water Pollution Prevention and Control Act
GAO	U.S. Government Accountability Office
GIS	Geographic Information System
GOA	Gulf of Alaska
GPS	Global Positioning System
GRS	Geographical Response Strategies
HAPs	Hazardous Air Pollutants
HAZWOPER	Hazardous Waste Operation and Emergency Response
HERO	Hinchinbrook Entrance Response Options
IAP	Incident Action Plan
IAP2	International Association of Public Participation
ICCOPR	Interagency Coordinating Committee on Oil Pollution Research
IC	Incident Command
ICS	Incident Command System
IEC	Information & Education Committee (PWSRCAC Committee)
IMO	International Maritime Organization
IMT	Incident Management Team
IOSC	International Oil Spill Conference
IRIC	Initial Response Incident Commander
ISAC	Invasive Species Advisory Committee
IWWS	Industrial Waste Water System
JIC	Joint Information Center
JPO	Joint Pipeline Office
LEPC	Local Emergency Planning Committee
LAC	Legislative Affairs Committee (PWSRCAC Committee)
LIO	Legislative Information Office
LOSC	Local On-Scene Coordinator
LRP	Long Range Plan
LTEMP	Long Term Environmental Monitoring ~~Program~~ Project

MAC	Multi-stakeholder Agency Committee
MARPOL	International Convention for Prevention of Pollution from Ships
MEPC	Marine Environmental Protection Committee (IMO)
MIS	Marine Invasive Species
MMS	Minerals Management Service
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
MSO	Marine Safety Office
MSDS	Material Safety Data Sheets
MSU	Marine Safety Unit
NDBC	National Data Buoy Center
NEPA	National Environmental Policy Act
NESHAP-OLD	National Emission Standard for Hazardous Air Pollutants – Organic Liquid Distribution
NIIMS	National Interagency Incident Management System
NIS	Non-Indigenous Species
NISA	National Invasive Species Act
NOAA	National Oceanographic & Atmospheric Administration
NOBOB	No Ballast on Board
NPDES	National Pollutant Discharge Elimination System
NPREP	National Preparedness & Response Exercise Program
NRDA	Natural Resource Damage Assessment
NSF	National Science Foundation
OCC	Operations Control Center
OHMSETT	Oil and Hazardous Materials Simulate Environmental Test Tank
OMS	Oil Movements and Storage
OPA 90	Oil Pollution Act of 1990
OSC	On-Scene Coordinator
OSLTF	Oil Spill Liability Trust Fund
OSRB	Oil Spill Response Barge
OSPR	Oil Spill Prevention and Response Committee (PWSRCAC Committee)
OSREC	Oil Spill Region Environmental Coalition
OSRI	Oil Spill Recovery Institute
OSRL	Oil Spill Response Limited
OSRO	Oil Spill Response Organization

OSRV	Oil Spill Response Vessel
PAH	Polycyclic Aromatic Hydrocarbon
POD	Physical Oceanography Data
POVTS	Port Operations and Vessel Traffic System (PWSRCAC Committee)
PPE	Personal Protective Equipment
PRAC	Primary Response Action Contractor
PRT	Prevention and Response Tug
PS	Pump Station
PV	Power Vapor
PWS	Prince William Sound
PWSAC	Prince William Sound Aquaculture Corporation
PWSC	Prince William Sound College
PWSEDD	Prince William Sound Economic Development District
PWSRAS	Prince William Sound Risk Assessment Study
PWSRCAC	Prince William Sound Regional Citizens' Advisory Council
PWSSC	Prince William Sound Science Center
PWSTA	Prince William Sound Tanker Association
RC	Response Center or Response Coordinator (SERVS)
RCAC	Regional Citizens' Advisory Council
RCM	Reliability Centered Maintenance
RFAI	Request for Additional Information
RFI	Request for Information
RFP	Request for Proposal
RFQ	Request for Qualifications
RMROL	Realistic Maximum Response Operating Limitations
RPG	Response Planning Group
RP	Responsible Party
RPOSC	Responsible Party's On-Scene Coordinator
RPS	Response Planning Standard
RRT	Regional Response Team
RSC	Regional Stakeholders Committee
SAC	Scientific Advisory Committee (PWSRCAC Committee)
SCAT	Shoreline Cleanup Assessment Team
SERC	State Emergency Response Commission (or) Smithsonian Environmental Research Center

SERVS	Ship Escort/Response Vessel System
SETAC	Society of Environmental Toxicology and Chemistry
SOS	Seldovia Oil Spill Response
SOSC	State On-Scene Coordinator
SPAR	Spill Prevention and Response (A division within ADEC)
SPO	State Pipeline Coordinator's Office
SRP	Scientific Response Plan
ST	Strike Team
SWAPA	Southwest Alaska Pilots Association
TAG	Technical Advisory Group
TAPS	Trans Alaska Pipeline System
TF	Task Force
TOEM	Terminal Operations & Environmental Monitoring (PWSRCAC Committee)
TOO	Tanker of Opportunity
TROG	Total Recoverable Oil and Grease
TVCS	Tanker Vapor Control System
UC	Unified Command
UP	Unified Plan
USCG	United States Coast Guard
USF&WS	United States Fish & Wildlife Service
VBU	Valdez Business Unit, Alyeska
VDZ	Valdez
VERP	Prince William Sound Vessel Escort & Response Plan
VEOC	Valdez Emergency Operations Center
VIDA	Vessel Incidental Discharge Act
VMT	Valdez Marine Terminal
VOCs	Volatile Organic Compounds
VOO	Vessel of Opportunity
VTC	Vessel Traffic Center
VTS	Vessel Traffic System
XCOM	PWSRCAC Executive Committee

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Prince William Sound Regional Citizens' Advisory Council
August 3, 2023 Budget Status Report

	Original Budget	Budget Modifications	Summary	Actual	Commitments	Total	Remaining Amount	Percentage Remaining
All Tasks								
0000 - Balance Sheet	-	-	-	17,551.41	-	17,551.41	(17,551.41)	0.00 %
1000 - General & Administrative	518,310.00	-	518,310.00	31,802.13	(15.73)	31,786.40	486,523.60	93.87 %
1050 - General & Administrative - Anchorage	169,356.00	-	169,356.00	9,029.60	-	9,029.60	160,326.40	94.67 %
1100 - General & Administrative - Valdez	177,236.00	-	177,236.00	19,163.85	-	19,163.85	158,072.15	89.19 %
1300 - Information Technology	109,588.00	17,094.00	126,682.00	5,715.21	-	5,715.21	120,966.79	95.49 %
2100 - Board Administration	141,038.00	-	141,038.00	10,385.77	-	10,385.77	130,652.23	92.64 %
2150 - Board of Director Meetings	201,500.00	-	201,500.00	-	-	-	201,500.00	100.00 %
2200 - Executive Committee	3,000.00	-	3,000.00	-	-	-	3,000.00	100.00 %
2222 - Finance Committee	3,000.00	-	3,000.00	-	-	-	3,000.00	100.00 %
2250 - Committee Support	211,067.00	-	211,067.00	12,830.87	-	12,830.87	198,236.13	93.92 %
2300 - Oil Spill Prevention & Response (OSPR)	11,000.00	-	11,000.00	-	-	-	11,000.00	100.00 %
2400 - Port Ops & Vessel Traffic System (POVTS)	4,000.00	-	4,000.00	-	-	-	4,000.00	100.00 %
2500 - Scientific Advisory Committee (SAC)	12,000.00	-	12,000.00	-	-	-	12,000.00	100.00 %
2600 - Terminal Ops & Envrn Monitoring (TOEM)	4,000.00	-	4,000.00	-	-	-	4,000.00	100.00 %
2700 - Legislative Affairs Committee (LAC)	18,675.00	-	18,675.00	-	-	-	18,675.00	100.00 %
2800 - Information & Education Committee (IEC)	10,000.00	-	10,000.00	-	-	-	10,000.00	100.00 %
3100 - Public Information Program	7,390.00	-	7,390.00	-	-	-	7,390.00	100.00 %
3200 - Observer Newsletter	7,500.00	-	7,500.00	2,199.50	-	2,199.50	5,300.50	70.67 %
3300 - Annual Report	8,000.00	-	8,000.00	-	-	-	8,000.00	100.00 %
3410 - Fishing Vessel Program Comm Outreach	19,000.00	-	19,000.00	-	-	-	19,000.00	100.00 %
3500 - Community Outreach	65,635.00	-	65,635.00	4,037.75	-	4,037.75	61,597.25	93.85 %
3530 - Youth Involvement	73,390.00	-	73,390.00	-	-	-	73,390.00	100.00 %
3600 - Public Communications Program	4,149.00	-	4,149.00	-	-	-	4,149.00	100.00 %
3610 - Web Presence Best Available Technology	5,440.00	-	5,440.00	-	-	-	5,440.00	100.00 %
3810 - Illustrated Prevention & Response System	20,000.00	-	20,000.00	-	-	-	20,000.00	100.00 %
4000 - Program & Project Support	1,800,070.00	-	1,800,070.00	128,244.40	-	128,244.40	1,671,825.60	92.88 %
4010 - Digital Collections Program	5,000.00	-	5,000.00	-	-	-	5,000.00	100.00 %
4400 - Federal Government Affairs	64,100.00	-	64,100.00	-	-	-	64,100.00	100.00 %
4410 - State Government Affairs	35,800.00	-	35,800.00	-	-	-	35,800.00	100.00 %
5000 - Terminal Operations Program	18,008.00	-	18,008.00	-	-	-	18,008.00	100.00 %
5081 - Storage Tank Maintenance Review	52,268.00	-	52,268.00	-	-	-	52,268.00	100.00 %
5591 - Crude Oil Piping Maintenance Review	51,744.00	-	51,744.00	-	-	-	51,744.00	100.00 %
6000 - Spill Response Program	4,000.00	-	4,000.00	-	-	-	4,000.00	100.00 %
6510 - State Contingency Plan Reviews	80,000.00	-	80,000.00	-	-	-	80,000.00	100.00 %
6512 - Adjudicatory Hearing	16,312.00	-	16,312.00	-	-	-	16,312.00	100.00 %
6530 - Weather/Sea Currents	16,400.00	-	16,400.00	129.04	-	129.04	16,270.96	99.21 %
6531 - Port Valdez Weather Buoys	51,200.00	-	51,200.00	1,450.60	-	1,450.60	49,749.40	97.17 %
6536 - Analysis of Port Valdez Weather Buoys	21,696.00	-	21,696.00	-	-	-	21,696.00	100.00 %
6537 - Copper River Delta Weather Station	-	-	-	19.70	-	19.70	(19.70)	0.00 %
6560 - Peer Listener Training	12,440.00	-	12,440.00	-	-	-	12,440.00	100.00 %

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Prince William Sound Regional Citizens' Advisory Council
August 3, 2023 Budget Status Report

	Original Budget	Budget Modifications	Summary	Actual	Commitments	Total	Remaining Amount	Percentage Remaining
7000 - Spill Response Operations Program	4,250.00	-	4,250.00	-	-	-	4,250.00	100.00 %
7035 - Virtual Meeting w/ Response Vessel Reps	1,000.00	-	1,000.00	-	-	-	1,000.00	100.00 %
7520 - Preparedness Monitoring	28,500.00	-	28,500.00	-	-	-	28,500.00	100.00 %
8000 - Maritime Operations Program	11,160.00	-	11,160.00	929.33	-	929.33	10,230.67	91.67 %
8018 - State of Industry: Advances in Escort	45,000.00	-	45,000.00	-	-	-	45,000.00	100.00 %
8025 - Vessel Operator Tsunami Hazards Workshop	30,000.00	-	30,000.00	-	-	-	30,000.00	100.00 %
8520 - Miscommunication in Maritime Contexts	55,000.00	-	55,000.00	-	-	-	55,000.00	100.00 %
9000 - Environmental Monitoring Program	17,000.00	-	17,000.00	-	-	-	17,000.00	100.00 %
9110 - PWS Marine Bird Winter Survey	71,738.00	-	71,738.00	-	-	-	71,738.00	100.00 %
9510 - Long-Term Environmental Monitoring	173,636.79	-	173,636.79	15.78	(15.78)	-	173,636.79	100.00 %
9512 - Composition of Oxygentated Hydrocarbons	17,000.00	-	17,000.00	-	-	-	17,000.00	100.00 %
9520 - Marine Invasive Species	216,883.00	-	216,883.00	-	-	-	216,883.00	100.00 %
9521 - Marine Invasive Species Internship	6,500.00	-	6,500.00	-	-	-	6,500.00	100.00 %
Total All Tasks	4,710,979.79	17,094.00	4,728,073.79	243,504.94	(31.51)	243,473.43	4,484,600.36	94.85 %

PWSRCAC Director Attendance Record

September 2023
(Attendance recorded through May 2023 Board Meeting)

Board Member *(date appointed)*	***Overall Attendance*** *# attended / # missed*	***Last 3 Mtgs.**** *# attended / # missed*	***Term Expires***
Archibald, Robert *(May 2015)*	46/1	3/0	5/25
Bauer, Amanda *(May 2012)*	61/1	3/0	5/25
Beedle, Robert *(May 2013)*	54/4	3/0	5/24
Bender, Mike *(Sept. 2015)*	38/8	2/1	5/24
Brittain, Mike *(May. 2023)*	1/1	1/1	5/25
Crump, Nick *(May. 2021)*	10/5	1/2	5/25
Cutrell, Ben *(Jan. 2020)*	22/0	3/0	5/24
Donaldson, Wayne *(Jan. 2015)*	46/2	3/0	5/25
Haggarty, Mako *(May 2015)*	36/9	3/0	5/25
Hasenbank, Luke *(May 2016)*	33/10	2/1	5/24
Herbert, Jim *(January 2023)*	4/0	3/0	1/24
Jackson, Elijah *(May 2021)*	7/7	1/2	5/25
Janka, David *(January 2023)*	4/1	3/0	5/24
Malchoff, Melvin *(Sept. 2016)*	27/12	3/0	5/24
Moore, Dorothy *(Jan. 2007)*	87/1	3/0	5/24
Shavelson, Bob *(Sept. 2014)*	51/9	2/1	5/24
Totemoff, Angela *(May 2021)*	11/4	1/2	5/25
Vigil, Michael *(Sept. 2015)*	37/9	3/0	5/24
Williams, Aimie *(May 2022)*	8/3	2/1	5/24
Kirk Zinck *(May 2019)*	24/3	3/0	5/25

* PWSRCAC policy states that member groups will be notified in writing if their appointed Board member misses three consecutive Board meetings.

Note: Overall attendance includes all voting meetings (regular and special Board meetings), but does not include non-voting meetings (e.g. LRP, budget workshops or Board retreats).

PRINCE WILLIAM SOUND
REGIONAL CITIZENS' ADVISORY COUNCIL

PWSRCAC Committee Member Attendance Record

Port Operations and Vessel Traffic Systems (POVTS)			
Committee Member	**Overall**	**Last 3 mtgs**	**Term Expires**
Robert Archibald (Director)	23/0	3/0	5/24
Amanda Bauer (Director) (Vice Chair)	35/6	3/0	5/24
Steve Lewis (Chair)	19/0	3/0	5/24
Max Mitchell	3/0	3/0	5/24
Gordon Terpening	13/1	3/0	5/24

Oil Spill Prevention and Response (OSPR)			
Committee Member	**Overall**	**Last 3 mtgs**	**Term Expires**
Robert Beedle (Director)	37/16	2/1	5/25
Mike Bender (Director)	27/15	1/2	5/24
Nick Crump (New)	0/0	0/0	5/25
Dave Goldstein	77/21	3/0	5/24
Jim Herbert (Chair)	55/0	3/0	5/25
Gordon Scott	70/76	1/2	5/25
Skye Steritz	7/7	2/1	5/25

Terminal Operations & Environmental Monitoring (TOEM)			
Committee Member	**Overall**	**Last 3 mtgs**	**Term Expires**
Amanda Bauer (Director) (Chair)	58/10	2/1	5/24
Harold Blehm	54/11	1/2	5/25
Matt Cullin	21/10	2/1	5/24
Mikkel Foltmar	36/14	3/0	5/25
Steve Goudreau	33/16	1/2	5/25
Tom Kuckertz	40/10	2/1	5/25
George Skladal (Vice Chair)	138/11	3/0	5/24

Ratios are # meetings present/ # of absences

Attendance Record is from 2003 to present.

Scientific Advisory Committee (SAC)			
Committee Member	**Overall** *P/A*	**Last 3 mtgs** *P/A*	**Term Expires**
Sarah Allan	85/10	2/1	5/24
Wei Cheng	56/6	3/0	5/23
Wayne Donaldson (Director)	73/7	3/0	5/23
Roger Green	150/23	3/0	5/23
Davin Holen (Chair)	66/5	3/0	5/24
John Kennish	144/14	3/0	5/23
Dorothy Moore (Director)	129/13	2/1	5/23
Debasmita Misra	59/60	0/3	5/24
Ana Aguilar-Islas	7/6	2/1	5/24

Information & Education Committee (IEC)			
Committee Member	**Overall** *P/A*	**Last 3 mtgs** *P/A*	**Term Expires**
Trent Dodson (Chair)	33/25	3/0	5/25
Jane Eisemann	81/12	2/1	5/25
Cathy Hart (Vice Chair)	73/22	3/0	5/25
Andrea Korbe	31/25	2/1	5/25
Ruth E. Knight	77/9	3/0	5/24
Savannah Lewis *since recommittal date	45/0*	3/0	5/25
Kate Morse	57/28	2/1	5/24
Aimee Williams	6/3	3/0	5/24

Ratios are # meetings present/ # of absences

Current List of Board Committee Members

As of May 2023

Executive Committee

- Robert Archibald, President
- Amanda Bauer, Vice President
- Wayne Donaldson, Treasurer
- Bob Shavelson, Secretary
- Robert Beedle, Member-at-Large
- Ben Cutrell, Member-at-Large
- Angela Totemoff, Member-at-Large

Board Governance Committee

- Luke Hasenbank (Chair)
- Dorothy Moore
- Robert Beedle
- Mike Bender

Finance Committee

- Wayne Donaldson (Treasurer)
- Robert Archibald
- Mako Haggerty
- Jim Herbert
- Angela Totemoff

Long Range Planning Committee

- Robert Archibald
- Jim Herbert
- Angela Totemoff
- Davin Holen (SAC Chair)
- Amanda Bauer (TOEM Chair)
- Jim Herbert (OSPR Chair)
- Steve Lewis (POVTS Chair)
- Trent Dodson(IEC Chair)
- Cathy Hart

Legislative Affairs Committee

- Robert Archibald
- Robert Beedle
- Mako Haggerty
- Elijah Jackson
- Dorothy Moore
- Kirk Zinck

Prince William Sound Regional Citizens' Advisory Council
One-Page Strategic Plan

Mission Statement: Citizens promoting the environmentally safe operation of the Alyeska terminal and associated tankers

Link to full FY2023-FY2027 Long Range Plan

Core Purpose: Citizen oversight to prevent oil spills, minimize environmental impacts, and promote response readiness

Core Values

- Represent the interests of our stakeholders by providing an effective voice for citizens
- The foundation of PWSRCAC is volunteerism
- Promote vigilance and combat complacency
- Organizational transparency and integrity through truth and objectivity
- Foster environmental stewardship

Overarching Goals and Objectives

- Compliance with OPA90 and Alyeska contractual requirements.
  ☐ (1) Annual re-certification and funding
  ☐ (2) Maintain regional balance
  ☐ (3) Link projects and programs to OPA90 and Alyeska contract

- Continue to improve environmental safety of oil transportation in our region.
  ☐ (4) Monitor and review development of, and compliance with, laws and regulations
  ☐ (5) Pursue risk-reduction measures and promote best available technologies and best practices
  ☐ (6) Monitor operations and promote a safe and clean marine terminal
  ☐ (7) Monitor and review the condition of the tanker fleet/maritime operations
  ☐ (8) Monitor and promote the safe operation of all Alyeska/SERVS-related on-water assets
  ☐ (9) Monitor and review environmental indicators
  ☐ (10) Promote and facilitate effective research for scientific, operational and technical excellence

- Develop and maintain excellent external and internal communication.
  ☐ (11) Advocate for government and industry measures to improve the environmental safety of oil transportation
  ☐ (12) Maintain and improve relationships with government, industry and communities
  ☐ (13) Be the model for citizen oversight and provide support for other citizens' advisory groups
  ☐ (14) Ensure availability of PWSRCAC information
  ☐ (15) Work to improve availability of information to PWSRCAC from industry sources

- Achieve organizational excellence.
  ☐ (16) Effective short and long term planning, with clear and measurable goals for projects
  ☐ (17) Fiscally responsible, efficient, and easily understood financial procedures and reporting
  ☐ (18) Committed to continuous improvement
  ☐ (19) Recognize people as the most important asset of the organization
  ☐ (20) Recruit and develop knowledgeable and committed Board members, volunteers, and staff
  ☐ (21) Strong volunteer structure and support for volunteers

PWSRCAC Board and Executive Committee Actions

PRINCE WILLIAM SOUND REGIONAL CITIZENS' ADVISORY COUNCIL

Meeting	Date	Action Item	File Code (if any)	Responsible	Disposition
XCOM	7/13/2023	**Acceptance of Sustainable Shipping: Regulatory Mandate Review Report:** The Executive Committee accepted the Nuka Research and Planning Group report titled "Sustainable Shipping: Regulatory Mandate Review", dated June 2023, as meeting the terms and conditions of contract number 8300.23.01 and allow for its distribution to the public.	800.431.060123.NukaSustainShip	Sorum	Done
XCOM	7/13/2023	**Acceptance of POVTS Tanker Speed Reduction Operational Review Internal Memo:** The Executive Committee accepted the POVTS Committee memo titled "TAPS Tanker Speed Reduction Operational Review", dated April 5, 2023 and allow for its distribution to the public. Is this report in place?	240.109.230405.TAPSSpeedReduce	Sorum	Done
XCOM	7/13/2023	**Approval of In-State Travel:** The Executive Committee approved in-state travel for Robert Archibald to attend the USCG Sector Anchorage Change of Command ceremony in Anchorage, Alaska on July 14, 2023 in an approximate amount of $500. Has the travel taken place?		Fleming	Done
Board	5/4/2023	**4-1 DIRECTOR APPOINTMENTS**: The Board approved the two-year terms of the selected representatives for the following: R. Archibald (Homer); W. Donaldson (City of Kodiak); K. Zinck (City of Seldovia); M. Brittain (City of Seward); A. Bauer (City of Valdez); M. Haggerty (Kenai Peninsula Borough); E. Jackson (Kodiak Village Mayors' Association); N. Crump (PWSAC); and A. Totemoff (Tatitlek Corp. & Tatitlek IRA Council). Are these appointments in place?		Fleming	Done
Board	5/4/2023	**FY2024 BUDGET APPROVAL:** The Board approved the adoption of the 2024 budget as presented during the budget workshop on April 29, 2023, and as described in the Draft Budget 2024 dated April 25, 2023. Total income is assumed to be $4,264,106, total expenses are $4,745,278, contingency of $75,000, capital budget of $15,000 for a total of $571,172 net assets used. Is the budget in place?		Hamilson	Done
Board	5/4/2023	**3-1 APPROVAL OF RESOLUTION DESIGNATING PWSRCAC CHECK SIGNERS:** The Board adopted the resolutions provided by First National Bank Alaska to update the list of authorized individuals to sign checks and conduct financial transactions on PWSRCAC's account. Are these resolutions in place?		Hamilton	Done
Board	5/4/2023	**3-2 APPROVAL OF FY2024 LTEMP CONTRACT AUTHORIZATION:** The Board approved the following: a) Authorization of individual contracts with Alpha Analytical and Owl Ridge Natural Resource Consultants, Inc. with the aggregate total not to exceed the amount approved in the final FY2024 LTEMP budget (Project #9510) for contract expenses, and b) Authorization of contract work to commence prior to the start of the 2024 fiscal year to accommodate timing considerations and purchasing needs. It is estimated that up to $15,000 of the above contract work may be performed before June 30, 2023. Are these steps in place?		Verna/Love	Done

PWSRCAC Board and Executive Committee Actions

PRINCE WILLIAM SOUND REGIONAL CITIZENS' ADVISORY COUNCIL

Meeting	Date	Action Item	File Code (if any)	Responsible	Disposition
Board	5/4/2023	**3-3 FY2024 MARINE INVASIVE SPECIES SURVEY ANALYSIS CONTRACT INCREASE:** Authorization of a contract increase of $156,629 to contract #9520.23.01 - Marine Invasive Species Broadscale Survey in Prince William Sound - with the Smithsonian Environmental Research Center for a new cumulative contract total of $216,883. (Note: $60,254 of the proposed contract was approved in FY2023. This action is contingent upon approval of the FY2024 budget adding new funding of $156,629 for a cumulative contract total of $216,883.) Is this contract in place?		Verna	Done
Board	5/4/2023	**3-4 ANNUAL TECHNICAL COMMITTEE MEMBER APPOINTMENTS:** The Board made the following two-year technical committee appointments: Cheng, Kennish, moore, Green and Donaldson to SAC; Blehm, Foltmar, Coudreau, and Kuckertz to TOEM; Scott, Steritz, and Melton to OSPR; Terpening, Mitchell, and Lewis to POVTS, and Dodson, Eisemann, Hart, Korbe and Sav. Lewis to IEC. Are these appointments in place?		Vanderburg/O	Done
Board	5/4/2023	**3-5 APPROVAL OF FY2023 CONTINGENCY PLAN CONTRACTOR POOL:** The Board Authorized individual contracts with Nuka Research and Planning, LLC, and Attorney Breck Tostevin for professional services with the aggregate total not to exceed the amount approved for Project 651 Contingency Plan Review in the final FY2024 budget, and delegation of authority to the Executive Director to enter into individual contracts with selected consultants. Are these contracts in place?		Swiss	Done
Board	5/4/2023	**APPROVAL OF PWSRCAC/ALYESKA CONTRACT COMPLIANCE VERIFICATION REPORT:** The Board accepted the PWSRCAC/Alyeska Annual Contract Compliance Verification Report. Is the report in place?	100.109.230331.ContrComplRpt	Schantz/Hamil	Done
Board	5/4/2023	**4-3 REPORT ACCEPTANCE: LTEMP TRANSCRIPTOMICS:** The Board accepted the reports titled "Executive Summary: Transcriptomic responses to an Alaskan oil spill over time reveal a dynamic multisystem involvement in exposed mussels" and "Transcriptomic responses to an Alaskan oil spill over time reveal a dynamic multisystem involvement in exposed mussels (Mytilus trossulus)" by Lizabeth Bowen, William B. Driskell, Brenda Ballachey, James R. Payne, Shannon Waters, Eric Litman, and Austin Love as meeting the terms and conditions of research contribution number 951.22.07, and for distribution to the public. Are these reports in place?	951.431.230301.TrnScriptomcFull	Love	Done
Board	5/4/2023	**4-4 REPORT ACCEPTANCE: 2019 ALASKA NORTH SLOPE CRUDE OIL PROPERTIES:** The Board accepted the report titled "Review of the 2019 Alaska North Slope Oil Properties Relevant to Environmental Assessment and Prediction" by Dr. Merv Fingas as meeting the terms and conditions of contract #5640.23.01, and for distribution to the public. Is this report in place?	500.431.230301.MFrvwANSprops	Love	Done
Board	5/4/2023	**4-7 REPORT ACCEPTANCE: 2022 DRILL MONITORING ANNUAL REPORT:** The Board accepted the 2022 Annual Drill Monitoring Report for distribution. Is this report in place?	752.431.230101.DrillMon2022	Robertson	Done

PWSRCAC Board and Executive Committee Actions

PRINCE WILLIAM SOUND REGIONAL CITIZENS' ADVISORY COUNCIL

Meeting	Date	Action Item	File Code (if any)	Responsible	Disposition
Board	5/4/2023	**4-9 ANNUAL BOARD COMMITTEE APPOINTMENTS**: The Board made the following committee appointments: FINANCE - Treasurer Wayne Donaldson (chair), Robert Archibald, Mako Haggerty Angela Totemoff, Jim Herbert; LONG RANGE PLANNING COMMITTEE - The chairs of all the technical committees, Robert Archibald, Jim Herbert, Angela Totemoff, and Cathy Hart from the IE Committee; BOARD GOVERNANCE COMMITTEE -Luke Hasenbank, Dorothy Moore, Robert Beedle, Mike Bender; LEGISLATIVE AFFAIRS COMMITTEE - Robert Beedle, Robert Archibald, Mako Haggerty, Kirk Zinck, Dorothy Moore, Elijah Jackson. Are these appointments in place?		Fleming	Done
XCOM	4/28/2023	**Dispersant Literature Report Acceptance:** The Executive Committee approved the report titled "Review of Literature on Oil Spill Dispersants: 2021-2023", dated January 2023, by Dr. Merv Fingas of Spill Science, LLC, as meeting the terms and conditions of contract number 9550.22.02, and for distribution to the public.	955.431.230101.FingasLitRvw	Verna	Done
XCOM	4/28/2023	**Board Strategic Planning Contract Approval:** The Executive Committee authorized the Executive Director to enter into contract with Agnew::Beck Consulting for an amount necessary from FY2023 funds that will extend to June 30, 2023 for the purpose of Board strategic planning and facilitated workshop to be held September 20, 2023, in Homer, Alaska. The remainder of the funds would be subsequently passed in the FY2024 budget. Is the contract in place?		Crawford	Done
XCOM	4/28/2023	**Approval of International Travel to the 45th Annual AMOP Technical Seminar:** The Executive Committee approved international travel for Dr. Roger Green to attend the 45th Annual AMOP Technical Seminar, June 6-8, 2023, in Edmonton, Canada in an approximate amount of $2,541. Has the travel taken place?		Odegard	Done
XCOM	4/28/2023	**OSPR Committee Appointment:** The Executive Committee appointed Matt Melton to the OSPR Committee with a term set to expire at the May 2023 annual Board meeting. Is this appointment in place?		Vanderburg	Done
Board	4/14/2023	**Acceptance of the report titled "Assessment of Employee Concerns Regarding the Valdez Marine Terminal":** Once out of executive session, the Board accepted the report titled "Assessment of Risks and Safety Culture at Alyeska's Valdez Marine Terminal" by Billie Garde as meeting the terms of contract 5053.22.01. Is this report in place?	500.431.230401.GardeVMTriskassmt	Schantz	Done

PWSRCAC Board and Executive Committee Actions

PRINCE WILLIAM SOUND REGIONAL CITIZENS' ADVISORY COUNCIL

Meeting	Date	Action Item	File Code (if any)	Responsible	Disposition
Board	4/14/2023	**Transmittal of the report titled "Assessment of Employee Concerns Regarding the Valdez Marine Terminal":** The Board approved the letter transmitting the report to the Alaska Delegation, to be signed by all PWSRCAC Board members, with the release of the report to other government regulators, elected officials, formal transmittal to Alyeska, and availability to the public to occur 7-10 days after transmittal of the report to congress. Has the letter been sent?	440.105.230415.AKDelTAPS	Schantz	Done
Board	3/14/2023	**Participation in May 2 Youth Involvement Bligh Reef Expedition:** The Board authorized the additional expenditure of an estimated $215 per person for Council volunteers to attend the May 2, 2023 youth Involvement Bligh Reef Expedition in Valdez.		Draper-Reich	Done
Board	3/14/2023	**Approval of Resolution Increasing MasterCard Account at FNBA:** The Board adopted the attached corporate resolution provided by First National Bank Alaska authorizing an increase in the total credit limit for the Council's Mastercard account to $80,000.		Hamilton	DOne
Board	3/14/2023	**Approval of Travel for President Archibald to Anchorage:** The Board approved costs for President Robert Archibald to travel to Anchorage on March 16 to meet with Alyeska interim president Betsy Haines in an approximate amount of $500.		Fleming	Done
Board	3/14/2023	**Approval of IRS Form 990:** The Board authorize the Executive Director to sign the Form 990 on behalf of PWSRCAC and submit it to the IRS on or before May 15, 2023.		Hamilton	Done
Board	3/14/2023	**Annual Evaluation of the Executive Director:** The Board approved extending the Executive Director's contract for one year		Crawford	Done
XCOM	2/21/2023	**Dispersant Literature Report Acceptance:** The Executive Committee the report titled "Review of Literature on Oil Spill Dispersants: 2021-2023", dated January 2023, by Dr. Merv Fingas of Spill Science, LLC, as meeting the terms and conditions of contract number 9550.22.02, and for distribution to the public." Has the report been distributed?	955.431.230101.FingasLitRvw	Verna	Done

PWSRCAC Board and Executive Committee Actions

PRINCE WILLIAM SOUND REGIONAL CITIZENS' ADVISORY COUNCIL

Meeting	Date	Action Item	File Code (if any)	Responsible	Disposition
XCOM	2/21/2023	**Board Strategic Planning Contract Approval:** The Executive Committee authorized the Executive Director to enter into contract with Agnew::Beck in an amount necessary from FY2023 funds that will extend into June 30, 2023 for the purpose of Board strategic planning and facilitated workshop to be held September 20, 2023 in Homer, Alaska The remainder of the funds would be subsequently passed in the FY2024 budget. Is this contract in place?		Crawford	Done
XCOM	2/21/2023	**Approval of International Travel to the 45th Annual AMOP Technical Seminar:** The Executive Committee approved approve International travel for Roger Green to attend the 45th Annual AMOP Technical Seminar, June 6-8, 2023 in Edmonton, Canada in an approximate amount of $2,541. Has the travel taken place?		Odegard	Done
XCOM	2/21/2023	**OSPR Committee Appointment:** The Executive Committee appointed Matt Melton to the OSPR Committee with a term set to expire at the May 2023 annual Board meeting. Is this appointment in place?		Vanderburg	Done
Board	1/26/2023	**DIRECTOR APPOINTMENT FOR CDFU AND CITY OF CORDOVA:** The Board accepted the confirmations of the appointments of Robert Beedle representing Cordova District Fishermen United, and David Janka representing the City of Cordova, each with a term set to expire in May 2024. Are these appointments in place?		Fleming	Done
Board	1/26/2023	**APPROVAL OF LTEMP BUDGET MODIFICATION AND CONTRACT CHANGE ORDER:** The Board authorized an FY2023 budget modification from the contingency fund to project #9510 – Long Term Environmental Monitoring Program adding $836 for contract expenses and approval of negotiation of a contract change order, for contract #951.22.06, with Owl Ridge Natural Resource Consultants, adding $5,058 for compensation to archive the 1993-2021 Long-Term Environmental Monitoring Program data in the Alaska Ocean Observing System and extending the term of the contract to March 31, 2023. [Note: This change order would increase the total contract amount to $68,007.]Are these steps in place?		Love	Done
Board	1/26/2023	**APPROVAL OF FY2023 BUDGET MODIFICATIONS:** The Board approved the proposed FY2023 budget modifications as listed on the provided sheet, with a total revised contingency in the amount of $128,778. Are these modifications in place?		Hamilton	Done

PWSRCAC Board and Executive Committee Actions

PRINCE WILLIAM SOUND REGIONAL CITIZENS' ADVISORY COUNCIL

Meeting	Date	Action Item	
Board	1/26/2023	**REPORT ACCEPTANCE: SECONDARY CONTAINMENT SYSTEM EVALUATION METHODS:** The Board accepted the report titled "Methodologies for Evaluating Defects in the Catalytically Blown Asphalt Liner in the Secondary Containment System at the Valdez Marine Terminal" by Dr. Craig H. Benson dated November 29, 2022, as meeting the terms and conditions of Contract 6512.22.02, with direction to staff to forward the report to Alyeska, and state and federal regulators accompanied by a cover letter summarizing findings and recommendations with requests for appropriate action and a complete response; and authorized staff to negotiate a contract change order, for contract #6512.22.02, with Dr. Craig H. Benson, adding $7,900 for compensation to attend meetings with the Council, Alyeska, and state and federal regulators promoting the findings and recommendations of his November 29, 2022 report and extending the term of the contract to June 30, 2023. Are these steps in place?	**File Code** (if any) 500.431.221129.BensonCBAMethods **Responsible** Love **Disposition** Done
Board	1/26/2023	**CREATION AND APPOINTMENT OF TEMPORARY RECREATION SEAT:** The Board approved: a waiver of Administrative Procedure 16-01 "Consideration of an Entity for the PWSRCAC Board of Directors" for the Temporary Recreation Seat; the proposed amendment to section 2.2.1 of the PWSRCAC Bylaws to add Temporary Recreation Seat to the list of Class I Membership; the proposed amendment to section 3.2 of the PWSRCAC Bylaws to add the following language: The Board of Directors may appoint an entity or individual to serve as a Class I or Class II member on a temporary basis, on terms and conditions as may be determined by the Board, by action of the Board as provided in this section; and, the appointment of Jim Herbert to fill the Temporary Recreation Seat as a Class I member with a term set to expire at the January 2024 Board meeting or at the completion of the Request for Qualifications process, whichever comes first. Are these steps in place?	**File Code** (if any) **Responsible** Taylor/Crawfo **Disposition** Done
Board	1/26/2023	**REPORT ACCEPTANCE: 2022 FORAGE FISH SURVEY:** The Board accepted the report titled "2022 Prince William Sound Forage Fish Observations" by Dr. Scott Pegau of the Prince William Sound Science Center dated November 28, 2022, as meeting the terms and conditions of Contract 9511.22.01, and for distribution to the public. Is the report in place?	**File Code** (if any) 900.431.221128.PegauForageRpt **Responsible** Verna **Disposition** Done
Board	1/26/2023	**REPORT APPROVAL - PWSRCAC ANNUAL LONG RANGE PLAN:** The Board approved the Five-Year Long Range Plan for Fiscal Years 2024–2028, as developed and finalized for consideration by the Board at the January 25, 2023 Long Range Plan work session. Is this report in place?	**File Code** (if any) 210.101.230129.FiveYearLRP **Responsible** Crawford/Van **Disposition** Done
Board	1/26/2023	**APPROVAL OF DISPERSANTS USE POSITION SUPPORTING MATERIALS:** The Board accepted the document titled "PWSRCAC Dispersant Use Position Supporting Materials" by Elise DeCola of Nuka Research and Planning Group, LLC, dated December 2022, as meeting the terms and conditions of Contract 9550.22.01, and for distribution to the public. Are the materials available to the public?	**File Code** (if any) 955.431.230127.PositionStatement **Responsible** Verna **Disposition** Done

PWSRCAC Board and Executive Committee Actions

PRINCE WILLIAM SOUND REGIONAL CITIZENS' ADVISORY COUNCIL

Meeting	Date	Action Item	File Code (if any)	Responsible	Disposition
Board	1/26/2023	**REPORT ACCEPTANCE - PORT VALDEZ WEATHER BUOY DATA ANALYSIS 2019 - 2021:** The Board accepted the report titled "Port Valdez Weather Buoy Data Analysis 2019-2021" by Robert W. Campbell, Ph.D., of the Prince William Sound Science Center dated December 7, 2022, as meeting the terms and conditions of the Contract 6536.22.01, and for distribution to the public. Is the report in place?	653.431.221207.PtVdzWxBuoyData	Robertson	Done
Board	1/26/2023	**APPROVAL OF MARINE INVASIVE SPECIES SOLE SOURCE CONTRACT:** The Board authorized a budget modification from the contingency fund to project 9520 Marine Invasive Species in the amount of $8,645 for FY2023 contract expenses; and authorized the Executive Director to enter into a sole source contract with the Smithsonian Environmental Research Center for the project Marine Invasive Species Broadscale Survey in Prince William Sound in an amount not to exceed $60,254. Are these steps in place?		Verna	Done
XCOM	1/19/2023	**Agenda for Upcoming PWSRCAC Board Meeting:** The Executive Committee approved the agenda for the PWSRCAC Board meeting, January 26-27, 2021 with changes as presented and discussed. Has the agenda been distributed?	210.001.230126.JanAgenda	Fleming	Done
Board	12/20/2022	**Update on Assessment of Employee Concerns Regarding the VMT:** The Board authorized a budget modification from the contingency fund to project 5053: System Integrity and Safety Culture Issues in the amount of $5,000; and authorized a $5,000 increase to the agreement with Billie Garde for graphic design/publishing services, bringing the total contract amount for project 5053 to a not to exceed amount of $55,000. Are these steps in place?		Schantz	Done
Board	12/20/2022	**PWSRCAC Member Entity and Board Seats:** The Board directed staff to contact individuals from the EVOS region to temporarily fill the recreation seat, with the intent to temporarily waive Administrative Procedure 16 -01 and temporarily seat the representative selected at the January 2023 Board meeting, after which a full RFP process will be conducted. Are these steps in place?		Taylor/Crawfo	Done
Board	12/20/2022	**Facilitated Strategic Planning Session and Related Events:** The Board directed staff to plan on holding a Strategic Planning workshop in FY2024, by adding the full day facilitated workshop to the September Board meeting in Homer. Has the workshop taken place?		Crawford	Pending, workshop
Board	12/20/2022	**Rescind COVID 19 Restrictions for In-Person Meeting:** The Board rescinded specific COVID-19 safety mitigation's and restrictions that were previously approved by the Board in March 2022. Rescinded restrictions to include: required mask usage, social distancing of a minimum of three feet, and requirement for food items to be served via individually packaged meals. Has this action taken place?		Fleming	Done

PWSRCAC Board and Executive Committee Actions

PRINCE WILLIAM SOUND REGIONAL CITIZENS' ADVISORY COUNCIL

Meeting	Date	Action Item	File Code (if any)	Responsible	Disposition
XCOM	12/15/2022	**Acceptance of Memo by Taku Engineering Regarding the Maintenance of ballast Water Storage Tank 93:** The Executive Committee accepted the technical memorandum titled "Valdez Marine Terminal Tank 93 Preliminary Recommendations" by William Mott of Taku Engineering dated October 28, 2022, as meeting the terms and conditions of Contract 5081.22.01, with direction to staff to forward the memo to Alyeska and state and federal regulators. Has the report been distributed?	500.431.221028.VMTtk93Memo.pdf	Love	Done
XCOM	12/15/2022	**Approval of Travel to the 2023 Nonprofit Technology Conference:** The Executive Commitee approved travel for IEC member Cathy Hart to attend the NTEN Conference, April 12-14, 2023, in Denver, Colorado, with travel costs in an approximate amount of $2,572. Has the travel taken place?		Willahan	Done
XCOM	12/15/2022	**Planning and Process for Executive Director FY2024 Evaluation:** The Executive Committee approved forwarding the Executive Director performance goals to the Board for approval at the January 2023 Board meeting. Has this taken place?		Schantz	Done
XCOM	11/10/2022	**Contract Approval - Marine Bird Winter Surveys:** The Executive Committee approved a sole source contract with the Prince William Sound Science Center to conduct Project 9110 – Prince William Sound Marine Bird Winter Surveys at an amount not to exceed $41,700. Is this contract in place?		Verna	Done
XCOM	11/10/2022	**Budget Modification and Contract Change Order for Terminal Operations Program:** The Executive Committee authorized a budget modification of $14,560 from the contingency fund to program #5000 – Terminal Operations Program; and to authorize a change order to contract #5000.22.01 with Taku Engineering, LLC increasing the amount by $14,560, bringing the total contract value to a not to exceed amount of $49,060. Are these steps in place?		Love	Done
XCOM	11/10/2022	**Approval of International Travel to Attend PWSRCAC Volunteer Events:** The Executive Committee approved international travel for Dr. Roger Green to travel from Ontario, Canada to Alaska to attend PWSRCAC's Science Night, volunteer workshop, and annual holiday party, scheduled for December 1-2, 2022, in an approximate amount of $2,537.		Willahan	Done
XCOM	11/10/2022	**2022 Holiday Bonus for the Executive Director:** The Executive Committee authorized a one-time 2022 holiday bonus for Executive Director Donna Schantz in the amount of $400. Has the bonus been delivered?		Hamilton	Done

PWSRCAC Board and Executive Committee Actions

PRINCE WILLIAM SOUND REGIONAL CITIZENS' ADVISORY COUNCIL

Meeting	Date	Action Item	File Code (if any)	Responsible	Disposition
Board	9/22/2022	**3-1 CONTRACT APPROVAL: MISCOMMUNICATION IN MARITIME CONTENTS:** The Board authorized of a sole source contract with Dr. Zeigler through Sky Island Language Learning Research in an amount not to exceed $55,000 for Project 8520 – Miscommunication in Maritime Contexts. Is this contract in place?		Sorum	Done
Board	9/22/2022	**3-2 CONTRACT APPROVAL: ADF&G SUBSISTENCE HARVEST SURVEYS:** The Board authorized a sole source contract with Alaska Department of Fish and Game for the project Comprehensive Update of Subsistence Harvest and Uses in Prince William Sound, in an amount not to exceed $49,750 Is this contract in place?		Verna	Done
Board	9/22/2022	**4-4 APPROVAL OF LINE THROWING TRIAL SUMMARY VIDEO:** The Board accepted the line throwing trial summary video produced by OnPoint Outreach as meeting the terms and conditions of Contract 8012.22.03 and allow the video to be distributed to the public. Is this video in place?		Sorum	Done
Board	9/22/2022	**4-3 FY2022 AUDIT ACCEPTANCE:** The Board accepted the June 30, 2022 audited financial statements and audit report. Are these documents in place?		Hamilton	Done
Board	9/22/2022	**4-1 REPORT ACCEPTANCE: EVALUATION REPORT TANK 8 FLOOR & CATHODIC PROTECTION SYSTEM DESIGN REVIEW:** The Board Accepted the report titled "Crude Oil Storage Tank 8 Floor and Cathodic Protection System Design Review" by William Mott of Taku Engineering, dated June 2022, as meeting the terms and conditions of the Contract 5056.22.01, and gave direction to staff to forward the report to Alyeska and state and federal regulators accompanied by a cover letter summarizing the findings and recommendations with requests for appropriate action and a complete response. Are these steps complete?	500.431.220601.TakuT8DesignRvw and 500.105.221025.Tank8CPrecAPSC	Love	Done
Board	9/22/2022	**4-2 REPORT ACCEPTANCE: EVALUATION REPORT OF PEER LISTENER PROGRAM:** The Board accepted the report titled "Evaluation Report Peer Listener Program" by Purpose Driven Consulting dated August 2, 2022, as meeting the terms and conditions of Contract 6560.22.01 and for distribution to the public.	646.431.220802.PeerListenEval	Verna	Done

PWSRCAC Board and Executive Committee Actions

PRINCE WILLIAM SOUND REGIONAL CITIZENS' ADVISORY COUNCIL

Meeting	Date	Action Item	
Board	9/22/2022	**4-6 REPORT ACCEPTANCE & UPDATE TO COUNCIL'S DISPERSANTS USE POSITION:** The Board approved, as amended: • Acceptance of the report titled "Summary of Board of Directors Workshops and Draft Evidence-Based, Updated Position" by Elise DeCola of Nuka Research, dated July 26, 2022, as meeting the terms and conditions of Contract 9550.22.01, and for distribution to the public, as amended at this meeting. • Adoption of the Dispersant Use Position dated July 26, 2022, as presented and amended at this meeting, as follows: o Addition of new subparagraph 2) d. e. There is an unproven assumption that oil on the surface is worse than oil in the water column. o Amended 4 d) i. to read: i. Alaska Native Tribes and rural community members in the EVOS region o Amended 4) a. and 4) b. to add [after the word "PWS"]: … and the oil spill affected region … For clarity and consistency throughout the position, the phrase "PWS and the EVOS affected region" was updated where reference to PWS was made.	**File Code** (if any) 955.431.220926.RCACPosition **Responsible** Verna **Disposition** Done
Board	9/22/2022	**4-7 REPORT ACCEPTANCE: OUT OF REGION OIL SPILL RESPONSE EQUIPMENT SURVEY:** The Board accepted the Out of Region Oil Spill Response Equipment Survey whitepaper (as updated September 2022), compiled by contractor Nuka Research and Planning Group, LLC, and Nielson, Koch and Grannis as meeting the terms and conditions of Contract 7050.22.01, and for distribution to the public. Is this report in place?	**File Code** (if any) 705.431.220901.NukaPWSOORSurv **Responsible** Robida **Disposition** Done
Board	9/22/2022	**4-8 REPORT ACCEPTANCE: GENETIC ANALYSIS OF ZOOPLANKTON:** The Board accepted the report titled "Variation in Zooplankton Community Composition in Prince William Sound across Space and Time" by Dr. Katrina Lohan of the Smithsonian Environmental Research Center and Dr. Jon Geller of Moss Landing Marine Laboratory, dated July 5, 2022, as meeting the terms and conditions of Contract 9520.22.01, and for distribution to the public. Is this report in place?	**File Code** (if any) 952.431.220705.ZooplankVariation **Responsible** Verna **Disposition** Done
Board	9/22/2022	**4-9 REPORT ACCEPTANCE: MARINE WINTER BIRD SURVEYS IN PRINCE WILLIAM SOUND:** The Board accepted the report titled "Marine Winter Bird Surveys in Prince William Sound" by Prince William Sound Science Center dated August 5, 2022, as meeting the terms and conditions of Contract 9110.22.01, and for distribution to the public. Is this report in place?	**File Code** (if any) 900.431.220805.WinterBirdSurvy **Responsible** Verna **Disposition** Done
Board	9/22/2022	**4-10 PWSRCAC LONG RANGE PLANNING:** The Board approved the protected project list for the upcoming Long Range Planning process as presented in Attachment A to briefing sheet 4-10. Is this list in place?	**File Code** (if any) **Responsible** Crawford **Disposition** Done

PWSRCAC Board and Executive Committee Actions

PRINCE WILLIAM SOUND REGIONAL CITIZENS' ADVISORY COUNCIL

Meeting	Date	Action Item	File Code (if any)	Responsible	Disposition
Board	9/22/2022	3-3 APPROVAL OF FY 2023 BUDGET MODIFICATIONS: The Board approved the FY2023 budget modifications as listed on the provided [budget modifications] sheet, with a total revised contingency in the amount of $96,469. Are these modifications in place?		Hamilton	Done
XCOM	9/15/2022	**Ratification of Recent Board President Travel:** The Executive Committee approved the ratification of President Archibald's travel to Anchorage on September 14, 2022 to meet with Alyeska interim president, Betsy Haines in an approximate amount of $500. Has the travel taken place?		Fleming	Done
XCOM	9/15/2022	**Acceptance of 2021 Long-Term Environmental Monitoring Program Reports:** The Executive Committee accepted the reports titled "Long-Term Environmental Monitoring Program: 2021 Summary Report" and "Long-Term Environmental Monitoring Program: 2021 Technical Supplement" by Owl Ridge Natural Resource Consultants, dated May 2022, as meeting the terms of contract #951.22.06 and for public distribution. Are these reports in place?	951.431.220501.OwlRidgeSummary and 951.431.220501.OwlRidgeTech	Love	Done
XCOM	9/15/2022	**Contract Approval - Sustainable Shipping Regulatory Mandate Review:** The Executive committee accepted the proposal from Nuka Research and Planning Group, LLC and authorized a contract with them for an amount not to exceed $35,000. Is this contract in place?		Sorum	Done
XCOM	9/15/2022	**Out-of-State Travel to Pacific Marine Expo:** The Executive Committee approved out-of-state travel for Max Mitchell to attend the Pacific Marine Expo, November 17-19, 2022 in Seattle, Washington with total travel costs in an approximate amount of $2,510. Has the travel taken place?		Vanderburg	Done
XCOM	9/15/2022	**Agenda for Upcoming PWSRCAC Board Meeting:** The Executive Committee approved the agenda for the PWSRCAC Board meeting, September 22-23, 2022 in Seward, as presented and amended		Fleming	Done

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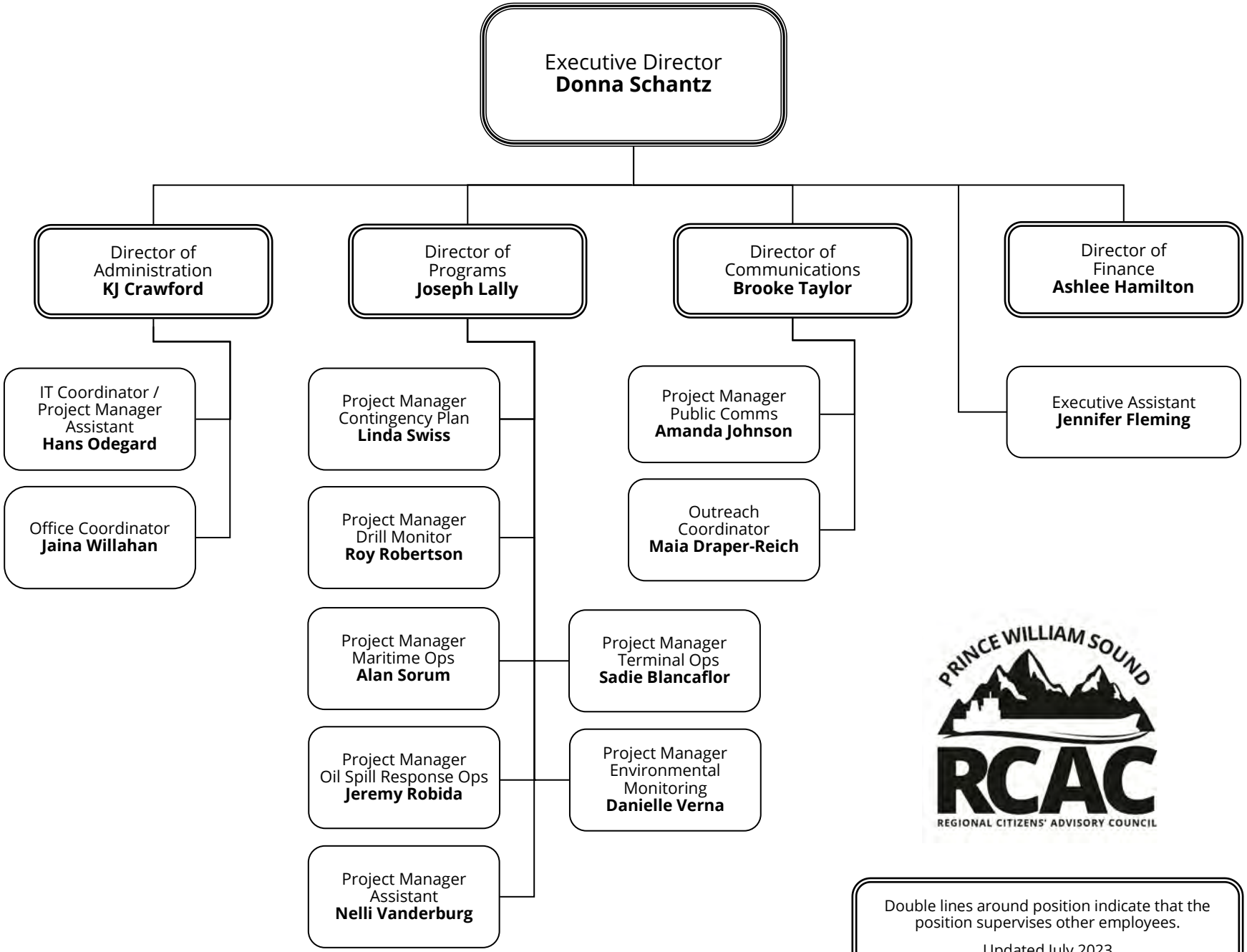

Consent Agenda Briefing for PWSRCAC Board of Directors – September 2023

ACTION ITEM

Sponsor: Ashlee Hamilton, Director of Finance
Project number and name or topic: 1300 Information Technology

1. **Description of agenda item:** As reported to the Board via email on June 14, 2023, staff is seeking Board action to retroactively approve a FY2024 budget modification to add the annual subscription of the financial accounting system, Sage Intacct, in the amount of $17,094 and to approve the contracting/licensing expense. This subscription is required for continued use of the accounting system. This is the second year of the three-year contract with Sockeye Consulting, who supports the Sage Intacct system previously approved by the Board.

2. **Why is this item important to PWSRCAC:** A modern accounting system that is kept up-to-date and widely supported is essential for maintaining the financial records of PWSRCAC, processing bills and payrolls, facilitating the annual financial statement audit, and reporting financials to the Board, Finance Committee, management, and staff.

3. **Previous actions taken by the Board on this item:**

Meeting	Date	Action
Board	6/21/2022	Authorized a three-year sole source contract with Sockeye Consulting for help setting up and configuring the new accounting system as well as providing ongoing support and training at a total cost of an estimated $36,908 over the three years; approved a FY2023 budget modification in the amount of $22,500 from the capital budget to project 1300 Information Technology for the first year of the Sage Intacct subscription ($10,500) and Sockeye Consulting contract ($12,000); and approved a FY2023 budget modification of $37,500 from the capital budget to the contingency fund.

4. **Summary of policy, issues, support, or opposition:** Because the licensing fee was due before July 1, 2023, staff conferred with Board President Robert Archibald and Treasurer Wayne Donaldson, and the full Board was informed via email that we intended to move forward with signing the agreement and paying the licensing fee, and that this item would be added to the consent agenda at the September Board meeting to retroactively authorize the budget modification and licensing expense. Board members were asked to respond with any objections and no objections were received.

5. **Committee Recommendation:** The Finance Committee has been regularly apprised of the status of the new accounting system, including the review and selection of Sockeye Consulting and Sage Intacct. The Finance Committee supports the annual subscription costs, the line item was merely overlooked when building the FY2024 budget.

6. **Relationship to LRP and Budget:** The Council's accounting management software falls under 1300 Information Technology. Funds will be taken from the FY2024 contingency fund.

7. **Action Requested of the Board of Directors:**

a) Approve an FY2024 budget modification in the amount of $17,094 from the contingency fund into budget 1300 Information Technology for the annual Sage Intacct licensing fee; and

b) Approve the FY2024 licensing fee with Sage Intacct in the amount of $17,094 for continued support of the Council's accounting system.

8. **Alternatives:** None recommended.

9. **Attachments:** None.

Approve Deferral of Project 5591: Crude Oil Piping Inspection Review 3-2

Consent Agenda Briefing for PWSRCAC Board of Directors – September 2023

ACTION ITEM

Sponsor:	Sadie Blancaflor and the TOEM Committee
Project number and name or topic:	5591 – Crude Oil Piping Inspection Review

1. **Description of agenda item:** The Board is being asked to approve the deferral of FY2024 TOEM project 5591: Crude Oil Piping Inspection Review the total of which is $51,744, and transfer the funds to the contingency fund. Alyeska has informed PWSRCAC that we will not have access to the crude piping inspection summary report and associated data until fall of 2024, which would mean we would not be able to conduct Project 5591: Crude Oil Piping Inspection Review until FY2025.

2. **Why is this item important to PWSRCAC:** From 2016 through 2018 Alyeska undertook substantial projects to internally inspect the majority of large diameter crude oil piping at the VMT. Those inspections involved the use of a few types of in-line or internal inspection tools that assessed the remaining wall thickness and geometry of the piping segments. The piping segments included the majority of on-land crude oil piping and essentially all of the large-diameter crude piping that extends over the water out to the ends of Berths 4 and 5 (the only in-service berths at the VMT). To enable the internal and in-line inspections, Alyeska significantly modified portions of the VMT's crude oil piping system including the installation of two pig launchers, two pig receivers, and multiple split-tee pieces.

It is the Council's understanding that these substantial inspections were completed in the absence of any regulatory requirement on the VMT's crude oil piping system. However, the Council is aware that for other crude oil piping systems, regulations contained in 49 CFR Part 195 spell out internal or in-line inspection requirements. In 2014, the Council's contractor, Dynamic Risk Assessment Systems Inc., recommended 49 CFR Part 195 as "guidance when developing the inspection program for the VMT piping." Despite there being no current regulatory requirement for the VMT's crude oil piping, the Council would like to know if these 2016-2018 piping inspections were in alignment with the requirements of 49 CFR Part 195. This project is necessary to help ensure that Alyeska is using industry best practices and considers all the pertinent information in the decisions they make to safely maintain the VMT's crude oil piping system.

Findings and conclusions from this project, as well as any recommendations, will be shared with Alyeska, and other appropriate stakeholders (e.g., state or federal regulators), to promote where industry best practices are utilized, and provide input and advice regarding the VMT's crude oil piping system inspections.

3. **Previous actions taken by the Board on this item:** None.

4. **Summary of policy, issues, support, or opposition:** None.

5. **Committee Recommendation:** The TOEM Committee voted via email poll following the July 30, 2023 TOEM Project Team meeting to recommend the Board defer the TOEM project 5591: Crude Oil Piping Inspection Review and that the funds allocated for this project be moved to FY2024 deferred project 5081: Storage Tank Maintenance Review. Since that time, staff learned from ADEC representatives that the information on ballast water tank 93 necessary to conduct project 5081 as proposed and deferred in the FY24 budget will also likely not be available during FY2024, so this action item is limited to the deferral of project 5591. It is anticipated that the TOEM Committee will have discussions regarding current project status and may come back to the Board at a later date with a project funding request.

6. **Relationship to LRP and Budget:** Project 5591: Crude Oil Piping Inspection Review is in the approved FY2024 budget in an amount of $51,744.

7. **Action Requested of the Board of Directors:** Defer TOEM project 5591: Crude Oil Piping Inspection Review transferring $51,744, of the funds into the FY2024 contingency.

8. **Alternatives:** None recommended.

9. **Attachments:** None.

Consent Agenda Briefing for PWSRCAC Board of Directors – September 2023

ACTION ITEM

Sponsor: Danielle Verna and the Scientific Advisory Committee

Project number and name or topic: 9110 Prince William Sound Marine Bird Winter Survey

1. **Description of agenda item:** The Board is being asked to approve a sole source contract with the Prince William Sound Science Center (PWSSC) in an amount of $65,138 for project 9110 to conduct marine bird winter surveys in Prince William Sound. PWSSC staff have conducted similar surveys for the Council in 2021, 2022, and 2023. This is the fourth year of surveys, adding data to an ongoing dataset that is being made publicly available to help determine vulnerability to oil spills and inform spill response efforts, such as updates to NOAA's Environmental Response Management Application. In addition to the surveys, staff from the PWSSC will conduct a hot spot analysis with marine bird data from 2007–2024, ultimately producing maps showing areas of high marine bird density.

2. **Why is this item important to PWSRCAC:** This project will monitor habitat and densities of marine bird species that were impacted by the Exxon Valdez oil spill and would be impacted again in the event of another major spill. The project identifies nearshore habitat important to marine bird survival which may warrant additional protection and can inform spill responders. These surveys take place in winter months, which is an important time for marine bird survival given the typically harsh conditions, and during which surveys have typically not been performed. The hot spot data analysis will summarize a time series of available data on marine bird densities in Prince William Sound that will enable us to identify highly sensitive areas.

3. **Previous actions taken by the Board on this item:**

Meeting	Date	Action
Board	5/4/2023	The Board approved the adoption of the 2024 budget as presented during the budget workshop on April 29, 2023, and as described in the Draft Budget 2024 dated April 25, 2023.

4. **Summary of policy, issues, support, or opposition:** None.

5. **Committee Recommendation:** The Scientific Advisory Committee supports this project.

6. **Relationship to LRP and Budget:** Project 9110 PWS Marine Bird Winter Survey is included in the approved FY2024 budget and annual work plan.

9110 - PWS Marine Bird Winter Survey
As of August 2, 2023

Original Budget	$71,738.00
Revised Budget	$71,738.00
Actual & Commitments	$0.00
Amount Remaining	$71,738.00

7. **Action Requested of the Board of Directors:** Authorize the Executive Director to enter into a sole source contract with the Prince William Sound Science Center to conduct project 9110 Marine Bird Winter Surveys in 2024 in an amount not to exceed $65,138.

8. **Alternatives:** None.

9. **Attachments:** None.

Briefing for PWSRCAC Board of Directors – September 2023

ACTION ITEM

Sponsor: Danielle Verna and the Scientific Advisory Committee

Project number and name or topic: 9110 Marine Bird Winter Surveys in Prince William Sound

1. **Description of agenda item:** The Board is being asked to accept the final report titled "Marine Bird Winter Surveys in Prince William Sound" dated June 26, 2023, by Anne Schaefer and Dr. Mary Anne Bishop of the Prince William Sound Science Center. In March 2023, staff from the Prince William Sound Science Center conducted surveys of marine birds and mammals in Prince William Sound, including the Valdez Arm, Valdez Narrows, and two new transects in the vicinity of Zaikof Bay and northwest Hinchinbrook Island. This report describes the methods and findings of the survey and recommendations for continued monitoring. This survey was the third consecutive year of Council sponsored surveys. Contractors will present a brief presentation to the Board summarizing the survey results and recommendations and will be available to answer questions.

2. **Why is this item important to PWSRCAC:** Surveys of marine birds in Prince William Sound enable PWSRCAC to fulfill two responsibilities pursuant to the Oil Pollution Act of 1990 (OPA 90). OPA 90 tasks the Council with monitoring "the environmental impacts of the operation of the terminal facilities and crude oil tankers" as well as "identifying highly sensitive areas which may require specific protective measures in the event of a spill in Prince William Sound." The timing and location of these surveys is valuable because they add depth to our understanding of bird populations, risks posed to birds from an oil spill, and where special monitoring or protection is needed. Additionally, these surveys provide baseline monitoring information that can be used to understand the environmental impacts of terminal and tanker operations on marine bird species. The surveys were conducted in winter months, which is an important time for marine bird survival given the typically harsh conditions. The results of the surveys will be made publicly available through the Alaska Ocean Observing System, NOAA's Environmental Response Management Application, and, combined with other survey data, can inform models of bird distribution in Prince William Sound that will be useful for future monitoring and response in the event of an oil spill.

3. **Previous actions taken by the Board on this item:**

Meeting	Date	Action
Board	5/5/2022	The Board adopted the FY2023 budget as presented, to include this project.
XCOM	11/10/2022	The Executive Committee approved a sole source contract with the Prince William Sound Science Center to conduct Project 9110 Marine Bird Winter Surveys in Prince William Sound at an amount not to exceed $41,700.

4. **Summary of policy, issues, support, or opposition:** None.

5. **Committee Recommendation:** The Scientific Advisory Committee recommended the Board of Directors accept this report at its meeting on July 21, 2023.

6. **Relationship to LRP and Budget:** Project 9110 Marine Bird Winter Surveys in Prince William Sound is in the approved FY2024 budget and annual work plan. The work associated with this report fell under the FY2023 budget and annual work plan with $6,600 in carryover into FY2024.

9110 - PWS Marine Bird Winter Survey
As of August 2, 2023

Original Budget	$71,738.00
Revised Budget	$71,738.00
Actual & Commitments	$0.00
Amount Remaining	$71,738.00

7. **Action Requested of the Board of Directors:** Accept the report titled "Marine Bird Winter Surveys in Prince William Sound" by the Prince William Sound Science Center dated June 26, 2023, as meeting the terms and conditions of contract number 9110.23.01, and for distribution to the public.

8. **Alternatives:** None recommended.

9. **Attachments:** Draft report titled "Marine Bird Winter Surveys in Prince William Sound" by Anne Schaefer and Mary Anne Bishop from the Prince William Sound Science Center.

Marine Bird Winter Surveys in Prince William Sound

June 26, 2023

A Schaefer and MA Bishop

Prince William Sound Science Center, PO Box 705, Cordova, AK

Contract 9110.23.01

Contents

Acronym List

AOOS: Alaska Ocean Observing System

ERMA: Environmental Response Management Application, NOAA

ESI: Environmental Sensitivity Index, NOAA

EVOS: Exxon Valdez oil spill

EVOSTC: *Exxon Valdez* Oil Spill Trustee Council

GPS: Global positioning system

GWA: Gulf Watch Alaska, a survey program funded by EVOSTC

km: Kilometers

m: Meters

NOAA: National Oceanic and Atmospheric Administration

NW: Northwest

PPOR: Potential place of refuge

PWS: Prince William Sound

PWSRCAC: Prince William Sound Regional Citizens' Advisory Council

s: Second

SS: Sea state

USFWS: U.S. Fish and Wildlife Service

WS: Weather conditions

Executive Summary

Of the marine birds that overwinter in Prince William Sound (PWS), Alaska, nine species and one species group were initially injured by the 1989 Exxon Valdez oil spill (EVOS; *Exxon Valdez* Oil Spill Trustee Council, 2014). This Prince William Sound Regional Citizens' Advisory Council (PWSRCAC) commissioned study, now in its third year, conducted marine bird and marine mammal surveys in under-surveyed areas in and around the PWS tanker escort zone. The survey was designed to complement the *Exxon Valdez* Oil Spill Trustee Council (EVOSTC) funded Gulf Watch Alaska surveys conducted from 2007-2022 by the PWS Science Center. Marine bird and mammal distribution and density around much of the tanker lane, Valdez Arm, and Port Valdez is largely unknown as the EVOSTC funded surveys did not cover these regions and many of these areas had not been surveyed in over a decade.

We conducted at-sea transect surveys between March 2-7, 2023, using the PWS Science Center's research vessel, the New Wave. Transects varied in length from 7.4 kilometers (km) (Rocky Bay) to 26.2 km (Central PWS). We added two transects because of their proximity to the tanker lane: Northwest Hinchinbrook Island (8.4 km) and Zaikof Bay (16.1 km) for a grand total of 11 transects and 205 km. For each transect we recorded all marine birds and marine mammals observed within a 300-meter (m) survey strip.

Across all transects, 646 birds representing 23 species were counted. *Brachyramphus* murrelets were the most recorded species (38% of observations), followed by pelagic cormorants (*Urile pelagicus,*12%), and common murre (*Uria aalge,* 7%). The 2023 survey results correspond with the seasonal patterns observed during the EVOSTC Gulf Watch surveys. During our surveys we also recorded 162 marine mammals representing four species, including observations of individuals beyond the 300-m survey strip. Observations were dominated by sea otter (*Enhydra lutris*).

Our 2023 results underscore the importance of protected nearshore habitat for marine birds and mammals during the winter. We found areas of repeated high marine bird density that may warrant prioritized protection in the event of anthropogenic disturbance, such as an oil spill. The primary areas for protection include Hinchinbrook Entrance (Port Etches, Zaikof Bay, Rocky Bay, and outer coastlines) and the head of Port Valdez between the Valdez Container Terminal and the outflow of Lowe River. Additional areas meriting heightened protection include Tatitlek Narrows and nearshore areas in Port Fidalgo and Port Gravina. These surveys do not include all areas that potentially may be impacted by an oil spill, nor do they capture all marine bird winter habitat or temporal variation in marine bird community structure throughout winter. With that said, continued monitoring in and around the tanker escort lane, as well as throughout Prince William Sound, is important for understanding marine bird and marine mammal vulnerability to environmental change and anthropogenic disturbance and could be used to update oil spill response planning tools and refine response efforts during the non-breeding season.

Introduction

In Alaska, and specifically Prince William Sound (PWS), most studies on marine birds are conducted during the breeding season when marine birds congregate at or near colonies to nest and forage. However, breeding season dynamics are not representative of the community composition or spatial distribution during the winter. The non-breeding season is a critical period of survival for marine birds overwintering at higher latitudes as food tends to be relatively scarce or inaccessible, the climate more extreme, light levels and day-length reduced, and water temperatures cooler.

From 2007-2021 as part of the *Exxon Valdez* Oil Spill Trustee Council (EVOSTC) funded Gulf Watch Alaska (GWA) program, personnel from the PWS Science Center conducted marine bird surveys in PWS during fall and winter (September – March). Results from 15 winters (2007-2022) demonstrated seasonal differences for all 11 focal avian species groups, indicating movements into and out of PWS over the course of the non-breeding season (Schaefer and Bishop, 2023). For the most abundant marine bird species, including common murre (*Uria aalge*), marbled murrelet (*Brachyramphus marmoratus*), black-legged kittiwake (*Rissa tridactyla*), and large gulls (*Larus* spp.), consistent temporal and spatial patterns were documented (Zuur et al. 2012; Dawson et al. 2015; Stocking et al. 2018; Schaefer et al. 2020; Schaefer and Bishop 2023).

Nevertheless, many regions of PWS remain under-surveyed during winter, including the areas in and around the Alyeska Pipeline Service Company's Valdez Marine Terminal and the associated tanker escort zone. Marine bird distribution and density around much of the tanker lane, Valdez Arm, and Port Valdez is largely unknown as the GWA surveys did not cover these regions and many of these areas have not been surveyed since 2010.

This report describes the density, distribution, and community composition of marine birds and marine mammals in and around the tanker escort zone in PWS as observed during March 2023 at-sea surveys. The report also compares the 2023 survey observations with those from 2021 and 2022 and provides recommendations for prioritizing oil spill response efforts in and around the tanker escort lane.

Methods

At-sea marine bird and mammal surveys were conducted during daylight hours along fixed transects in and around the tanker escort zone in PWS and followed established U.S. Fish and Wildlife Service (USFWS) protocols (USFWS 2007). We surveyed the same Prince William Sound Regional Citizens' Advisory Council (PWSRCAC) transects around the tanker zone as during 2021 and 2022, except that in 2023 we added two transects because of their proximity to the tanker lane: Northwest Hinchinbrook Island coastline (8.4 kilometers or km) and Zaikof Bay (16.1 km; Figure 1). Both the Northwest Hinchinbrook Island coastline and Zaikof Bay transects had previously been surveyed as part of the EVOSTC GWA program.

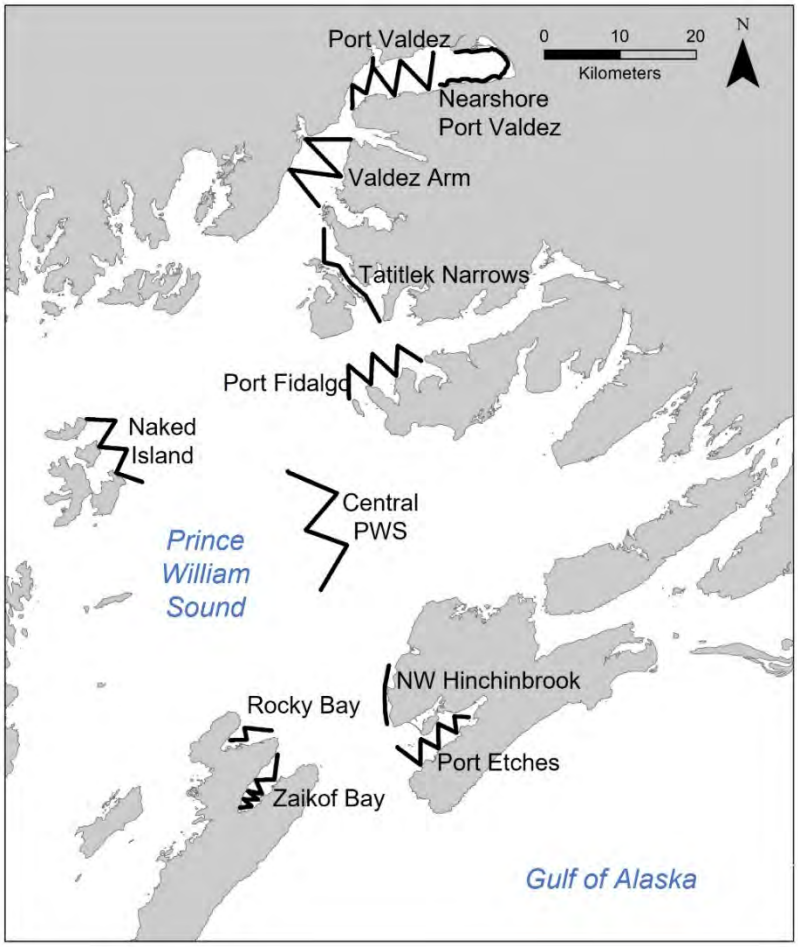

Figure 1. Map of marine bird and marine mammal transects in and around the tanker lanes surveyed in PWS during March 2023. Zaikof Bay and Northwest (NW) Hinchinbrook Island transects were previously part of the EVOSTC GWA program. Both transects were added to this survey effort in 2023.

For the surveys, one observer using 10x binoculars recorded the number, species, and behavior of all marine birds and mammals occurring within a 300-meter (m) fixed-width strip (150-m both sides and ahead of boat) from a clear observation platform ~3 m above the water line while the vessel traveled at a constant speed between 5 and 10 knots. Noteworthy observations (e.g., marine mammals, forage flocks) were recorded out to 1 km. For this study, a forage flock was defined as an aggregation of greater than 10 marine birds of one or more species actively foraging or flying but showing a clear interest in the water surface by either circling or hovering (Anderwald et al., 2011). Observations were recorded

into a laptop computer integrated with a global positioning system (GPS) using the program SeaLog (ABR, Inc). Location data (latitude, longitude) were automatically recorded at 15-second (s) intervals and for every entered observation. Additionally, sea state (SS) and weather conditions (WS) were tracked on-site by the observer.

Following the standard methods used for seabird survey data processing across the region, we divided each transect into 3-km segments and aggregated marine bird observations within each segment for summary. To make data comparable between the three survey years, we included 2021 and 2022 transect results from Northwest (NW) Hinchinbrook Island and Zaikof Bay transects collected as part of the EVOSTC GWA program. We grouped taxonomically similar species into 14 groups (Table 1) and calculated relative density (birds/km^2) for each 3-km segment. Data processing was performed using the program QA/QSea (ABR, Inc) and analyzed using the program R v. 4.1.3 (R Core Team, 2022). Mapping was performed using ArcMap 10.8.1 (ESRI, 2020). Marine mammals were not aggregated by 3-km segment, but are presented as recorded along the transect and in some instances beyond the survey strip out to 1-km.

Table 1. Taxonomically similar marine bird species combined for density analysis and mapping, Prince William Sound, Alaska.

Species group	**Common Name(s)**
Loons	Common, Pacific
Grebes	Horned, Red-necked
Cormorants	Double-crested, Pelagic
Harlequin Ducks	Harlequin
Long-tailed Ducks	Long-tailed
Scoters	Surf, White-winged, Black
Inshore Ducks	Barrow's Goldeneye, Common Goldeneye, Bufflehead
Mergansers	Common, Red-breasted
Large Gulls	Glaucous-winged, American Herring
Small Gulls	Short-billed
Kittiwakes	Black-legged
Murres	Common
Murrelets	Marbled
Guillemots	Pigeon

Results & Discussion

At-sea marine bird and mammal surveys were conducted in and around the PWS tanker escort zone from 2-7 March 2023 from the PWS Science Center's research vessel, the New Wave (Figure 1). Data from the 2023 survey have been uploaded to the Alaska Ocean Observing System (AOOS) data portal and will be available at https://gulf-of-alaska.portal.aoos.org/#metadata/771492cd-94b6-47ab-952a-02b152a535cf/project/files in January 2024 following proper data and metadata quality controls. Overall, we surveyed 205 km of transects (Table 2). Sea state conditions were calm, ranging from smooth and mirror-like (SS 0) up to large, 2-ft wavelets (SS 3). Weather conditions were mostly clear and sunny (WS 0) with overcast skies (WS 1) occurring only during the Port Fidalgo transect.

Table 2. Prince William Sound marine bird and marine mammal transects surveyed for Prince William Sound Regional Citizens' Advisory Council during March 2023. The mode for sea state (SS) and weather conditions (WS) is reported. * = transect added in 2023.

Transect Name	Length (km)	Area Sampled (km^2)	SS	WS	Mean bird density ($birds/km^2$)	# Mammals (within 1 km)
Central PWS	26.2	7.9	1	0	0.5	0
Port Etches	19.7	5.9	1	0	17.5	37
Port Fidalgo	23.9	7.2	2	1	6.3	16
Naked Island	18.6	5.6	1	0	5.2	8
NW Hinchinbrook Island*	8.3	2.5	2	0	13.0	0
Nearshore Port Valdez	18.6	5.6	0	0	26.3	43
Port Valdez	25.0	7.5	1	0	1.9	11
Rocky Bay	7.4	2.2	1	0	49.5	3
Tatitlek Narrows	15.5	4.6	1	0	4.6	10
Valdez Arm	25.6	7.7	3	0	0.8	0
Zaikof Bay*	16.1	4.8	1	0	27.2	34

Marine Birds

We recorded 646 birds representing 23 species within the 300-m survey strip across the 11 PWSRCAC) transects (Table 3; Figure A1-1). Compared to the two previous years, we recorded 22.8% and 31.3% fewer birds on the 2023 transects (2021 = 837 birds; 2022 = 941 birds). The 2023 survey was also dominated by one species group (*Brachyramphus* murrelets, 38.1% of observations), followed by pelagic cormorants (*Urile pelagicus*), and common murre (12.2% and 7.2%, respectively; Figure 2). Distribution of both the murrelets and murres was restricted. Areas of high murrelet density included the four transects in Hinchinbrook Entrance (Port Etches, Zaikof Bay, Rocky Bay, and NW Hinchinbrook Island), Port Valdez, and southeast Port Fidalgo (Figure A1-14). Areas of high murre density were similar to *Brachyramphus* murrelets and included Hinchinbrook Entrance (Zaikof Bay, Rocky Bay, and Port Etches) and southeast Port Fidalgo (Figure A1-13). In contrast to murrelet and murre distribution, pelagic cormorants were widespread and were recorded on 10 of 11 transects (Figure A1-4).

The most abundant species on 2023 surveys were comparable to the 2021 surveys when *Brachyramphus* murrelets dominated (31.2%) followed by common murre (15.7%) and pelagic cormorant (10.5%). Importantly, both the 2021 and 2023 survey results match the seasonal patterns observed during the EVOSTC GWA surveys. Over a 15-year period we found that murrelets, cormorants, and murres, along with the less numerous mergansers (*Mergus* spp.) and grebes (*Podiceps* spp.), were all more likely to occur in PWS from early- through late-winter compared to fall (Schaefer and Bishop, 2023).

Interestingly, black-legged kittiwakes, the most-recorded species in 2022 (n = 97 birds) had negligible numbers on the 2023 transects (n = 7 birds). Kittiwakes are more likely to be present in PWS during fall (September-October; Stocking et al., 2018; Schaefer and Bishop, 2023) whereas by early winter most have departed for offshore wintering habitats (McKnight et al., 2011). We suggest that the fluctuating kittiwake numbers observed during our annual March surveys are related to variability in the timing of their return from their offshore wintering grounds.

Among the 11 transects surveyed, 4 of the 5 highest bird densities (birds/km^2) were recorded on the four transects around Hinchinbrook Entrance (Figure A1-1). Densities around the Entrance ranged from 13.0 birds/km^2 along the NW Hinchinbrook Island transect to 49.5 birds/km^2 at Rocky Bay. While the Nearshore Port Valdez transect had the third highest densities recorded (26.3 birds/km^2), the nearby Port Valdez and Valdez Arm transects both had some of the lowest densities recorded during 2023 surveys, 1.9 and 0.8 birds/km^2, respectively (Table 2).

Table 3. Total number of birds observed by species on PWSRCAC transects within the 300-m survey and beyond the 300-m survey strip (shown in parentheses). March 2021-2023, Prince William Sound, Alaska. Data summaries across all years include observations from NW Hinchinbrook Island and Zaikof Bay. Please refer to Appendix 1 for distribution maps of each species group. Unid. = Unidentified.

Common name	Scientific name	2023 Count within 300-m strip (count beyond strip)	2022 Count within 300-m strip (count beyond strip)	2021 Count within 300-m strip (count beyond strip)
American Crow	*Corvus brachyrhynchos*	7 (0)	41 (0)	
American Herring Gull	*Larus smithsonianus*	1 (0)	1 (0)	
Bald Eagle	*Haliaeetus leucocephalus*	2 (7)	10 (2)	3 (2)
Barrow's Goldeneye	*Bucephala islandica*		25 (6)	6 (6)
Black-legged Kittiwake	*Rissa tridactyla*	7 (123)	97 (0)	86 (3)
Brachyramphus Murrelet		93 (33)	20 (4)	76 (17)
Bufflehead	*Bucephala albeola*	20 (26)	43 (3)	5 (39)
Common Goldeneye	*Bucephala clangula*	21 (0)	24 (1)	6 (1)
Common Loon	*Gavia immer*	1 (1)		
Common Merganser	*Mergus merganser*	29 (42)	30 (3)	12 (0)
Common Murre	*Uria aalge*	46 (10)	143 (87)	129 (39)
Common Raven	*Corvus corax*			2 (0)
Double-crested Cormorant	*Nannopterum auritum*	4 (1)	3 (0)	2 (0)
Glaucous-winged Gull	*Larus glaucescens*	38 (23)	92 (20)	74 (1)
Harlequin Duck	*Histrionicus histrionicus*		8 (0)	2 (0)
Horned Grebe	*Podiceps auritus*	13 (0)	4 (0)	17 (0)
Long-tailed Duck	*Clangula hyemalis*	4 (0)	37 (0)	6 (4)
Mallard	*Anas platyrhynchos*	5 (0)		0 (85)
Marbled Murrelet	*Brachyramphus marmoratus*	153 (1)	88 (3)	185 (9)
Pacific Loon	*Gavia pacifica*	28 (1)	35 (6)	2 (0)
Pelagic Cormorant	*Urile pelagicus*	79 (17)	57 (15)	88 (20)
Pigeon Guillemot	*Cepphus columba*	17 (1)	11 (2)	17 (1)
Red-breasted Merganser	*Mergus serrator*	5 (0)	29 (4)	3 (0)
Red-necked Grebe	*Podiceps grisegena*	1 (4)	1 (0)	

Short-billed Gull	*Larus brachyrhynchus*	23 (1)	36 (3)	14 (0)
Surf Scoter	*Melanitta perspicillata*	3 (17)	5 (0)	36 (1)
Trumpeter Swan	*Cygnus buccinator*	0 (4)		0 (3)
Unid. Cormorant		7 (40)	0 (1)	5 (44)
Unid. Duck		0 (328)	0 (124)	0 (105)
Unid. Goldeneye		10 (67)	13 (25)	36 (6)
Unid. Grebe		8 (2)	1 (0)	7 (0)
Unid. Large Gull		1 (0)	2 (1)	
Unid. Loon		4 (8)	2 (74)	4 (8)
Unid. Merganser		5 (34)	37 (9)	11 (0)
Unid. Murre				2 (0)
Unid. Scoter		3 (0)	5 (1)	1 (13)
Unid. Small Gull		1 (0)		0 (2)
White-winged Scoter	*Melanitta fusca*	7 (16)	41 (160)	0 (3)
Grand Total		**646 (+807)**	**941 (+554)**	**837 (+412)**

During nearshore transects, we typically try to maintain the vessel ~150-200 m from the shoreline. However, on the nearshore Port Valdez transect our vessel remained 500-1000 m from the shoreline due to the shallow and extensive mudflats emanating from the Lowe and Valdez Glacier rivers. While on this transect, we recorded large aggregations of ducks beyond the survey strip for a total of 333 ducks (mallard [*Anas platyrhynchos*] + unidentified ducks). This was more than 2.6x and 1.7x the number of ducks recorded in 2022 and 2021, respectively (2022: 124 unidentified ducks; 2021: 190 mallard + unidentified ducks). Similar to 2022, ducks during the 2023 survey were distributed between the outflows of the Valdez Glacier Stream and Allison Creek. In 2021, ducks were located along the northeast shoreline between the Valdez Container Terminal and the outflow of Valdez Glacier Stream.

Across all PWSRCAC surveys we recorded only one forage flock. On the Port Etches transect, a small forage flock was observed consisting of 12 glaucous-winged gulls (*Larus glaucescens*), 12 black-legged kittiwake, and 1 bald eagle (*Haliaeetus leucocephalus*). There were no marine mammals associated with the flock.

Marine Mammals

In addition to marine birds, we also recorded marine mammals within the 300-m strip during the surveys. When possible, we recorded marine mammal observations out to 1 km, but this is not uniform across all species as whales are much easier to observe at larger distances compared to sea otter (*Enhydra lutris*), harbor seal (*Phoca vitulina*), Steller sea lion (*Eumetopias jubatus*), or porpoises (*Phocoenoides dalli* or *Phocoena phocoena*). Observations recorded beyond the 300-m strip should be considered minimum counts for these species in these areas.

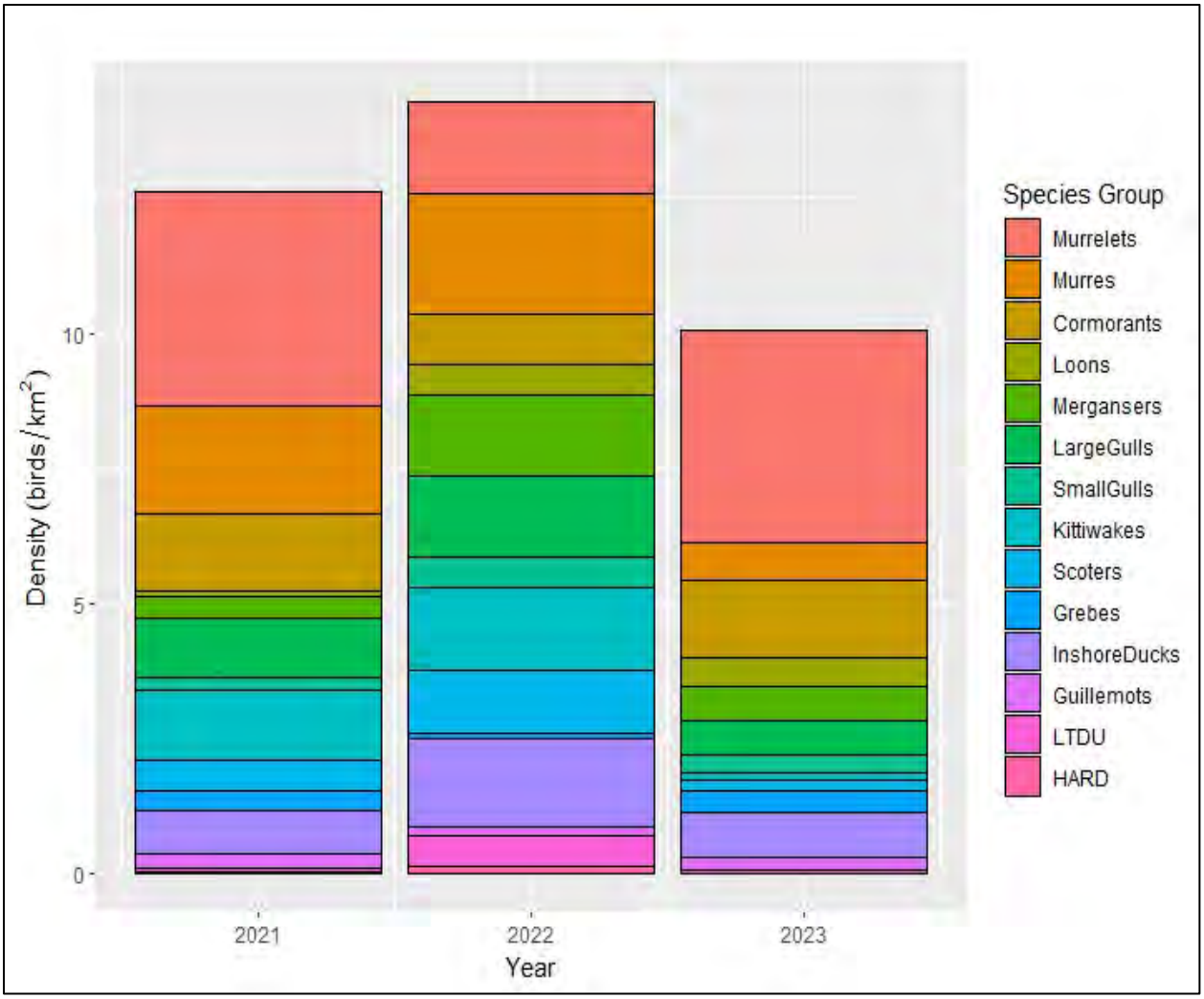

Figure 2. Mean density of each species group observed on March 2021-2023 PWSRCAC transects. See Table 1 for species groupings. “LTDU” refers to long-tailed duck and “HARD” refers to Harlequin Duck.

Sea otter was the most abundant marine mammal observed during the survey. Sea otters were recorded in small group sizes, ranging from one to six individuals, and occurred in most nearshore areas except Valdez Arm, Northwest Hinchinbrook Island, and the offshore Central PWS transects (Table 4; Figure A2-4). Similar to March 2022, most harbor seals observed were close to or on the nearshore Port Valdez transect, including one group numbering nine individuals. The only other harbor seals observed were two individuals in Rocky Bay (Figure A2-3). For porpoises, our 2023 count was 11, an increase over the seven porpoises observed during 2022 (Table 4). Porpoises were recorded only at two transect locations: Naked Island and the Port Valdez zigzag (Figure A2-1). Dall's porpoise

(*Phocoenoides dalli*) sightings, but no harbor porpoise (*Phocoena phocoena*), were confirmed in 2023.

We recorded Steller sea lion only around Hinchinbrook Entrance with several groups recorded in Port Etches around Porpoise Rocks, a major sea lion haul-out. Smaller sea lion numbers were also recorded in Zaikof Bay. Interestingly, we observed neither killer whales (*Orcinus orca)* nor humpback whales (*Megaptera novaengliae*) during our PWSRCAC transects. However, during the return transit to Cordova, a pod of an estimated five killer whales were observed northeast of Hinchinbrook Entrance in Orca Bay.

Table 4. Total number of marine mammals observed by species on PWSRCAC transects within and beyond the 300-m survey strip, March 2023. Prince William Sound, Alaska. Data summaries across all years include observations from NW Hinchinbrook Island and Zaikof Bay.

Common name	**Scientific name**	**2023 Count within 300-m strip (count beyond strip)**	**2022 Count within 300-m strip (count beyond strip)**	**2021 Count within 300-m strip (count beyond strip)**
Dall's Porpoise	*Phocoenoides dalli*	2 (4)	2 (0)	15 (0)
Harbor Porpoise	*Phocoena phocoena*		2 (0)	
Harbor Seal	*Phoca vitulina*	12 (4)	13 (19)	3 (53)
Humpback Whale	*Megaptera novaengliae*		2 (0)	0 (1)
Killer Whale	*Orcinus orca*		0 (2)	0 (2)
Sea Otter	*Enhydra lutris*	81 (27)	105 (34)	70 (19)
Steller Sea Lion	*Eumetopias jubatus*	2 (25)	7 (68)	3 (22)
Unidentified Porpoise		5 (0)	3 (0)	2 (2)
Grand Total		**102 (+60)**	**134 (+123)**	**93 (+99)**

Conclusions

Because marine bird density and distribution can vary widely across years, multiple years of surveys are necessary to understand natural variation. However, the patterns observed during this survey are consistent with patterns reported previously for PWS during the non-breeding season. Marine birds tend to prefer shallow and protected habitats that are closer to shore compared to deep offshore habitats (Dawson et al., 2015; Stocking et al. 2018; Schaefer et al., 2020; Schaefer and Bishop, 2023). During our three years of March

surveys (2021-2023), we identified multiple areas of consistently high and low marine bird densities and other areas that may warrant continued evaluation. The highest densities of birds were indeed observed in bays and nearshore areas (e.g., head of Port Valdez, Port Etches), while the lowest densities were recorded in Valdez Arm and more exposed habitats that were farther from shore (e.g., central PWS, Naked Island).

The 2023 results provide further support for protection of the region around Hinchinbrook Entrance. The four Hinchinbrook Entrance transects: Port Etches, Zaikof Bay, Rocky Bay, and NW Hinchinbrook Island, were all high-density areas for multiple marine bird species (Figure A1-1). The high numbers of marbled murrelets and presence of pigeon guillemots, two species that were injured by Exxon Valdez oil spill and whose populations have not yet recovered (EVOSTC 2014), were both recorded on each of these transects and further emphasize the importance of these protected (i.e., not exposed) waters to sensitive marine bird species during the non-breeding season. Hinchinbrook Entrance is particularly vulnerable to anthropogenic disturbance because it is where tankers enter and exit PWS and because of the importance of Porpoise Rocks to marine wildlife. Located at the mouth of Port Etches, Porpoise Rocks supports an important seabird colony for black-legged kittiwakes, common murres, and tufted puffins (*Fratercula cirrhata*; see North Pacific Seabird Data Portal http://axiom.seabirds.net/maps/north-pacific-seabirds/. In addition, Porpoise Rocks also serves as a roost-site for cormorants and as a haul-out site for Steller sea lions.

Consistent with our two previous surveys, our 2023 results also justify support for the protection of the head of Port Valdez due to the high marine bird density, including large flocks of inshore ducks and other waterfowl species. Importantly, the head of Port Valdez is vulnerable to disturbance because of the proximity to human infrastructure, including the Valdez Marine Terminal, harbor, and fuel dock. Other areas with relatively high marine bird density, including that of sensitive species, include the nearshore waters of Port Fidalgo and Tatitlek Narrows.

While currently not included in our PWSRCAC survey efforts, Port Gravina also supports high densities of marine birds and marine mammals (Schaefer and Bishop 2023). Port Gravina may also merit increased priority for protection because it is adjacent to the anchorage at Knowles Head used by oil tankers. On our most recent 2022 survey, we observed higher densities of marine birds primarily driven by increased densities of murrelets. Moreover, the use of this area by pigeon guillemots and killer whales, both species heavily impacted by the Exxon Valdez spill that have not recovered, and the importance of this area as spawning grounds for Pacific herring (*Clupea pallasii*), also an EVOS-injured species, further underscore the importance of the Port Gravina habitat to marine communities in PWS.

Our PWSRCAC surveys do not include all areas that potentially may be impacted by an oil spill, nor do they capture all marine bird winter habitat or variation in marine bird community structure throughout the nonbreeding season. With that said, continued

monitoring of marine birds in and around the tanker escort lane during late winter will help determine marine bird and mammal vulnerability to environmental change and future perturbations, including oil spills.

In addition, these surveys could be used to update oil spill response planning tools and refine response efforts in and around the tanker escort lane during the non-breeding season. For example, these data could be used to update National Oceanic and Atmospheric Administration (NOAA) Environmental Sensitivity Index (ESI) maps, which are used by responders, managers, and planners to identify coastal resources at risk in the case of oil or chemical spills, or added to the NOAA Environmental Response Management Application (ERMA), which is an online tool to aid resource managers to make informed decisions for environmental response, damage assessment, and recovery/restoration. Unfortunately, the ESI maps for PWS are over 20 years old and contain very limited winter bird and mammal information for many of the areas identified here for prioritized protection (e.g., Zaikof Bay, Rocky Bay, Port Etches, NW Hinchinbrook Island coastline, Port Gravina, Port Fidalgo, Tatitlek Narrows, Port Valdez). Similarly, the additional data integrated within ERMA is also lacking for marine bird distribution within PWS during the non-breeding season.

Recommendations

We recommend the head of Port Valdez as well as the bays and island coastlines around Hinchinbrook Entrance for special protection in the event of a perturbation, such as an oil spill. These areas all host consistently high numbers of marine birds and marine mammals, including species that have yet to recover from the 1989 EVOS. Other areas with high densities of marine birds that could warrant priority protection Tatitlek Narrows and Port Fidalgo. Fortunately, there is an oil spill response barge staged in Port Etches and oil response equipment located in Valdez and Tatitlek, which should facilitate rapid and efficient response in the event of a spill in these areas.

While currently not included in our PWSRCAC survey efforts, Port Gravina also supports high densities of marine birds and marine mammals (Schaefer and Bishop 2023) and is adjacent to the anchorage at Knowles Head used by oil tankers. In May 2022 written comments provided to Alaska Department of Environment, PWSRCAC recommended that the Knowles Head anchorage not be used between March and June as a Potential Place of Refuge (PPOR) for distressed tankers due to its proximity to the primary Pacific herring spawn population in PWS. We suggest that, in addition to Pacific herring, marine birds and marine mammals be included in future recommendations to not use Knowles Head as a PPOR from March through June. This is because the presence of herring attracts high densities of both marine mammals and birds.

The loss of the EVOSTC GWA fall/winter marine bird surveys, which occurred annually in September, November, and March, has also resulted in a loss of temporal survey coverage of the PWS marine bird community. These time periods represent three distinct marine bird communities (Figure 3) and stages in the annual cycle, thus the impacts caused by

natural or anthropogenic perturbations in the marine environment would also vary by time of the year. We recommend further expanding the PWSRCAC marine bird and mammal surveys to one early winter survey (November) to more fully evaluate marine bird and mammal sensitivity to environmental change or anthropogenic disturbance, and to more effectively guide oil spill planning and response efforts.

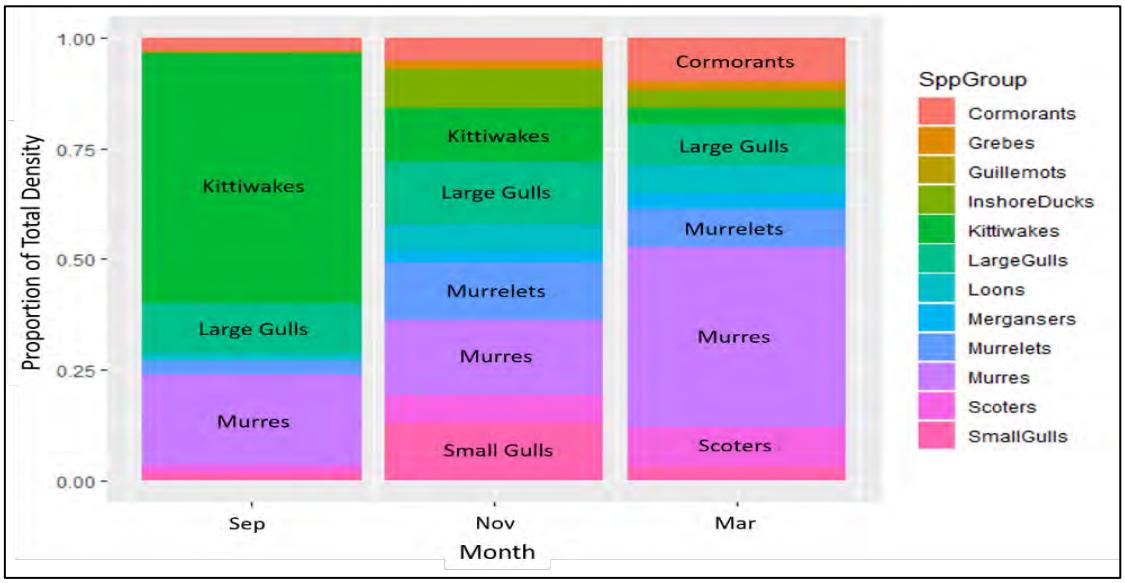

Figure 3. Marine bird community composition in PWS, during EVOSTC funded surveys, September, November, and March 2007 – 2020. Species comprising the largest proportions within each month are labeled.

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Zuur, A.A. Saveliev and E.N. Ieno, editors. Inflated and generalized linear mixed models with R. Highland Statistics Ltd. Newburgh, UK.

Appendix 1: Marine bird density and distribution in Prince William Sound, Alaska, March 2023.

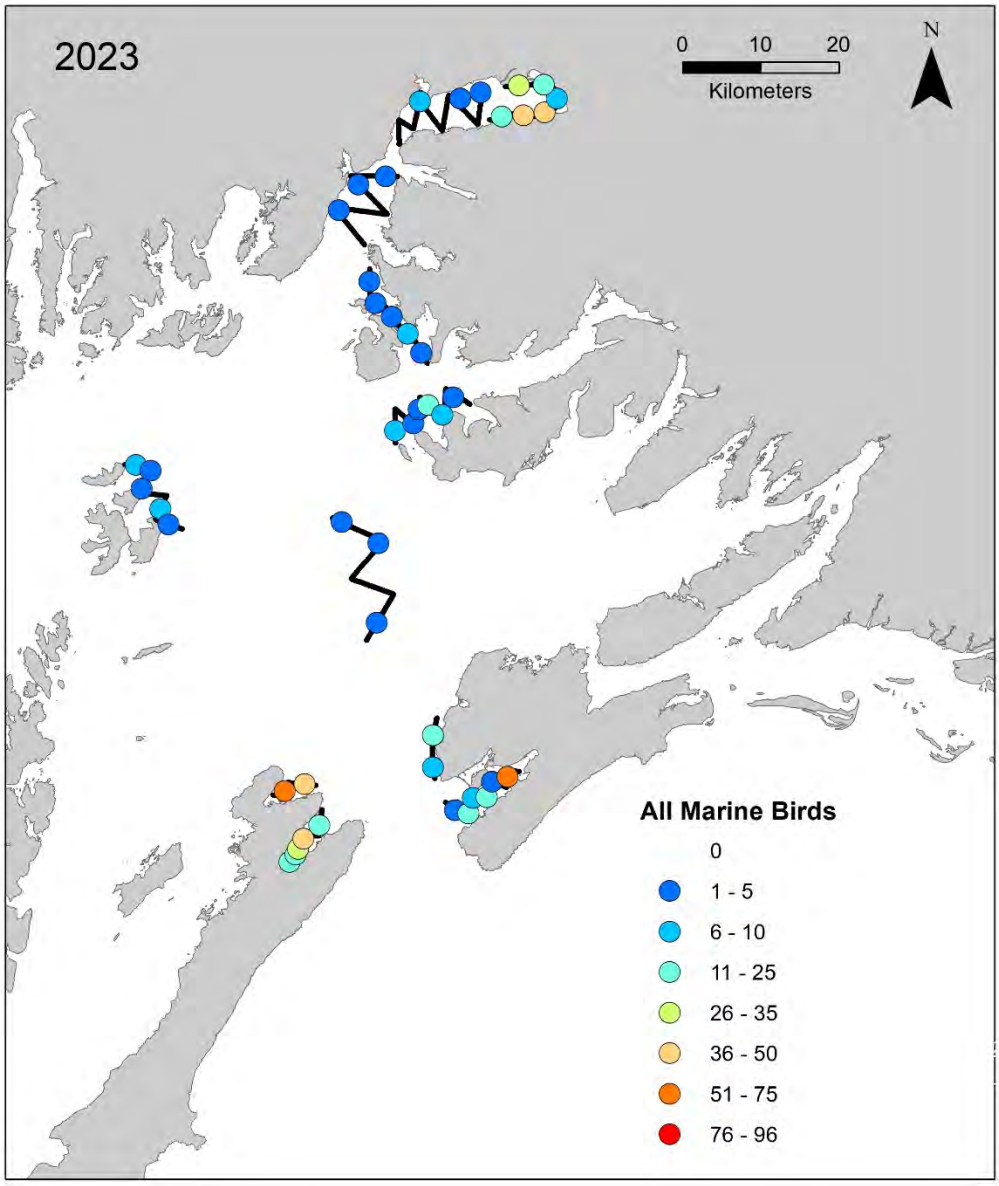

Figure A1-1. Total marine bird distribution and density (birds/km^2) observed in the 300-m survey strip in Prince William Sound, Alaska, March 2023.

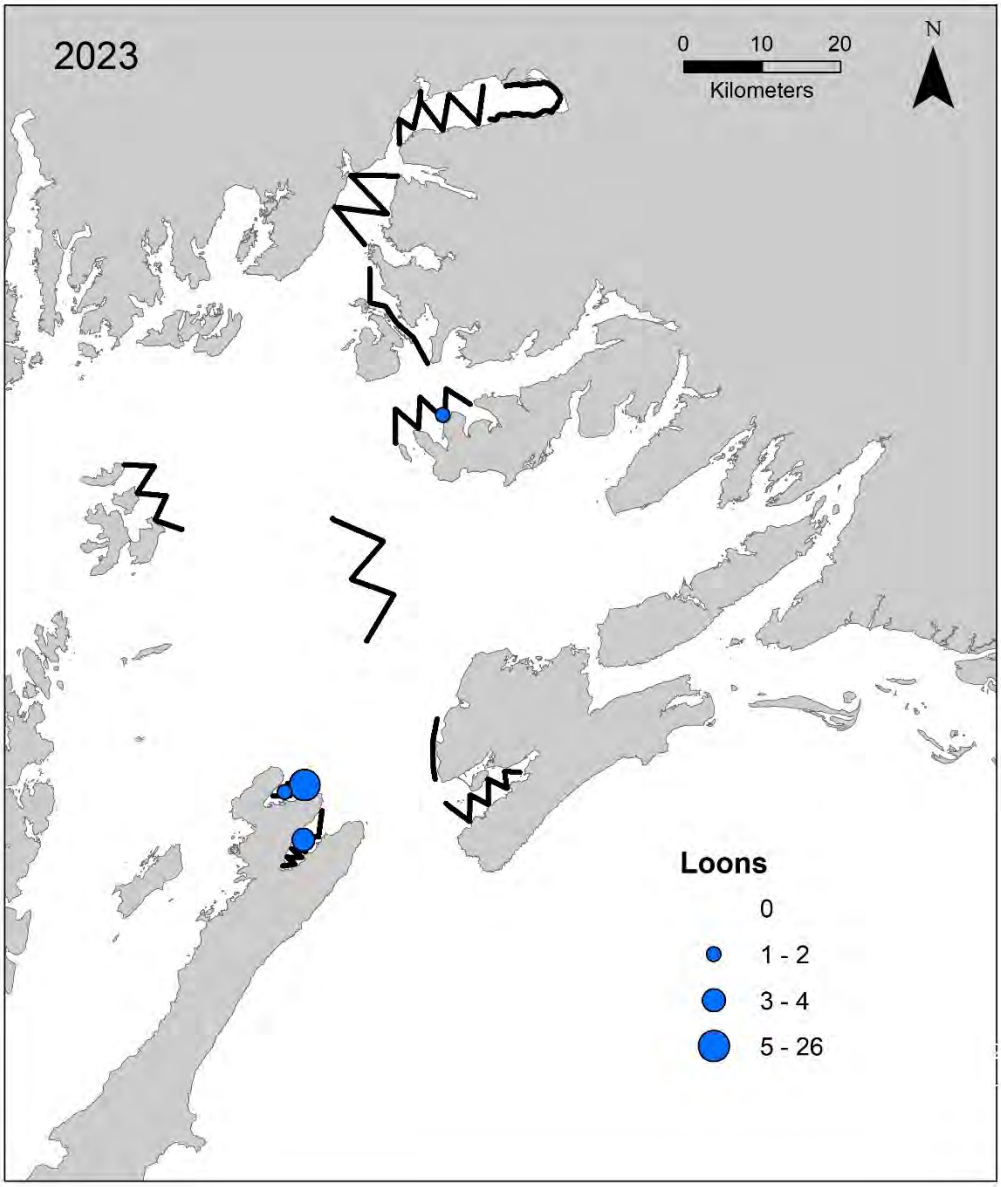

Figure A1-2. Distribution and density (birds/km^2) of loons (common, Pacific, unidentified) observed within the 300-m survey strip in Prince William Sound, Alaska, March 2023.

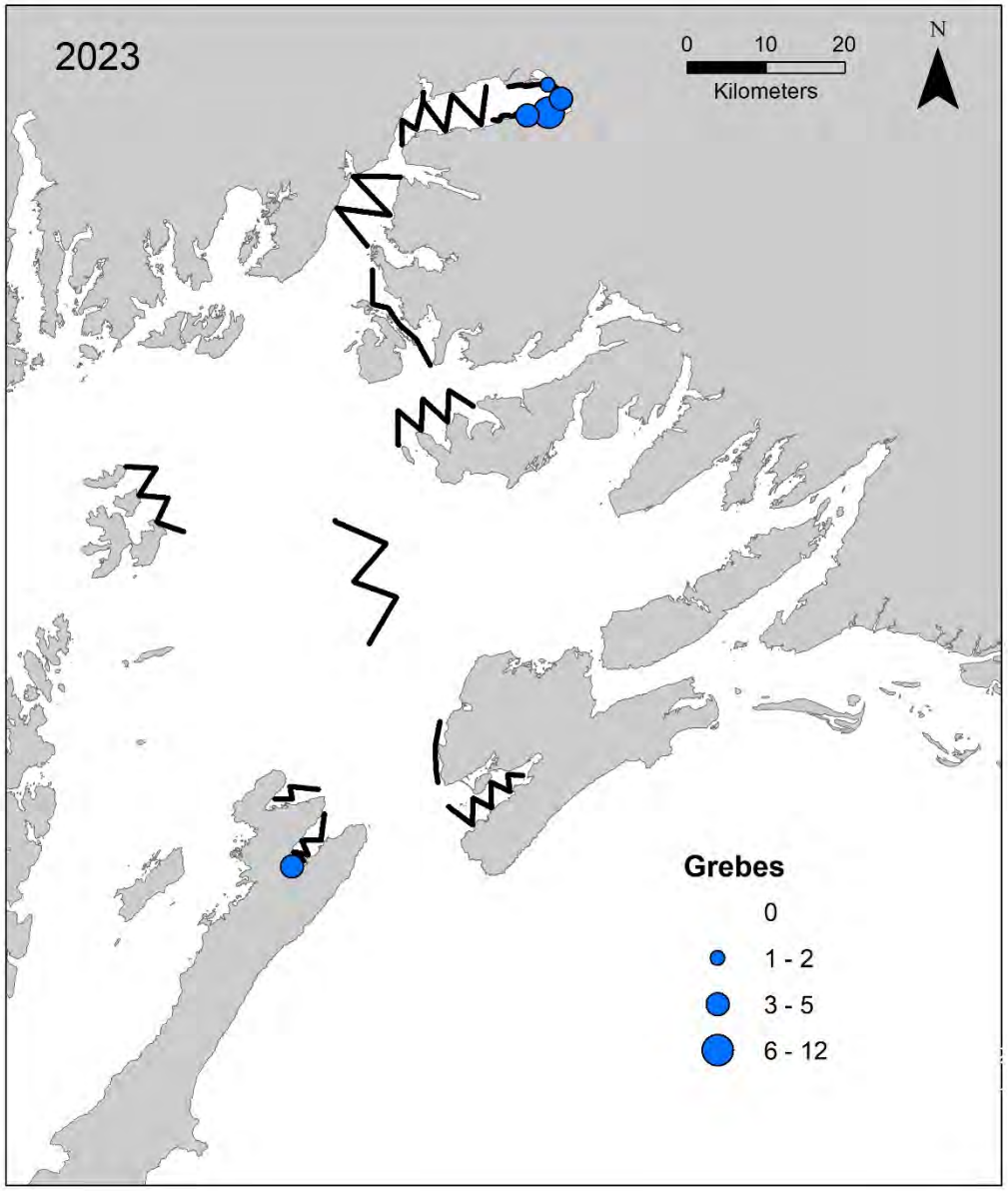

Figure A1-3. Distribution and density (birds/km^2) of grebes (horned, red-necked, unidentified) observed within the 300-m survey strip in Prince William Sound, Alaska, March 2023.

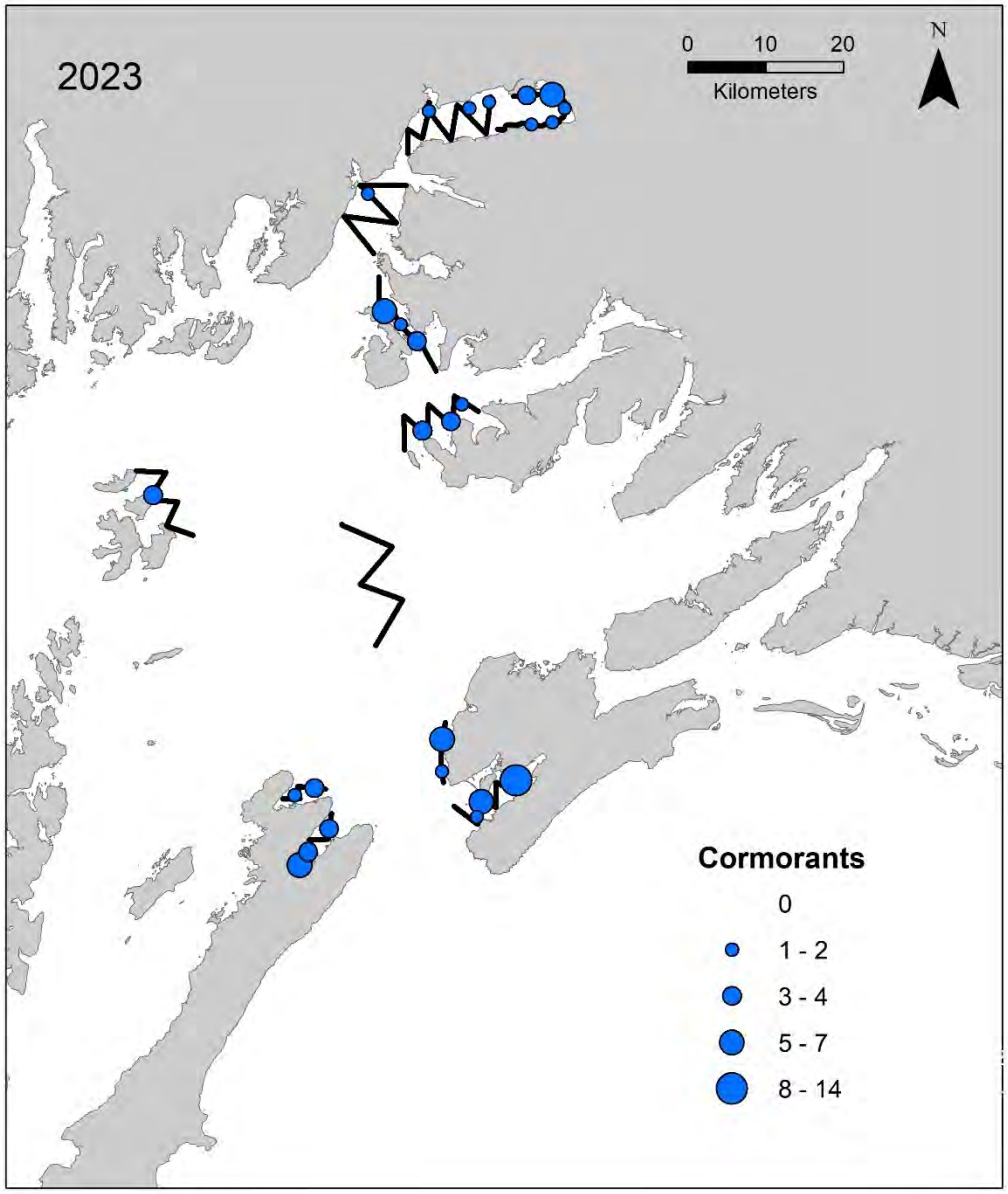

Figure A1-4. Distribution and density (birds/km^2) of cormorants (double-crested, pelagic, unidentified) observed within the 300-m survey strip in Prince William Sound, Alaska, March 2023.

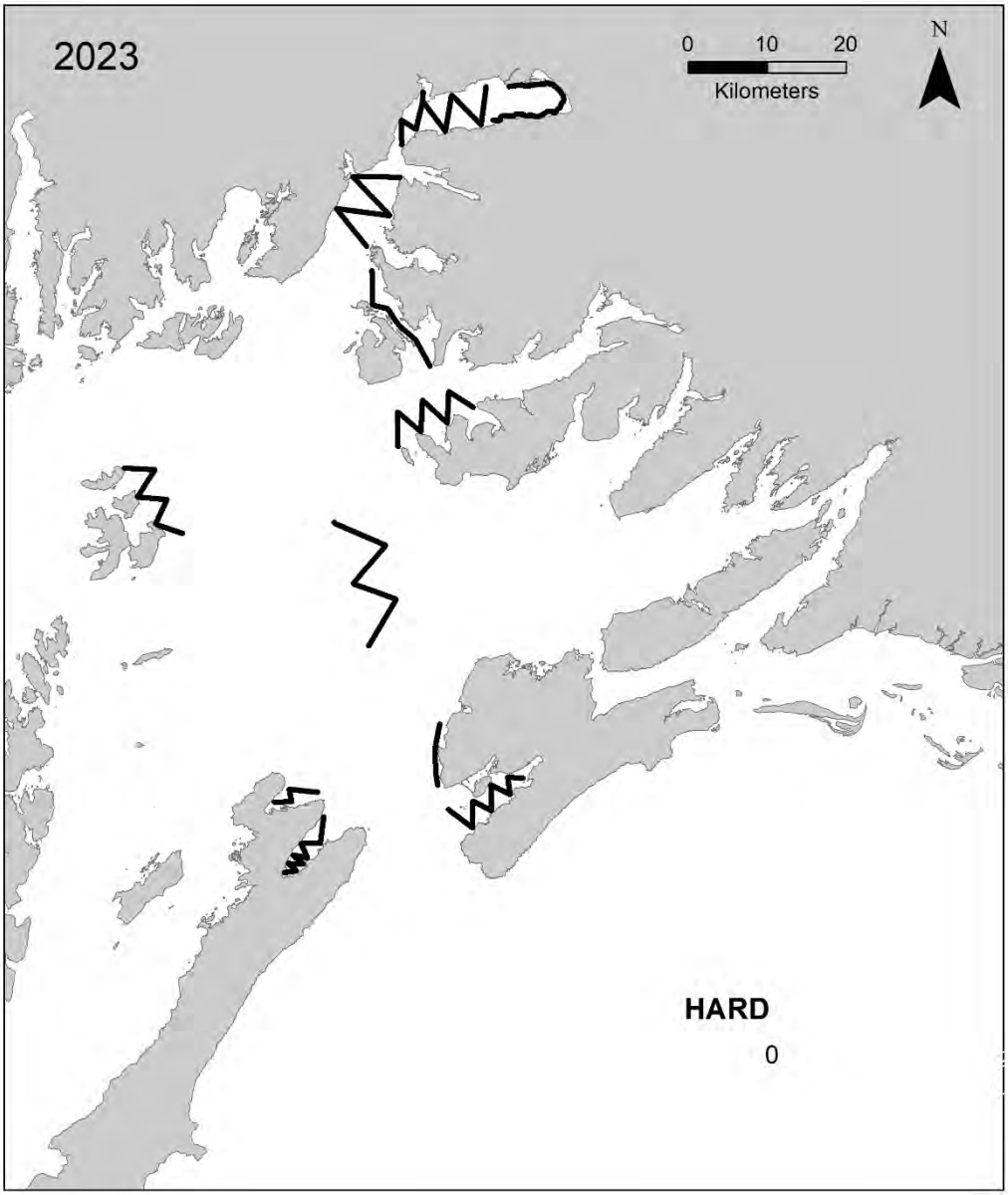

Figure A1-5. Distribution and density (birds/km^2) of harlequin ducks (HARD) observed within the 300-m survey strip in Prince William Sound, Alaska, March 2023.

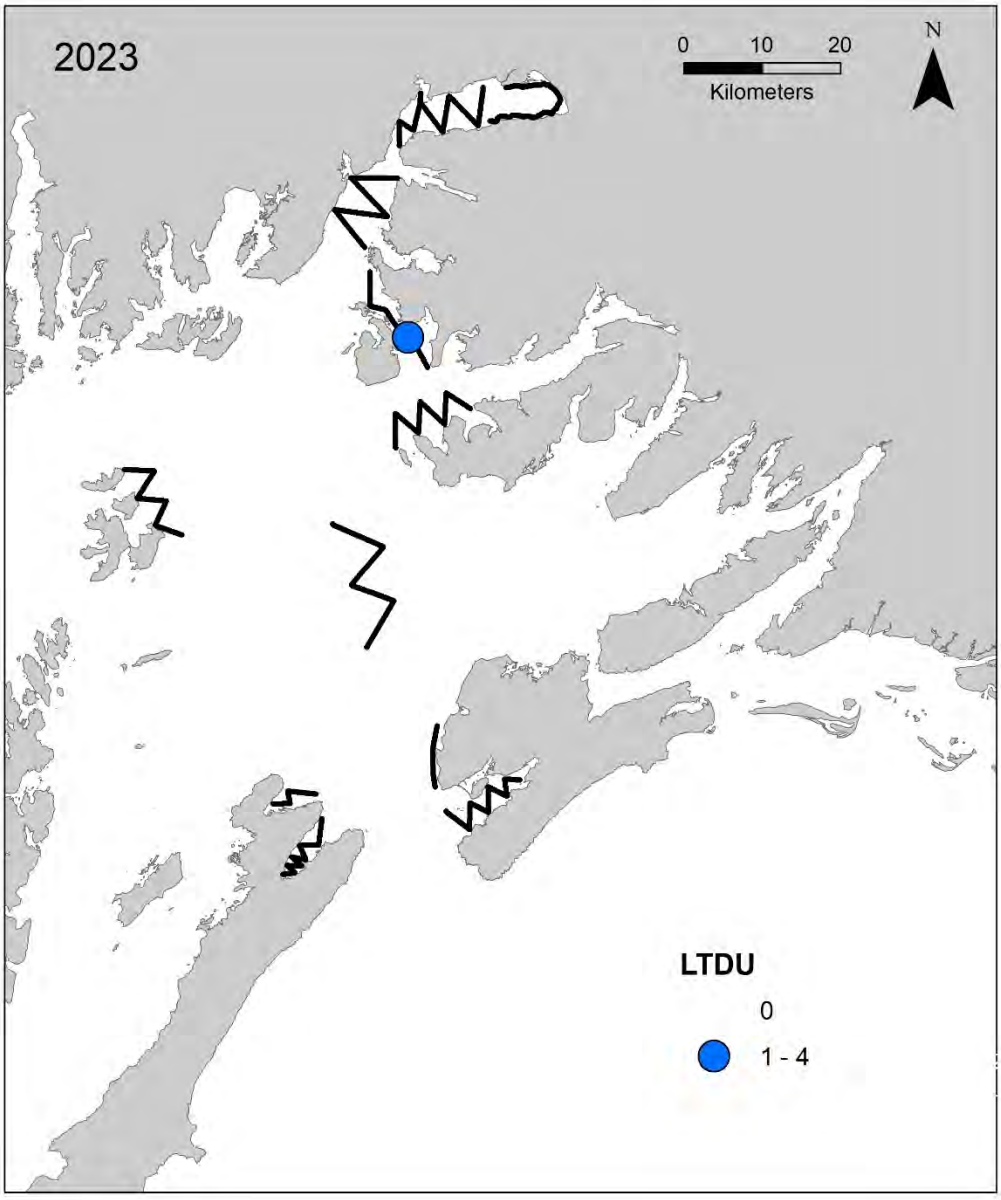

Figure A1-6. Distribution and density (birds/km^2) of long-tailed ducks (LTDU) observed within the 300-m survey strip in Prince William Sound, Alaska, March 2023.

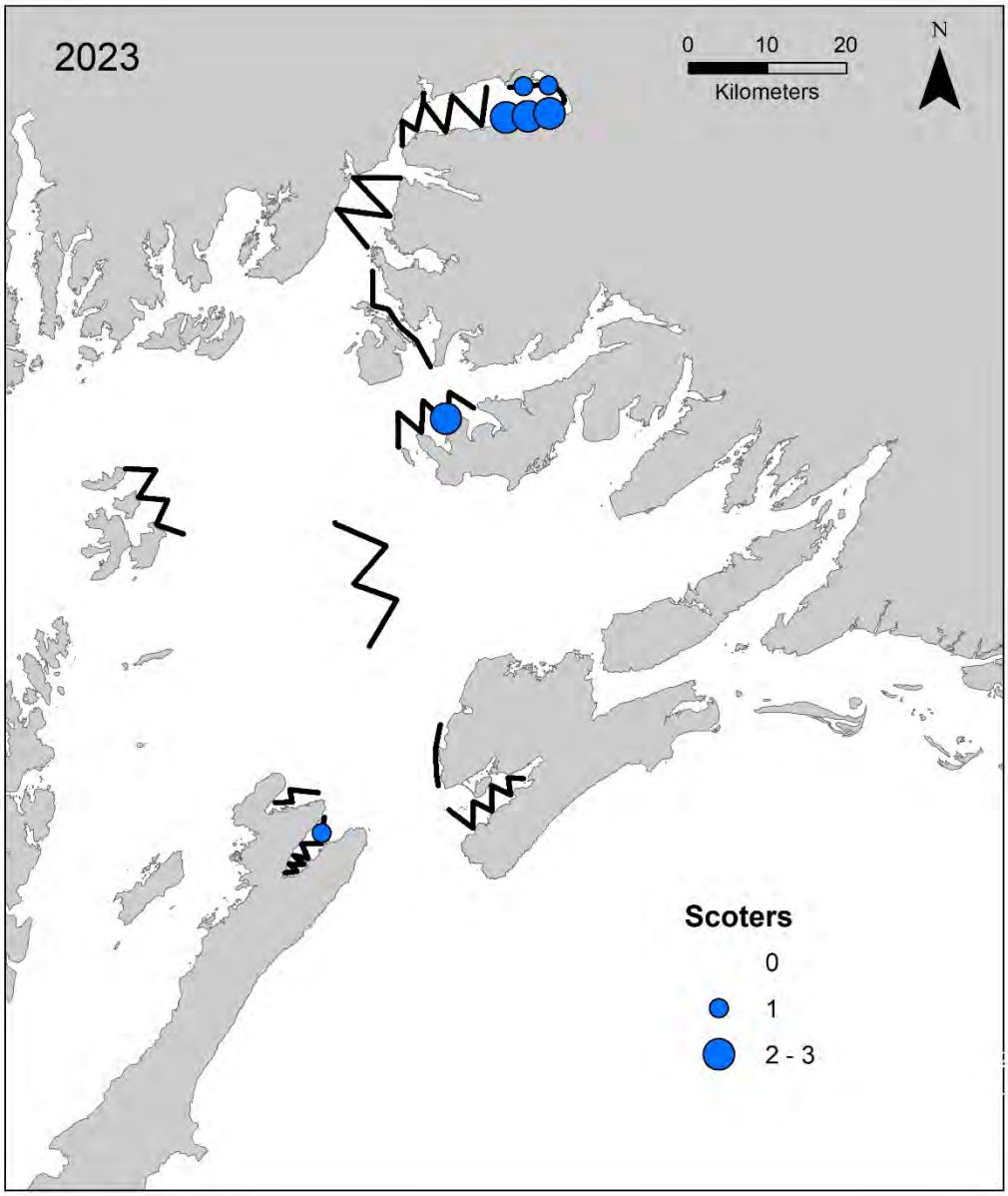

Figure A1-7. Distribution and density (birds/km^2) of scoters (black, surf, white-winged, unidentified) observed within the 300-m survey strip in Prince William Sound, Alaska, March 2023.

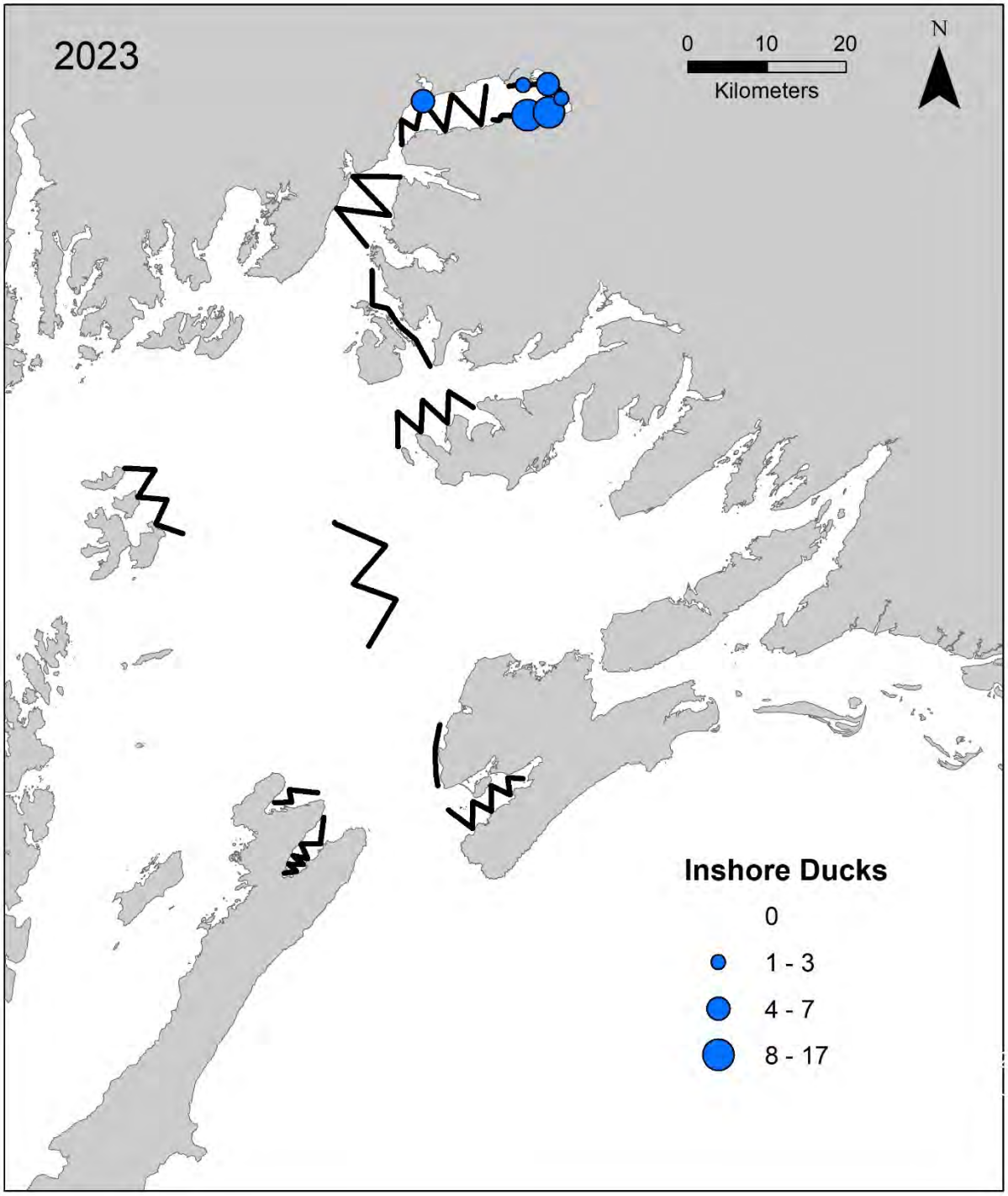

Figure A1-8. Distribution and density (birds/km^2) of inshore ducks (Barrow's goldeneyes, common goldeneyes, unidentified goldeneyes, buffleheads) observed within the 300-m survey strip in Prince William Sound, Alaska, March 2023.

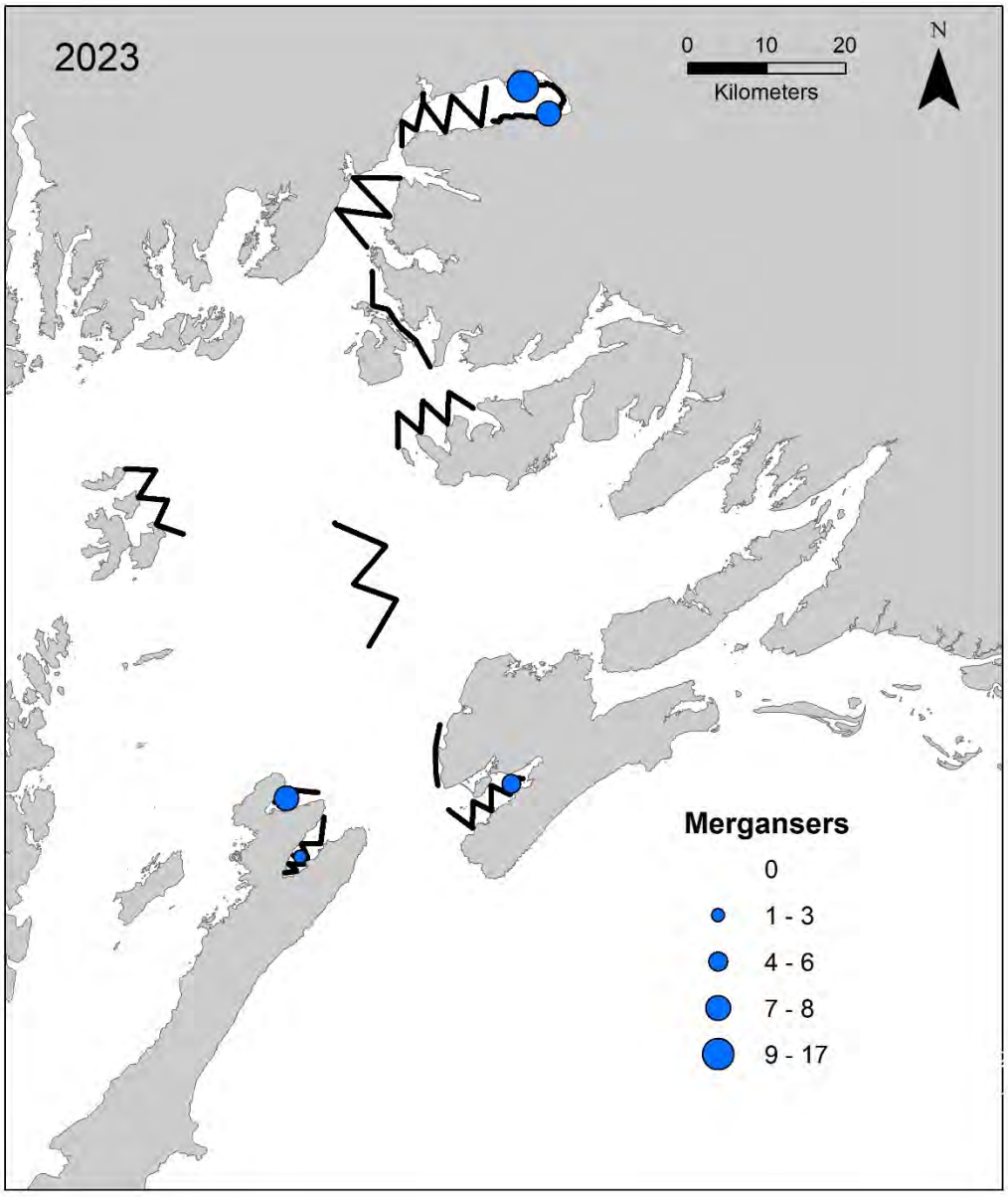

Figure A1-9. Distribution and density (birds/km^2) of mergansers (common, red-breasted, unidentified) observed within the 300-m survey strip in Prince William Sound, Alaska, March 2023.

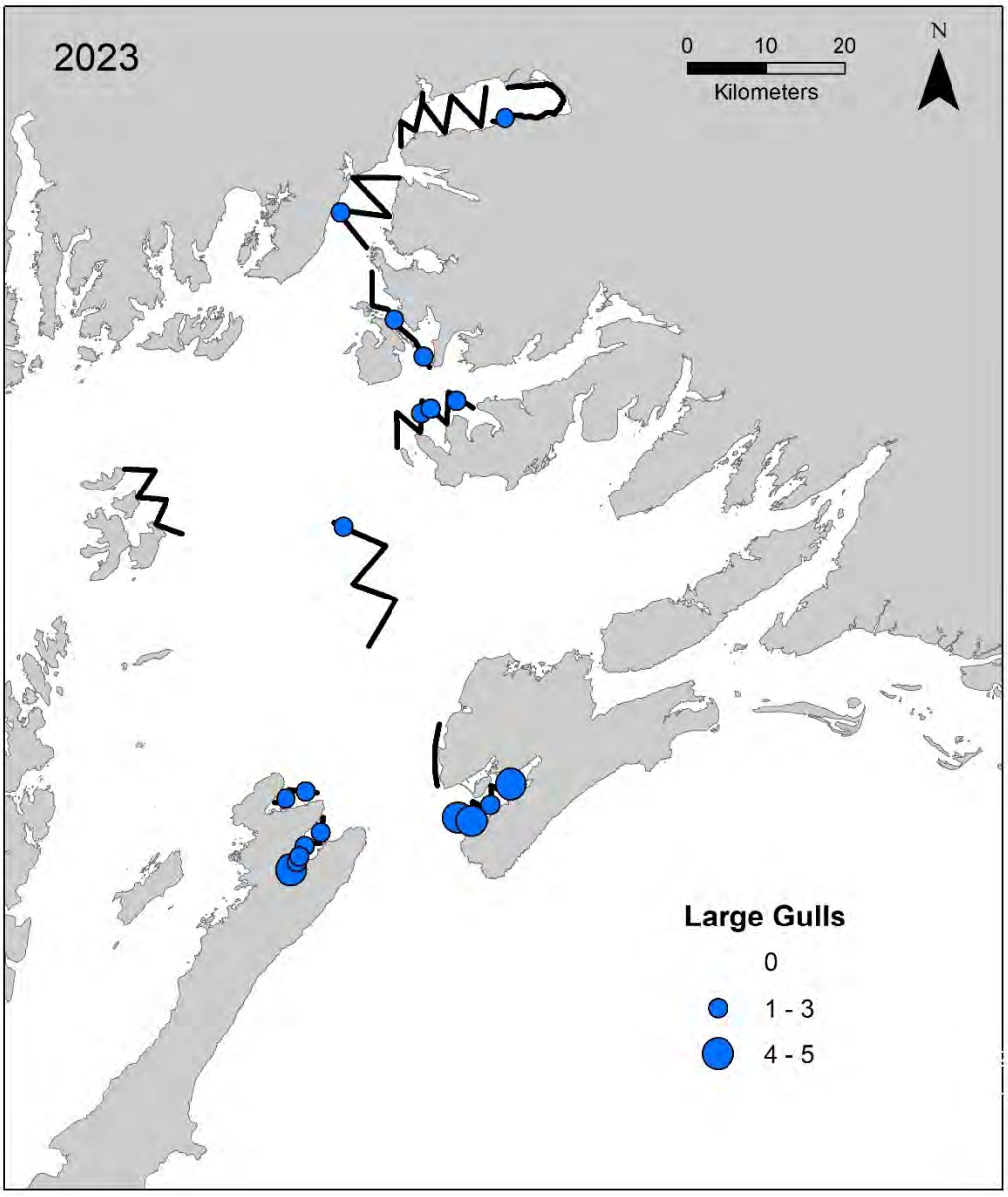

Figure A1-10. Distribution and density (birds/km^2) of large gulls (glaucous-winged, herring, unidentified) observed within the 300-m survey strip in Prince William Sound, Alaska, March 2023.

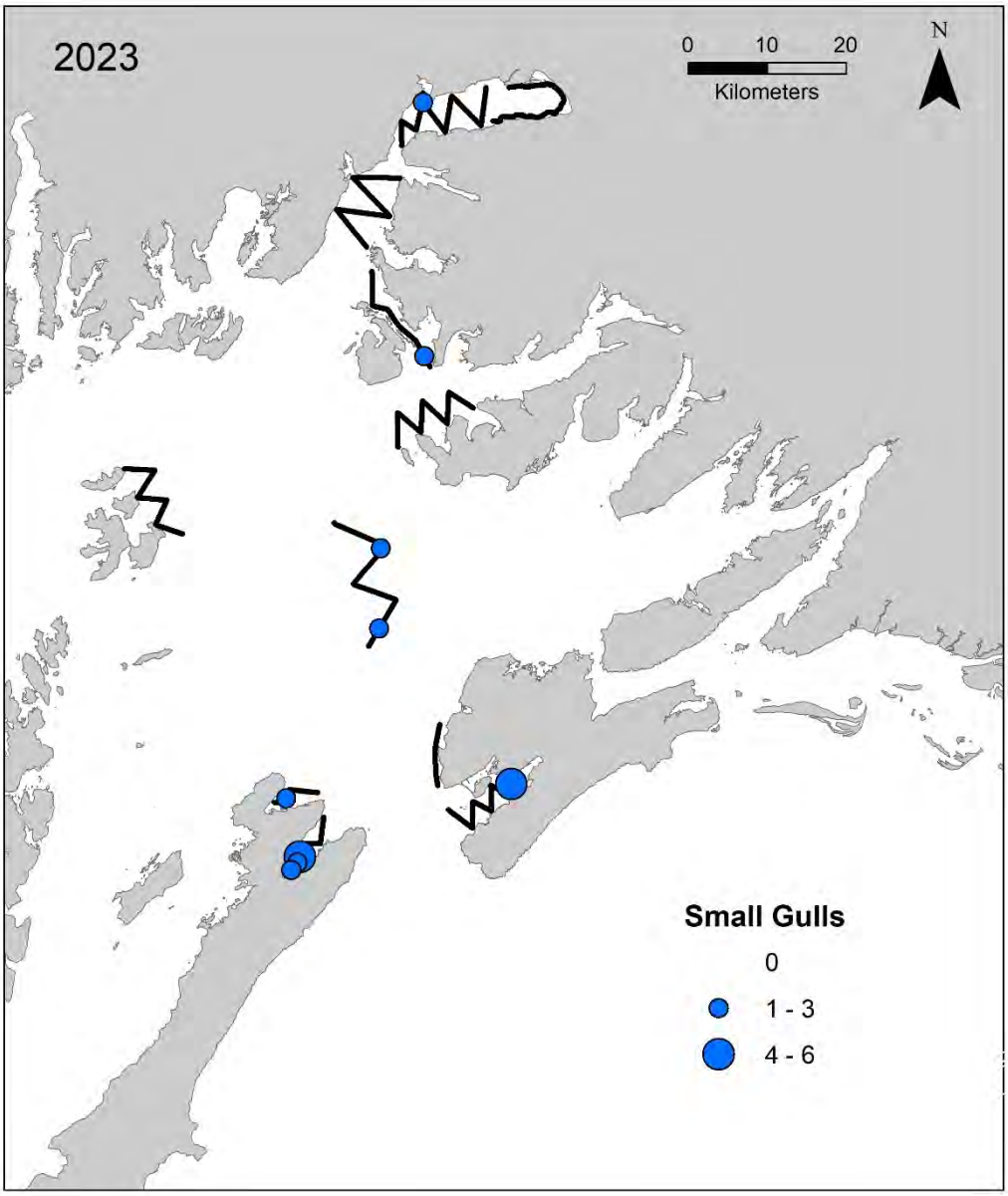

Figure A1-11. Distribution and density (birds/km^2) of small gulls (short-billed, unidentified) observed within the 300-m survey strip in Prince William Sound, Alaska, March 2023.

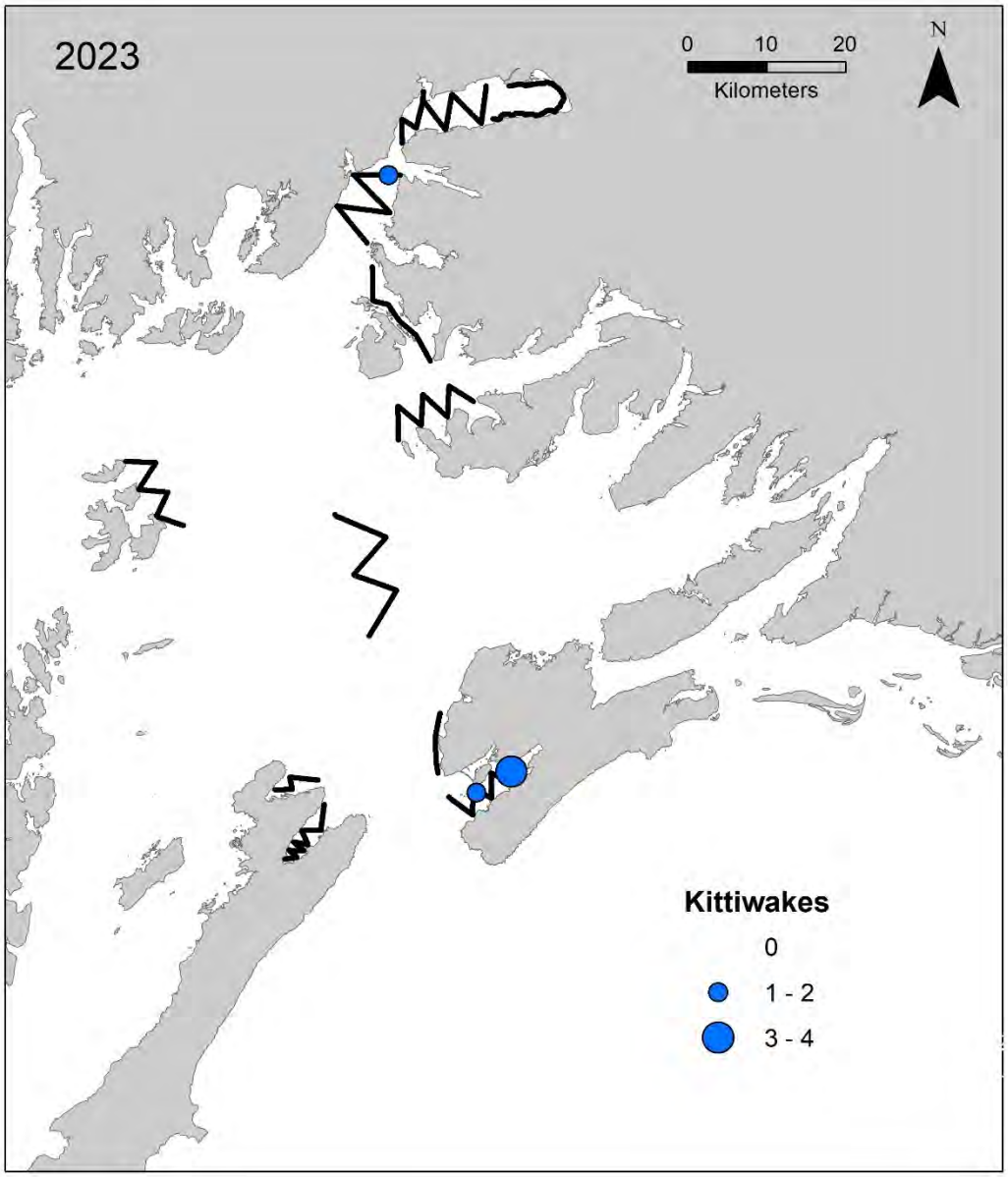

Figure A1-12. Distribution and density (birds/km^2) of black-legged kittiwakes observed within the 300-m survey strip in Prince William Sound, Alaska, March 2023.

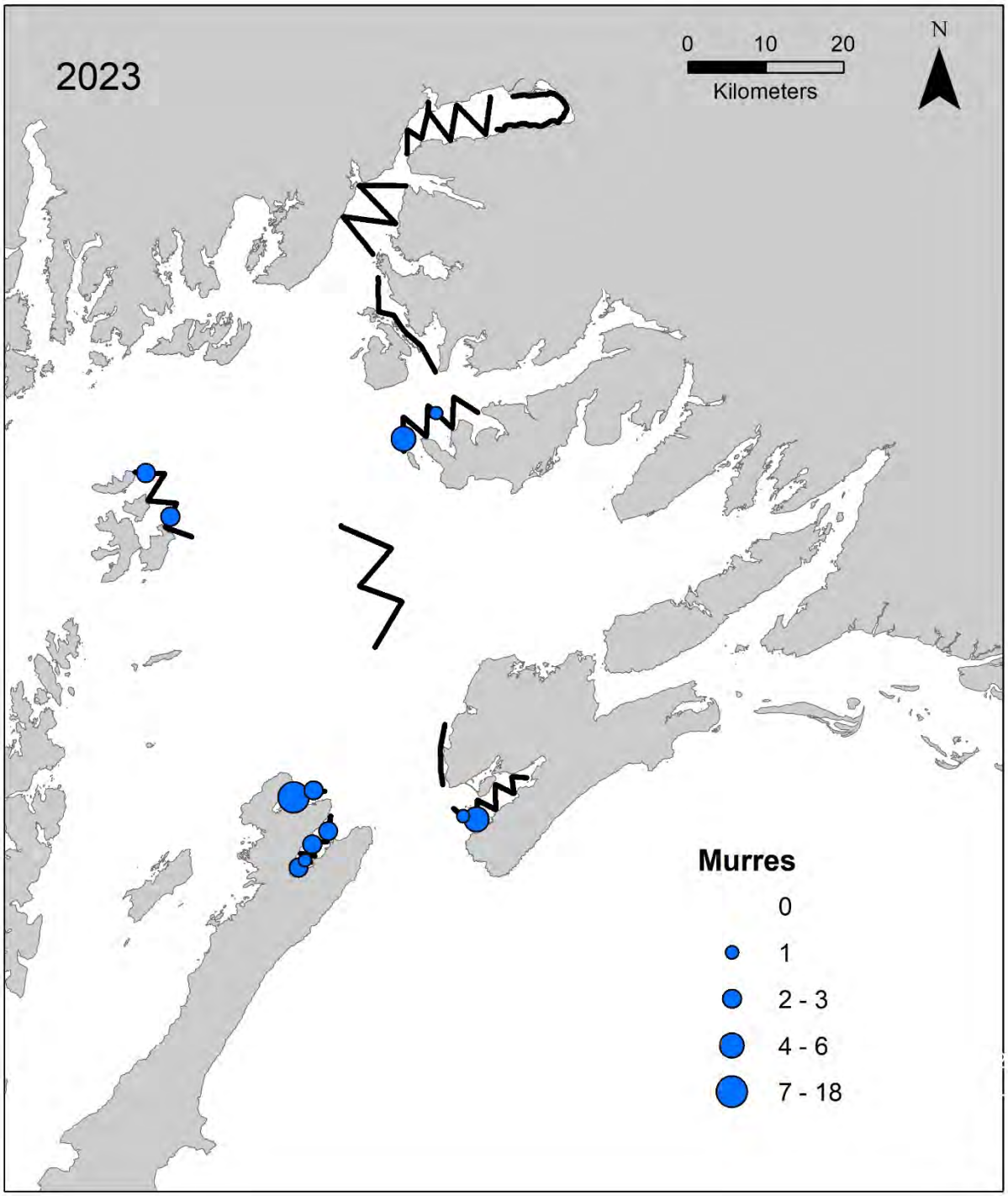

Figure A1-13. Distribution and density (birds/km^2) of common murres observed within the 300-m survey strip in Prince William Sound, Alaska, March 2023.

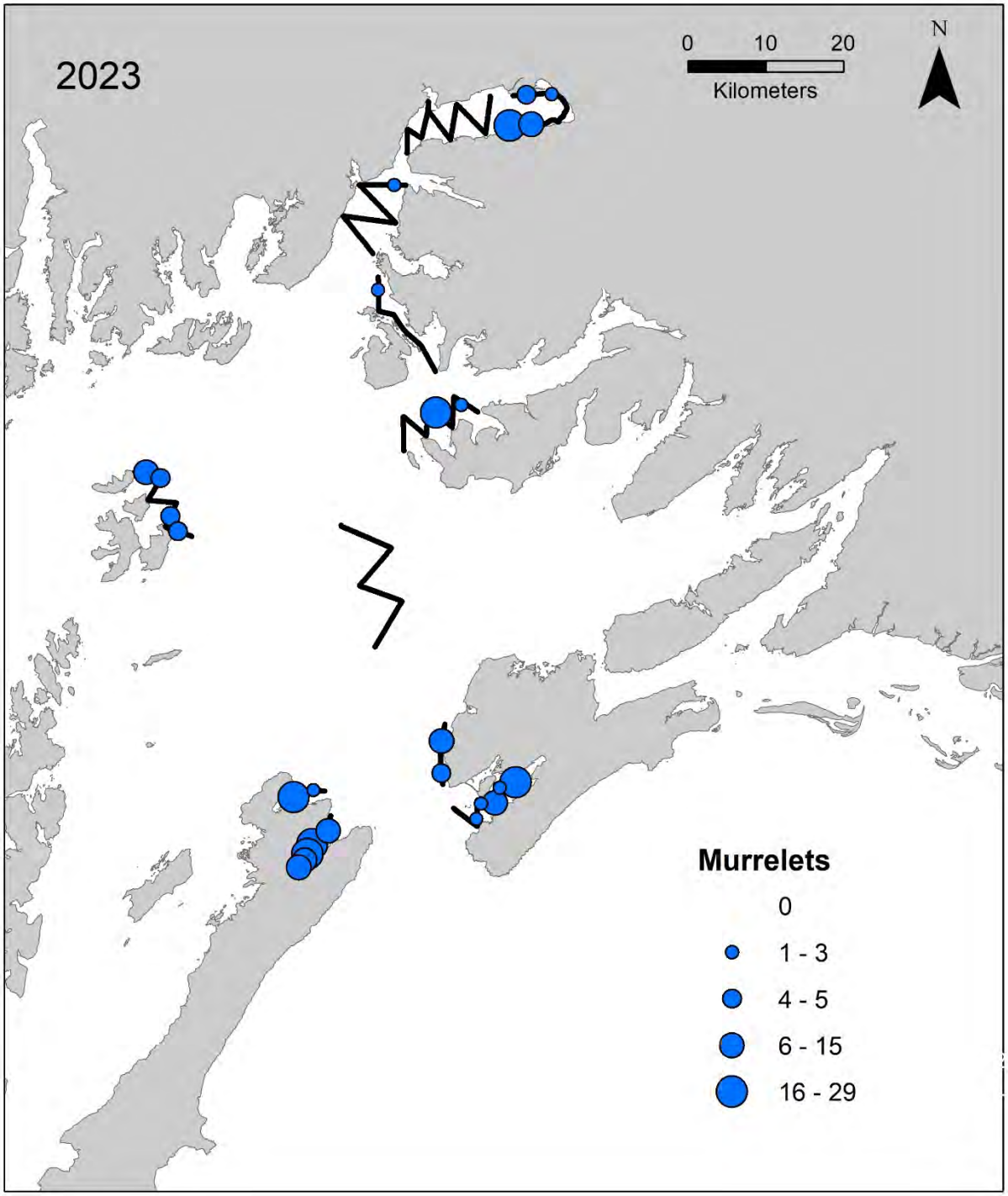

Figure A1-14. Distribution and density (birds/km^2) of murrelets (marbled, unidentified) observed within the 300-m survey strip in Prince William Sound, Alaska, March 2023.

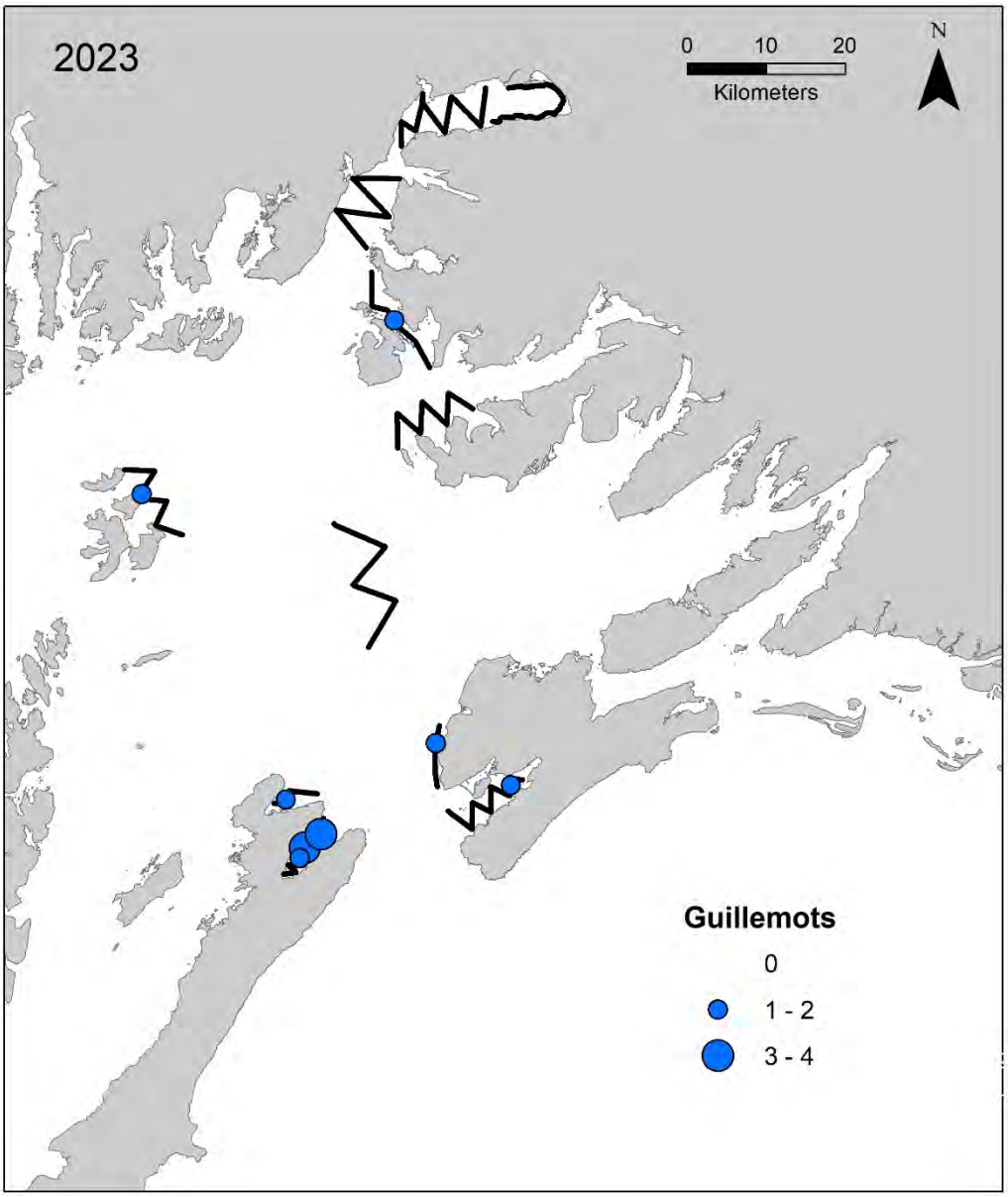

Figure A1-15. Distribution and density (birds/km^2) of pigeon guillemots observed within the 300-m survey strip in Prince William Sound, Alaska, March 2023.

Appendix 2: Marine mammal counts and distribution in Prince William Sound, Alaska, March 2023.

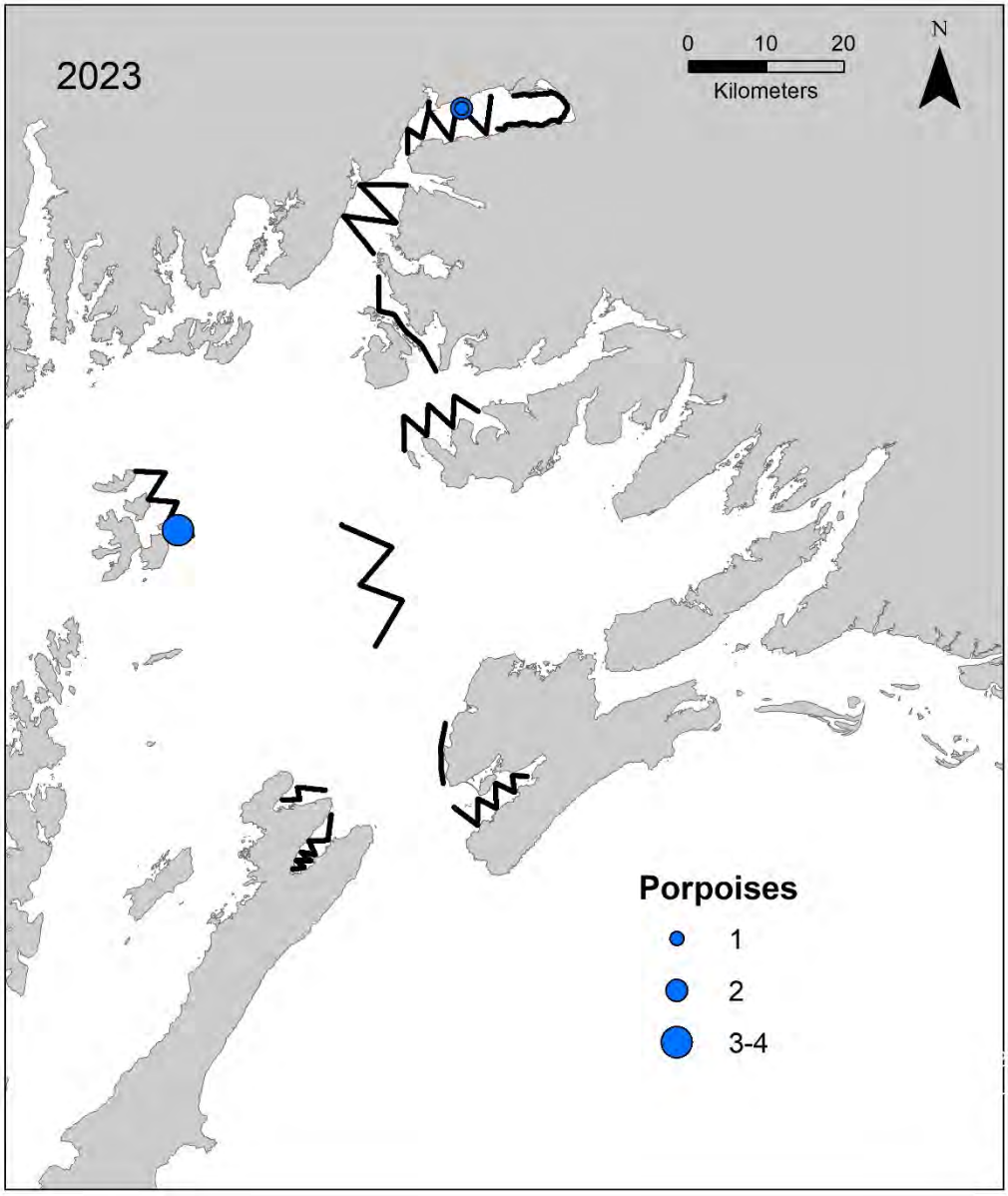

Figure A2-1. Distribution and number of porpoises (Dall's and unidentified) observed in Prince William Sound, Alaska, March 2023. No harbor porpoises were observed in and around transects in 2023.

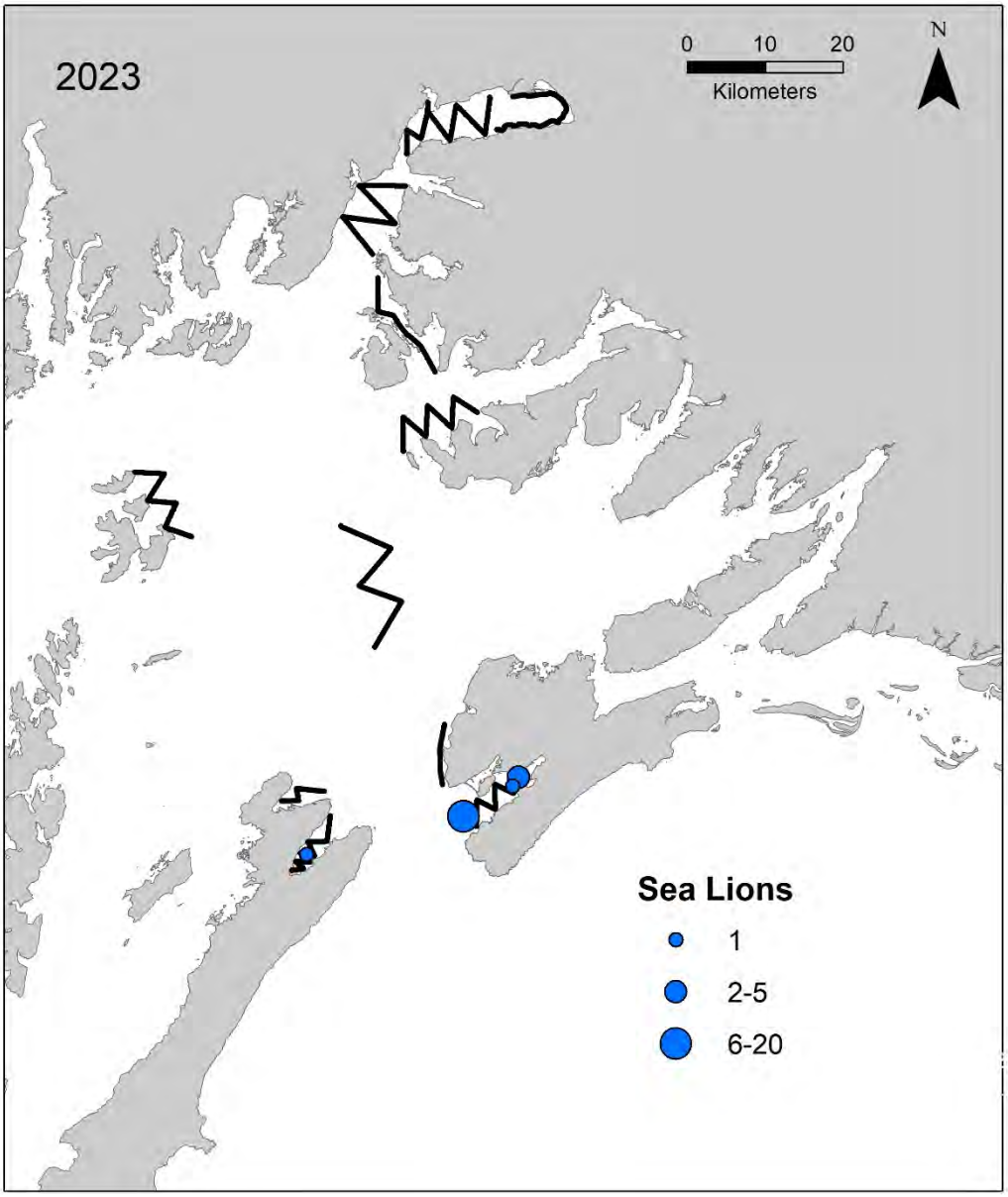

Figure A2-2. Distribution and number of Steller sea lions observed in Prince William Sound, Alaska, March 2023.

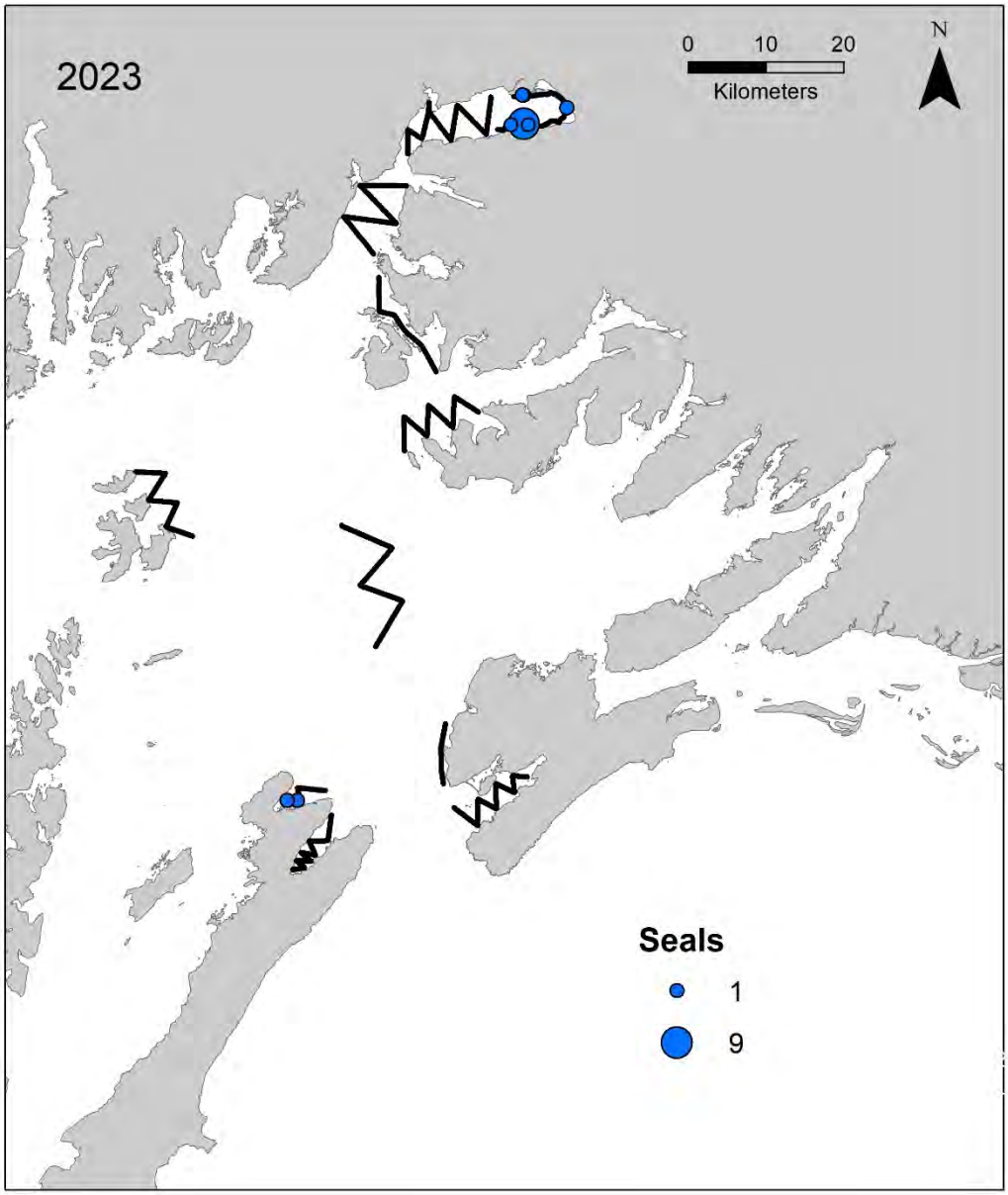

Figure A2-3. Distribution and number of harbor seals observed in Prince William Sound, Alaska, March 2023.

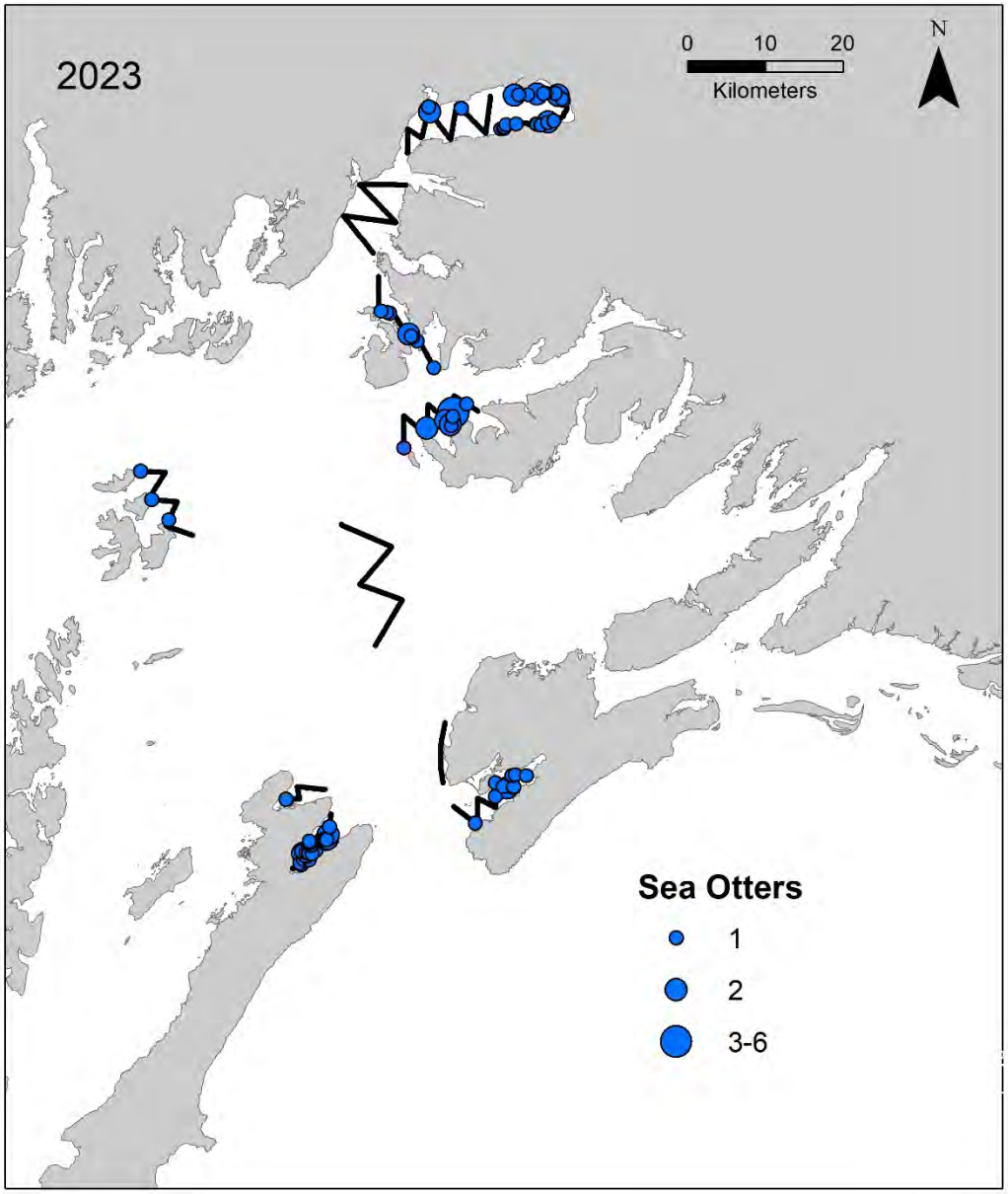

Figure A2-4. Distribution and number of sea otters observed in Prince William Sound, Alaska, March 2023.

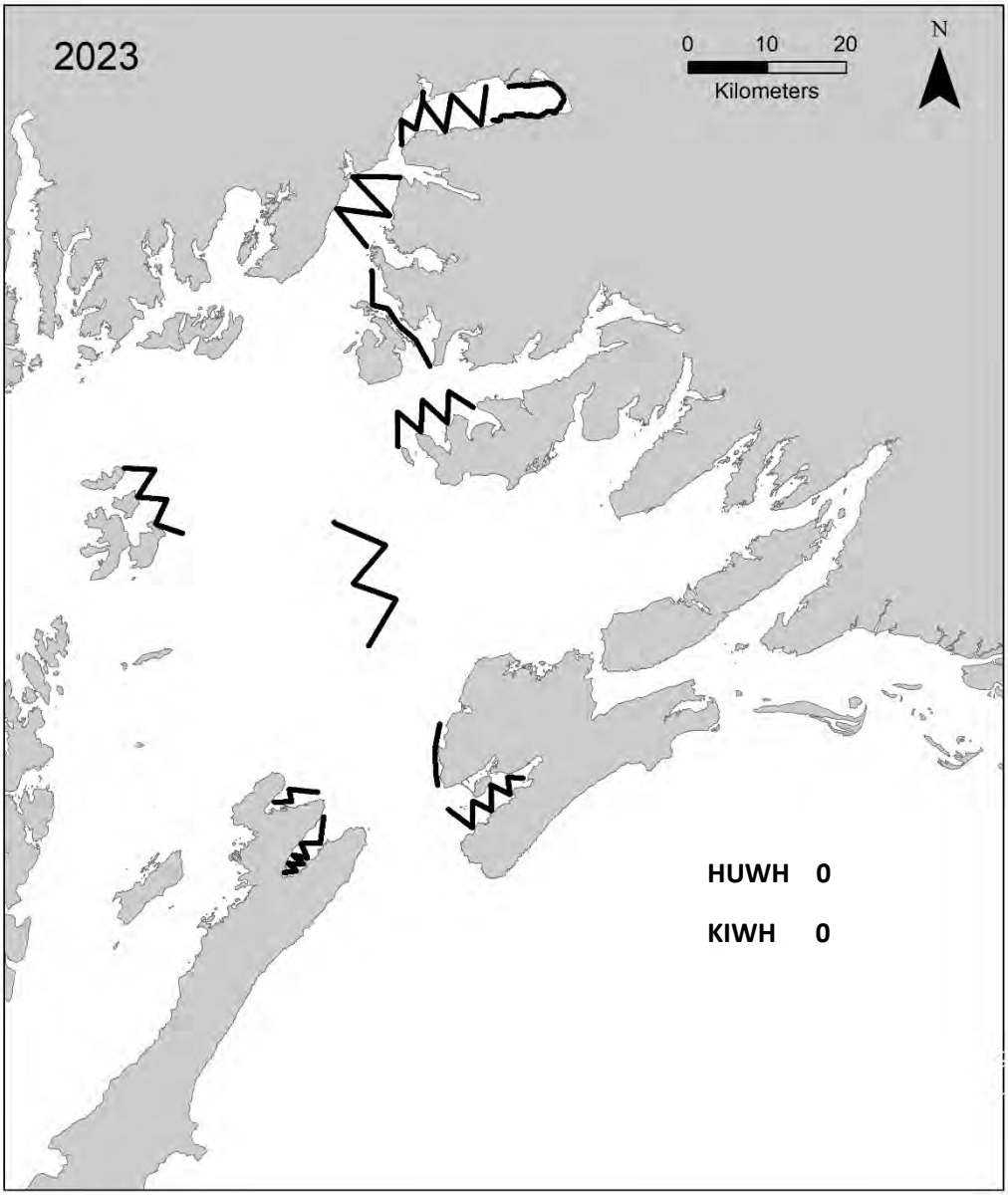

Figure A2-5. No humpback whales (HUWH) or killer whales (KIWH) were observed in Prince William Sound, Alaska, March 2023, including no individual whales observed beyond the 300-m survey strip.

Approval of Resolution in Support of Coast Guard Cutter Homeporting 4-2

Briefing for PWSRCAC Board of Directors – September 2023

ACTION ITEM

Sponsor: Alan Sorum, OSPR Committee, and POVTS Committee

Project number and name or topic: A Resolution Urging the Homeporting of a Sentinel-Class Fast Response Cutter in Port Valdez

1. **Description of agenda item:** The Board is being asked to approve a resolution of the Prince William Sound Regional Citizens' Advisory Council urging the United States Coast Guard (USCG) to homeport a Sentinel-Class Cutter, also known as the Fast Response Cutter, in Port Valdez.

2. **Why is this item important to PWSRCAC:** At the time of the terrorist attacks of September 11, 2001, the then Valdez Marine Safety Office had no viable assets available on the water in Port Valdez. Recognizing the threat, the Island-Class United States Coast Guard Cutter (USCGC), ANACAPA, was relocated to Port Valdez from Petersburg, Alaska, to help protect the Trans Alaska Pipeline System, including the Valdez Marine Terminal and its associated shipping infrastructure in Port Valdez and Prince William Sound.

Starting in 2003 with the USCGC LONG ISLAND, an Island-Class Cutter has been permanently homeported in Port Valdez. Island-Class Cutters are being decommissioned to be replaced by Sentinel-Class cutters. The USCGC LIBERTY, currently stationed in Port Valdez, will be the last cutter assigned to Port Valdez. The USCG currently has no plans to replace the USCGC LIBERTY at the end of its service life.

Senators Murkowski and Sullivan, and the City of Valdez are urging the USCG to homeport a Sentinel-Class cutter in Port Valdez. Currently there is proposed funding for construction of at least six more of these cutters that are not currently assigned to a homeport. Senator Sullivan asked for input from the Council to support homeporting a Sentinel-Class cutter in Valdez during its recent visit to Washington, D.C.

Having a cutter assigned to Port Valdez has many benefits. Looking at benefits related to the Council's mission, having a cutter contributes to both the prevention of and response to a crude oil spill; protection of the Valdez Marine Terminal from a terrorist incident that would likely involve an oil spill; and directing and deconflicting vessel traffic during a response.

There have been recent instances of oil tankers and other high interest vessels including cruise ships having difficulty with commercial fishing vessels while passing through the Valdez Narrows. A 154-foot USCG cutter would provide a clear presence that would significantly reduce the marine safety and security risks this situation creates every summer in Port Valdez.

Back to Agenda

The USCG acts as the Federal On Scene Coordinator (FOSC) for any oil spill in marine waters. Sentinel-Class cutters have fully interoperable command and control systems that can work with Coast Guard, Homeland Security and Defense Department assets providing for coordination and supervision of a spill response in the field.

3. **Previous actions taken by the Board on this item:** None.

4. **Summary of policy, issues, support, or opposition:** None known.

5. **Committee Recommendation:** The OSPR and POVTS Committees have been polled on their support of this resolution and feedback will be provided at the Board meeting.

6. **Relationship to LRP and Budget:** None.

7. **Action Requested of the Board of Directors:** The Board is asked to approve the proposed resolution urging the USCG to homeport a Sentinel-Class Cutter in Port Valdez and supporting the Alaska Congressional Delegation and City of Valdez's efforts to secure this request as well.

8. **Alternatives:** None.

9. **Attachments:** Draft resolution 23-01 titled "A Resolution of the Prince William Sound Regional Citizens' Advisory Council Urging the United States Coast Guard to Homeport a Sentinel-Class Cutter in Port Valdez."

Draft Resolution 24-01

Urging the United States Coast Guard to Homeport a Sentinel-Class Cutter, Also Known as the Fast Response Cutter, in Port Valdez

WHEREAS, the Prince William Sound Regional Citizens' Advisory Council was established after the 1989 Exxon Valdez oil spill and is mandated by Congress in the Oil Pollution Act of 1990 to promote the environmentally safe transportation of crude oil from the Valdez Marine Terminal through Prince William Sound and the Gulf of Alaska; and

WHEREAS, the Trans Alaska Pipeline System is the lifeblood of the Alaska economy, with its terminal in Port Valdez seen as critical to both national security and energy infrastructure, and understood to be a target for terrorism; and

WHEREAS, the volume of oil, which accounts for roughly 3-4% of the nation's supply, is transported through the environmentally sensitive and pristine Prince William Sound, necessitating a high level of care to help protect Alaska, its residents, communities, economies, and environments; and

WHEREAS, Port Valdez is a designated United States Maritime Administration Alternate Strategic Port, as a means to ensure readiness in support of force deployment during contingencies and other national defense emergencies; and

WHEREAS, there were no on-water United States Coast Guard assets available in Port Valdez after the terrorist attacks of September 11, 2001, requiring the United States Coast Guard Cutter (USCGC) ANACAPA to be relocated to Port Valdez from Petersburg, Alaska, in recognition of the need for a cutter to help protect the Trans Alaska Pipeline System, including the Valdez Marine Terminal and its associated shipping infrastructure in Port Valdez; and

WHEREAS, starting with the USCGC LONG ISLAND, an Island-Class cutter has been homeported in Port Valdez since 2003; and

WHEREAS, the United States Coast Guard currently has no plans to replace the USCGC LIBERTY currently stationed in Port Valdez that is at the end of its service life; and

WHEREAS, threats to national security and critical energy infrastructure, such as the Good Friday Earthquake of 1964 and the terrorist attacks that occurred on September 11, 2001, emphasize the need for a timely and effective response from the coast in Port Valdez; and

WHEREAS, after the departure of the USCGC LIBERTY, the nearest cutters will be in Cordova at more than two hours away, Seward at five hours away, and Kodiak at 12 hours away; and

WHEREAS, the presence of a USCGC stationed in Port Valdez is a recognized and valued asset in enhancing marine safety and the safe transportation of crude oil in Prince William Sound, both in preventing and responding to oil spills; and

WHEREAS, in addition to support in prevention of oil spills and directing the Federal response to a spill, a cutter can serve in multiple operational roles including law enforcement, search and rescue, and fisheries enforcement; and

WHEREAS, recent conflicts within the Prince William Sound Traffic Lanes of the Valdez Narrows, with fishing and recreational vessels encroaching on the security zones in place to protect crude oil tankers, create a navigational safety risk and highlight the need for a continued presence by the United States Coast Guard to enforce the security zones that were permanently established after September 11, 2001, under 33 CFR 165.1710.

NOW, THEREFORE BE IT RESOLVED, that the Prince William Sound Regional Citizens' Advisory Council urges the United States Coast Guard to homeport a Sentinel-Class cutter, also known as the Fast Response cutter, in Port Valdez; and

BE IT FURTHER RESOLVED, that the Prince William Sound Regional Citizens' Advisory Council supports efforts by the City of Valdez to secure the homeporting of a Sentinel-Class cutter in Port Valdez.

PASSED AND APPROVED by the Prince William Sound Regional Citizens' Advisory Council on this XXX day of September, 2023.

_____
Robert Archibald
President

_____
Bob Shavelson
Secretary

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PWSRCAC Efforts to Address VMT System Integrity & Safety Culture Issues 4-3

Briefing for PWSRCAC Board of Directors – September 2023

ACTION ITEM

Sponsor: Joe Lally and Donna Schantz
Project number and name or topic: 5053: VMT System Integrity and Safety Culture Issues

1. **Description of agenda item:** Staff will provide an update on efforts to follow through on the recommendations contained in the Board-approved report titled "Assessment of Risks and Safety Culture at Alyeska's Valdez Marine Terminal" by contractor Billie Garde dated April 2023. Staff is also seeking Board approval of a budget modification and corresponding approval to enter into a professional services agreement with Billie Garde for continued assistance following up on the report recommendations.

2. **Why is this item important to PWSRCAC:** Following an incident in late February/early March 2022 involving the crude oil storage tanks vents damaged by snow and ice at the Valdez Marine Terminal (VMT), PWSRCAC received numerous allegations regarding safety and environmental concerns at the VMT from current and former Alyeska employees. In response to these concerns, PWSRCAC retained contractor Billie Garde to assist in reviewing, validating, and assessing concerns related to system integrity and safety culture issues at the VMT. Billie Garde's report concluded that "there currently is no reasonable assurance that the VMT is operating safely and in compliance with its regulatory requirements." The PWSRCAC Board unanimously approved Billie Garde's report and its recommendations, and it is important for PWSRCAC to ensure that the concerns identified in the report are adequately addressed, and that the VMT is operating safely and in compliance with all regulatory requirements.

3. **Previous actions taken by the Board on this item:**

Meeting	Date	Action
XCOM	4/5/22	Authorized a transfer of $50,000 from the contingency fund to a new project #5053 titled VMT System Integrity and Safety Culture Issues, and authorized the Executive Director to enter into a sole source contract with Ms. Billie Garde to assist with work under project 5053 VMT System Integrity and Safety Culture Issues.
Board	12/20/22	Authorized a budget modification from the contingency fund to project 5053: System Integrity and Safety Culture Issues in the amount of $5,000; and authorized a $5,000 increase to the agreement with Billie Garde for graphic design/publishing services, bringing the total contract amount for project 5053 to a not to exceed amount of $55,000.
Board	4/14/23	Accepted the report titled "Assessment of Risks and Safety Culture at Alyeska's Valdez Marine Terminal" by Billie Garde as meeting the terms of contract 5053.22.01.

4. **Summary of policy, issues, support, or opposition:** The PWSRCAC Board of Directors unanimously approved Billie Garde's report and endorsed all of the report recommendations. Alyeska leadership has expressed that they are taking the recommendations in the report seriously and are addressing the concerns contained in it.

5. **Committee Recommendation:** None.

6. **Relationship to LRP and Budget:** This action item requests to create project 5053 in the FY2024 budget. No funds are allocated for these efforts in FY2024 thus far.

7. **Action Requested of the Board of Directors:**
   a. Authorize a FY2024 budget modification moving $15,000 from the contingency fund to project 5053.
   b. Authorize a professional services agreement with Billie Garde in the amount of $15,000 to assist staff in following up on the recommendations contained in the report titled “Assessment of Risks and Safety Culture at Alyeska’s Valdez Marine Terminal.”

8. **Alternatives:** None recommended.

9. **Attachments:** None.

Briefing for PWSRCAC Board of Directors – September 2023

ACTION ITEM

Sponsor: Danielle Verna and the Scientific Advisory Committee

Project number and name or topic: 9512 Determining Concentration and Composition of Oxygenated Hydrocarbons from the Valdez Marine Terminal

1. **Description of agenda item:** The Board is being asked to accept the report titled "Examining the Effectiveness of Ballast Water Treatment Processes: Insights into Hydrocarbon Oxidation Product Formation and Environmental Implications" by Maxwell Harsha and David Podgorski from the University of New Orleans, dated August 1, 2023. The report is accompanied by a brief Executive Summary which contains a synopsis of the project findings and recommendations. During this project, a series of samples were collected throughout the treatment process at the Valdez Marine Terminal's Ballast Water Treatment Facility (BWTF) to identify hydrocarbon oxidation products (HOPs). HOPs are a component of hydrocarbons that are not currently monitored or regulated. Contractors chemically analyzed the samples for HOPs and will present a brief presentation to the Board summarizing the results.

2. **Why is this item important to PWSRCAC:** This project will enable the Council to monitor "the environmental impacts of the operation of the terminal facilities and crude oil tankers" as directed by OPA 90 by assessing the type and amount of HOPs that are discharged from the BWTF. Tankers offload ballast water carried in cargo tanks to the BWTF for treatment prior to discharge into Port Valdez. Preliminary research indicates that HOPs are a component of that discharge. HOPs are as toxic or more toxic than non-oxygenated hydrocarbons but there has been much less research on the fate, transport, and toxicity of HOPs. The results and recommendations of this project could lead to future research to understand the fate, transport, and toxicity of oxygenated hydrocarbons in the marine environment and the environmental effects of HOPs.

3. **Previous actions taken by the Board on this item:**

Meeting	Date	Action
Board	5/21/21	The Board adopted the FY2022 budget as presented, which included funding for the Oxygenated Hydrocarbons project.
Board	9/16/21	The Board authorized a contract with the University of New Orleans for Project 9512, Determining Concentration and Composition of Oxygenated Hydrocarbons from the VMT, in an amount not to exceed $70,400.

4. **Summary of policy, issues, support, or opposition:** None.

5. **Committee Recommendation:** The Scientific Advisory Committee recommended the Board accept this report at their meeting on July 21, 2023.

6. **Relationship to LRP and Budget:** Project 9512 Determining the Concentration and Composition of Oxygenated Hydrocarbons from the VMT is in the approved FY2024 budget and annual work plan. The work associated with this report fell under the FY2023 budget and annual work plan with $17,000 in carryover into FY2024.

9512 - Composition of Oxygentated Hydrocarbons
As of August 2, 2023

Original Budget	$17,000.00
Revised Budget	$17,000.00
Actual & Commitments	$0.00
Amount Remaining	$17,000.00

7. **Action Requested of the Board of Directors:** Accept the report titled "Examining the Effectiveness of Ballast Water Treatment Processes: Insights into Hydrocarbon Oxidation Product Formation and Environmental Implications" by Maxwell Harsha and David Podgorski from the University of New Orleans dated August 1, 2023, as meeting the terms and conditions of contract number 9512.22.01, and ready for distribution to the public.

8. **Alternatives:** None recommended.

9. **Attachments:** Draft report titled "Examining the Effectiveness of Ballast Water Treatment Processes: Insights into Hydrocarbon Oxidation Product Formation and Environmental Implications" by Maxwell Harsha and David Podgorski from the University of New Orleans, and the report Executive Summary.

Examining the Effectiveness of Ballast Water Treatment Processes: Insights into Hydrocarbon Oxidation Product Formation and Environmental Implications

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Abstract:

This study investigates the treatment processes employed at a ballast water treatment facility in Valdez, Alaska, to remove hydrocarbons from unsegregated ballast water. Specifically, the aim is to quantify and characterize hydrocarbons of emerging concern, known as hydrocarbon oxidation products (HOPs), and heavy metals (HMs) throughout the treatment process. Specialized analytical techniques, such as non-volatile dissolved organic carbon analysis, fluorescence excitation-emission matrix spectroscopy, and inductively coupled plasma triple quadrupole mass spectrometry were employed for quantification and characterization. Results demonstrate that the treatment process effectively removes benzene, toluene, ethylbenzene, and xylene (BTEX) compounds, while HOPs remain. Optical analyses provide insights into the composition and transformation of HOPs, showing a shift towards more oxygenated and complex compounds during the treatment process. Additionally, the study examines the concentrations of various HMs and identifies their trends throughout the treatment process. The findings highlight the need for comprehensive monitoring and regulation of ballast water treatment processes, considering the presence of HOPs and HMs. The results provide valuable insights for environmental monitoring and risk assessment in ballast water treatment, emphasizing the significance of understanding and mitigating the impacts of petroleum derived contaminants on aquatic ecosystems.

Keywords:

Fluorescence, PARAFAC, oxyhydrocarbons, DOM, oil spill, biodegradation, stormwater, wastewater, ICP-QQQ, heavy metals

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Acronym List

ADEC	Alaska Department of Environmental Conservation
APDES	Alaska Pollutant Discharge Elimination System
BT	Biological Treatment
BTEX	Benzene, Toluene, Ethylbenzene, and Xylene
BWTF	Ballast Water Treatment Facility
C[1,2,3,...]	Component [1,2,3,..]
CO_2	Carbon Dioxide
DAF	Dissolved Air Flotation
EEMs	Excitation-Emission Matrix Spectroscopy
EX/EM	Excitation and Emission Maxima
G	Grams
GS	Gravity Separation
HDPE	High Density Polyethylene
HIX	Humification Index
HMs	Heavy Metals
HOPs	Hydrocarbon Oxidation Products
ICP-QQQ	Inductively Coupled Plasma Triple Quadrupole Mass Spectrometry
KG	Kilograms
LOD	Limit of Detection
LOQ	Limit of Quantification
MG/L	Milligrams per Liter
ML	Milliliters
MM	Millimeters
NaOH	Sodium Hydroxide
NM	Nanometers
NVDOC	Non-Volatile Dissolved Organic Carbon Analysis
PAHs	Polycyclic Aromatic Hydrocarbons
PARAFAC	Parallel Factor
PCA	Principal Component Analysis
pH	Potential of Hydrogen
S	Seconds
$SUVA_{254}$	Specific UV absorbance at 254 nm
TAH	Total Aromatic Hydrocarbons
TAqH	Total Aqueous Hydrocarbons
THM	Total Concentration of Heavy Metals
TP	Tank Prior
UCM	Unresolved Complex Mixture
µm	Micrometer

1. Introduction:

Approximately 10 billion tons of ballast water are transported worldwide annually to stabilize cargo ships during their empty voyages between ports (Lamoureux and Organization 1967). However, the offloading of ballast water raises concerns regarding the transfer of harmful biological agents, such as invasive species and pathogens, as well as the release of chemical contaminants (Kurniawan et al. 2022). While the threat of chemical pollution from ballast water offloading decreased with the use of modern double-hulled ships with ballast water tanks segregated from cargo tanks, the North American petroleum industry still faces risks. During winter months, ships may require additional ballast water, which requires storage in unsegregated tanks (Love 2018). Unsegregated ballast water from oil tankers can mix with residual petroleum products, posing a risk of releasing harmful hydrocarbons and oxygen-containing analogues into marine ecosystems. Thus, treatment is necessary before discharging such water into the environment (Verna and Harris 2016).

This study focuses on the ballast water treatment facility (BWTF) at the Valdez Marine Terminal in Prince William Sound, Alaska, operated by the Alyeska Pipeline Service Company. Three treatment processes are employed to remove hydrocarbons from unsegregated ballast water: gravity separation, pressurized air treatment, and biological treatment. These techniques utilize physical (separation and volatilization) and chemical (oxidation) processes to eliminate hydrocarbons before discharging 1.72 million gallons of effluent daily (average) into Port Valdez, an area of significance for aquaculture and conservation (ADEC 2019).

The influent sources at the BWTF are categorized as follows in terms of contribution: stormwater (44%), oiled ballast water (37%), industrial wastewater (14%), and raw water (5%) (ADEC 2019). Stormwater, originating from rain and snowmelt, accounts for the largest influent source and is expected to be uncontaminated, diluting contaminants from other sources (ADEC 2019). Ballast water is the second largest influent source, primarily responsible for hydrocarbon and metal contamination (ADEC 2019). The BWTF discharge has been monitored since 1972 by government agencies, including the Environmental Protection

Agency and the Alaska Department of Environmental Conservation (ADEC). ADEC currently oversees the facility through the Wastewater Discharge Authorization Program (Alaska Pollutant Discharge Elimination System (APDES) permit AK0023248), which mandates monitoring of various parameters in the BWTF effluent, such as flow, pH, total suspended solids, zinc, total aromatic hydrocarbons (TAH), total aqueous hydrocarbons (TAqH), total recoverable oil and grease, density, dissolved inorganic phosphorus, ammonia, and toxicity (ADEC 2019). In the most recent permit, ADEC identifies zinc, TAH, and whole effluent toxicity as the three primary parameters of concern, most likely to exceed water quality criteria in the BWTF effluent (ADEC 2019).

Regulating oil contamination levels during the treatment process typically involves measuring the benzene, toluene, ethylbenzene, and xylene (BTEX) family of compounds, also known as TAH (Payne et al. 2005). Although BTEX represents only a small fraction of crude oil, it serves as a standard for regulation (Hollebone 2011). Crude oil consists of a complex mixture of compounds with varying molecular weights (Palacio Lozano et al. 2019; Krajewski, Rodgers, and Marshall 2017; Frysinger et al. 2003). Higher molecular weight compounds form the unresolved complex mixture (UCM) and are challenging to characterize and quantify using traditional chromatography techniques relied upon by current monitoring methods (Farrington and Quinn 2015; McKenna et al. 2013). Furthermore, compounds in crude oil become more polar when oxidized through biotic and abiotic degradation processes (Ward et al. 2018; Ray et al. 2014; D'Auria et al. 2009; Aeppli et al. 2012; Fry and Steenson 2019). The increased polarity, resulting from the addition of oxygen heteroatoms, further complicates the composition and fraction of compounds in the UCM (Boduszynski 1987; Boduszynski and Altgelt 1992; Boduszynski 1988). These polar hydrocarbon oxidation products (HOPs) can readily partition into the aqueous phase, remaining undetected during transportation from their petroleum source (Aeppli et al. 2012; Fry and Steenson 2019; Krajewski, Rodgers, and Marshall 2017; Frysinger et al. 2003; Zito et al. 2019; Ward and Overton 2020; Maki, Sasaki, and Harayama 2001; Freeman and Ward 2022; Brünjes et al. 2022; Ward et al. 2018; Ray et al. 2014; D'Auria et al. 2009; Palacio Lozano et al. 2019).

HOPs are of emerging concern due to their potential risks to human health and the environment, even though they are not currently regulated (Katz et al. 2022; Little et al. 2000). Additionally, the relationship between the chemical composition of HOPs in the UCM and their toxicity remains to be determined. In the context of ballast water treatment (Katz et al. 2022), HOPs may be formed through microbial processes in ballast tanks during transport and within each step of the water treatment process. Although the BWTF process successfully removes BTEX, the impact of the treatment process on the formation of HOPs is unknown. Another emerging concern is the presence of heavy metals (HMs) in ballast water, as their toxicity varies based on elemental composition and concentration. Despite meeting water quality criteria, whole effluent toxicity testing has revealed chronic toxicity to aquatic organisms in some instances (ADEC 2019). Zinc, with its high recorded concentrations in the BWTF effluent, is believed to be the driving parameter for potential toxicity (ADEC 2019). Therefore, this study aims to investigate the concentration and behavior of HOPs and HMs throughout the BWTF process.

To achieve this objective, specialized analytical techniques are employed. Non-volatile dissolved organic carbon analysis (NVDOC) and fluorescence excitation-emission matrix spectroscopy (EEMs) are used to quantify and reveal optical signatures that provide insight into the composition of HOPs, respectively. Inductively coupled plasma triple quadrupole mass spectrometry (ICP-QQQ) is utilized to determine the quantity of a wide range of HMs. This study serves two purposes: first, to understand the formation and transport of HOPs and HMs through the BWTF process, and second, to quantify and characterize the HOPs and HMs released into Port Valdez through the BWTF discharge. The findings of this study hold significant implications for the functionality and monitoring of the BWTF, as they shed light on two poorly understood and reported classes of contaminants.

2. Materials and Methods:

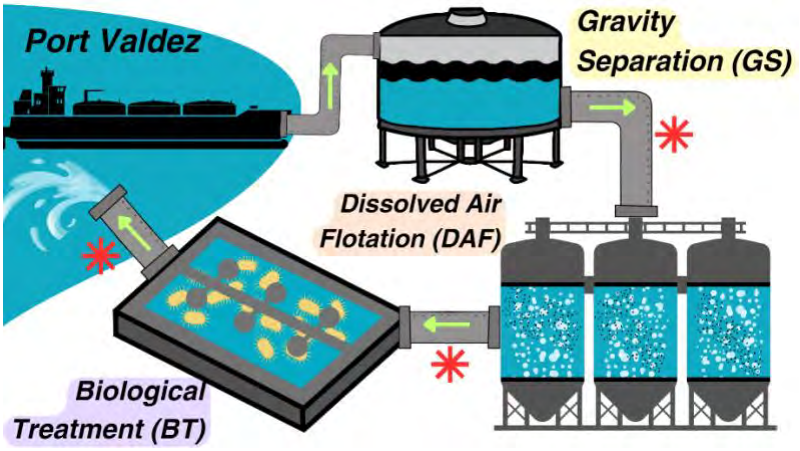

Figure 1. Overview of the BWTF. (*) represents a sampling point.

2.1. BWTF overview and Sample Collection

Figure 1 shows a schematic of the BWTF processing. The process starts with the influent being subjected to gravity separation (GS) in large water storage tanks where settling occurs over an average of four hours. The oil layer is then skimmed and transferred to a recovery tank, while the water layer proceeds to the dissolved air flotation (DAF) process. In the DAF process, air is bubbled through the oiled water to remove volatile organic compounds followed by an air stripping process. Exhaust vapors generated are captured and incinerated using regenerative thermal oxidizers. The treated water then passes to the biological treatment (BT) process, where mixing and aeration occur in large open concrete-lined ponds for an average of 16 hours to promote biodegradation. Finally, the treated water is discharged into Port Valdez.

In Figure 1, the asterisks denote the points at which samples were collected after each treatment process. Opportunistic sampling by the Alyeska Pipeline Service Company took place over one year, resulting in 12 sampling events that corresponded to 12 different ballast water offloading events. To ensure that the same ballast water was captured throughout the treatment process, the sample collection time was staggered at the different process points.

A fourth sampling point was added for the last seven sampling events to collect wastewater from the gravity separation tank prior (TP) to ballast offloading to characterize other sources of influent. Gravity separation tank levels were recorded before and after ballast offloading. Samples were collected using 250 milliliters (mL) amber high density polyethylene (HDPE) bottles and stored at -20°C until analysis. The Alyeska Pipeline Service Company provided BTEX measurements for each sample.

2.2. Non-Volatile Dissolved Organic Carbon (NVDOC) Analysis

HOPs were quantified based on NVDOC concentration. Each sample was filtered through a pre-combusted (550°C > 4 hours) Advantec GF-75 0.3 micrometer (µm) glass fiber filter into a pre-combusted amber glass vial. The pH (potential of hydrogen) of each sample was adjusted with ultrapure hydrochloric acid to pH < 2. Samples were analyzed for NVDOC concentration with a Shimadzu TOC-V system equipped with an autosampler. NVDOC was measured as non-purgeable organic carbon converted to CO_2 (carbon dioxide) and detected by a non-dispersive infrared detector (Stubbins and Dittmar 2012). NVDOC was calibrated with potassium hydrogen phthalate with daily standards run regularly.

2.2. HOPs Optical Characterization

Fluorescence EEMs was utilized to characterize the optical properties of HOPs. The pH of filtered samples was adjusted to pH 8 with NaOH (sodium hydroxide) for absorbance and fluorescence measurements with an Aqualog® fluorometer (Horiba Scientific, Kyoto, Japan) (Yan et al. 2013; Tfaily et al. 2011; Spencer, Bolton, and Baker 2007). Optical measurements were carried out in a 10 millimeters (mm) quartz cuvette, at an excitation range from 240 – 800 nanometers (nm) in 5 nm increments, and an emission range from 240 – 800 nm in 2.34 nm increments with an integration period of 5 seconds (s). Spectra were blank subtracted and corrected for instrument bias and inner filter effects. Fluorescence intensities were normalized to Raman scattering units prior to Parallel Factor (PARAFAC) analysis, a multiway data analysis technique to decompose EEMs into underlying optical signature (Murphy et al. 2013). The drEEM toolbox and MatLab code were utilized to complete PARAFAC of the EEMs

(Murphy et al. 2013). The spectral components of the resulting statistical model were validated by residual and split-half analysis (Harshman and Lundy 1994; Stedmon and Bro 2008). The validated model was uploaded to the OpenFluor database to compare with published models above 95% similarity score (Murphy et al. 2014). Humification index (HIX) values were determined by the peak area under the emission spectra at 435-480 nm divided by the sum peak area at emission spectra 300-345 and 435-480 nm at excitation 254 nm (Ohno 2002). Specific ultraviolet absorbance at 254 nm ($SUVA_{254}$) was calculated by dividing the absorbance at 254 nm (a_{254}) by the NVDOC concentration.

2.3. Heavy Metal Quantification

ICP-QQQ (Agilent Technologies 8900) was utilized to measure the concentration of HMs. A 10 mL aliquot of each sample was filtered through 0.45-µm polypropylene syringe filters (Agilent Technologies) and acidified to a concentration of 2% (v/v) trace-metal grade nitric acid (Fisher Scientific) and 0.5% (v/v) trace-metal grade hydrochloric acid (VWR International). The ICP-QQQ was operated under MS/MS, using helium as the collision gas and ammonia as the reaction gas (Kubota 2022; Proper, Mccurdy, and Takahashi 2020). Quantification of HMs was performed based on calibration curves using environmental calibration standard mix and internal standard mix (Agilent Technologies). The instrument was tuned daily using a solution containing Ce, Co, Li, Mg, Ti, and Y (Agilent Technologies) (1 µg/L). Specific operating parameters and detection limits are outlined in the supplementary information (Tables S1 and S2). Limit of detection (LOD) and quantification (LOQ) calculated from standard deviation of ten blank response replicates and slope of HM calibration curves.

2.4 Statistical Analyses

JMP, Version 17 (SAS Institute Inc.) was used to conduct all statistical analyses. The data underwent Cauchy robust outlier analysis to eliminate any outliers. Pairwise Student's t-tests were employed to calculate p-values at a 95% confidence level. To determine correlation, nonparametric Spearman's rank correlation coefficient (ρ) was used. Principal component analysis was utilized to examine the variation between different processing points.

3. Results and Discussion:

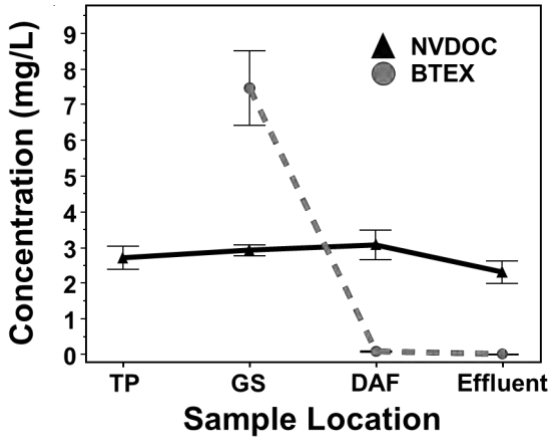

Figure 2. Changes in NVDOC and BTEX concentrations through treatment process.

3.1. Hydrocarbon concentrations through the BWTF process

The measured concentrations of BTEX demonstrate that the BWTF process effectively removes these compounds. Figure 2 shows that BTEX concentrations range from 0.01 ± 0 milligrams per liter (mg/L) in the effluent to 7.47 ± 1.05 mg/L after GS. There is a strong negative correlation (-0.917) between BTEX concentration and treatment processing, indicating the effectiveness of the BWTF process in reducing BTEX levels (Tables S3 and S4). Among the treatment processes, DAF shows the highest efficiency in removing BTEX, as concentrations remain negligible after BT. This result suggests that biodegradation is not a significant factor in removing low concentrations of BTEX from ballast water. These findings align with previous studies investigating the effectiveness of biodegradation at the BWTF (Payne et al. 2005). It is important to note that the measured BTEX levels in the discharge are below the maximum effluent permit limit set by ADEC (0.73 mg/L). The maximum water quality standard for BTEX in Port Valdez is 0.01 mg/L, which is measured at the edge of the BWTF mixing zone (ADEC 2019). Taking into account the subsequent dilution of the effluent in Port Valdez (with a dilution factor of 56:1 in the mixing zone), the measured BTEX values are well below the maximum limit.

In contrast, there is no statistically significant change in the concentration of HOPs as measured by NVDOC among the different treatment processes (Figure 2). The measured NVDOC concentration in the effluent was 2.31 ± 0.31 mg/L (Table S3). It is worth noting that the BWTF does not monitor NVDOC levels directly but instead measures TAqH, which includes BTEX and 16 polycyclic aromatic hydrocarbons (PAHs) to represent the UCM (ADEC 2019). However, this approach is not accurate due to the presence of additional compounds with varying polarity, which makes the UCM unsuitable for gas-chromatography techniques (Farrington and Quinn 2015; McKenna et al. 2013). Currently, there are no specific limits set for TAqH in the BWTF effluent since it is not considered a parameter of concern, although the highest measured concentration in the effluent was 0.04 mg/L (ADEC 2019). The significant difference (~58-fold) between NVDOC and TAqH highlights the complexity of the UCM and the large number of undetected compounds, suggesting that NVDOC is a more effective technique. Currently, there are no regulatory standards for NVDOC concentrations in water quality. However, studies demonstrate the use of NVDOC as an effluent parameter for industrial and municipal treatment processes, providing insight into potentially harmful carbon compounds being released undetected into aquatic ecosystems (Park et al. 2022; Yang et al. 2015).

3.2. Optical signatures reveal compositional changes in HOPs

Optical analyses reveal changes in the composition of HOPs, providing insights into their source, reactivity, and fate within the BWTF. The HIX and specific UV absorbance at 254 nm ($SUVA_{254}$) are optical parameters that serve as indicators of oxygenation and aromaticity, respectively (Gao et al. 2017; Hansen et al. 2016). Increasing HIX values indicate a rise in long-wavelength, oxygenated, and refractory compounds, while decreasing short-wavelength, labile compounds. Overall, HIX values show an increasing trend throughout the BWTF process (ρ = 0.693), ranging from 0.262 ± 0.013 (GS) to 0.376 ± 0.026 (DAF), indicating a compositional shift towards more oxygenated and complex compounds (Table S3). $SUVA_{254}$ tracks changes in HOPs by measuring the absorption of light by dissolved organic matter, with increasing values associated with higher aromaticity. In the BWTF process, $SUVA_{254}$

values decrease (ρ = -0.345), ranging from 0.008 ± 0.001 (Effluent) to 0.013 ± 0.001 (TP), indicating an overall decrease in aromaticity (Table S3). These observed HIX and $SUVA_{254}$ values align with previous studies characterizing laboratory-produced HOPs (Harsha et al. 2023; Whisenhant et al. 2022). Importantly, they are considerably lower than the values reported for coastal marine natural organic matter (HIX= ~4, $SUVA_{254}$=~3), indicating that the source of the dissolved organic matter in the BWTF is petroleum-derived HOPs rather than naturally derived compounds (D'Andrilli et al. 2022). These findings suggest a transformation of HOPs during the BWTF process, leading to an increase in oxygenation and complexity while exhibiting a slight decrease in aromaticity. This departure from the typical positive correlation between HIX and $SUVA_{254}$ highlights the complex nature of HOPs and emphasizes the necessity of employing multiple characterization techniques.

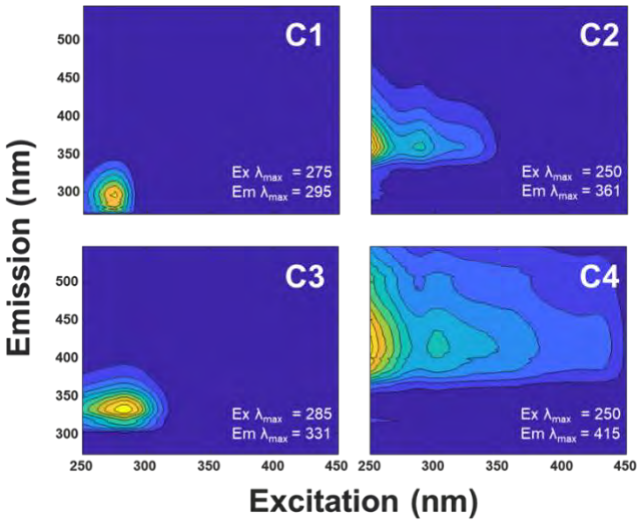

Figure 3. Validated four-component PARAFAC model.

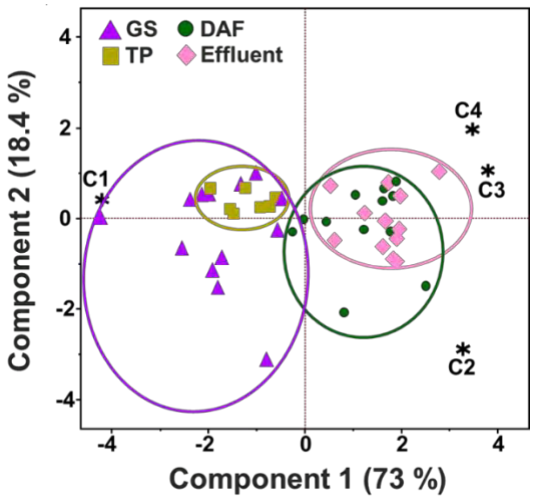

Figure 4. PCA biplot, loadings represent PARAFAC components.

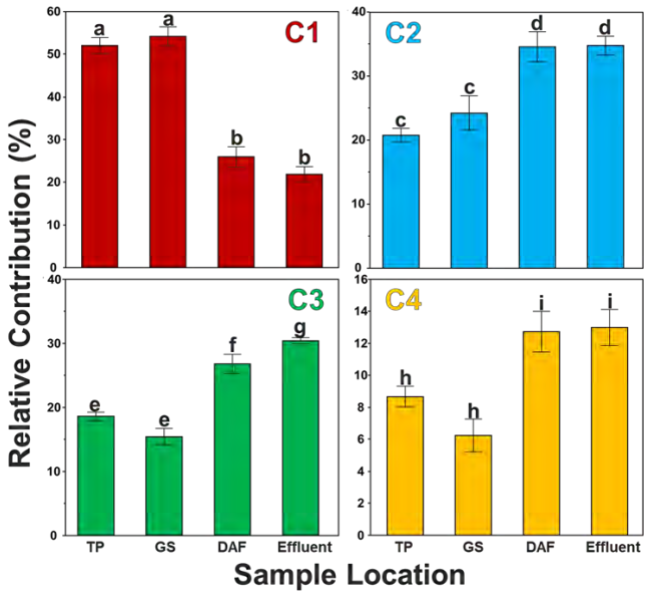

Figure 5. Relative contributions of PARAFAC components. Connecting letters for components are Student's t-test pairwise comparisons at 95% confidence.

PARAFAC was employed to investigate the underlying optical signatures in the EEMs dataset and track compositional changes during the BWTF process. A validated four-component PARAFAC model was derived (Figure 3). Each component corresponds to specific excitation and emission maxima (Ex/Em) values and exhibits distinct characteristics. Component 1 (C1)

has Ex/Em maxima at 275/295 nm and shows similarity to 15 entries (95-99% similarity score) in the OpenFluor database, which primarily characterizes natural organic matter (Graeber et al. 2012; Kowalczuk et al. 2013; Murphy et al. 2006; Osburn et al. 2016; D'Andrilli et al. 2017; Wheeler, Levia, and Hudson 2017; Painter et al. 2018; Yang et al. 2019; Sun et al. 2021; D'Andrilli et al. 2019; Chen et al. 2017; DeFrancesco and Guéguen 2021; Dall'Osto et al. 2022). This component is commonly referred to as a "protein-like" fluorescence signature in organic biogeochemistry, representing short-wavelength, reactive dissolved organic matter rather than actual proteins. In the context of HOPs, this signature indicates a composition of reduced, aliphatic, and low heteroatom structures, such as 3-ring alkylated and oxygenated PAHs. Component 2 (C2) with Ex/Em values of 250/361 nm matches seven published components (95-97% similarity), including two signatures derived from petroleum (Brünjes et al. 2022; Catalán et al. 2021; Retelletti Brogi, Kim, et al. 2019; Podgorski et al. 2018; Bittar et al. 2016; Williams et al. 2010; Murphy et al. 2013). One match is found in a study by Podgorski et al., which investigated petroleum-contaminated groundwater and identified biorefractory HOPs composed of low molecular weight, highly aromatic, and oxygenated compounds (Podgorski et al. 2018). The second match is found in a study by Brünjes et al., focusing on the biodegradation of asphaltenes through laboratory incubations, representing another potential biorefractory signature (Brünjes et al. 2022). Component 3 (C3) with Ex/Em values of 285/331 nm matches 22 published components (96-99% similarity), three of which are petroleum-derived (Harsha et al. 2023; Sheng et al. 2021; Gao and Guéguen 2017; DeFrancesco and Guéguen 2021; Retelletti Brogi et al. 2022; Brünjes et al. 2022; Wünsch and Murphy 2021; Batista-Andrade et al. 2023; Retelletti Brogi et al. 2020; Lee et al. 2018; Kim et al. 2022; Retelletti Brogi, Jung, et al. 2019; D'Andrilli et al. 2019; Yamashita et al. 2011; Stedmon and Markager 2005; Yu et al. 2015; Murphy et al. 2011; Hambly et al. 2015; Cawley, Butler, et al. 2012; Cawley, Ding, et al. 2012; Podgorski et al. 2018). C3 aligns with C5 in the groundwater study by Podgorski et al., representing short-wavelength, polynuclear PAHs that are biolabile and acutely toxic HOPs (Podgorski et al. 2018). C3 also matches with C3 in the asphaltene biodegradation study by Brünjes et al., indicating biolabile and potentially toxic HOPs(Brünjes et al. 2022). Furthermore, C3 matches with C4 in a previous study by

Harsha et al., which characterized photoproduced HOPs in laboratory simulations, representing reduced, aliphatic HOPs generated from 24-hour irradiated diesel (Harsha et al. 2023). Component 4 (C4) has Ex/Em values of 250/415 nm and matches 11 published models, including two unique petroleum signatures (Huang et al. 2022; Brünjes et al. 2022; Jeon et al. 2021; Lin and Guo 2020; Whisenhant et al. 2022; Cabrera et al. 2020; Jia et al. 2017; Chen et al. 2017; D'Andrilli et al. 2019; Painter et al. 2018; Retelletti Brogi et al. 2018). C4 corresponds to C4 in the asphaltene biodegradation study by Brünjes et al., exhibiting a "humic-like" fluorescence signature (Brünjes et al. 2022). C4 also matches with C1 in a study by Whisenhant et al. examining photoproduced HOPs generated from laboratory simulations, where C1 represented the most degraded HOPs that exhibited "humic-like" fluorescence (Whisenhant et al. 2022). This result indicates the presence of HOPs composed of long-wavelength, aromatic, oxygenated, and heteroatomic compounds. Three out of the four components identified in the PARAFAC analysis align with components from the Brünjes et al. study, suggesting that the optical signatures measured in the BWTF process are likely petroleum-derived (Brünjes et al. 2022). Overall, the HOPs associated with the BWTF process range from short-wavelength (aliphatic, reduced, biolabile) to long-wavelength (aromatic, oxygenated, refractory) compounds, with the order of increasing wavelength being C1 > C3 > C2 > C4.

Principal component analysis (PCA) illustrates the relationship between each component and the treatment process (Figure 4). C1 exhibits a close association with TP and GS, while C2 is linked to the DAF process. C3 and C4 represent the effluent. Overall, PCA reveals similarities between TP and GS, as well as between DAF and effluent. By measuring the relative contribution of each optical signature, the compositional changes resulting from the BWTF process are uncovered (Figure 5). There are no significant differences in component contribution between TP and GS, as well as between DAF and effluent, except for C3. This finding indicates that C3 undergoes significant transformation during the BT process. Notably, C1 is the only signature that decreases due to the BWTF process (ρ = -0.805). This correlation suggests that the short-wavelength HOPs represented by C1 are labile and

undergo substantial oxidation during the DAF process, resulting in a ~52% reduction in the C1 signature between GS and DAF. On the other hand, C2, C3, and C4 increase with the BWTF process (ρ = 0.713, 0.453, and 0.544, respectively), indicating the oxidation process leading to varying types of HOPs. After the DAF process, C2 shows an increase of ~43%, which is the smallest transformation observed among the components coupled and no compositional change due to BT. This result suggests that C2 may represent more refractory HOPs, as also noted in the matched components in the studies by Podgorski et al. and Brünjes et al., indicating its potential use for oil treatment and spill monitoring (Brünjes et al. 2022; Podgorski et al. 2018). C3 experiences a significant increase of ~74% after DAF and is the only signature significantly changed due to BT, with an increase of ~13%. This highlights the biolabile nature of C3, which has been identified as a significant driver of acute toxicity in the matched studies. It constitutes ~30% of the optical signatures observed in the effluent and increases with biological treatment. C4 exhibits an increase of ~104% after DAF treatment and represents the most aromatic and oxygenated signature, reflecting the most degraded HOPs in the BWTF process. Overall, C4 constitutes approximately 10% of the total observed signatures at the BWTF, suggesting that the BWTF process does not significantly degrade HOPs into these long-wavelength compounds. Instead, semi-labile/labile HOPs are released into the aquatic ecosystem, posing a higher likelihood of reactivity and potential effects in aquatic ecosystems.

3.3. Trends in HM concentrations

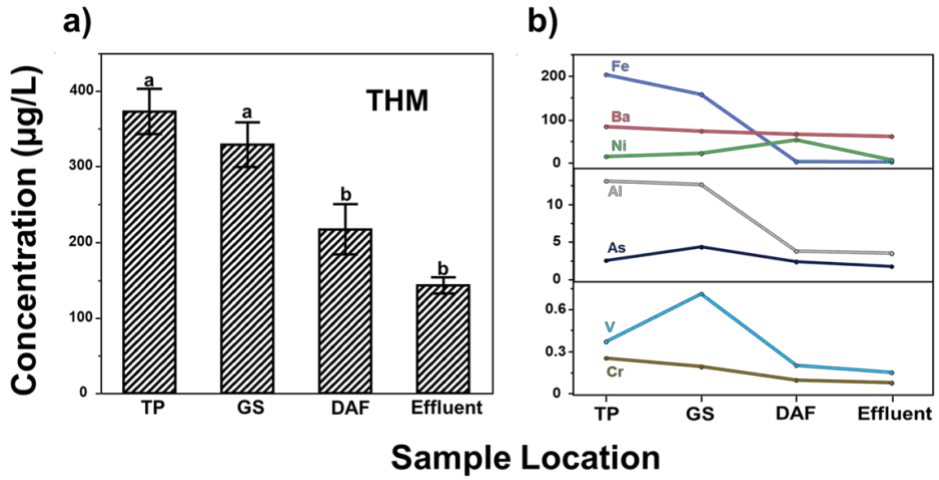

Figure 6. Shifts in (a) total and (b) significant HMs through the treatment process. Error bars are removed from significant HMs plot for clear visualization. Connecting letters for THM are Student's t-test pairwise comparisons at 95% confidence.

The BWTF process significantly affects the concentration of HMs in oiled ballast water, as revealed by a large quantitative screening. Overall, the total concentration of heavy metals (THM) decreases significantly with the BWTF process, and similar trends are observed as with HOPs. The only significant transformation occurs during the DAF process (ρ = -0.814) (Figure 6a). After the DAF process, the THM concentration decreases by approximately 34%. The measured THM concentrations throughout the BWTF process range from 143 ± 11.0 (effluent) to 373 ± 29.7 µg/L (TP).

Out of the 18 HMs measured, only seven show significant trends with the BWTF process, and all exhibit negative correlations (Table S4). These significant metals are divided into three concentration levels: high (1.5 – 203 µg/L) including Fe, Ba, and Ni; medium (1.5 – 13.1 µg/L) including Al and As; and low (0.148 – 2.02 µg/L) including V and Cr (Figure 6b). Of particular interest is zinc (Zn), which ADEC categorizes as a parameter of concern and is believed to be the main driver of effluent toxicity. The Zn concentrations in this study range from 30.1 ± 0.139 (TP) to 31.4 ± 0.150 µg/L (DAF), which are significantly lower than the permit-set limit

for effluent (4,150 µg/L) and the water quality standard limit (86.14 µg/L). The measured effluent Zn concentrations from 2008 to 2017 range from 53 to 1,450 µg/L, with an average of 267 µg/L, which is approximately 8.5 times higher than the reported values from this study.

Possible sources of HMs in the oiled ballast water include interactions with metal industrial equipment and from crude oil (Chinedu and Chukwuemeka 2018; Ajeel et al. 2021; ADEC 2019). None of the measured HMs exceeded the water quality standards set by ADEC and the EPA (ADEC 2019). However, a potential threat associated with the discharge of HMs from the BWTF is their sorption and accumulation in sediment, which poses an ecological risk (Zhao et al. 2021; Iordache et al. 2022; Miranda et al. 2022).

3.4. Comparison between stormwater and oiled ballast water

The unexpected similarities between TP (assumed stormwater) and GS (gravity separation tank) in terms of measured contaminants (HOPs and HMs) raise questions about the assumption that TP is a non-contaminated water source and its capacity to dilute oiled ballast water. Surprisingly, all the measured data quantifying and characterizing HOPs and HMs were statistically insignificant. This finding challenges the belief that TP, based on historical contribution data, is a non-contaminated water source that dilutes contaminants from oiled ballast water.

Recorded values from the gravity separation tank before and after ballast offloading indicate an average dilution factor of 44:1 for oiled ballast water. Considering this dilution factor, the expected concentrations and composition of contaminants (HOPs and HMs) were anticipated to be low in TP. However, the actual measurements did not align with these expectations. Previous monitoring data reported very low levels (below detection limits) of BTEX, suggesting that TP is not contaminated and likely dilutes the contaminants in oiled ballast water (ADEC 2019). Based on these reports, the NVDOC values in TP samples were expected to be lower. However, the measured NVDOC concentrations suggest that the stormwater may contain hydrocarbons that are not detected by BTEX measurements.

Furthermore, the optical signatures indicate that the source of dissolved organic matter is derived from petroleum rather than naturally occurring substances.

This observed relationship could be attributed to various factors, such as residual oil contamination during the industrial process, higher levels of industrial waste influent, or contaminated stormwater itself. Further study and monitoring are necessary to gain valuable insight into the sources of contaminants being treated at the BWTF. Understanding the composition of the other influents is of utmost importance, especially considering that ADEC permits the discharge of untreated stormwater during periods of high rainfall.

3.5. Implications for environmental monitoring

This study utilized a wide range of analytical techniques to investigate the BWTF process in greater detail, uncovering previously undetected contaminants. The findings indicate that the BWTF effectively removes BTEX from oiled ballast water but fails to remove HOPs. Instead, the process generates and releases a diverse range of compositionally complex HOPs, which may pose ecological risks. The C3 optical signature identified in this study matched with other published components known to exhibit acute toxicity.

The toxicity mechanism of HOPs in the environment is not well understood, but existing literature suggests that HOPs may be more toxic than their parent petroleum compounds due to increased bioavailability resulting from higher oxygen content.(Katz et al. 2022) Although the measured levels of HOPs and HMs in the effluent are not alarmingly high, it is crucial to consider the volume of effluent being discharged into Port Valdez, which averages 1.72 million gallons per day (ADEC 2019). When normalized, this study reveals that 15 kilograms (kg) of HOPs and 11 grams (g) of arsenic are released into the water daily during the processing of oiled ballast water. These significant quantities have the potential to enter the aquatic ecosystem, transport through the water column, bioaccumulate in organisms, and sorb into sediment, posing potential harm over time.

The techniques employed in this study, such as NVDOC and optical analyses, have the potential to be used as broad monitoring tools for oil contamination. NVDOC provides a comprehensive quantification of dissolved organic carbon from oiled ballast water, going beyond specific fractions like BTEX or TAqH, thus offering insights into the carbon release. Additionally, optical signatures can characterize general qualities such as reactivity, aromaticity, and oxygen content. Utilizing remote fluorescence sensors calibrated with petroleum-specific signatures may enable monitoring the formation and transport of HOPs in the BWTF. Adequate monitoring in oiled ballast water treatment is essential for understanding the release and transport of contaminants into the environment.

Associated Content:

Supporting Information

ICP-QQQ operating conditions; ICP-QQQ specific analyte information; HOPs characterization data; metric correlations; HM concentration levels (PDF)

Conflict of Interest:

The authors declare no competing financial interest.

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Executive Summary

Ships rely on ballast water to maintain stability when traveling without cargo. However, this water can contain pollutants, including hydrocarbons derived from oil, when stored in cargo tanks. When this unsegregated ballast water is discharged, these pollutants can be released into environments where they pose risk to the health of aquatic ecosystems. Ballast water treatment facilities (BWTFs) are designed to eliminate these oily contaminants before water is returned to the environment.

Current regulations on the effectiveness of the removal of oily contaminants are based on the concentration of four compounds: benzene, toluene, ethylbenzene, and xylene (BTEX). However, these four compounds only account for a tiny fraction of crude oil. Most compounds in petroleum are not accounted for by these measurements. Specifically, hydrocarbon oxidation products (HOPs), which can be more toxic than their parent petroleum compounds, are considered to be emerging contaminants because they are not regulated by government agencies. In addition to enhanced toxicity, HOPs are water-soluble, so they can be rapidly transported vast distances away from their source of origin in aquatic ecosystems. There is limited knowledge about the effectiveness of BWTFs in removing HOPs and potentially toxic heavy metals.

The goal of this research is to determine the removal efficiency of HOPs and heavy metals at the BWTF in Valdez, Alaska, prior to their release into Port Valdez. Over the course of one year, twelve sample sets were opportunistically collected at the Valdez Marine Terminal's BWTF when incoming tankers unloaded unsegregated ballast water (stored in the same tanks as crude oil). Samples were collected after the oil/water separator (90's Tank), dissolved air flotation/air stripper, and biological treatment tank (BTT) prior to discharge into Port Valdez. Most samples were collected in the fall or winter months. Alyeska provided data on BTEX concentrations for each sampling event. HOPs are not detectable by standard methods of analysis that are used to measure hydrocarbons. Therefore, we had to use specialized analytical techniques to measure the chemical composition and concentrations of HOPs at each stage of the treatment process.

The results indicate that the treatment process efficiently removes BTEX as it is designed to do. However, the process does not significantly reduce the concentration of HOPs from the beginning of the process until they are discharged into Port Valdez. Instead, HOPs undergo transformation into more chemically complex and potentially toxic compounds during the treatment process. In addition, the BWTF successfully decreases the concentration of heavy metals released into Port Valdez to meet water quality standards. Although the levels of

these contaminants were not alarmingly high, they can still pose risk to aquatic ecosystems via bioaccumulation.

Recommendations for the future include testing the toxicity of the effluent released into Port Valdez, online monitoring of HOPs with sensors (like BTEX), treating the effluent with light (destroy compounds), and properly maintain microbial populations in BTT (destroy compounds). Moreover, measurements should be made of metals and HOPs in sediments and shellfish (like previous studies focused on hydrocarbons by Dr. Merv Fingas) near the exit of the effluent.

Back to Agenda

Report Acceptance: Port Valdez Weather Buoy Data Analysis 2019-2022 4-5

Briefing for PWSRCAC Board of Directors – September 2023

ACTION ITEM

Sponsor: Roy Robertson and the Oil Spill Prevention and Response Committee

Project number and name or topic: 6536 Port Valdez Weather Buoy Data Analysis 2019 - 2022

1. **Description of agenda item:** In 2019, PWSRCAC installed two weather buoys in Port Valdez; one in the vicinity of the Valdez Marine Terminal and the other near the Valdez Duck Flats. These buoys are expected to collect weather data for at least five years. This project is the third of possibly five projects that will take data collected in each of the five years and perform an analysis to determine potential weather trends throughout the year, and seasonally, at the location of the buoys. The analysis includes ocean current, wind direction and speed, wave direction and heights, and other pertinent information that can be obtained from the weather data. Dr. Robert Campbell of the Prince William Sound Science Center was contracted to analyze the 2022 weather buoys data and provide a report of his findings.

2. **Why is this item important to PWSRCAC:** In addition to providing real time weather information, the website for the Port Valdez weather buoy also provides weather information for the previous five days. The data from these buoys is collected and stored, but without periodically analyzing the data, much of the informational value from the buoys will not be realized. This project provides trend analysis of the weather and currents at the two buoy locations from the time the data started being produced in 2019, through December 31, 2022. While this is a relatively short window of time for this analysis, the analyses of future years will build on this data and provide better information on the Port Valdez weather and current trends.

3. **Previous actions taken by the Board on this item:**

Meeting	Date	Action
Board	5/4/2022	Approval Budget

The OSPR Committee has approached these buoy data analyses as individual projects which build from each other. While this report includes previously gathered data, this report should be viewed as a separate project and report.

4. **Summary of policy, issues, support, or opposition:** This project allows PWSRCAC to provide support for several of our mandates as part of OPA 90 and the Alyeska contract. Over time, the weather and current trend analysis gathered by this project will allow PWSRCAC to provide information to support environmental monitoring, oil spill contingency and response planning, trajectory modeling, and information to support the safe transportation of oil in Port Valdez. No opposition to this project has been identified.

5. **Committee Recommendation:** The Oil Spill Prevention and Response Committee was presented this report at their July 21, 2023 meeting and has recommended the acceptance of this report by the PWSRCAC Board of Directors.

6. **Relationship to LRP and Budget:** Project 6536 Analysis of Port Valdez Weather Buoys is in the approved FY2024 budget and annual work plan.

6536 - Analysis of Port Valdez Weather Buoys
As of August 2, 2023

Original Budget	$21,696.00
Revised Budget	$21,696.00
Actual & Commitments	$0.00
Amount Remaining	$21,696.00

7. **Action Requested of the Board of Directors:** Accept the Port Valdez Weather Buoy Data Analysis 2019-2022 by Robert W. Campbell, Ph.D., and the Prince William Sound Science Center, as meeting the terms and conditions of the contract number 6536.23.01, and for distribution to the public.

8. **Alternatives:** None recommended.

9. **Attachments:** Draft Port Valdez Weather Buoy Analysis 2019–2022 Report by Dr. Robert W. Campbell, Ph.D.

4-5 Attachment

Port Valdez Weather Buoy Analysis 2019 - 2022

Draft report submitted by:

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Contents

List of acronyms

CO-OPS	Center for Operational Oceanographic Products and Services (NOAA)
FAA	Federal Aviation Administration
NOAA	National Oceanic and Atmospheric Administration
NWS	National Weather Service
PWS	Prince William Sound
PWSRCAC	Prince William Sound Regional Citizens' Advisory Council
PVD	Progressive Vector Diagram
QA/QC	Quality Assurance / Quality Control
VDZA2	NOAA tide station in Valdez Harbor
VMT	Valdez Marine Terminal
WMO	World Meteorological Organization

Executive summary

This report summarizes three years of meteorological and oceanographic measurements made by two buoys deployed in Port Valdez, one adjacent to the Valdez Marine Terminal (VMT) and one near the Valdez Duck Flats. Time series at each of the buoys were analyzed for seasonal, intra-, and interannual patterns. Air and water temperatures, and solar radiation all showed a cyclical seasonal progression typical to subarctic regions, with minima in February and maxima in August. Relative humidity was high, as befits a coastal region with a large amount of annual precipitation, and tended to follow temperature trends. Air pressure, driven by large-scale atmospheric circulations, was similar between the two sites. Winds were primarily from the east in autumn and winter, again driven by the large-scale atmospheric patterns that create a low-pressure system over the Gulf of Alaska during that time. In late spring and summer, daily westerly sea breezes were common. A 114-year-long temperature climatology was constructed for the Valdez region, which showed a steady and persistent warming trend. Over the time period that the buoys have been deployed, winters have been warmer than average, and summers cooler than average. Surface currents tend to be higher at the VMT than at the Duck Flats, given their locations (along the middle of the Port versus at the head). Visual representations of surface current vectors showed that summer sea breezes consistently influenced surface currents, although the current directions were different between the two buoys. Tidal oscillations were more prevalent during calmer periods, and current directions were much more variable in autumn and winter.

Introduction

The Prince William Sound Regional Citizens' Advisory Council (PWSRCAC) operates two weather buoys in Port Valdez, one offshore of the Valdez Marine Terminal (VMT) at Jackson Point that was deployed in May 2019, and one adjacent to the Valdez Duck Flats that was deployed in September 2019 (fig. 1). Both buoys have been uploading meteorological and

oceanographic observations on an hourly basis (with some interruptions due to hardware/software failures and service visits) since their deployment.

Standard equipment on each buoy includes an anemometer, relative humidity sensor, three temperature thermistors (one dedicated for air temperature, a secondary included in the relative humidity sensor, and one to measure sea surface temperature mounted ~1 meter (m) below the waterline), barometer, radiometer, Acoustic Doppler Current Meter (for surface currents), and a wave sensor (only on the VMT buoy at present). An onboard electric compass is used to measure the buoy heading to adjust direction measurements (wind, waves, and current) to true north. The measured parameters of interest, their units, and recording period are listed in table 1.

Table 1: Meteorological and oceanographic parameters collected by the buoys.

Parameter	Instrument Make/Model	Units	Recording period
Wind speed	RM Young 05103-L	m/s	6 minutes
Wind gust speed	RM Young 05103-L	m/s	6 minutes
Wind direction	RM Young 05103-L	Deg. True	6 minutes
Air temperature	Campbell Scientific 109	°C	15 minutes
Relative humidity	Campbell Scientific HC2S	%	15 minutes
Barometric pressure	Setra CS100-QD	mbar	15 minutes
Solar Radiation	Hukseflux LP02	W/m²	15 minutes
Current speed	Nortek Aquadopp 2 MHz	m/s	20 minutes
Current direction	Nortek Aquadopp 2 MHz	Deg. True	20 minutes
Significant wave height	Axys TriAXYS	m	Hourly
Maximum wave height	Axys TriAXYS	m	Hourly
Wave period	Axys TriAXYS	s	Hourly
Wave direction	Axys TriAXYS	Deg. True	Hourly

The high frequency of sampling by the buoys has already created a large archive of observations, slightly over 1.5 million primary observations at each buoy, plus a large amount of associated metadata and numerous derived parameters. The purpose of this report is to provide an analysis of some of the seasonal and higher frequency patterns found in the data.

This report is structured around the different data types produced by the buoys. Following discussion with PWSRCAC staff and committee members, the primary averaging period to be used was decided to be monthly. In some cases, higher frequencies have been used where appropriate to provide a higher level of detail. Given the very broad backgrounds of the many PWSRCAC stakeholders, technical jargon has been avoided where possible to provide a plain language interpretation for that large and diverse audience; where necessary,

definitions of technical terms are provided. Rather than the usual methods/results/discussion format featured in the scientific literature, a more narrative structure has been adopted, and explanations of methods, highlighting of the results, and discussion of them have been done all at the same time for the many different data collected. The metric units used by the buoys have also been mostly converted to imperial units. Graphical presentations of the data have been used as much as possible and a tabular compilation of monthly averages at both buoys has also been included in appendices.

Data operations, notes, and quality assurance/quality control (QA/QC)

All data was downloaded directly from the buoy data server. Each time series was examined with automated and manual methods for anomalous spikes. Relative humidity values prior to January 2020 at the VMT were removed (the sensor was damaged) and occasional bad water temperature observations at the buoys (<28°F) were removed. On or about March 11, 2020, the VMT buoy had a power issue which tripped the main fuse from the battery, which resulted in intermittent daytime-only data (when the solar panels produced enough voltage to power up the data logger) until the buoy was repaired on April 29, 2020.

A primer on the visualization of vector data

Meteorological and oceanographic data are either scalar observations (magnitude only, e.g., temperature) or vector observations (magnitude and direction, e.g., winds). Scalar data may be visualized with a standard x-y plot that should be familiar to most. Vector data, having two components, is more complicated to visualize and average. A vector may be visualized as an arrow, with the direction indicated by the direction the arrow is pointed, and the magnitude indicated by the length of the arrow (fig. 2A). When doing mathematical operations on a vector, vectors are usually broken up into components that correspond to the dimensions of the vector. The red and blue arrows in figure 2A indicate those two components for the two-dimensional vector shown: there is a horizontal component and a vertical component. Those components are usually designated as ‘u’ and ‘v’ in the technical literature, and in the context of meteorological data are referred to as the zonal (i.e., “east-west”) and meridional (i.e., “north-south”) components. In this context positive numbers mean one direction and negative numbers mean the opposite. For example, on the east-west axis in figure 2, a positive number is eastward and a negative number is westward. Figures showing vector components in this report have annotations and/or compass roses indicating the east/west and north/south directions to aid the reader.

Averaging of vector observations is usually done on the components and then may be visualized in a number of ways. The two methods used in this report are roses and quiver plots. A rose is a good way to summarize a large number of observations and may be thought of as something similar to a bar chart, but arranged in a circle to indicate directions. An example of a rose plot is shown in figure 2B, which represents all the wind observations made by the VMT buoy in the month of June 2020. The wind directions (the direction the wind is blowing from) are broken up into 10° “bins” that are shown by the bars. The length of the bars is proportional to the frequency of winds blowing from that direction and the

colors indicate bins of wind speeds, which are shown on the color scale to the right. Figure 2B shows us that most of the winds in June 2020 were primarily in the east-west direction. The median wind direction (i.e., the most frequent, shown by the longest bar) was just south of westerly. The four largest bars showing westerly to southwesterly winds can be summed up on the circular scale and shows that something like half (50%) of winds were in those westerly to southwesterly directions. The color scale shows that the strongest winds were westerlies, with a small proportion blowing 15-20 knots (green bars), slightly more blowing 10-15 knots (cyan bars) and more still blowing 5-10 knots (light blue bars). One can also see that easterly winds were generally weak, being mostly 0-5 knots (dark blue bars). In this report, rose plots are used only for the most recent year of data (2022), because showing multiple years results in very small roses or multi-page figures that become difficult to interpret.

Quiver plots allow examining finer scale patterns that would be impractical with rose plots and show a vector as an arrow or a line. An example quiver plot is shown in figure 2C, again using wind data from June 2020 at the VMT buoy, but with daily average wind speed and direction shown. Each arrow in the plot is the daily average wind velocity, with the angle of the stick showing the direction of the wind vector and the length of the stick indicating the wind speed. The axis is scaled such that the length of the stick is proportional to the ticks on the bottom axis. Because the winds, waves, and currents in Port Valdez are primarily oriented in the east-west direction, the plots were produced with time shown vertically. Arrowheads are shown in the example plot, but are not shown in the rest of the plots in this report because they show a great deal more data and the arrowheads tend to add clutter and make the plots more difficult to read. Quiver plots are more data-dense, and the entire time series from each buoy is shown (instead of the most recent year) to give a sense of the entire time series collected so far.

Surface current observations at the buoys are the sum of several different components, including tides, winds, and the large-scale circulation in the Port driven by freshwater inputs and Coriolis forces; prior reports have tried to remove the influence of tides, and examined how those components are correlated with current velocities (Campbell, 2021; Campbell 2022). The periodicity of the tides makes vector averaging methods such as roses and quiver plots uninformative (e.g a current that runs at one knot to the east on a rising tide and one knot to the west on the falling tide will have an average velocity of zero), and the volume of the data makes it difficult to display. One simple way of following a vector time series is the use of Progressive Vector Diagram (PVD). This is a plot where successive vectors are plotted on top of each other, with the tail of each vector plotted on to the head of the one preceding it. This produces a “track” this is some ways similar to the track produced by a surface drifter, if one assumes an isotropic (“the same in all directions”) flow field. In practice, Port Valdez does not have an isotropic flow field, so the paths shown in the PVDs in this report should be considered more as a way to look at how flow directions change over time.

An example of a PVD is shown in figure 3, which displays 12 hours of current observations made every 15 minutes. In that plot the first observation is denoted by a green dot, and the last a red dot, and the first observation is placed at the origin (i.e. the zero point on both axes). The plot shows how the current vectors shift back and forth during a tidal cycle, along a more or less southwest to northeast axis, and also show an overall transport towards the west. In the plot the vectors have been scaled to represent the distance that the current would have travelled in the 15-minute observation, to give a sense of the magnitude of the current. In the example of figure 3 the net current (the difference between the green and red dots) was about 1.5 km to the west.

Meteorologists and oceanographers use different conventions when speaking of directions: meteorologists speak of the direction that winds are coming from (e.g., a northerly wind is coming from the north), while oceanographers speak of the direction water is traveling to (e.g., an eastward current is travelling to the east). This convention has been adhered to in this report for the rose plots, but has not for the quiver plots, because the quiver plots are a direct representation of the vector in question (the average movement of the air or water). This is why the rose in figure 2B has bars pointing to the left ("winds from"), while the quiver plot in figure 2C has vectors pointing to the right ("direction air is moving to"). In the text of this report both "from" and "to" notation is used depending on the convention (meteorological vs oceanographic) to distinguish between the conventions.

Results and discussion

Air and sea surface temperature

Monthly air and water temperatures at both buoys showed the typical sinusoidal seasonal cycle expected in a subarctic environment (figs. 4, 5), with maxima in August and minima in February and considerable day-to-day departures from monthly means. Air temperatures tended to be slightly higher at the VMT buoy (fig. 4) than at the Duck Flats buoy (fig. 5), which may indicate a slightly more terrestrial influence at the Duck Flats buoy (e.g., downsloping winds from the Valdez Glacier Valley, discussed in the winds section below). Water temperatures were also slightly cooler at the Duck Flats, likely reflecting potential source waters from the Lowe River and Valdez Glacier Stream which can be expected to be cooler than seawater given the presence of year-round ice in their watersheds.

Relative humidity

Both of the relative humidity sensors failed in early 2022. Those sensors were the last of a supply that came with the buoys when they were donated to PWSRCAC, and their performance has been underwhelming, with several other sections of the data record removed for quality reasons. Newer sensors that the supplier advertises as more robust were acquired in 2022 and installed on the buoys during the spring 2023 service. Considering the time series as a whole, it can be said that relative humidity was variable at both sites (figs. 4, 5). Much of the time relative humidity was quite high, greater than 70%, as expected in the coastal climate both buoys are measuring. Relative humidity was highest in August and lowest in March, following the temperature cycle.

Barometric pressure

Air pressure was very similar between both sites, as would be expected because air pressure is largely driven by large scale atmospheric circulations (figs. 4, 5). There was a weak seasonal cycle in air pressure, with some differences notable among years. Following a period of relatively low air pressures, air pressure in late summer 2019 was quite high and likely driven by a large-scale atmospheric ridge that set up over the north Gulf Coast that year (Amaya et al., 2020). A similar pattern set up in 2020. Air pressure during the summer months of 2021 and 2022 tended to be higher than in 2020 and appears to have been similar to 2019. Pressure was more variable in the autumn months, with the onset of so-called "Equinox weather" which tends to feature large cyclonic circulations driven by the Aleutian Low, which usually sets up in the Gulf of Alaska in autumn and winter and determines the storm tracks to the region (Rodionov et al., 2007).

Solar radiation

As to be expected given the latitude of the sites, solar radiation was strongly seasonal, peaking in June and lowest during the winter months (figs. 4, 5). Both buoys are shaded by the mountains fringing Port Valdez during the late autumn and winter months, which has created some power issues (both buoys are powered by solar panels), particularly at the VMT location. The intermittent values in March and April 2020 (collected only during days when the solar panel energized the logger) resulted in spuriously large averages for those months because only daytime values were collected, those data were omitted from the averaging.

Wind speed and direction, wind gusts

Winds are summarized as monthly wind roses for 2022 in figures 6 and 7, and (again, following meteorological convention) are shown as the direction the wind is blowing from (i.e., an east wind blows from the east). The anemometers on the buoys are very sensitive and usually move slightly in all but the calmest conditions. They are also subject to freezing up after heavy snow and rain events followed by freezing temperatures. This manifests as a zero wind speed from exactly true north (vector multiplication on the 0 wind speed results in a direction of 0 as well) and can be seen on the wind roses as a spike in observations at the 0° band only. Those spikes may be used as an indicator of the frequency of calms during summer months and freeze-up events in winter. Freeze ups were quite frequent in January through March 2022, comprising >30% of all observations, and several calm periods occurred in July through September.

Both the roses and the quiver plots (figs. 6-9) show that most winds were easterly during autumn and winter, and transitioned to westerlies from May until August at both buoys. The strongest winds were easterlies, during the autumn and winter months, likely driven by outflow winds caused by the large-scale atmospheric features that set up in autumn/winter (the Aleutian Low offshore and high pressure over the interior). The summer westerlies are a daily sea breeze caused by localized heating and cooling that is familiar to mariners in the region (Lethcoe and Lethcoe, 2009). During the day, the sun heats the land faster than the

ocean, creating upward convection and low air pressure over land; this draws air in from the ocean and creates a landward breeze (from the west in Port Valdez). At night, the land cools faster than the ocean, creating convection in the opposite direction. To illustrate this, hourly average winds in the east-west direction at the VMT buoy are depicted in figure 10 (patterns were identical at the Duck Flats buoy). Westerly winds are depicted with a green color scale and easterly winds are depicted with a blue color scale. The figure shows that the "westerly season" in Port Valdez begins in late April or early May, and extends into August. During the westerly season, winds on most days were easterly from midnight until approximately 10 a.m., then switched to westerlies into the afternoon and evening. There were occasional short episodes where the westerlies were disrupted by summer storms with strong easterly winds (fig. 8).

The roses and quiver plots also show that wind directions were not completely symmetrical, as there was a northerly component as well, regardless of if the winds were primarily from the east or west. That slight northerly tendency may have been caused by topographic steering of the winds by the steep terrain of Port Valdez, with westerly winds blowing out of Shoup Bay to the northwest. The northeastern direction of easterly winds may indicate that winds from Valdez Glacier Valley tend to predominate over those of the Lowe River Valley at the Duck Flats location.

Following the World Meteorological Organization (WMO) standard, the buoys also recorded a running 3-second average wind speed and reported the maximum of that 3-second average in each 6-minute wind recording period as the wind gust speed. The wind gust time series at the buoys in 2022 (fig. 11) followed the same pattern as sustained winds, with maximums during the winter months and elevated gusts during the summer westerly season. Summer gust speeds were in the 10-knot range and 25-knot gusts occurred during autumn and winter storms.

Wave height and direction

Wave observations have also been summarized as roses (fig. 12) and quiver plots (fig. 13) at the VMT buoy. No wave measurements have been made at the Duck Flats buoy since 2020. Wind makes waves and the wave observations reflect the wind observations, with most waves, and the largest waves, from the east at the VMT buoy during the winter months and from the west in spring and summer.

The largest maximum wave height observed in the time series was an observation of just under nine feet in December 2022 (fig. 14) and similar wave heights were recorded in early and late 2021. Maximum summertime wave heights were between one and three feet and wave heights were slightly higher during winter storms.

Sea surface temperature climatology

Although the buoys have a fairly short time series, to put the buoy observations into a climatological context it is possible to convert observations into anomalies (i.e., departures

from the long-term average) using observations from nearby stations, with the assumption that they are reasonably similar. There is a National Oceanic and Atmospheric Administration Center for Operational Oceanographic Products and Services (NOAA CO-OPS) weather and water level station in Valdez harbor, named VDZA2, which has a record of water temperatures that goes back to 2008. An average annual temperature cycle based on weekly averages was created from the VDZA2 time series (fig. 15) to use as a long-term average.

Water temperatures at the buoy may then be averaged by each week and subtracted from the weekly averages at VDZA2 to produce an anomaly plot (fig. 16), which depicts the departure of observations from the long-term average seasonal cycle (only the VMT buoy is shown because patterns are essentially identical at the Duck Flats buoy). The anomaly plot shows that relative to the 2008-2020 average, surface waters were much warmer than average in the early summers of both 2019 and 2020 at the VMT buoy but tended to be cooler than average in autumn in both years. This matches with larger-scale oceanographic patterns seen elsewhere, including a Gulf of Alaska wide marine heat wave in 2019 (Amaya *et al.* 2020) and warm surface waters observed in Prince William Sound (PWS) in 2020 (Campbell, *unpubl. obs*). A La Niña event began in late 2020, and continued through 2022 (NOAA CPC 2022). La Niña events are usually correlated with cooler surface temperatures in the North Pacific (Papineau, 2001; Newman et al., 2016), but PWS tends to lag the Gulf of Alaska by about a year in terms of temperature responses (Campbell, 2018). Near surface water temperatures in Port Valdez tended towards cooler than average through much of 2022, with consistently warmer than average water temperatures May through July.

Air temperature climatology

Although the water temperature record is comparatively short, a longer climatology is available for monthly average air temperatures in Valdez that was compiled by the Berkeley Earth database (http://berkeleyearth.org/). The Berkeley Earth time series spans from 1908 to 2013, using data from several National Weather Service (NWS) and Federal Aviation Administration (FAA) weather stations that have existed in the Valdez area over the years. The Berkeley Earth time series overlaps the VDZA2 time series (2008 – 2013), which may be used to compare the two records to look for overlaps. Similarly, the buoy record from the VMT buoy runs from 2019 to present day concurrently with VDZA2, and the two records may also be compared for overlaps (fig. 17). Again, only the VMT buoy will be used for this analysis because the temperatures recorded at the VMT and Duck flats are very similar. Those comparisons show a very tight relationship between the time series, but with significant offsets and slopes. Although the two data sets showed the same pattern, there were slight differences in the temperatures that they estimated: The Berkeley Earth time series was cooler than the VDZA2 time series, while average temperatures at the VMT buoy tended to be slightly warmer than at VDZA2.

With the assumption that the offsets apply to the entire time series, they may be applied to correct the VDZA2 and Berkeley Earth air temperature time series to be consistent with the VMT time series, using the equations shown in figure 17. The complete time series of air

temperature anomalies from 1908 to 2021 (fig. 18) shows a consistent warming trend of just under a half a degree Fahrenheit per decade over the last 114 years, an overall increase in average temperatures of ~5 degrees. This is consistent with trends observed elsewhere in the region (e.g., Campbell, 2018).

Beyond the overall trend, there is an interesting pattern in more recent years towards warmer than average winters and cooler than average summers that is apparent when looking at the 2019-2022 period of the VMT buoy record (fig. 19), but the pattern appears to go back to at least 2014 (fig. 18). Interestingly 2014 was the year of a basin-wide marine heat wave, colloquially known as "The Blob" (Bond et al., 2015) caused by changes in atmospheric patterns (an atmospheric ridge) that resulted in less winter mixing of heat out of the ocean. The pattern observed in Port Valdez may reflect a reverberation of those large-scale ocean-atmospheric patterns, with perhaps local effects mixed in. In general the northern Gulf of Alaska is warming (Danielson et al., 2022), but the northern coast of the Gulf of Alaska is also losing ice mass at among the fastest rates in the world (Doumbia et al., 2020), which has been observed to cause a near-surface cooling trend in northwestern Prince William Sound (Campbell, 2018). The warmer winters may represent that overall warming trend, while cooler summers may reflect a similar cooling caused by the meltwaters that predominate discharges in the summer months.

Surface currents

Surface currents at the VMT buoy were as high as 1.5 knots and considerably smaller at the Duck Flats buoy (fig. 19), which is not surprising given the different locations. The Duck Flats buoy is deployed in shallow water near the head of Port Valdez (where motions will be more vertical), while the VMT buoy is deployed in deeper water over a steeply sloped bottom mid-Port, where tidal currents will be stronger as the tides slosh back and forth.

When examining the "tracks" produced by the PVD at the VMT (fig. 21) and Duck Flats (fig. 22) on the same scales (i.e. each plot in each figure has exactly the same scaling so are directly comparable), several patterns emerge. At the VMT in May, June, July, and part of August surface currents were predominantly to the northeast. Those months are also the time of peak of the sea breezes (fig. 10), suggesting that wind-driven currents predominate at that time.

At the Duck Flats at the same time (excepting May), surface currents were primarily northwesterly. Those patterns are likely because the Duck Flats buoy is very close inshore at the head of the Port (fig. 1) where currents will be constrained by the shoreline and topographically steered even during westerly winds. Those patterns would also be enhanced by the freshwater entering the head of the Port from the Lowe River and Valdez Glacier Stream (fig. 23), which ramps up in May is at its peak through the summer months, and declines in September/October. Freshwater entering the ocean will tend to be deflected to the right under Coriolis force, and sets up a counterclockwise circulation in the Port (Gay, 2018) which would manifest as a northwesterly current at the site of the Duck Flats. The

continued strong northwesterly transport into September at the Duck Flats (when discharge was still high) but not the VMT ("upstream" of the head of the Port) supports this idea.

In the autumn/winter months, the PVD at the VMT (fig. 21) show easterly transport prevailing in the surface currents. To look more closely at the details that are difficult to discern in the equally scaled plots in figures 21 and 22, the PVD may be rescaled to allow the scaling of each plot to vary based on the data for just that month (i.e. "zooming" in to each month). At the VMT (fig. 24) one can see tidal oscillations that are occasionally disrupted by periods with more consistent directional transport. Those likely correspond to the equinox storms observed in the wind records (e.g. fig. 8). Months with relatively light winds (e.g. September) also show more oscillations, indicating that tidal motions tended to predominate at those times.

At the Duck Flats (fig. 25), tidal oscillations were more pronounced in the winter (January – March) and show much more complex motions, which is perhaps due to a more complicated interaction between winds, tides and discharge. Freshwater inputs at the head can also create eddies that can cause current directions to change considerably as they pass. Current directions essentially covered the entire compass rose in January – March and again in October – December (fig. 25). The weaker currents at the Duck Flats may also represent more "noise" caused by slack in the mooring system: The Duck Flats mooring has a rather large scope, and part of the signal will be the buoy moving around on its mooring, and part of the signal will be from when the buoy is taut on its mooring and water is moving past it. By comparison the VMT buoy mooring has much less scope for movement and will tend to have less related variability. Note also that there were subtle differences in wind directions during those periods (fig. 9) that would also lead to variability in surface currents.

The surface current vector plots shown here highlights the complexity of the surface currents in Port Valdez; the PVD plots show how winds, tidal variations, and discharge interact in complicated ways, and a simple visualization such as done here cannot tease apart the various influences easily. Surface currents in Prince William Sound often manifest as a "Spirograph" type pattern, where tidal ellipses are superimposed over mean flows (Okkonen and Belanger, 2008), and that appears to be the case in Port Valdez as well. A better description of current variability can be accomplished with a more dynamical approach where the various components are explicitly modelled (e.g. see Wang et al., 2012); that kind of effort would require a much more considerable time commitment than devoted to this report (e.g. When the PWS Science Center engaged a physical oceanographer to develop a model for PWS it involved a full time researcher working for two years).

Conclusions

The analysis done here shows the patterns one would expect of meteorological and oceanographic observations in a subarctic region with a large tidal range. The main observations may be summarized as follows:

- Air and water temperatures, and solar radiation followed a seasonal sinusoid with maxima in August and minima in February. Temperatures were slightly cooler at the Duck Flats buoy than at the VMT buoy.
- Relative humidity was high at both sites and followed the seasonal temperature pattern.
- Air pressure was similar between both sites and driven by large-scale atmospheric circulations.
- Winds were mostly from the east in autumn and winter, with maximum gusts on order of 25 knots, and transitioned to weak easterly and stronger westerly sea breezes during the summer months.
- Wave directions tended to match wind directions. The highest waves were observed during autumn/winter storms and were of considerable size, just under nine feet tall; spring/summer sea breeze generated waves were one to three feet.
- A temperature climatology was constructed that shows a persistent warming pattern over the past 114 years.
- In recent years (2019 onward), winters have been warmer than average while summers have been cooler than average, which may be combination of the overall regional warming, with localized cooling due to ice melt.
- Surface currents in Port Valdez are complex and result from the interplay of winds, tides, and freshwater inputs. At the VMT, surface currents were northeasterly during summer sea breezes, and were northwesterly at the Duck flats. Tidal oscillations were visible during calmer periods, and surface current directions were very variable during autumn and winter.

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Figures

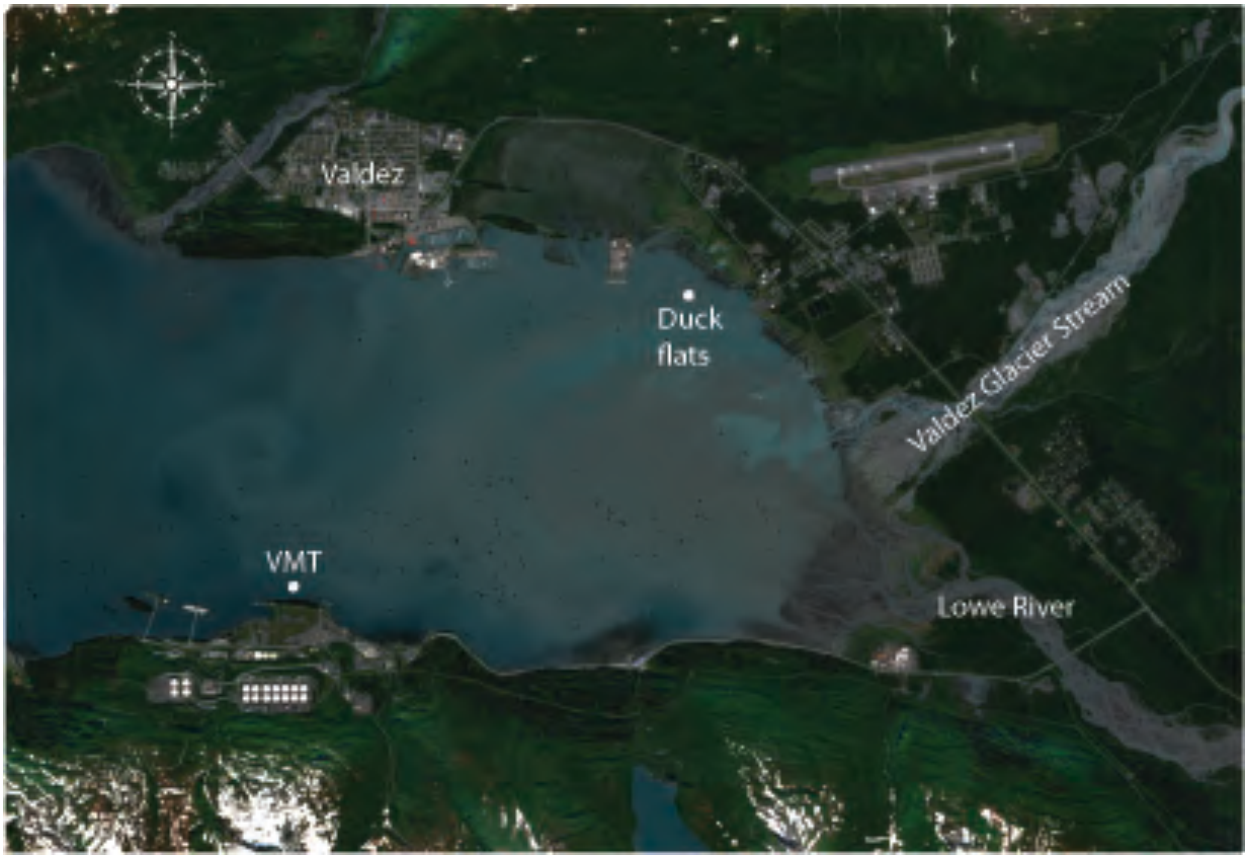

Figure 1: Sentinel 2 satellite image of Port Valdez (taken June 22, 2022) showing the location of the two buoys and other geographic locations mentioned in the report.

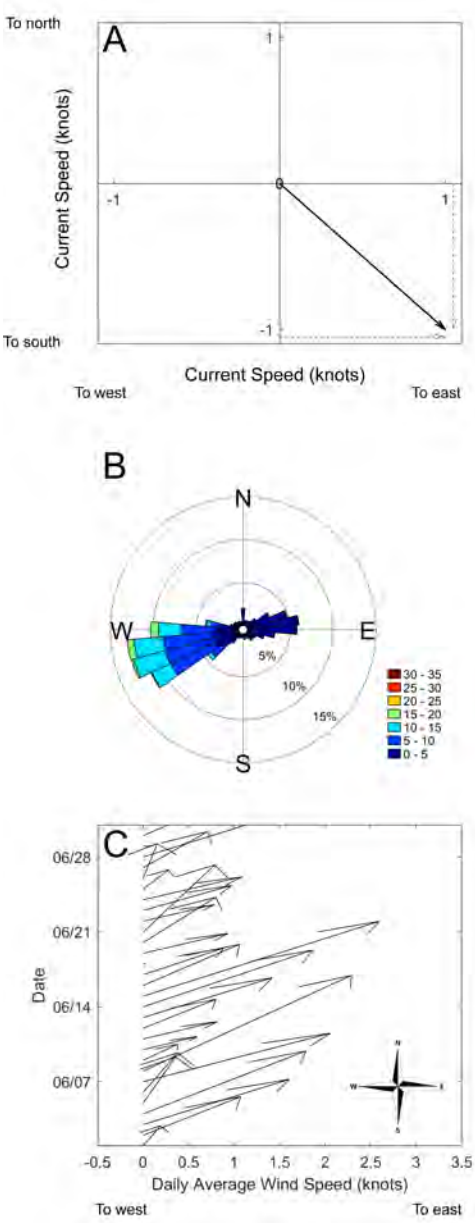

Figure 2: Examples of the visualization of vector data. Panel A: An example of a vector observation, for example a 1-knot current to the southeast. The vector may be broken up into two components, an east-west component (blue arrow) and a north-south component (red arrow). Panel B: An example wind rose summarizing wind observations made in June 2020. The bars indicate 10° bands of wind directions (direction from), the lengths of the bars indicate frequency (how often winds in each band were observed), and the color encodes wind speeds. Panel C: An example of a quiver plot, showing daily average wind vectors (direction in which the air is traveling) for June 2020. The angle of the arrow indicates the direction on the compass rose, and the length of the arrow indicates average wind speed, scaled to match the bottom axis.

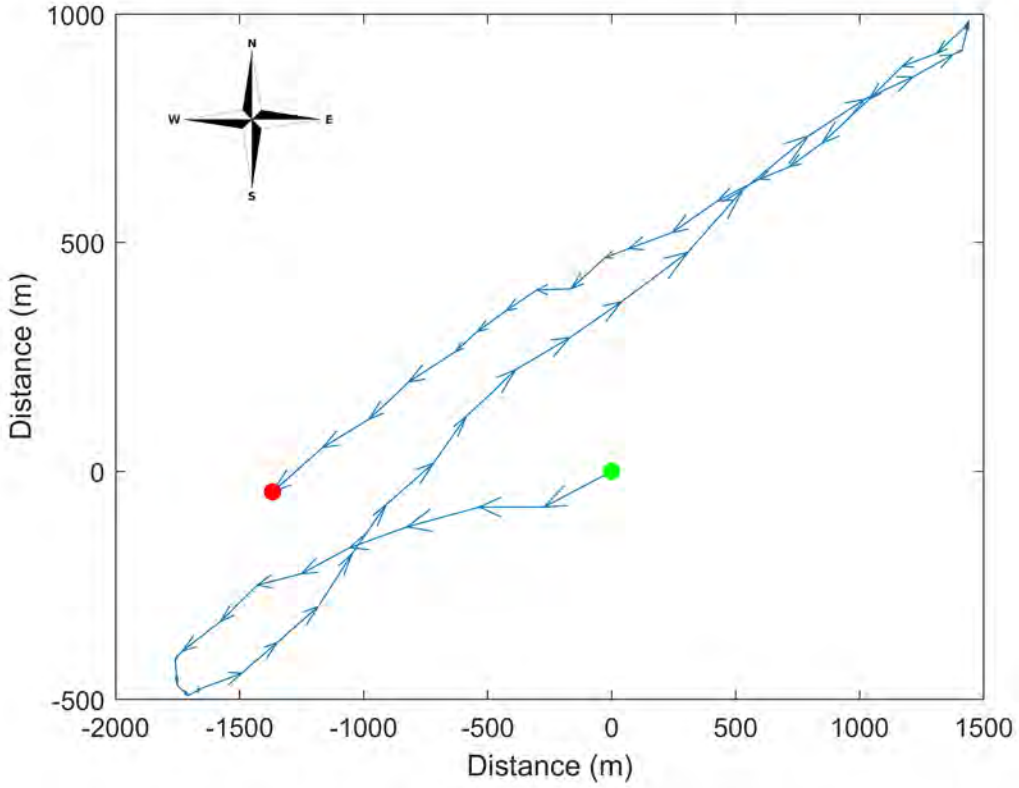

Figure 3: An example of a Progressive Vector Diagram, using 12 hours of surface current observations from the VMT buoy. The green dot indicates the start of the time series, and the red dot indicates the end. The vector has been scaled to show the distance and direction travelled during each 15-minute period (assuming a constant current velocity). In this example the tide was ebbing at the start of the period, reached low tide, then changed direction as the tide began to flood. The direction of the currents changed again after high tide. The distance between the green start dot and the red end dot indicates the overall transport over the 12-hour period (~1500 meters to the east).

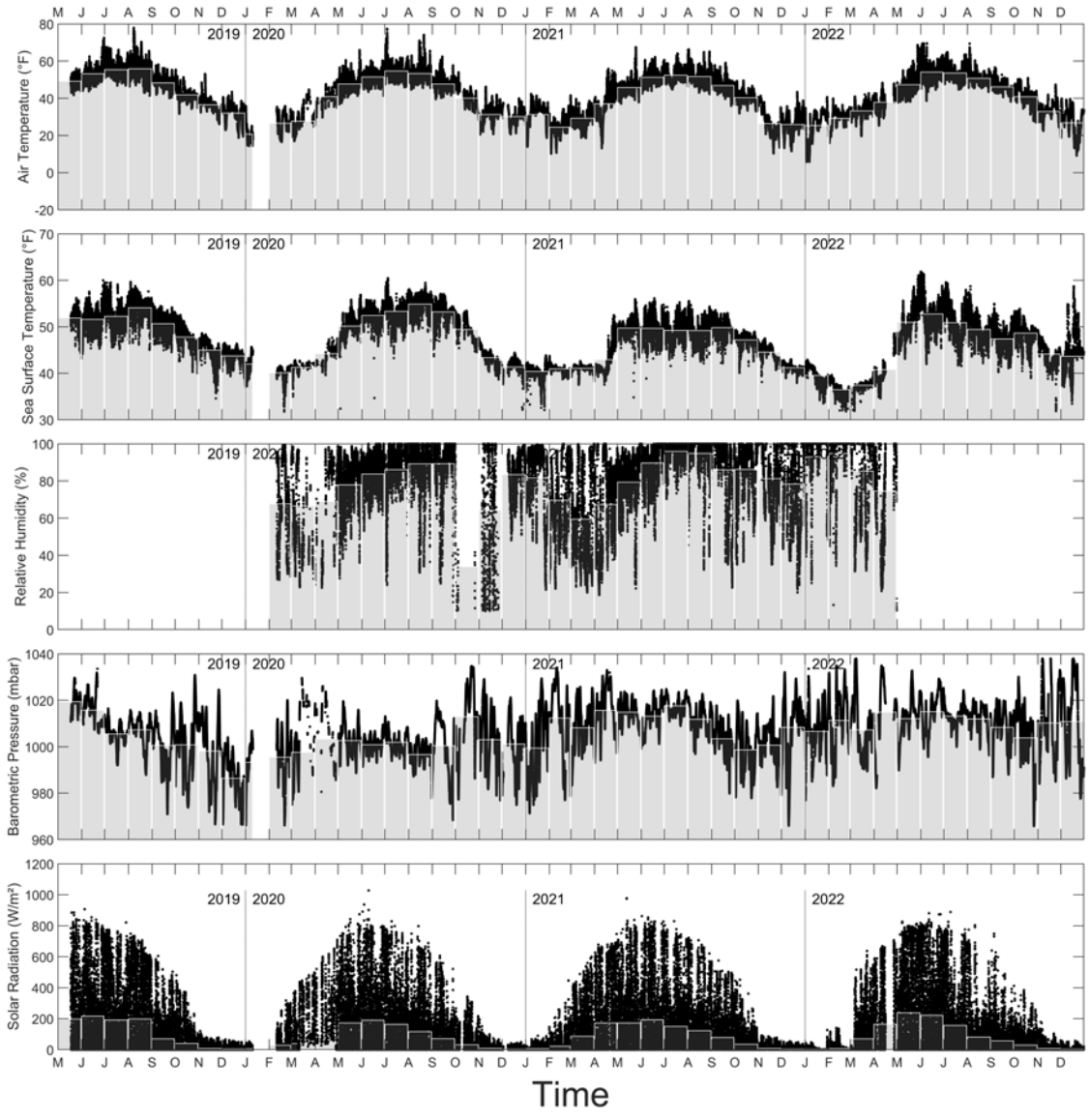

Figure 4: Scalar observations at the VMT buoy, including air (top panel) and water (2nd panel) temperatures, relative humidity (3rd panel), barometric pressure (4th panel), and solar radiation (bottom panel). Black dots are observations, bars indicate monthly averages.

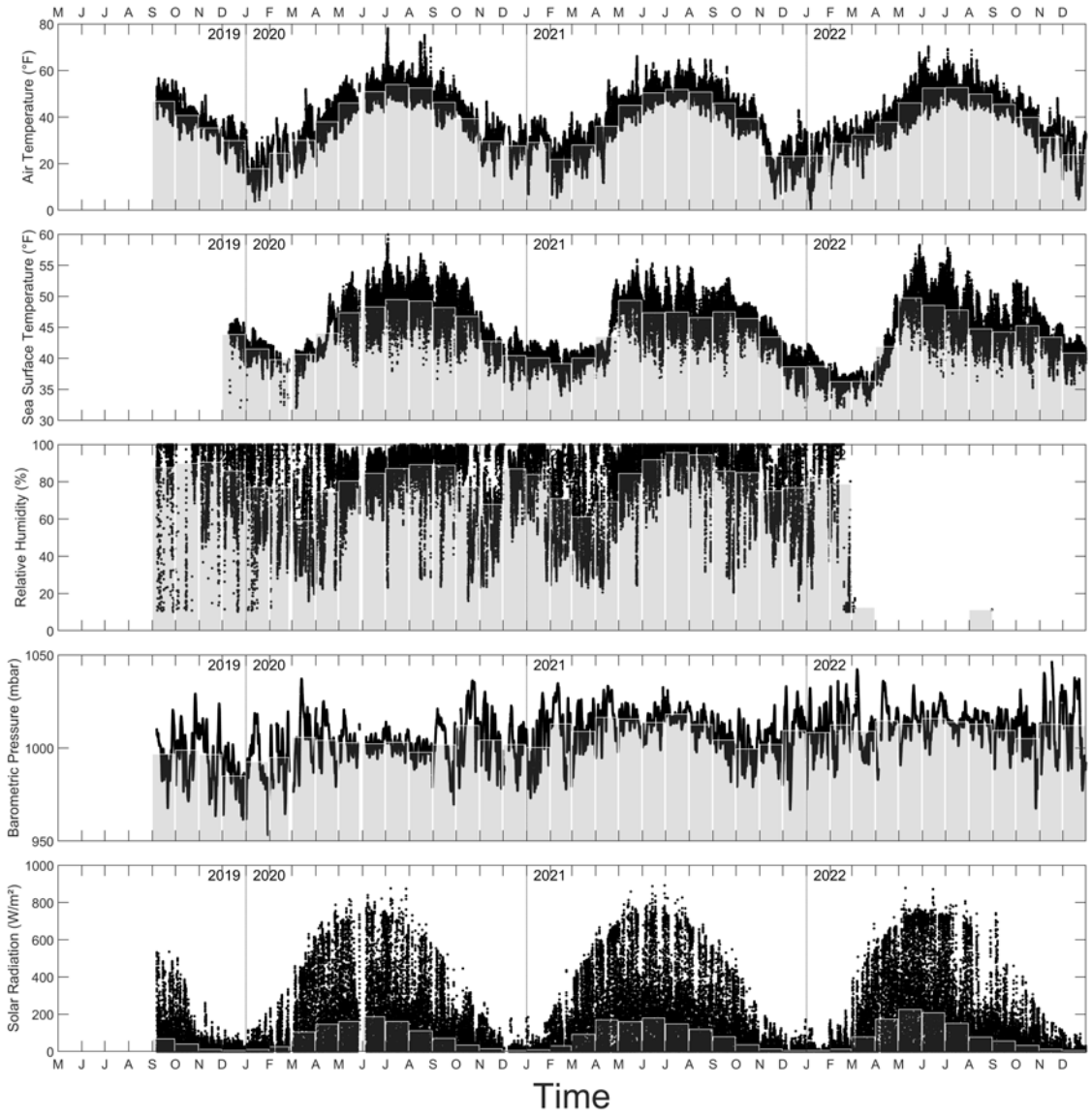

Figure 5: Scalar observations at the Duck Flats buoy, including air (top panel) and water (2nd panel) temperatures, relative humidity (3rd panel), barometric pressure (4th panel), and solar radiation (bottom panel). Black dots are observations, bars indicate monthly averages.

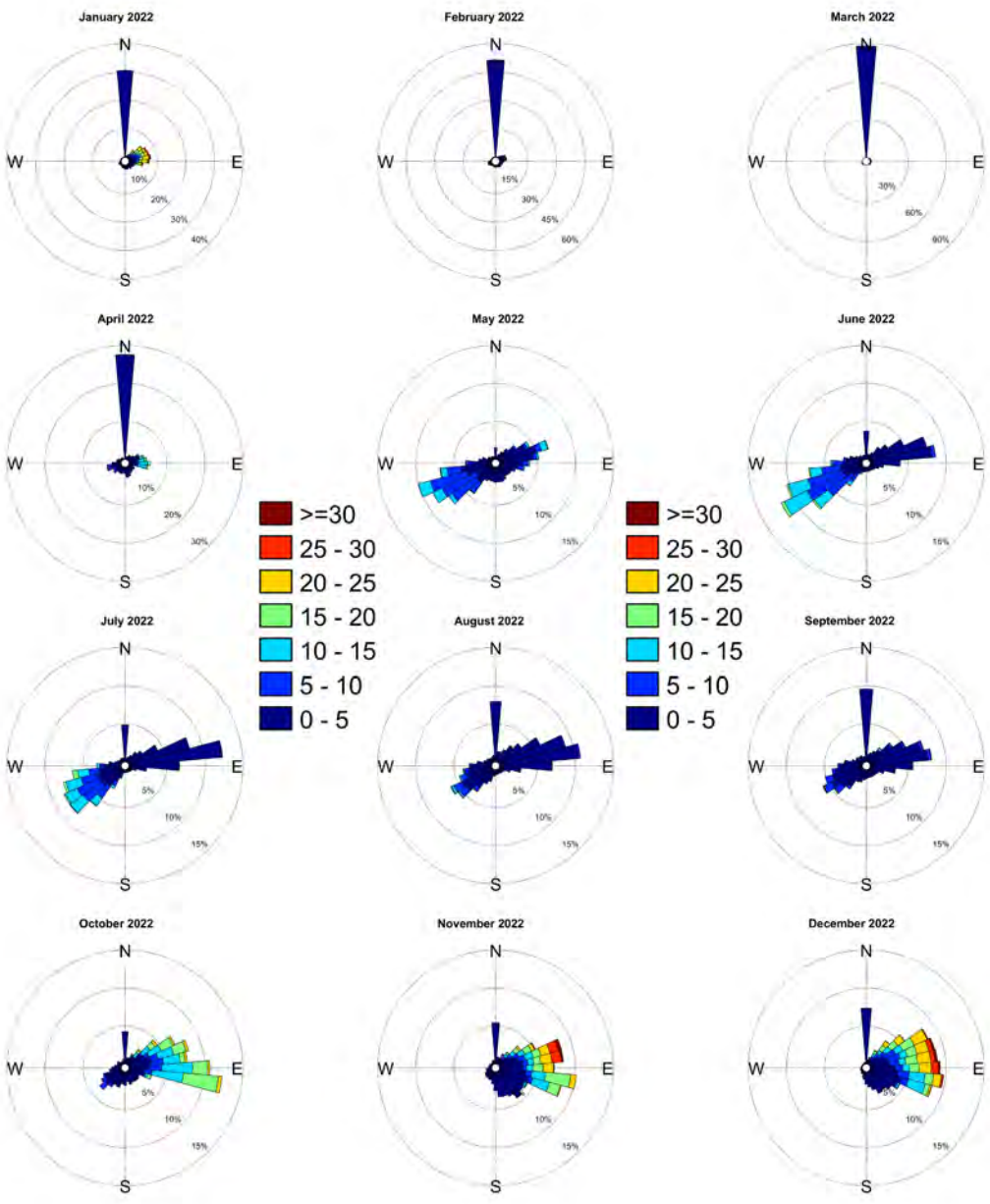

Figure 6: Monthly wind roses at the VMT buoy. Bars indicate the direction from and the color scale indicates wind velocities. Color scale is equivalent among the figures (i.e., all the figures are directly comparable). When the wind equals zero (caused by very calm periods, or when the anemometer ices up), vector multiplication results in the direction also recording as zero (i.e. due north).

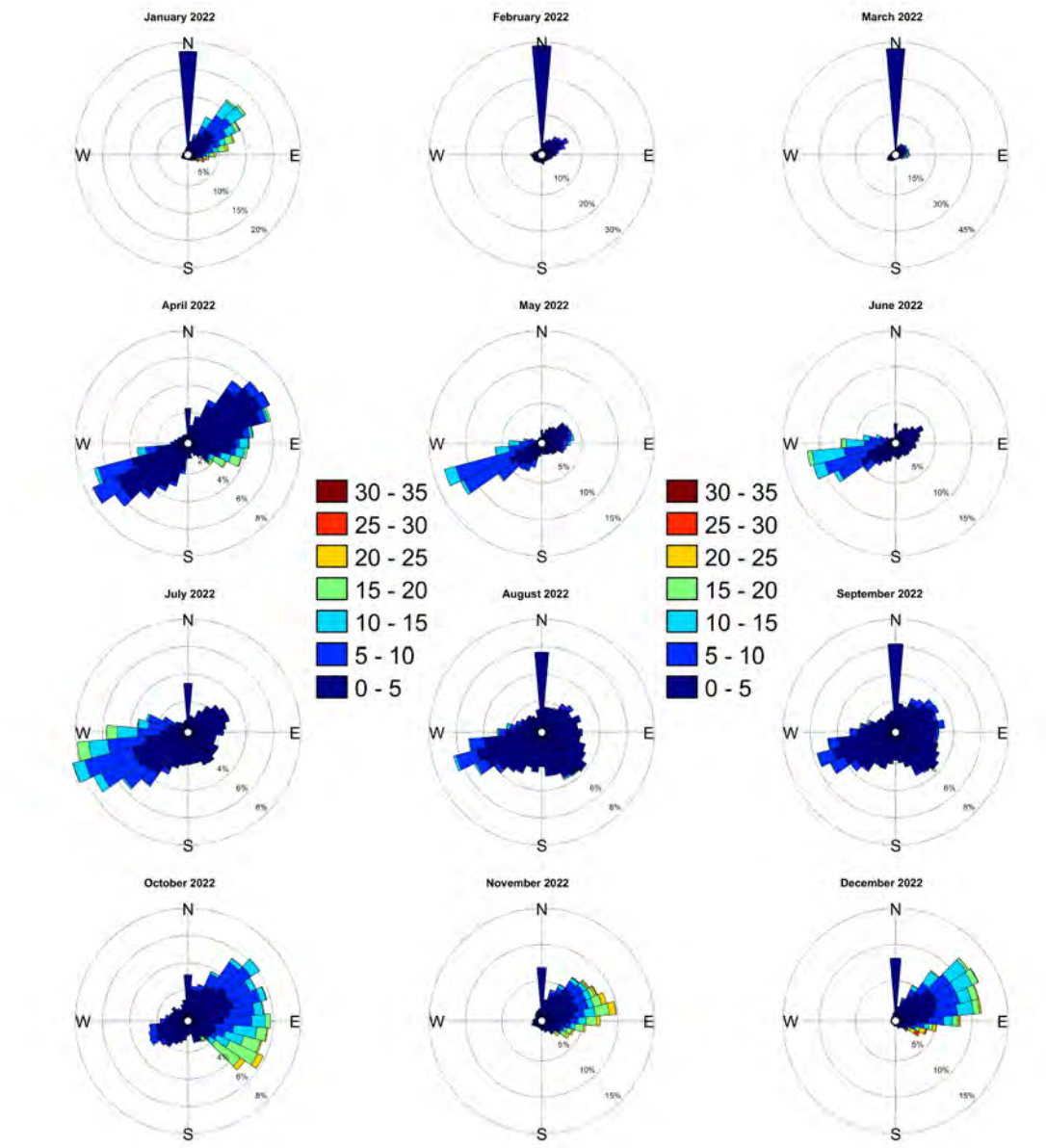

Figure 7: Monthly wind roses at the Duck Flats buoy. Bars indicate the direction from and the color scale indicates wind velocities. Color scale is equivalent among the figures (i.e., all the figures are directly comparable). When the wind equals zero (caused by very calm periods, or when the anemometer ices up), vector multiplication results in the direction also recording as zero (i.e. due north).

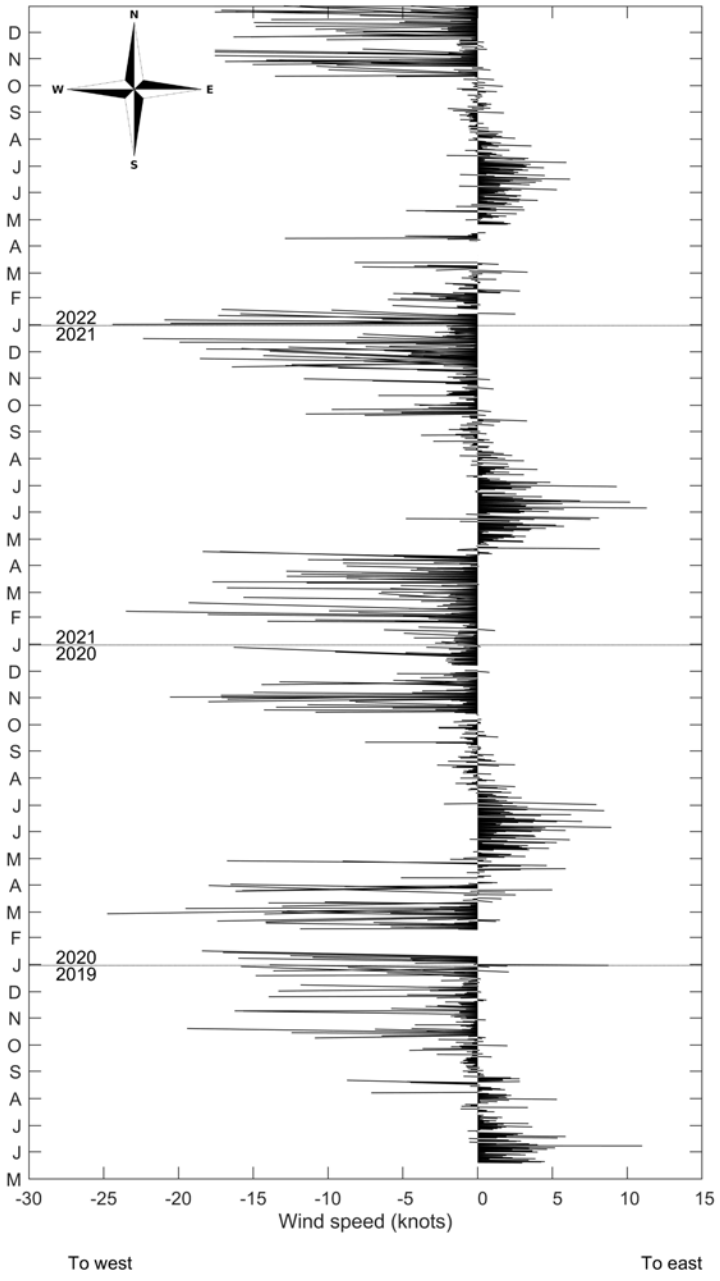

Figure 8: Quiver plot of average daily wind vectors at the VMT buoy. The length of each stick indicates wind speed and the angle indicates the direction from.

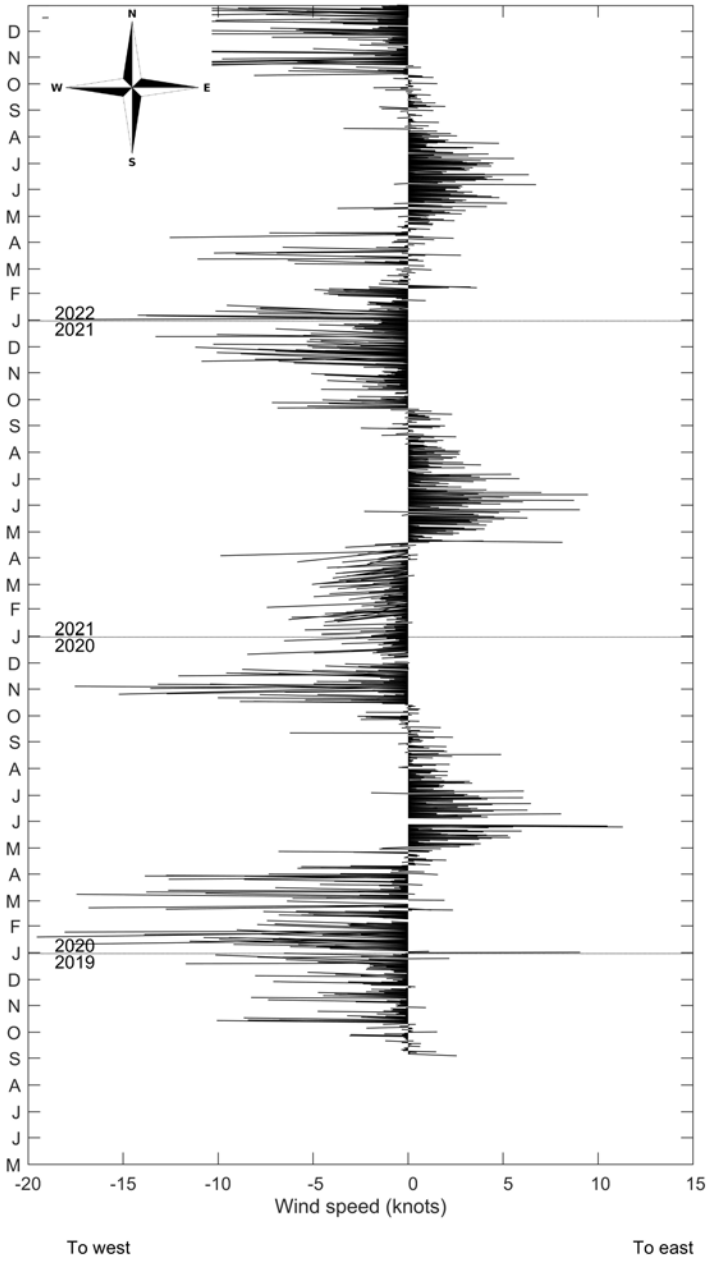

Figure 9: Quiver plot of average daily wind vectors at the Duck Flats buoy. The length of each stick indicates wind speed and the angle indicates the direction from.

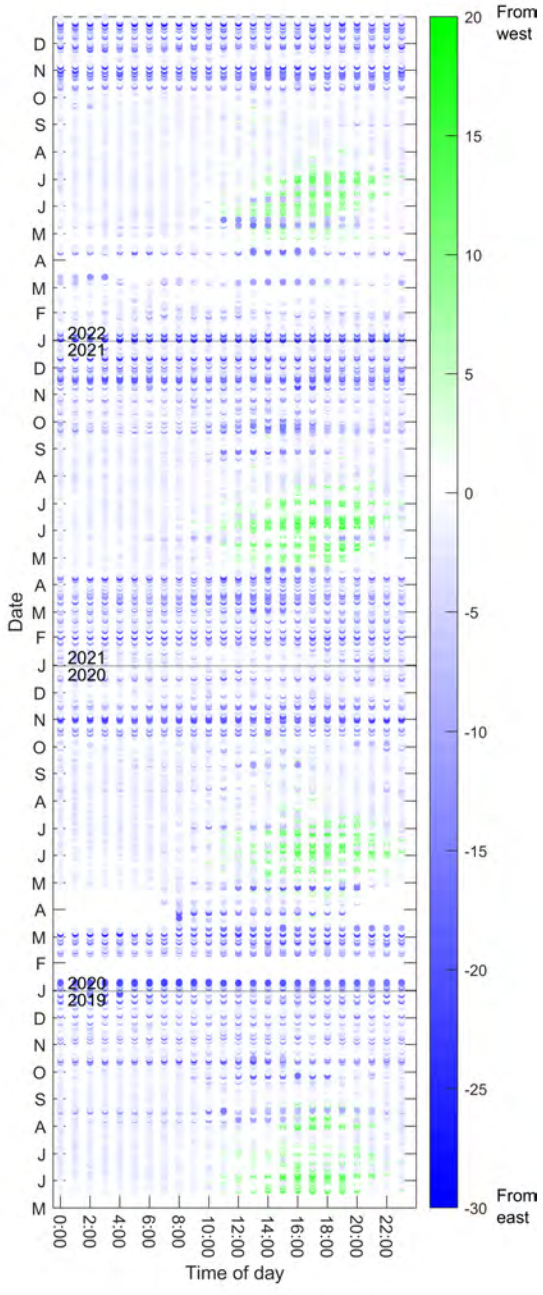

Figure 10: Daily east-west winds at the VMT buoy. Only the east-west component of the winds are shown; green colors scale with the strength of westerly winds, and blue colors scale with the strength of easterly winds.

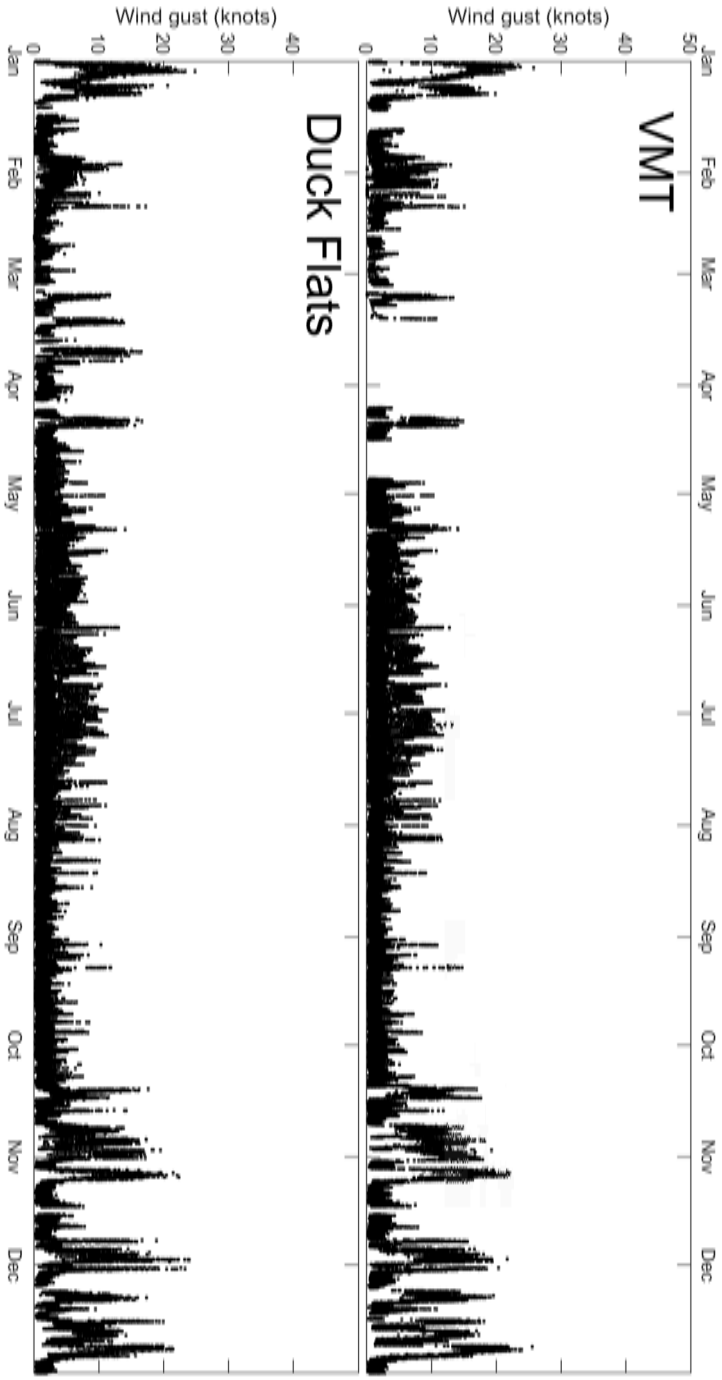

Figure 11: Wind gust time series at the VMT (top panel) and Duck Flats (bottom panel).

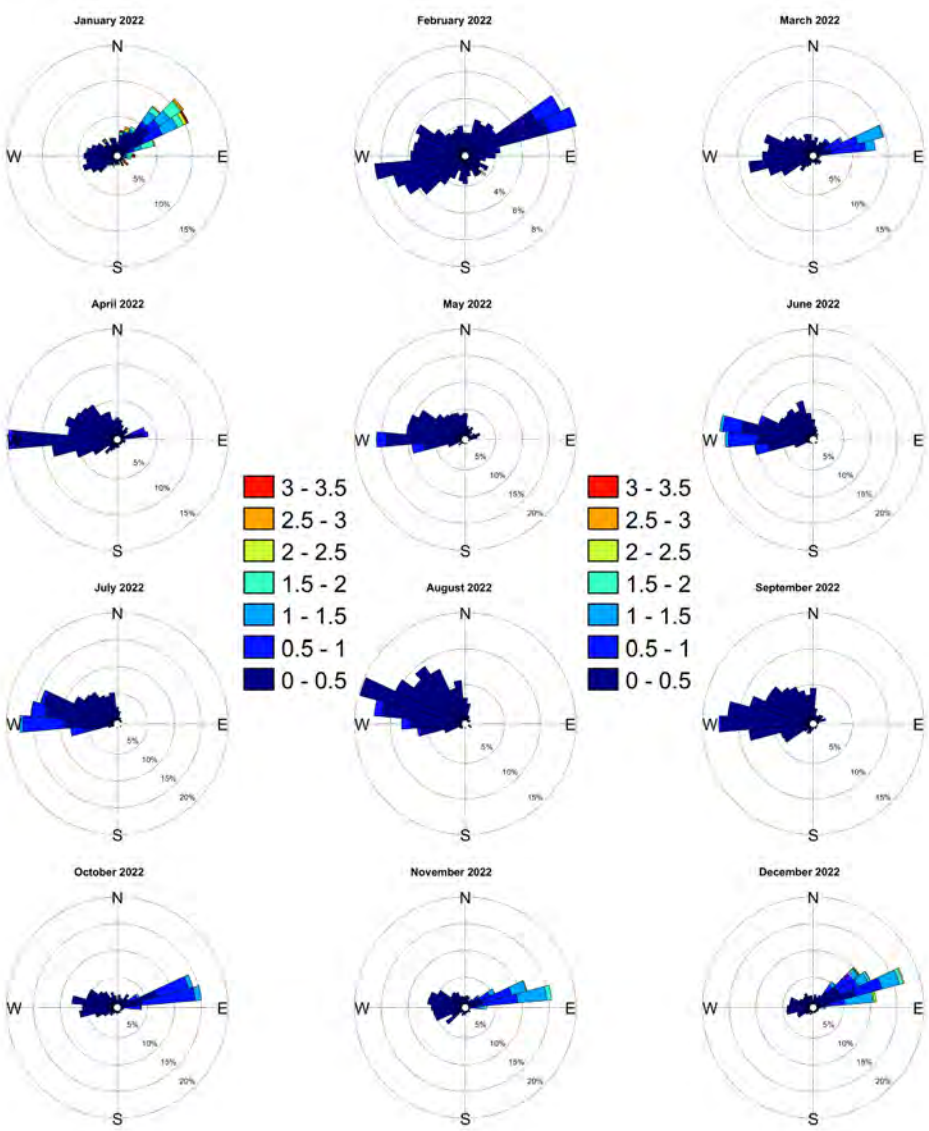

Figure 12: Monthly wave roses (feet) at the VMT buoy. Bars indicate the direction to and the color scale indicates significant wave heights. Color scale is equivalent among the figures (i.e., all the figures are directly comparable).

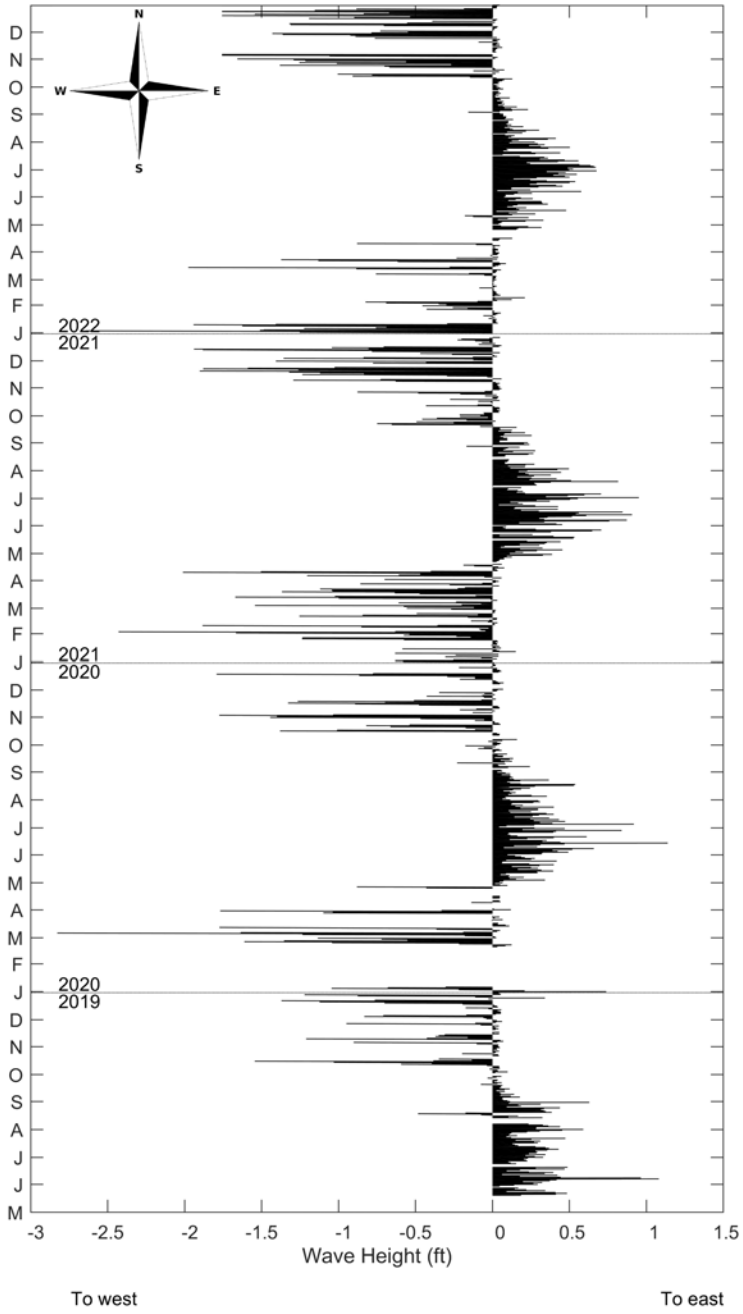

Figure 13: Quiver plot of average daily wave vectors (direction and height in feet) at the VMT buoy. The length of each stick indicates wave height and the angle indicates the direction the waves are travelling in.

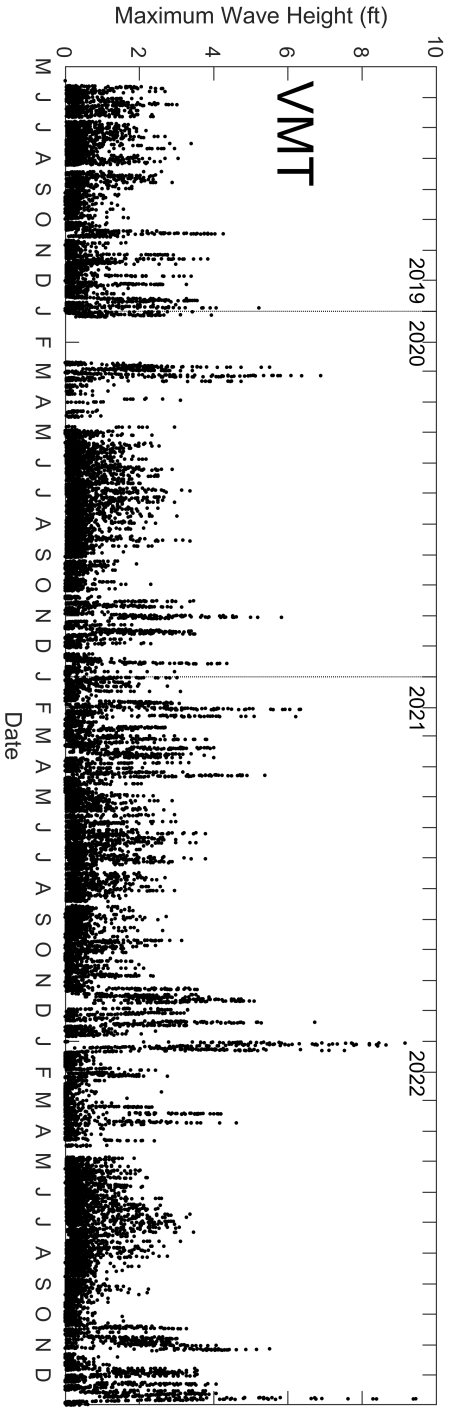

Figure 14: Time series of maximum wave heights observed at the VMT buoy.

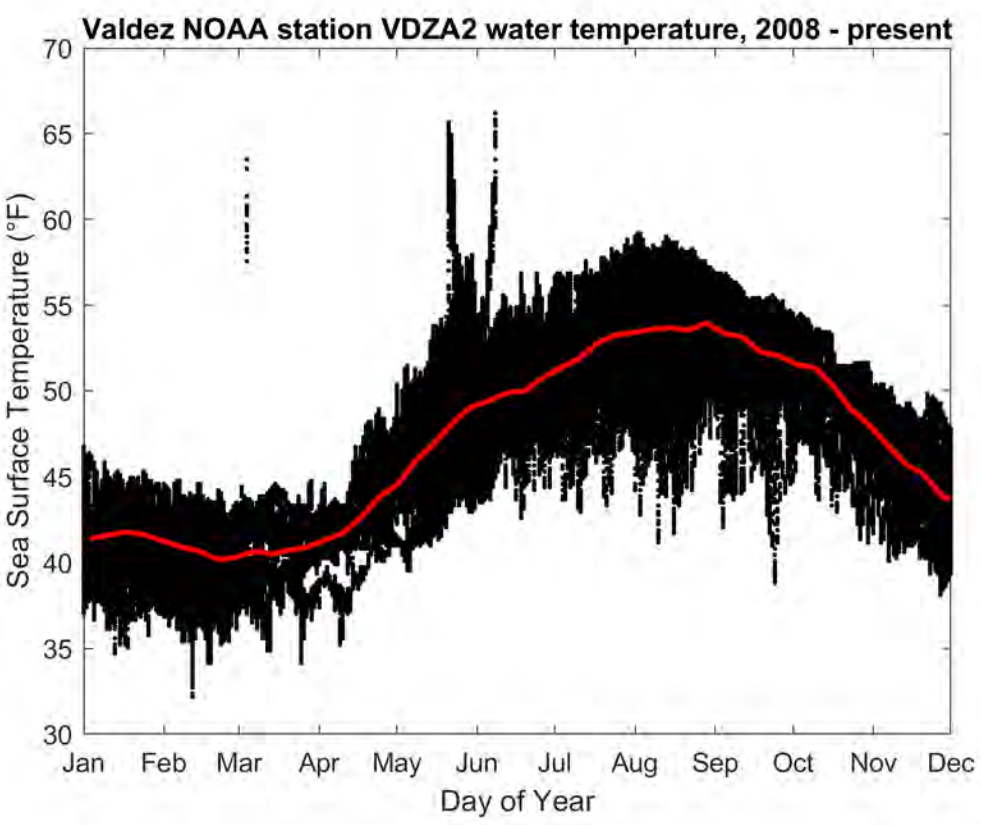

Figure 15: Annual average temperature cycle at the NOAA tide station VDZA2 in Valdez harbor. Air temperature data was overlaid from all years (2009-present) by day of year. Dots indicate observations and the red line indicates the weekly average.

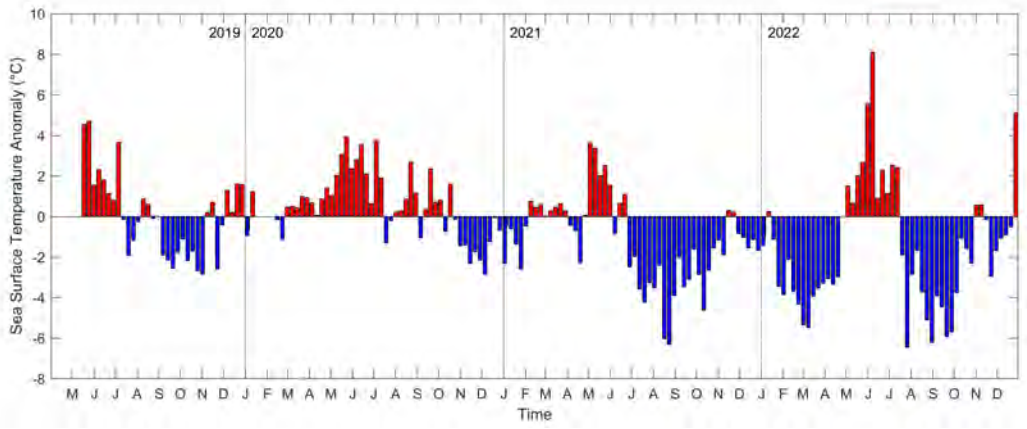

Figure 16: Weekly sea surface temperature anomalies at the VMT buoy. Anomalies are the departure of weekly average temperatures from the weekly average at the VDZA2 tide station.

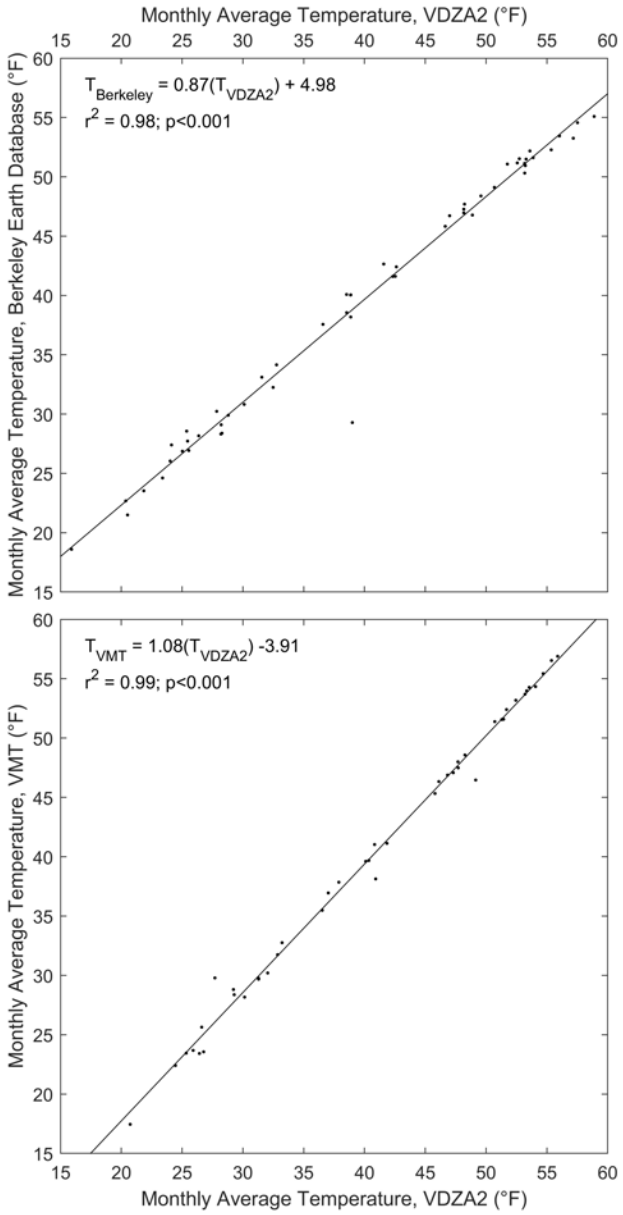

Figure 17: Top panel: Comparison of monthly average air temperature estimates from the Berkeley Earth database and monthly average temperatures calculated at the VDZA2 station at months where the two time series overlapped. Bottom panel: Comparison of average temperatures calculated at the VMT buoy and VDZA2 where the two time series overlapped. The regression lines were fit by least squares.

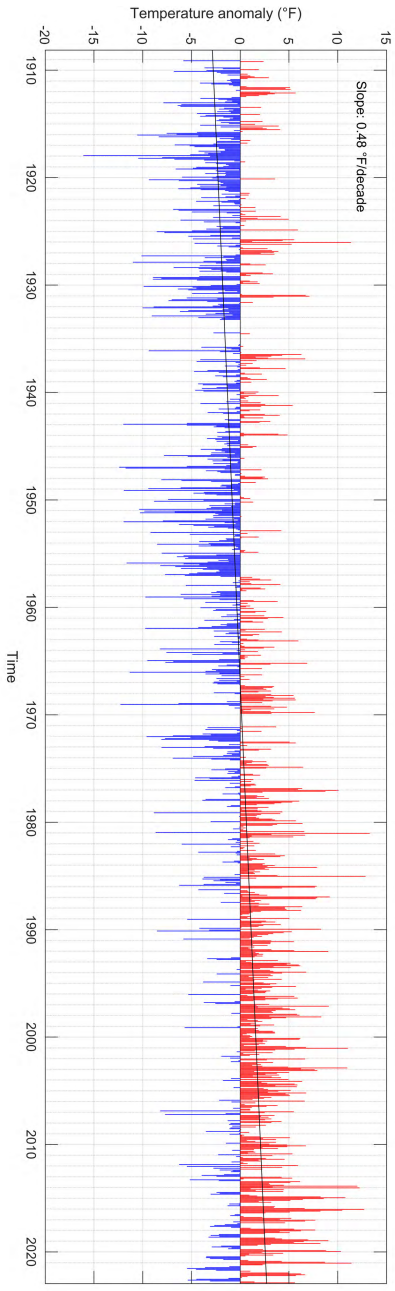

Figure 18: Air temperature anomalies from the combined Berkeley Earth database, VDZA2, and VMT monthly temperature estimates, 1908 - 2022.

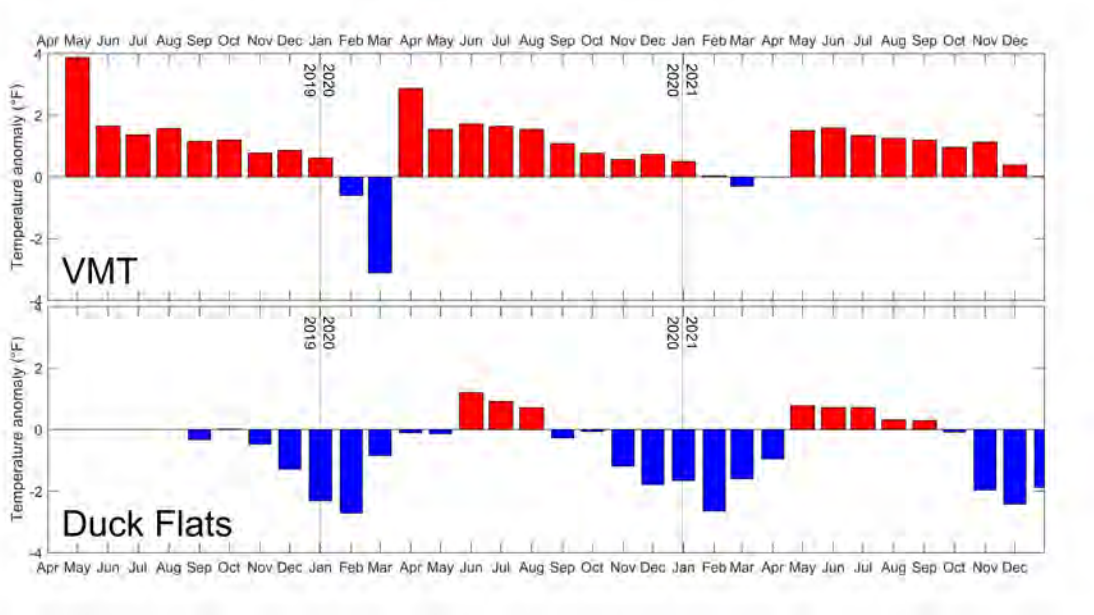

Figure 19: Monthly average air temperature anomalies at the VMT. This is the same data as in figure 18, but scaled to the time period the VMT buoy has been deployed.

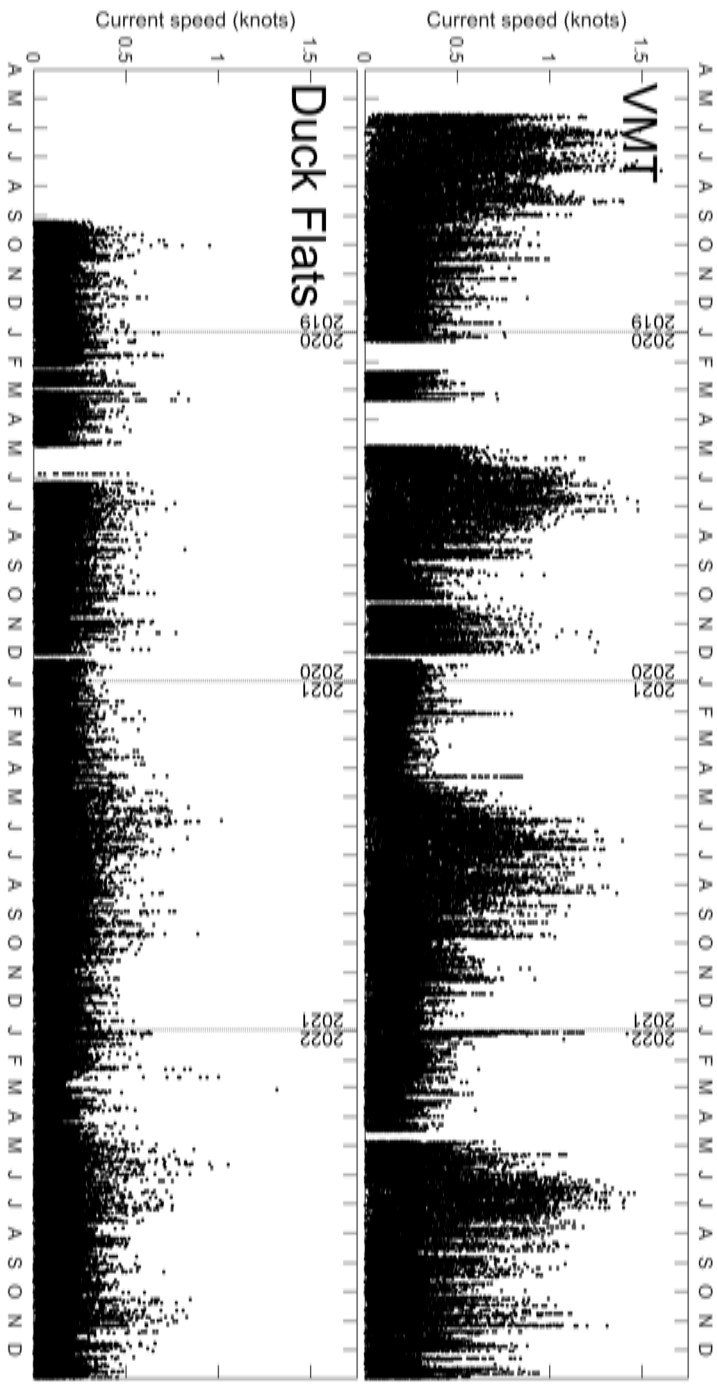

Figure 20: Current speed time series at the VMT (top panel) and Duck Flats (bottom panel).

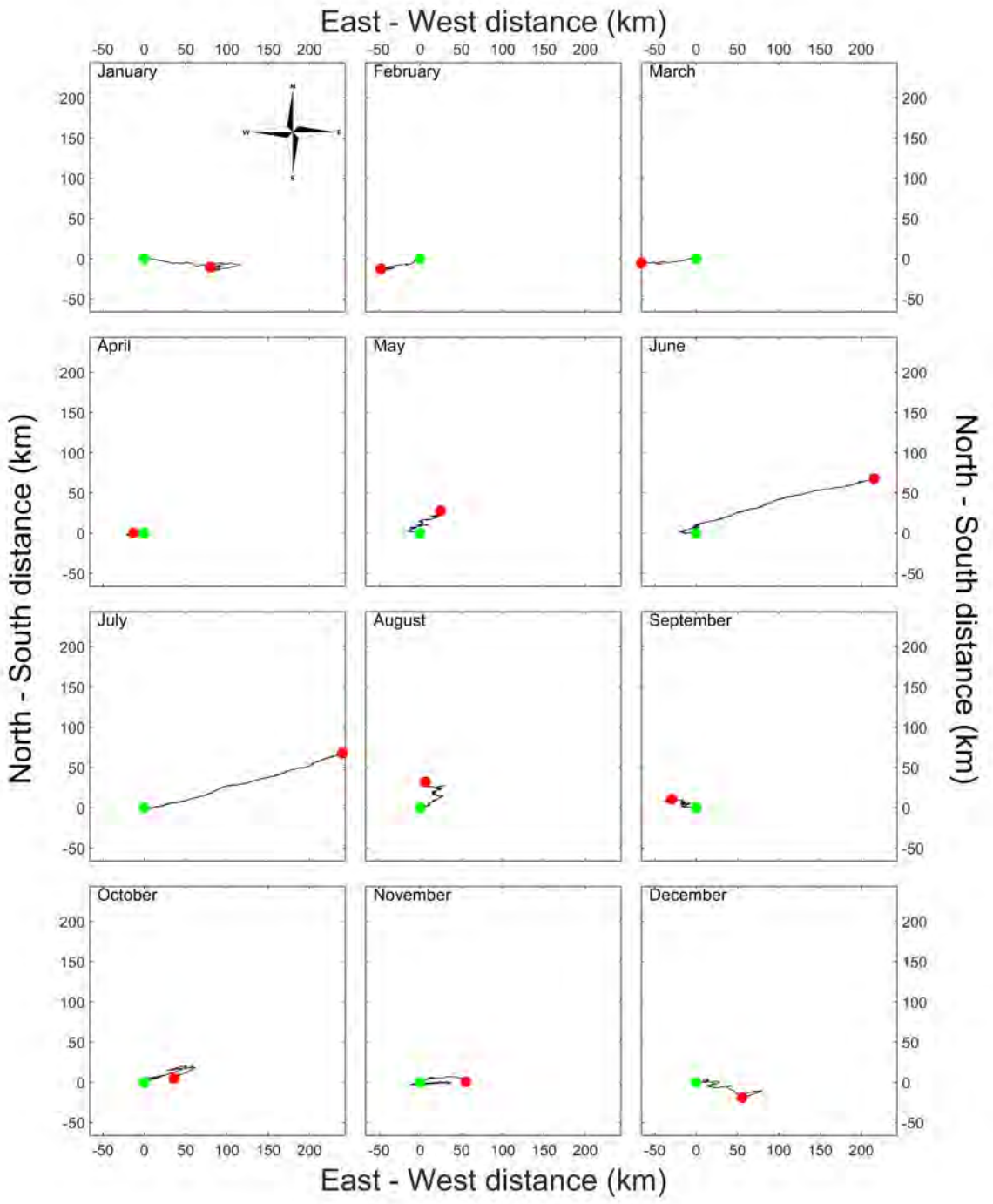

Figure 21: Monthly PVD of surface currents at the VMT buoy. All axes are scaled to be the same to make each vector track comparable. The bottom axis indicates direction east-west, with westerly directions negative and easterly ones positive, the side axis indicates direction north-south, with southerly directions negative.

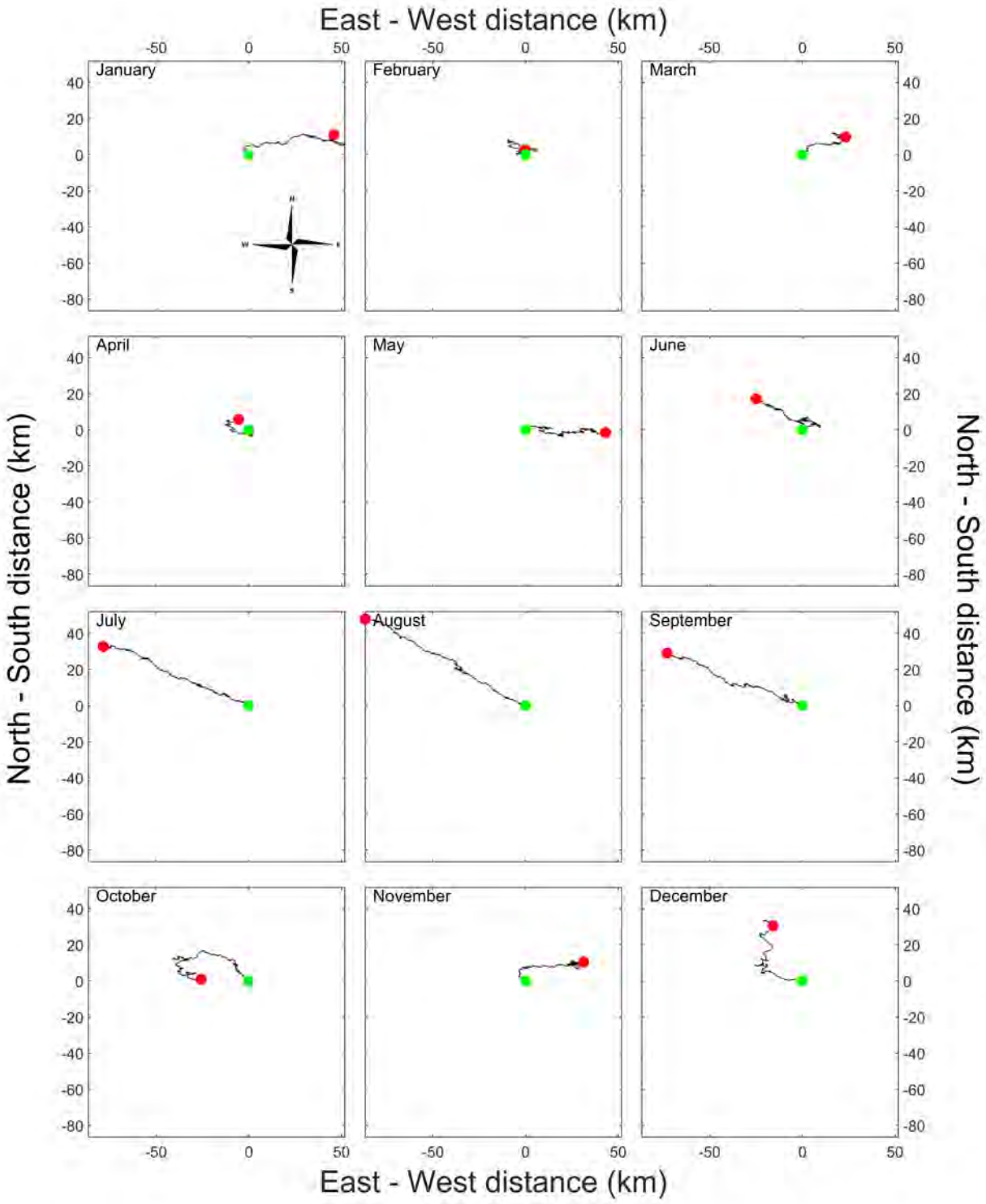

Figure 22: Monthly PVD of surface currents at the Duck Flats buoy. All axes are scaled to be the same to make each vector track comparable, and are equivalent to the axis scaling in figure 21.

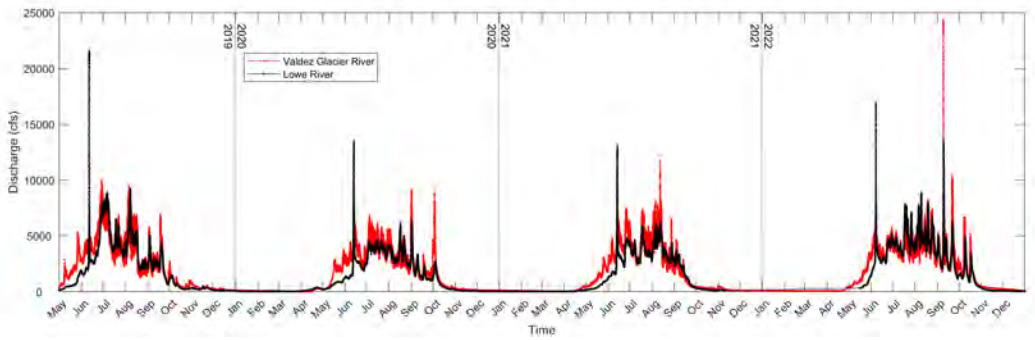

Figure 23: Hydrograph of discharge at the Lowe River (USGS station 15226620) and Valdez Glacier Stream (USGS station 15227090). Discharge data was downloaded from waterdata.usgs.gov.

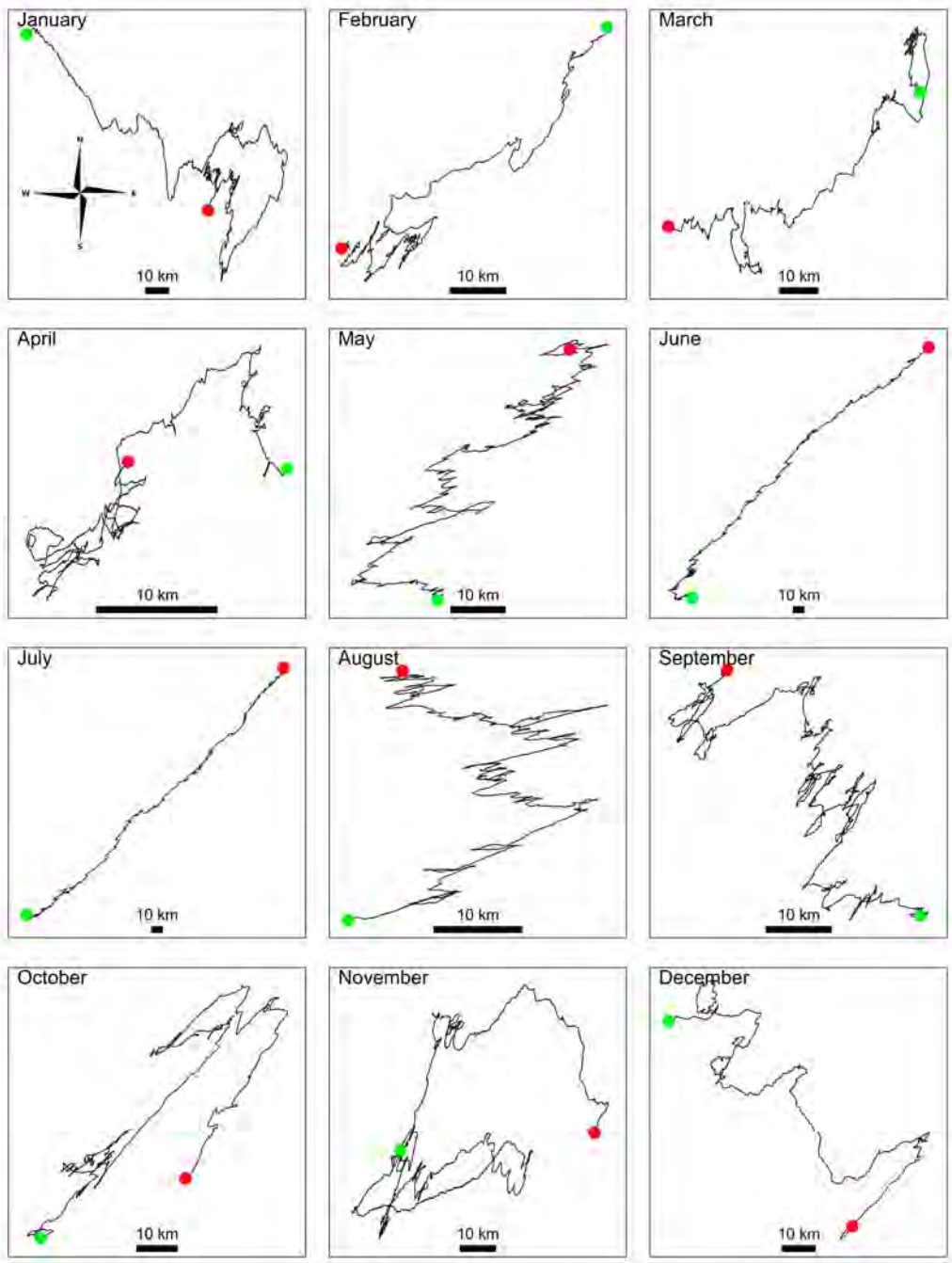

Figure 24: Monthly PVD of surface currents at the VMT buoy. All plots are the same data as figure 21, but the axes have been rescaled for each month to the limits of the data for that month. Each plot has been given a 10 km scale bar to give an impression of the scaling.

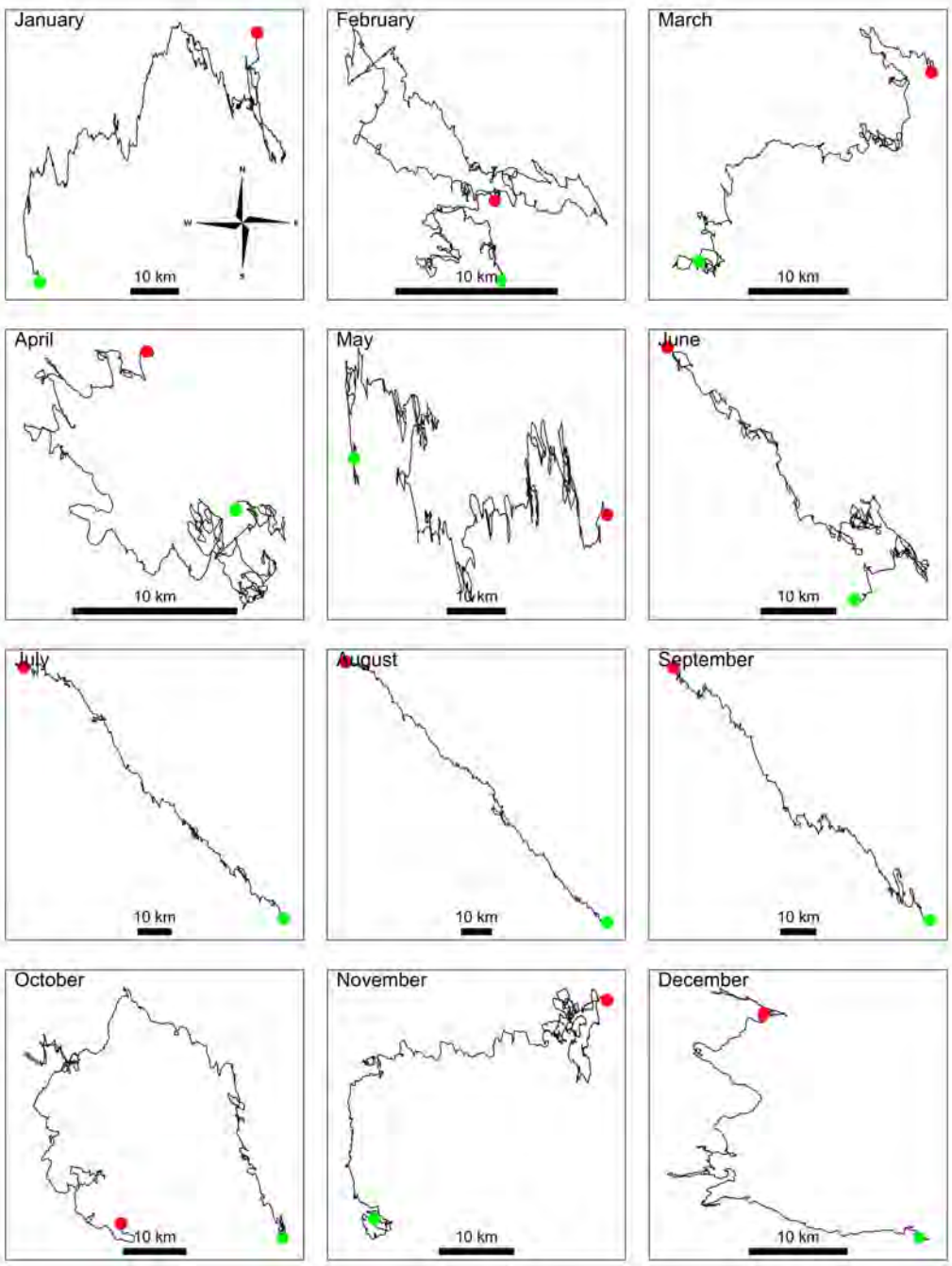

Figure 25: Monthly PVD of surface currents at the Duck Flats buoy. Scaling has been done as described in figure 24.

Appendix 1: Table of averages and minimum/maximum values at the VMT buoy, by month.

Month	Air Temperature (°F)	Water Temperature (°F)	Relative Humidity (%)	Barometric Pressure (%)	Solar Radiation (W/m^2)	Wind Speed (knots)	Wind Gust (knots)	Significant Wave Height (ft)	Max. Wave Height (ft)	Current Speed (knots)
January	28.44	41.35	87.29	1000.31	4.42	5.21	9.08	0.43	0.76	0.17
	5.77 - 44.31	32.10 - 57.13	21.51 - 100.00	966.18 - 1033.57	0.00 - 146.88	0.00 - 31.49	0.00 – 31.49	0.00 - 3.87	0.00 - 7.20	0.00 – 1.42
February	27.25	39.90	78.56	1007.20	12.49	4.55	7.73	0.38	0.69	0.14
	10.24 - 41.53	31.75 - 54.97	13.28 - 100.00	966.15 - 1037.45	0.00 - 446.49	0.00 - 34.77	0.00 – 34.77	0.00 - 3.58	0.00 - 6.34	0.00 - 0.80
March	30.74	41.74	71.30	1007.41	82.93	5.41	8.33	0.56	0.99	0.13
	-6.92 - 47.48	31.90 - 65.46	20.02 - 100.00	965.13 - 1037.95	0.00 - 637.42	0.00 - 34.77	0.00 – 34.77	0.00 - 3.78	0.00 - 6.88	0.00 - 0.72
April	37.29	42.63	69.89	1011.64	162.83	4.00	6.62	0.29	0.55	0.14
	10.47 - 55.80	34.59 - 52.48	10.23 - 100.00	980.56 - 1034.88	0.00 - 746.60	0.00 - 30.25	0.00 – 30.25	0.00 - 3.14	0.00 - 5.38	0.00 - 0.85
May	47.22	50.50	78.63	1011.16	194.46	4.07	7.70	0.26	0.51	0.31
	36.80 - 68.67	32.38 - 61.09	22.19 - 100.00	988.68 - 1032.79	0.00 - 976.98	0.00 - 19.46	0.00 – 19.46	0.00 - 1.79	0.00 - 2.98	0.00 - 1.20
June	52.50	51.61	86.67	1011.23	205.24	4.75	8.83	0.37	0.69	0.48
	38.65 - 72.50	34.67 - 61.84	48.10 - 100.00	991.38 - 1033.57	0.00 - 1027.90	0.00 - 19.98	0.00 – 19.98	0.00 - 2.18	0.03 - 3.78	0.00 - 1.49
July	54.01	51.42	91.47	1009.59	165.15	3.60	7.30	0.33	0.63	0.37
	44.69 - 77.36	41.57 - 60.44	24.08 - 100.00	990.72 - 1024.78	0.00 - 888.57	0.00 - 21.23	0.00 – 21.23	0.00 - 2.21	0.03 - 3.78	0.00 - 1.61
August	52.90	51.87	92.08	1007.03	129.73	3.14	7.32	0.25	0.47	0.28
	41.47 - 77.86	42.14 - 59.65	30.71 - 100.00	977.82 - 1022.69	0.00 - 803.72	0.00 - 22.66	0.00 – 22.66	0.00 - 2.08	0.00 - 3.36	0.00 - 1.40
September	47.22	50.26	87.59	1003.19	69.11	2.78	6.52	0.14	0.28	0.20
	35.94 - 62.37	40.26 - 57.07	14.78 - 100.00	968.33 - 1023.27	0.00 - 748.44	0.00 - 22.98	0.00 – 22.98	0.00 - 1.76	0.00 - 3.14	0.00 - 1.09
October	40.81	48.21	85.27	1003.67	34.17	4.80	9.74	0.29	0.53	0.22
	27.09 - 55.35	38.99 - 53.85	10.22 - 100.00	965.79 - 1034.70	0.00 - 480.61	0.00 - 28.59	0.00 – 28.59	0.00 - 2.59	0.00 - 4.51	0.00 - 1.12
November	31.85	44.26	77.04	1002.87	8.59	6.62	11.80	0.52	0.92	0.23
	10.38 - 53.08	31.87 - 49.28	10.01 - 100.00	966.61 - 1037.97	0.00 - 192.75	0.00 - 33.98	0.00 – 33.98	0.00 - 3.23	0.00 - 5.82	0.00 - 1.31
December	28.64	42.55	80.53	1001.69	3.63	5.94	10.97	0.50	0.87	0.16
	9.14 - 43.48	32.16 - 58.69	19.97 - 100.00	965.98 - 1037.98	0.00 - 65.93	0.00 - 36.25	0.00 – 36.25	0.00 - 3.74	0.00 - 6.91	0.00 - 0.94

Appendix 2: Table of averages and minimum/maximum values at the Duck Flats buoy, by month.

Month	Air Temperature (°F)	Water Temperature (°F)	Relative Humidity (%)	Barometric Pressure (%)	Solar Radiation (W/m^2)	Wind Speed (knots)	Wind Gust (knots)	Significant Wave Height (ft)	Max. Wave Height (ft)	Current Speed (knots)
January	25.14 0.54 - 42.56	39.81 33.20 - 44.83	81.02 10.86 - 100.00	1001.17 953.29 - 1041.23	7.52 0.00 - 235.13	5.50 0.00 - 31.94	8.96 0.00 – 48.26	0.50 0.00 - 2.69	0.90 0.00 - 4.99	0.12 0.00 - 0.70
February	25.68 5.36 - 41.92	37.82 32.01 - 42.88	75.13 10.12 - 100.00	1007.57 964.57 - 1039.02	23.79 0.00 - 436.39	4.08 0.00 - 28.61	6.61 0.00 – 33.47	0.29 0.00 - 2.14	0.52 0.00 - 3.71	0.12 0.00 – 1
March	30.42 13.73 - 51.96	39.23 32.02 - 43.13	60.01 10.14 - 100.00	1009.17 966.27 - 1042.24	91.38 0.00 - 684.60	5.52 0.00 - 31.10	8.95 0.00 – 42.86	0.22 0.00 - 1.73	0.41 0.00 - 3.07	0.12 0.00 - 1.32
April	37.02 11.71 - 55.80	42.82 35.60 - 52.63	71.96 20.59 - 100.00	1010.61 979.17 - 1036.05	160.28 0.00 - 787.33	4.10 0.00 - 28.38	6.54 0.00 – 32.33	0.09 0.00 - 1.06	0.18 0.00 - 1.70	0.12 0.00 – 0.72
May	45.69 32.64 - 67.64	48.89 38.69 - 58.28	82.64 24.36 - 100.00	1010.95 989.29 - 1033.70	183.29 0.00 - 878.27	4.61 0.00 - 23.97	7.15 0.00 – 27.31	0.37 0.03 - 1.34	0.68 0.06 - 2.18	0.15 0.00 - 1.06
June	51.26 39.04 - 70.29	48.04 36.88 - 56.30	88.47 55.49 - 100.00	1011.07 994.11 - 1032.61	191.54 0.00 - 891.69	4.72 0.00 - 23.83	6.93 0.00 – 25.85	NA	NA	0.16 0.00 - 0.83
July	52.81 43.08 - 78.12	48.23 37.58 - 59.95	91.42 23.19 - 100.00	1011.80 991.91 - 1030.98	153.12 0.00 - 875.80	3.62 0.00 - 22.12	5.50 0.00 – 22.04	NA	NA	0.15 0.00 - 0.75
August	51.01 38.17 - 75.22	46.80 36.40 - 56.84	91.83 11.13 - 100.00	1007.88 978.77 - 1023.76	101.88 0.00 - 739.87	2.69 0.00 - 25.42	4.07 0.00 – 26.47	NA	NA	0.14 0.00 - 0.82
September	46.09 31.99 - 61.57	46.64 36.72 - 55.45	87.31 10.09 - 100.00	1003.36 967.75 - 1021.83	68.34 0.00 - 742.45	2.79 0.00 - 21.67	4.43 0.00 – 32.33	0.06 0.00 - 0.51	0.11 0.00 - 1.15	0.14 0.00 - 0.89
October	39.78 24.68 - 55.20	46.15 35.24 - 52.92	82.37 10.84 - 100.00	1003.84 967.44 - 1036.23	35.67 0.00 - 500.47	4.09 0.00 - 25.31	6.63 0.00 – 37.90	0.11 0.00 - 1.47	0.20 0.00 - 2.56	0.13 0.00 - 0.95
November	29.95 5.05 - 49.33	43.19 36.44 - 47.50	77.83 13.65 - 100.00	1003.71 963.49 - 1046.23	12.51 0.00 - 260.51	5.58 0.00 - 30.98	8.61 0.00 – 46.53	0.07 0.00 - 0.86	0.14 0.00 - 1.73	0.13 0.00 – 0.78
December	26.01 4.62 - 42.92	40.65 32.07 - 46.36	82.85 10.22 - 100.00	1002.04 961.57 - 1037.75	4.29 0.00 - 176.74	4.81 0.00 - 29.25	8.09 0.00 – 45.27	0.13 0.00 - 1.66	0.25 0.00 - 3.10	0.12 0.00 - 0.65

Briefing for PWSRCAC Board of Directors – September 2023

ACTION ITEM

Sponsor: Danielle Verna and the Scientific Advisory Committee

Project number and name or topic: 6560 Peer Listener Training Manual

1. **Description of agenda item:** The Board is being asked to accept the manual titled "Peer Listener Training Manual" by Agnew::Beck Consulting, Inc., dated August 1, 2023. The manual is an appendix to the Council's Guidebook for Coping with Technological Disasters. The purpose of the manual is to outline the tools and techniques for active listening which individuals can employ to support fellow community members in the wake of a technological disaster, such as an oil spill. This updated manual is the second in a series of phases to modernize the Council's Peer Listener program; subsequent phases, if approved, will address delivery of the manual throughout the region. Contractors will be available to present the revised manual to the Board and answer questions.

2. **Why is this item important to PWSRCAC:** The Peer Listener program was a flagship social sciences program of the Council when it was first offered in the 1990s, and at the time was cutting edge in its acknowledgement of the pervasive impacts of technological disasters in a community. The extensive human impact of a major oil spill continues to be largely overlooked in contingency planning and response structures. The Council recognizes the importance of helping local residents cope with the sociological effects of an oil spill. The fields of peer-to-peer support and mental health have evolved substantially since the original manual was developed. This revised edition builds on the latest understanding of active listening and informal support needs and benefits. The intended outcome of the Peer Listener program is resilient communities with strong social support systems in place before an incident occurs.

3. **Previous actions taken by the Board on this item:**

Meeting	Date	Action
Board	5/5/2022	The Board adopted the FY2023 budget as presented, to include this project.

4. **Summary of policy, issues, support, or opposition:** None known.

5. **Committee Recommendation:** The Scientific Advisory Committee recommended the Board of Directors accept this manual at its meeting on July 21, 2023.

6. **Relationship to LRP and Budget:** Project 6560 Peer Listener Training is in the approved FY2024 budget and annual work plan.

6560 - Peer Listener Training
As of August 2, 2023

Original Budget	$12,440.00
Revised Budget	$12,440.00
Actual & Commitments	$0.00
Amount Remaining	$12,440.00

7. **Action Requested of the Board of Directors:** Accept the "Peer Listener Training Manual" by Agnew::Beck Consulting, Inc., dated August 1, 2023, as meeting the terms and conditions of contract number 6560.23.01, and for distribution to the public.

8. **Alternatives:** None recommended.

9. **Attachments:** Draft "Peer Listener Training Manual" by Agnew::Beck Consulting, Inc.

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Peer Listener Training Manual

August 1, 2023
Agnew::Beck Consulting, Inc.
PWSRCAC Contract #6560.23.01

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Contents

Background

Following the Exxon Valdez oil spill in Prince William Sound, Alaska, and the BP Deepwater Horizon spill in the Gulf of Mexico, communities underwent a prolonged recovery. Peer Listener Training Programs were designed to train local residents to provide peer support within these disaster-impacted communities.

The original Peer Listener Training Manual (created 1999, updated 2004) was developed by the Prince William Sound Regional Citizens' Advisory Council (PWSRCAC) in consultation with Dr. Steve Picou, a leading researcher in the field of disasters and mental health who studied both the Exxon Valdez and Deepwater Horizon oil spills. His many years of work studying the mental health and social effects of the Exxon Valdez oil spill were used as the basis for the development of that program manual.

The manual included an appendix with a Peer Listener Training session outline and materials for distribution during a formal peer listener training. Those materials are now outdated, given how far the fields of peer-to-peer support and community resilience have evolved since the mid-1990s when the training was originally created.

The original manual was used by the Mississippi-Alabama Sea Grant Consortium, which then updated and customized the content to help residents deal with BP's 2010 Deepwater Horizon disaster and again in 2020 for the COVID-19 pandemic. Find out more about their program and manual at: www.masgc.org/peer-listening/training

This edition builds on the original manual and the Mississippi-Alabama Sea Grant Consortium version, and was revised to reflect the current understanding of peer-to-peer support and listening.

How to Use this Manual

This manual is intended as a guide for those who want to help after their community has been through a disaster. The manual's goal is to teach you to be a better active listener so you can help your friends, family, and neighbors heal emotionally. We also encourage you to explore additional resources available online, some of which we link to within this manual.

Remember that integral to being a peer is having gone through the same experience. This means that you are healing yourself as much as you are helping others heal. Peer listening is volunteer work. Only you will know how much time and energy you can give while still taking care of yourself. It is important that you have enough time to listen without feeling rushed. It is equally important that you are prepared to seek help when the problems you encounter are overwhelming.

What are Peer Listeners?

Peer listeners are members of the community who have been through the same disaster and learn how to actively listen so they can informally support others who want to share their thoughts, feelings, and experiences without judgement. **Peer listeners are not therapists or social workers.** Instead of offering professional services, peer listeners help by being good listeners. In so doing,

peer listeners serve to rebuild trust, a sense of safety, and a sense of self-reliance or self-control for their friends and neighbors.

Talking with someone who truly knows a community—like a peer listener—can be beneficial in helping people feel understood and cared for. Through their shared experience, special training in listening skills, and preexisting connection to the community, peer listeners have a unique opportunity to assist friends and neighbors with ongoing concerns. A peer listener serves as an available ear and may encourage their peers to seek more formal sources of support.

While traditional mental health services are important, peer listening can step in where their reach and impact fall short. Research on rural communities and disaster effects has shown that many people affected by disasters are reluctant to use traditional mental health services. That is particularly true when the disaster is human-caused, such as technological disasters, which have lasting impacts on the emotional and social well-being of communities. On top of that, traditional mental health services may be overwhelmed when the aftereffects of disaster are widespread. Furthermore, those professional services may not be effective at dealing with the long-term effects of disaster. This is where peer listening can benefit a community. The widespread use and modeling of good, active listening has lasting impact: it remains in the community as an ongoing resource and builds resiliency against future disasters.

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Section 1: Understanding Disasters

How a disaster affects a community varies by the type of disaster. Several factors can make healing from a disaster more complicated, including who or what is blamed for the disaster, and perceptions of who is responsible for recovery efforts. The influence of social media can be an especially complicating factor.

Types of Disasters

Natural disasters like an earthquake or a typhoon have always been part of human experience. They are tragic, but in most cases systems and traditions are in place for the survivors to receive support and bond together. There are also human-caused disasters, such as oil spills and airplane crashes, after which questions of responsibility can create victim-blaming or suppress relief efforts. As we saw with the imperfect disaster preparation and response efforts following Hurricane Katrina in 2005, and with the COVID-19 pandemic, most disasters have impacts that are a combination of natural and human-caused.

These distinctions matter because they affect how survivors are supported and how survivors heal. If you survive an earthquake, for example, you know when it is over. Through your recovery, you also learn to trust your ability to heal and rebuild. If you survive a chemical spill, however, a more complex cleanup and lawsuits could draw out the recovery process; long-term effects could take years to surface.

Table 1: Characteristics of Different Classes of Disasters

Technological or "Human-caused" Disasters	**Natural Disasters**
Non-toxic examples: terrorism, airplane crash, dam collapse, train derailing, riot, power outages *Toxic examples*: oil spill, chemical spill, radiation leak	*Non-toxic examples*: earthquake, wildfire, typhoon, hurricane, tornado, flood, drought *Toxic examples*: radon gas contamination
No warning	May involve some warning time
Suffering often not acknowledged, increased likelihood of victim-blaming, particularly through social media	Usually, positive community response in the aftermath with community bonding through efforts to rebuild
Long-term effects more common	Primarily short-term psychological effects

Question to Consider:
Why are human-caused disasters harder to recover from?

Media and Social Media

News media and social media often present either complicated or oversimplified versions of disaster stories that effectively deny victims' suffering or accuse them of trying to make money off the tragedy. Media-generated stories can divide a community and make it harder for neighbors to trust one another. Remote strangers may have lots of opinions, but as their opinions are not informed by post-disaster realities on the ground, they often negatively affect recovery work like rebuilding, and how individuals in disaster-hit communities heal mentally and emotionally.

Following a disaster, peer listeners help by listening, not judging. Your community can rebuild socially when everyone feels safe sharing the complicated realities with each other, regardless of all the outside opinions.

Phases of Recovery

Post-disaster healing follows a common pattern. Immediately effective actions, like rescues and emergency supplies, create an early sense of relief (the **Heroic** phase). Also, shared goodwill leads to community bonding (the **Honeymoon** phase). Eventually the realities of the longer-term effects and the limitations of external supports settle in, and the **Disillusionment** phase begins. At this time, anger and blame are common, and serious emotional problems are likely to arise. A significant emotional dip also commonly occurs around the one-year anniversary of the event. Finally, the process of rebuilding starts to have its own emotional impacts. In this **Reconstruction** phase, communities can work through grief and make real progress. There are always setbacks, but with sufficient support, most communities will recover.

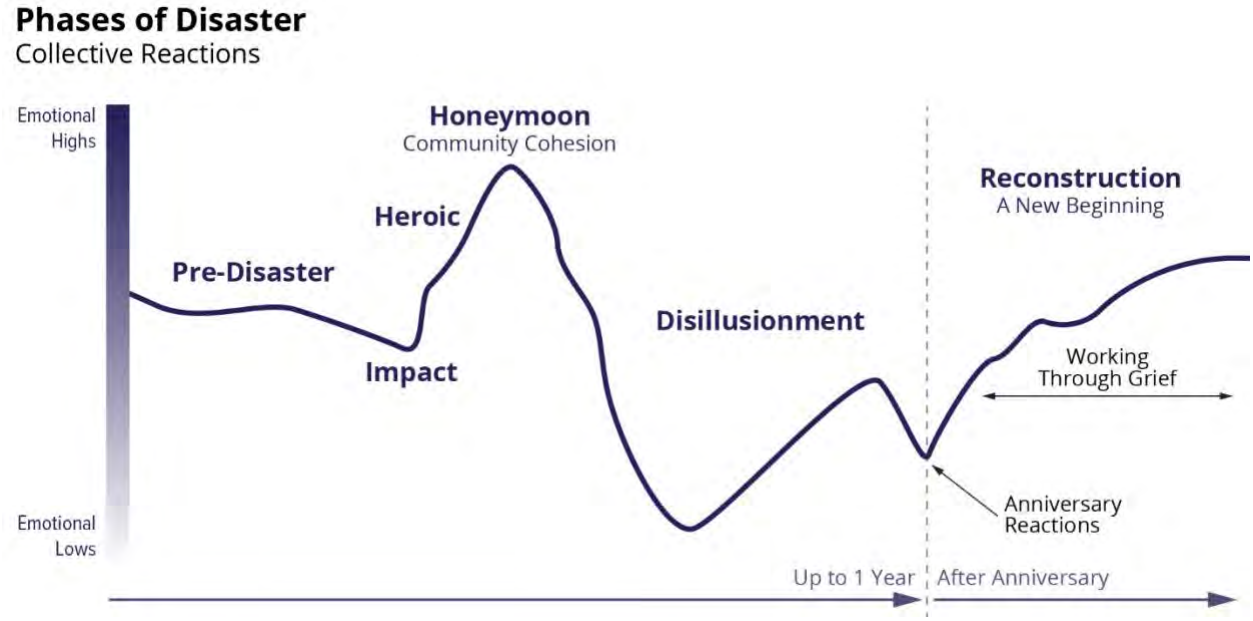

Figure 1: Phases of Disaster[i]

Formal and Informal Sources of Support

The exceptional needs that follow a disaster can often be addressed through both pre-existing and temporary formal sources of support.

Types of Formal Support

- Relief such as temporary shelter, food, and financial support.
- Rebuilding efforts such as construction, utilities repair, and economic investment.
- Medical personnel such as doctors and nurses who diagnose and treat physical health needs.
- Clinical social workers and therapists who diagnose and treat mental health needs.
- Direct service social workers and case managers who coordinate services to meet social, economic, physical, and emotional needs.
- Community health workers who promote prevention and screen to see if individuals qualify for other services.
- Behavioral health aides and peer support specialists who provide personal and cultural insights related to the treatment and services provided by medical personnel, social workers, therapists, and case managers.

Need for Informal Sources of Support

For various reasons, disaster survivors do not always seek formal support services when they are available. Additionally, in rural communities, formal support services are often very limited, may not be as accessible, and may be overburdened. Finally, mental and emotional healing requires community support—outsiders can only help with the basics. In combination, these factors explain the need for more informal sources of support, including peer listening.

Section 2: Building Peer Listening Skills

The term "**peer listening**" emphasizes the importance of **listening** over counseling or giving advice.

Peer Listening

Peer listening is an active form of listening: listeners use empathy and caring to reflect the thoughts and feelings of the speaker back to them. In the process, the speaker hears themselves more clearly and in so doing discovers both their strengths and their needs. When you listen effectively as a peer listener, you allow the speaker to develop their own solution for their problem.

Communicating our feelings to others is important to the process of coping with and healing from any crisis situation. As you learn to listen actively and help your peers through this process, you will create important links in your community. These links build a stronger community that supports the healing process.

What Peer Listeners Do:

- Act as key components to recovery by being people to talk to.
- Actively train in communication skills.
- Provide information about community resources.
- Assure confidentiality and trust.
- Model healthy relationships.
- Respect emotions and seek to understand them rather than shut them down.
- Encourage self-advocacy and decision-making.
- Recognize the additional stress and unique needs of disaster survivors.
- Normalize seeking help.

Communication Tips

1. **Stop talking.** You can't listen while you are talking.
2. **Get rid of distractions.** Avoid fiddling with things, such as your cell phone. Get away from unnecessary noise such as TV or radio. Make your surroundings as free of distractions as possible.
3. **Be interested and show it.** Genuine concern and a lively curiosity encourage others to speak freely. Interest also sharpens your attention and builds on itself.
4. **Tune in to the other person.** Try to understand their viewpoint, assumptions, and needs, and how all three fit into their beliefs.
5. **Concentrate on the message.** Focus your attention on the speaker's ideas and feelings related to the crisis. Listen to *how* they say what they say. The speaker's attitudes and emotional reactions may convey as much—or more—meaning than the words they use. Often people talk to "get something off their chests." Feelings, not facts, may be the main message. Try to keep your prior knowledge or biases about the speaker from influencing your interpretation of what they are trying to say in this instance.
6. **Look for the main ideas.** Avoid being distracted by details. Focus on the key issue.

7. **Paraphrase and ask for confirmation about what you think the speaker means and wants.** Remember that you will be interpreting the speaker's feelings and statements based on your experience, values, viewpoint, and prejudices. You cannot listen as a blank slate, so be honest with yourself about how it affects what you hear.
8. **Look at the other person.** Let them know that you are listening. Maintain eye contact if culturally appropriate, but avoid staring. Smile, nod, or otherwise quietly let them know you are with them.
9. **Notice nonverbal language.** The face, eyes, and hands all help to convey messages. Shrugs, smiles, nervous laughs, gestures, facial expressions, and body positions speak volumes. Start to read them. Be sure to test your interpretations of these nonverbal messages just as you do the verbal ones.
10. **Avoid hasty judgment.** Don't jump to conclusions regarding the situation or what the person wants. Hear the speaker out. Plan your response only after you have confirmed that you understand what the speaker is meaning to say. Prejudgments can close us off to new messages.
11. **Give the other person the benefit of the doubt.** Empathy is not about asking what you would do in another person's situation. Empathy means asking what situation would cause you to act, think, or speak the same way they are.[ii] When uncertain, always choose the most charitable interpretation.
12. **Get feedback.** Make certain you are really listening. Ask a question. Confirm with the speaker what they actually said.
13. **Leave your personal emotions aside.** Try to keep your unrelated worries, fears, or problems out of the situation. They will prevent you from empathizing and truly listening.
14. **Share responsibility for communication.** You, the listener, have an important role. When you don't understand, ask for clarification. Don't give up too soon or interrupt needlessly. Give the speaker time to express what they have to say.
15. **Work at listening.** Hearing is passive; our nervous system does the work. Listening is active; it takes mental effort and attention. When you reflect back to the speaker with your reply, repeat some of what they told you using their language. This attention to detail demonstrates that you care.

Nonverbal Communication

Like with language, nonverbal communication can vary significantly based on the stress the speaker is under, cultural and individual factors, and the preexisting relationship between the speaker and the listener. It is also important for you as a peer listener to consider what your nonverbal communications are saying. As with verbal communication, peer listeners should listen and adjust. Mirror the speaker's nonverbal communications that express respect and invite focus and openness.

Quick Tips for Nonverbal Communication[iii]

1. **Maintain an open body position.** Avoid crossing your arms over your body—it may appear defensive. When your body position is open, it conveys that you are open to listening.

2. **Sit alongside and angled toward the person rather than directly opposite them.** This allows the conversation to feel friendly and nonconfrontational. No one wants to feel like they're being interviewed. Do not stand over them. Try to stay at the same level.

Appropriate Touch[iv]

Touch is an important part of human communication and emotional connection. However, touch can often be misunderstood and has different meanings depending on cultural and individual background. As a peer listener, you will support people when they are vulnerable. One person may find a hug deeply relaxing. Another person may find the same hug confusing or unwelcome.

Approach touch with the following considerations.

- Do not be the first to touch.
- Do not assume that touch is welcome unless the speaker has expressed their comfort.
- Even if you are sure touch is welcome:
    - Ask for consent.
        - "Would it be okay for me to hold your hand right now?"
        - "Do you want a hug?"
    - Limit touching to safe areas like hands, shoulders, and upper back.
    - Do not touch in a way that might be mistaken as romantic or sexual, such as a shoulder rub or touching someone's leg.
    - Be clear that your touching is an offer of comfort and support.

Cultural Humility[v]

We can support each other in "how" to do things, but culture is often where each of us finds our "why." Each culture's values, customs, traditions, and natural support networks help survivors build resiliency and find meaning.[vi]

Cultural differences aren't always visible or obvious. Most cultural differences also have long histories. Some cultural differences are associated with trauma, shame, or historical trauma. Every community consists of people from lots of different cultural backgrounds. We shouldn't expect ourselves to know about the specific cultural experiences of every individual in our community. We can, however, approach cultural differences with a deep sense of humility. This requires us to recognize when we don't understand someone else's culture, and also to recognize that our own cultural assumptions affect our every experience.

Cultural humility is particularly important if you are part of the dominant culture and have been taught to see your culture as more "normal" or important than other cultures. Historically, colonialism has served to erase or shame Alaska Native and American Indian culture, and to replace the cultures of other colonized groups. Acknowledging this history and being mindful of it as a peer listener is a key component of cultural humility. See later section on historical trauma.

Questions to Consider:
What are some ways that your culture helps you heal?
What are some aspects of your culture that someone might find strange?
What biases might you have due to your own cultural background, and how could keeping them in mind make you a better peer listener?

Red Flag Responses

As a peer listener, be aware that some commonly used phrases are far less helpful in crisis situations than they appear on the surface.

Table 2 Responses and Phrases to Avoid

Don't Use	**Why?**
"I know what you mean."	Each person's experience is unique, and while it's a peer listener's role to empathize, it's important to let the speaker have their own experience. Sometimes talking about yourself can introduce an element of competition into the conversation and cause the speaker to feel they must fight to have their own experience recognized.
"It's God's Plan" or "Everything will be alright."[vii]	Pain and fear are real feelings. These phrases minimize those feelings and can cause the speaker to feel shame for sharing them.
"You should . . ."	As a peer listener, your focus is to listen and empower, not direct or rescue.
"Calm down."	Even if calming down would help, telling someone in crisis to calm down rarely has the intended effect. Furthermore, a peer listener should offer a safe place for a speaker to explore their feelings, which may be overwhelming alone but can be worked through with the support of an effective listener.
"What were you thinking?" or "Why would you do that?"	Even if spoken in a warm and inviting tone, these phrases might sound like judgment. And if spoken in a judgmental tone, they shut down communication altogether. People who have been through extreme stress may not be proud of decisions, behaviors, needs, or feelings that are rooted in that stress.

Common Response Styles

We use many different response styles in everyday conversation. But as a peer listener, you play a specific role of support for another person—conversations are not as two-sided as typical social interactions tend to be.

Supporting and Reassuring Responses

As a peer listener, be intentional about your responses by using supporting and reassuring responses, which indicate your support and concern for the speaker's feelings.

General rule: Allow for emotional release, but be careful not to commit yourself or the speaker to any specific position or course of action that comes up during an emotional moment.

Do	Don't
• Demonstrate your concern and support • Prompt speaker to continue or elaborate • Validate a speaker's emotions • Remain attentive • Limit the number of questions you ask • Allow for attentive silence	• Give false reassurances • Offer opinions • Feed into negative thinking or decisions • Agree so readily or repetitively that you sound critical or sarcastic • Interrupt • Make it about you

Questions to Consider:
What are some phrases you might use to express support?
What are phrases you've heard (or used) in attempts to be supportive that are not helpful?

Understanding and Paraphrasing Responses

The responses below demonstrate a peer listener's desire to understand a speaker's thoughts and feelings. Paraphrase what the speaker has said in your own words.

General rule: A peer listener can use understanding and paraphrasing responses frequently, as they demonstrate engagement and offer the speaker a chance to clarify or reconsider.

Do	Don't
• Paraphrase to seek clarification • Reflect the speaker's ideas in a way that allows for revision • Ask open-ended questions • Demonstrate that you are trying to understand	• Agree or disagree • Ask the speaker to commit to a position • Ask questions that can be answered with only "yes" or "no" • Use loaded questions that imply judgment • Question the speaker's reasoning or motivations

Questions to Consider:
What are some phrases you might use to express understanding?
What are phrases you've heard (or used) in attempts to understand or paraphrase that are not helpful?

Recognizing and Interpreting Responses

Recognizing and interpreting responses offer insights into feelings and behaviors. A listener can use them to point out potentially hidden connections between a speaker's thoughts and feelings, or between different subjects. When listening, you can use this response style to encourage the speaker to explore their thoughts and feelings.

General rule: Focus on expressing recognition of emotions and behaviors, and encourage the speaker to find their own interpretations. Avoid recognizing and interpreting responses altogether in the early stages of peer listening; instead, spend more time listening.

Do	Don't
• Acknowledge the impact of the disaster • Recognize the importance and impact of feelings • Acknowledge that feelings aren't rational • Honor the needs that motivate the feelings • Distinguish between feelings and behavior • Allow the speaker time for self-reflection • Cite specific observations, such as which topics seem to elicit specific emotions/behaviors, or which topics the speaker keeps circling back to	• Imply that you expect the speaker to be recovered • Try to control or redirect the speaker's feelings • Make the speaker defend their feelings • Feed into the feelings • Endorse feelings as objective truth • Jump in to help the speaker interpret • Provide interpretations or attempt to analyze the speaker's behavior

Questions to Consider:
What are some phrases you might use to express recognition?
What are phrases you've heard (or used) in attempts to recognize or interpret that are not helpful?

Probing and Questioning Responses

Probing and questioning responses reflect a listener's desire for more information to better understand the problem. Peer listeners can use this response style to encourage the speaker to think through their ideas, allowing for problem-solving.

General rule: Use probing and questioning responses to help the speaker explore, but be careful not to advise.

Do	Don't
• Empower the speaker to problem-solve • Encourage thinking out loud • Allow the speaker to explore multiple options • Discuss available resources	• Do the speaker's thinking for them • Eliminate options • Focus on a decision • Make generalizations about what is possible or easy • Assume there is a correct answer

Questions to Consider:
What are some phrases you might use to express probing?
What are phrases you've heard (or used) in attempts to probe or question that are not helpful?

Evaluating and Advising Responses

Evaluating and advising responses involve judgments on the speaker's problem, or contain advice and imply what the speaker ought to do.

General rule: While you may use these responses in your everyday relationships, they don't serve the purposes of peer listening. Avoid evaluating and advising responses altogether in the early stages of peer listening, and use only with extreme caution later on.

Do	Don't
• Remember that your role as a peer listener is different from your role as a friend or neighbor • You may need to use this response style if you are concerned for someone's safety. See Section 4: Helping Someone to Seek Help on directing people to additional resources.	• Position yourself as an expert or advisor • Push someone to seek formal support if they are not coming to that conclusion for themselves, *unless* you are concerned for someone's safety

Section 3: Recognizing Common Challenges

Sometimes people encounter situations where they are overwhelmed and unable to find or carry out their own solutions. They may benefit from a trained professional's help in moving forward. **See Section 4 for more information.**

Peer listeners are not expected or qualified to diagnose mental disorders. You will, however, notice certain patterns in the struggles of your community. This section outlines what those common challenges might be and how you can support a friend or community member who is experiencing them.

Alcohol and Substance Misuse

Some people increase their use of alcohol, prescription medications, or other drugs after a disaster. Using drugs and alcohol may provide temporary escape from bad feelings or physical problems caused by increased stress. However, substance misuse can make such problems worse in the long term. When misused, substances can interrupt natural sleep cycles, create health problems, interfere with relationships, and create substance dependence.

How Peer Listeners Can Support Someone Who is Increasing their Substance Use

- Remain calm, unemotional, and factually honest when discussing substance use and related topics, like consequences of use.
- Remember to validate the user's emotional needs as normal, but don't endorse destructive behaviors.
- Provide sober social opportunities.
- Encourage cultural activities and hobbies that can provide healthy and enjoyable distraction in place of substance use.
- Help develop alternate plans to aid with anxiety, depression, muscle tension, or sleep difficulties.
- Be patient and supportive. Recovery is a journey that will have multiple ups and downs.

Suicide

*Suicide is most often preventable. For every person who dies by suicide annually, there are **316** people who seriously consider suicide but do not kill themselves.*[viii]

While serving as a peer listener, it is possible you or someone you listen to will experience suicidal thoughts or intent. It is difficult and scary to have or hear suicidal thoughts, so it is important to be prepared with a plan for how to act if or when the need arises.

A Peer Listener Should:

- Call 988 with the person expressing suicidal thoughts, or have them call in your presence.
- Not leave the person expressing suicidal thoughts alone.
- Stay with the person expressing suicidal thoughts until someone else is available, or take the person to a mental health professional.

Warning Signs[ix]

These are common warning signs that someone is at immediate risk of suicide. If you witness any of the following three warning signs in yourself or others, **immediately call the National Suicide and Crisis Lifeline at 988, or a mental health professional:**

- Talking about wanting to die or to kill oneself.
- Looking for a way to kill oneself, such as searching online or obtaining a gun.
- Talking about feeling hopeless or having no reason to live.

Other behaviors such as the following may also indicate a serious risk—especially if the behavior is new, has increased, and/or seems related to a painful event, loss, or change.

- Talking about feeling trapped or in unbearable pain.
- Talking about being a burden to others.
- Increasing the use of alcohol or drugs.
- Acting anxious or agitated, and/or behaving recklessly.
- Sleeping too little or too much.
- Withdrawing or feeling isolated.
- Showing rage or talking about seeking revenge.
- Displaying extreme mood swings.

If you or someone you know is showing these signs, **call the National Suicide and Crisis Lifeline at 988**.

Table 3: Helping Someone Who May Be Suicidal[x]

Do	Don't
• Be direct. Talk openly and matter-of-factly about suicide. • Be willing to listen. Allow expressions of feelings. Accept the feelings. • Be non-judgmental. • Get involved. Become available. Show interest and support. • Offer hope that alternatives are available. • Take action. Remove means, like weapons or pills. • Get help from people or agencies specializing in crisis intervention and suicide prevention.	• Don't act shocked. This will put distance between you. • Don't be sworn to secrecy. Seek support. • Don't debate whether suicide is right or wrong, or whether feelings are good or bad. Don't lecture on the value of life. • Don't offer insincere reassurance. • Don't brush it off, joke, or otherwise indicate that you don't take the risk seriously.

Suicide Prevention

There are many groups in Alaska working to prevent suicide. See Additional Resources for links to online resources.

Disasters, Trauma, and Grief

Disasters often involve both trauma and grief. Trauma is any experience that overwhelms a person's normal ability to cope. People who have experienced trauma often are unable to relax and struggle to return their focus to their usual routines.

How Peer Listeners Can Support Someone Overwhelmed by Trauma

- **Listen**
- **Provide social support**
  - Face to face support is crucial to helping them rebuild their sense of safety.
- **Anticipate triggers**
  - Triggers are unique to each individual, but you can pay close attention when potential reminders of the traumatic event arise.
  - Encourage them to develop a plan of what to do if they feel overwhelmed.
- **Avoid:**
  - Trying to put a positive spin on someone's experience. They are not "lucky," no matter how much worse it could have been.
  - Making someone feel weak for not being able to "get over it."

Grief

Grief is the process of adjusting to significant changes or disruptions in our lives, including disasters. Shock, anger, and struggling to find meaning are normal phases of grief. Like any healing process, grief is not straightforward. A person can move back and forth between phases.

Figure 2: Stages of Grief[xi]

Anger

Anger is one of the most common emotional reactions following a disaster and may be universally experienced by those affected. Anger can be a productive part of the larger grief process because it

energizes us, gives us a sense of control, and makes us aware of our needs. Anger can, however, also distort our thinking and make problem-solving harder. Accepting anger as a natural reaction to disaster and a "normal" stage of grief can help us work through it and separate the helpful from the harmful.

How Peer Listeners Can Support Someone Experiencing Anger

- **Emotional release is an important step in processing anger.**
  - Use supporting and reassuring responses to facilitate a release of emotions.
  - Do not attempt to control or dismiss the anger.
- **Allow the speaker to recognize distorted thinking.**
  - Use understanding and paraphrasing responses to reflect back what you hear.
- **Learn what the anger is teaching.**
  - Use recognizing responses to help the speaker find the needs behind the anger.
  - Do not impose your own interpretations.
  - Do not imply guilt or blame.

Sadness

Everyone occasionally feels sad, usually as a fleeting emotion. If you are supporting someone who experiences sadness you worry they aren't able to manage, offer information on how to contact a professional.

How Peer Listeners Can Support Someone Experiencing Sadness[xii]

- **Be proactive.** They may not feel worthy of your time and energy. Offer to talk with them.
- **Don't claim to understand.** You may understand your own experience of sadness, but give them space to have a unique experience.
- **Accept that sadness is part of their life.** Let them know you accept and support them on down days, too.
- **Lend a hand.** Offering to help with everyday tasks can remind them that there is no shame in asking for help.
- **Give the gift of your time.** It's normal for people to isolate themselves when they are sad. Just showing up and spending time can remind them they don't have to be alone.
- **Build a network of support.** Encourage them to reach out to friends, family, faith communities, and support groups to ensure you're not their primary source of support.
- **Let a professional know if you are concerned about their safety.** See previous section on 'Suicide' for guidance on how to support someone who is experiencing suicidal thoughts.

Ambiguous Loss and Unresolved Grief[xiii]

In its simplest sense, "ambiguous loss" refers to loss without closure. In the wake of disaster, ambiguous loss can occur due to missing loved ones, disrupted relationships and community, or a lingering sense of loss of our previous life.

How Peer Listeners Can Support Someone Experiencing Ambiguous Loss

- Never push for false closure.
- Try to create a sense of stability in relationships.

- Try to facilitate their sense of control in their own lives.
- Encourage optimism while acknowledging negative aspects.
- Suggest that helping others might help develop personal, family, and community pride.

A Note on Vulnerable Populations

Certain people within any community are more at risk for emotional distress after a disaster, and those with more risk are likely to be impacted in different ways over time.

Commonly Vulnerable Populations

- Under-resourced individuals and communities, such as rural communities
- Low-income, impoverished, or poverty-stricken individuals
- People with disabilities
- People who have already experienced disaster or other trauma
- Cultural minorities
- Women and girls
- Elders
- Children

Historical Trauma

Many groups have experienced trauma that spans generations—trauma that affects not just the generation that experiences it, but later generations as well. Historical trauma can have a range of mental and physical health impacts, and individuals within a historically traumatized group can have very different responses, with some being minimally affected and others suffering serious health consequences. This is an example of why it is important to practice cultural humility while listening. You cannot see historical trauma just by looking at someone.

Historical trauma can also disrupt culture and community, which are important sources of healing. Native American, Alaska Native, Filipino, Hawaiian, and Pacific Islander communities all share the trauma of having had traditional ways of life disrupted and then having been forced to adapt to the ways of the people who colonized their lands. Each of these communities lost different traditions and adapted in different ways. When listening to someone from a cultural background other than your own, practice cultural humility. Keep in mind that you may not know the traumas that have impacted their community.

Violence and Vulnerable Populations

Disasters can place a lot of stress on individuals, families, and communities. Stress can increase the risk for violence in the home, neighborhood, or community.

If someone is experiencing violence, they need more than a peer listener. **See Additional Resources at the end of this manual for national and local resources.**

Section 4: Seeking and Providing Support

You've enhanced your listening skills and prepared yourself for the sorts of challenges people commonly encounter after a disaster. Now, how do you get out there and support your community?

Step 1: Take Care of Yourself

You can't be a good peer listener if you are overwhelmed yourself. In addition to their own stress from the disaster, peer listeners may develop compassion fatigue. Coping skills can help the peer listener manage this combination of stressors.

Coping Skills

- Communicate your experience.
- Get physical exercise.
- Reestablish routines.
- Get good sleep.
- Eat nutritious food.
- Make room for humor and laughter.
- Practice relaxation or get a body massage.
- Do breathing exercises, stretching, or yoga.
- Talk to a friend.
- Spend time on your hobbies.
- Avoid making major life decisions.

Step 2: Be Clear About Your Role

As a peer listener, you support your community by active listening. You provide an opportunity for others to work through their feelings, explore their options, and become ready to act. As a peer listener, you offer your peers the valuable gifts of listening, acceptance, and sincere interest in their challenges. Knowing we are not alone gives us courage.

When needs arise that go beyond your capacity as a peer listener, you can connect people to other resources. See section Helping Someone to Seek Help below.

Offering Help

Helping is a process of enabling a person to solve a problem, face a crisis, or grow in the direction they choose. It is not your role as peer listener to decide whether help should be given. The individual or family needs to decide for themselves whether they want help at all and what kinds of help they are willing to receive. Your role is to be available.

It can be difficult for people to accept help, even when they recognize they need it. You can make it easier for others to accept help by your own attitudes. Affirm (for yourself and to them) that asking for and accepting help is a sign of strength and maturity.

When "Helpful" is Not Helping

- The helper fails to listen.

- The helper gives advice.
- The helper merely says, "I'm available," without follow-through.
- The helper gives false assurances.

Confidentiality

It can be hard to know when to maintain someone's trust and confidentiality versus when to break that trust in support of safety. If there is a risk of serious harm, violence, or suicide, you may have to break confidentiality. Make clear at the beginning of communication that you take privacy seriously and define exactly what situations would cause you to share something confidential.

Maintaining Appropriate Boundaries

Boundaries are important for you as a peer listener, both to support your own needs and to ensure you are not interfering with the efforts of professionals and formal supports.

Remember:

- Peer listeners are not mental health professionals. Do not attempt to diagnose or treat mental disorders.
- Peer listeners cannot provide disaster relief on their own. Relief agencies exist because no one person or family can support their entire community in a time of need.
- Peer listeners are not seeking gifts or rewards.
- Peer listeners do not have to be available 24/7.

Step 3: Initiate Contact

The Peer Listening Process

1. **Assure privacy, safety, and trust.** Let the person in crisis know that this is between the two of you—unless they plan to hurt themselves or someone else.
2. **Start with supporting responses.**
3. **Listen completely to the individual.** Listen for verbal and nonverbal signals. Listen to feelings communicated.
4. **Reflect back a feeling that you hear.** For example: "You're scared about where the money will come from, is that it?"
5. **Help the individual focus and clarify.** Sometimes people in crisis feel overwhelmed by too many issues. Focus on one at a time.
6. **Ask what options are available** to help remedy the problem: "What have you used in the past to help you? What are you considering now?"
7. **Research other options:** "I hear that the _____ has a good program on financial management. Would you want to give them a call?"
8. **Affirm confidence in the person's ability to make choices**: "I'm confident that you'll figure this out. I'm here to support you in your decision-making process."

9. **Follow up to discover what steps have been taken** and their success rates: "Last week you decided to make an appointment at _____. Did you have a chance to speak to anyone there? Did you find that helpful?"
10. **Begin the process again** for another problem area or let go. Allow the individual to continue their own journey or suggest other resources that may provide different assistance.

Step 4: Don't Hesitate to Get Help

When you hear someone express a need that they can't cope with themselves, you can offer support by suggesting resources and encouraging them to seek help. This may be professional help (legal, financial, emotional, or spiritual) or perhaps a support group.

As you connect them to resources, remind the person in need that you do care. You care enough to want the best possible help or service for them.

Helping Someone to Seek Help[xiv]

Before you decide it's too difficult to get the person in need to seek professional help, remember that your encouragement is important. Seeking help is a strength, not a weakness, and you may be able to help them understand this. Following are some tips to keep in mind as you encourage them to seek professional help.

1. **Plan a caring conversation.** If possible, try to talk when there is neither a rush nor distraction.
2. **Protect privacy.** Find a private space where no one will overhear and make sure there are no interruptions while you are talking.
3. **Tell them you care.** Let them know you see they are struggling and assure them the situation is not their fault.
4. **Discuss specific concerns.** Focus on their behaviors that concern you. You might include signs like withdrawal, anger, self-destructive actions, lack of sleep, or loss of appetite.
5. **Ask what they think and feel.** This is where the probing and questioning responses come in.
6. **Anticipate possible barriers to their accepting help and offer alternatives.**
   Possible barriers may include:
   - Their feelings of shame for not being self-reliant through the disaster and aftermath.
   - Their fear of being labeled "crazy" for seeking professional help.
   - Their lack of knowledge about counselors who work with individuals struggling with problems like theirs, and thus not knowing what to expect.
   - The cost of consultation fees or transportation, which they may not be able to afford.
   - Their fears, anxiety, and vulnerability in confronting a problem and accepting counseling to change the problem.
7. **Express your willingness to help them find assistance.** And then follow through in helping them find assistance.

8. **Emphasize the benefits.** For example, professional assistance may help them become more independent and in control of their own lives. It may also help reduce the overwhelming emotions that keep them from doing the things they want to do.
9. **Continue to be supportive.** Keep showing up.
10. **Encourage them to join a support group.**

Conclusions

This manual has presented information on how to be a peer listener and help rebuild communities following a disaster. A peer listener is not a replacement for formal supports. Instead, a peer listener is someone who cares and demonstrates that caring. Peer listeners fill the important role of supporting the emotional healing of their community by listening. When people feel heard and cared for, they can start to rebuild their lives and trust in the future. When life feels out of control, having someone actively listen can lead to healing.

Additional Resources

Suicide Prevention

- https://www.ccthita.org/services/family/prevent/SuicidePreventionBooklet.pdf
- https://health.alaska.gov/SuicidePrevention/Documents/pdfs_sspc/PostventionGuide-2020.pdf
- https://health.alaska.gov/SuicidePrevention/Documents/230301_StatePlan_SuicidePrevention.pdf
- Suicide and Crisis Lifeline
    - Call "988" from any phone in the U.S. to reach the Suicide and Crisis Lifeline
    - https://health.alaska.gov/dbh/Pages/Prevention/988/default.aspx

Violence Prevention and Crisis Lines

- Abused Women's Aid in Crisis (AWAIC) statewide 24-hour crisis line (Alaska)
    - (907) 272-0100
- Cordova Family Resource Center (Alaska)
    - (907) 424-HELP (4357) or (866) 790-4357
- South Peninsula Haven House 24-hour crisis line (Homer, Alaska)
    - (907) 235-8943
- Kodiak Women's Resource and Crisis Center 24-hour crisis line (Alaska)
    - (907) 486-3625
- Seward Prevention Coalition 24-hour crisis line (Alaska)
    - (907) 362-1843
- Advocates for Victims of Violence 24-hour crisis line (Valdez, Alaska)
    - (907) 835-2999
- https://alaskamenchooserespect.org/
    - For men working to end violence and promote safe and respectful relationships
- https://www.thehotline.org/
    - For intimate partner violence
- https://www.rainn.org/about-national-sexual-assault-telephone-hotline
    - For sexual violence
- https://childhelphotline.org/
    - For violence against children
- Alaska Adult Protective Services reporting line for abuse or exploitation of vulnerable adults, including both elders and those with disabilities
    - (800) 478-9996

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Briefing for PWSRCAC Board of Directors – September 2023

ACTION ITEM

Sponsor: KJ Crawford and the Long Range Planning Committee

Project number and name or topic: 210 Long Range Planning

1. **Description of agenda item:** Staff and the Long Range Planning Committee are requesting the Board review and approve a list of proposed protected projects for the upcoming Long Range Planning cycle. The proposed protected project list for FY2025 is included as Attachment A to this briefing sheet.

The definition of a protected project as found in the currently approved Long Range Plan and reads:

> *However, some projects—such as the Observer and the annual report—do not have clear starting and ending dates but instead are presumed to be permanent, ongoing parts of the Council's operations. Any such projects determined to be permanent and ongoing or mandatory obligations based on OPA 90 or our contract with Alyeska are to be classified as protected projects. The Board will annually review and approve any recommendations for protected projects. Protected projects are not subject to the project scoring and ranking as outlined later in the Plan.*

Protected projects have been a part of the Long Range Planning process since 2012. For many years, protected projects were reviewed by the full Board in January, after the December project scoring process has already taken place. Since 2018, the Board has been asked to review and approve the proposed list of protected projects at the September meeting, to allow any projects the Board would like removed from protected status to be scored and ranked during the upcoming planning cycle. Changing the Board's review of protected projects from January to September aligns better with the overall project scoring process.

Through this agenda item, the full Board is also asked to participate in the current Long Range Planning effort. To help foster Board enthusiasm and participation, the Long Range Plan Guidance Memo and associated documents are included as Attachment B. Also included is the Project Briefing Sheet as Attachment C.

2. **Why is this item important to PWSRCAC?** The Board adopted the current PWSRCAC Five-Year Long Range Plan and has committed to the use of the plan and the Long Range Planning process to develop annual work plans and budgets, as well as continually revising and improving the Long Range Plan itself. The Board has directed its members and staff to work together to follow the Long Range Planning process that is now focused on preparing a draft FY2025-FY2029 work plan for consideration and adoption by the Board.

3. **Previous actions taken by the Board on this item:** A Long Range Plan for the upcoming five fiscal years has been annually approved by the Board since approximately 2001. Please contact staff for a complete and extensive list of all Long Range Planning actions.

4. **Committee Recommendation:** A recommendation from the Long Range Planning Committee will be delivered to the Board at the meeting.

Current Long Range Planning Committee members are Board members Robert Archibald, Amanda Bauer (also TOEM Chair), Angela Totemoff, Jim Herbert (also OSPR Chair), and Elijah Jackson; the PWSRCAC technical committee chairs consisting of Steve Lewis (POVTS Chair), Davin Holen (SAC Chair), and Trent Dodson (IEC Chair); and IEC member Cathy Hart.

5. **Action Requested of the Board of Directors:** Approve the protected project list for the upcoming Long Range Planning process as presented in Attachment A to this briefing sheet.

Each Director is also asked to take individual action over the next several months by participating in the Long Range Planning process.

6. **Attachments:**

A: Proposed List of Protected Projects

B: Guidance Memo

- Projects ranked for FY2024
- Projects proposed for FY2024 that were not funded
- Projects proposed for out-years FY2025-FY2028
- Proposed FY2025 budget template
- One-page strategic plan
- OPA 90 & Alyeska contract requirements

C. New Project Briefing Sheet.

Proposed Protected Projects
For Long Range Planning

Below is a list of proposed protected projects for FY25. Definitions of these projects are presented on the following pages, along with the current Board approved funding amounts. The Board is asked to review and approve these protected projects.

OPA90 Mandated Projects

Project #	Project Name	Justification	Committee
6510	State Contingency Plan Reviews	OPA90 Mandate	OSPR
9510	LTEMP	OPA90 Mandate	SAC

Permanent/Ongoing Projects

Project #	Project Name	Justification	Committee
3200	Observer Newsletter	Permanent/ongoing	IEC
3300	Annual Report	Permanent/ongoing	IEC
3610	Web Presence BAT	Permanent/ongoing	IEC
6530	Weather Data & Sea Currents	Permanent/ongoing	OSPR/POVTS
6531	Port Valdez Weather Buoys	Permanent/ongoing	OSPR/POVTS

What is a Protected Project?

The definition of a protected project can be found the Board-approved Long Range Plan, and states:

> *However, some projects—such as the Observer and the annual report—do not have clear starting and ending dates but instead are presumed to be permanent, ongoing parts of the Council's operations. Any such projects determined to be permanent and ongoing or mandatory obligations based on OPA90 or our contract with Alyeska are to be classified as protected projects. The Board will annually review and approve any recommendations for protected projects. Protected projects are not subject to the project scoring as outlined later in this plan.*

Proposed Protected Projects:

6510 State Contingency Plan Reviews (FY2024 budget $94,000):
The purpose of this project is to monitor, review, and comment on state and federal oil discharge prevention and contingency plans (c-plans) for the Valdez Marine Terminal (VMT), the Trans-Alaska Pipeline System (TAPS) tankers that transit Prince William Sound, the Alaska Federal/State Preparedness Plan and associated Subarea Plans. As these c-plans outline prevention and response activities that would be undertaken to clean up spilled oil in the Prince William Sound region, review of these plans is a major task for PWSRCAC as outlined in both the PWSRCAC/Alyeska contract and OPA 90. Providing input and comments on prevention and response in Prince William Sound directly supports PWSRCAC's mission.

9510 Long Term Environmental Monitoring Program (FY2024 budget $204,215):
PWSRCAC initiated the Long Term Environmental Monitoring Program (LTEMP) in 1993 to satisfy the OPA 90 mandate "to devise and manage a comprehensive program of monitoring the environmental impact of the operations of terminal facilities and crude oil tankers while operating in Prince William Sound." LTEMP's normal scope of work involves collecting and analyzing blue mussel tissue, marine sediments, and passive sampling devices for hydrocarbon pollution. That monitoring takes place annually in Port Valdez at three sampling locations. In FY24, and historically every five years since LTEMP's inception, more extensive mussel and passive sampling device monitoring is conducted at a total of 11 sites in Prince William Sound and the Gulf of Alaska, including the three Port Valdez sites. This project supports the PWSRCAC mission by monitoring the environment and providing the organization with the best scientific knowledge to help make informed decisions and comments pertaining to the operation and maintenance of the terminal and tankers.

3200 Observer Newsletter (FY2024 budget $7,500):
The goal of this project is to publish three Observer newsletters per year on PWSRCAC's work and issues. Both e-mail and print versions of the newsletter are produced. This project supports the Council's mission by informing the general public as well as our members and our industry and agency associates, on our issues, concerns, activities, programs, and projects.

3300 Annual Report (FY2024 budget $8,000):
The goal of this project is to prepare and publish PWSRCAC's Annual Report each year. This project supports the Council's mission by informing the general public, our member entities and our industry and agency associates of our issues, concerns and activities, programs and projects.

3610 Web Presence BAT (FY2024 budget $8,500):
This project funds Best Available Technology for the Council's public websites, committee extranet, and online presence through regular maintenance, upgrades, and new features. Every three years, a major review and technology upgrade will be conducted. The Council's web presence serves as a public communications tool and educational resource to increase public awareness of the Council, the history of the Council and citizen oversight of the oil industry, and the environmental impacts of the transportation of oil through Prince William Sound. The website is intended to foster dialog and engagement between the Council, our constituents, and the online community.

6530 Weather Data and Sea Currents (FY2024 budget $16,400):**
This project studies wind, water current and other environmental factors near the Valdez Marine Terminal, in Prince William Sound and the Gulf of Alaska that may aid navigation or affect the ability to prevent, respond to, contain, and clean up an oil spill. Much of this information is collected via the PWS Weather Station Network developed and maintained by the PWS Science Center. PWSRCAC has been a co-funding supporter of the network for over ten years.

6531 Port Valdez Weather Buoys (FY2024 budget $43,700):**
This project is to assemble, deploy and maintain two buoys capable of measuring ocean currents and common weather parameters. The first buoy is installed near Jackson Point in Port Valdez [61.0910°N 146.3811°W]. The second buoy is installed at the Valdez Duck Flats [61.1201°N | 146.2914°W]. The Prince William Sound Science Center (PWSSC) will be partnering with the Council to facilitate this project. A website showing the buoy data can be found at http://www.pwswx.pwssc.org/MOB1.html.

**** Note for weather-related projects**: One of the responsibilities the Council is charged with under the Oil Pollution Act of 1990 is to "Study wind and water currents and other environmental factors in the vicinity of the terminal facilities which may affect the ability to prevent, respond to, contain, and clean up an oil spill."

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Fall/Winter 2023 (FY25)

PWSRCAC Long Range Planning Guidance Memo & Supporting Documents

This packet is intended to provide Committees with useful information and guidance to help identify projects for fiscal years 2025-2029. The approved schedule for this year's LRP process is as follows:

- **September 10, 2023**: External project idea deadline
- **September & October 2023**: Technical committees meet to develop project ideas for FY25-FY29
- **October 20, 2023:** FY25 project budget sheets due
- **November 3, 2023**: Internal management review of FY25 budget sheets due
- **November 14, 2023**: Committee prioritization of FY25 projects due
- **December 1, 2023**: Volunteer workshop to review proposed projects
- **December 4, 2023**: Board and staff ranking of projects due (COB Monday after workshop)
- **Early January 2024**: LRP Committee approves draft LRP for Board approval
- **January 24, 2024**: Board LRP workshop
- **January 25-26, 2024**: Board meeting to approve LRP
- **March 8, 2024**: Edits to budget briefing sheets due
- **Week of March 11, 2024**: Manager review of briefing sheets
- **Week of March 18, 2024**: All staff "Rat killing" meeting
- **Week of April 1, 2024**: Finance Committee meeting to review proposed budget
- **April 15, 2024**: Mail budget books to Board members
- **May 1, 2024**: Budget workshop in Valdez

The information contained in this packet includes:

1) Projects previously ranked for FY2024
2) Projects proposed for FY2024 that were not funded
3) Projects proposed for out-years FY2025-FY2028
4) FY25 project budget template. Please note that some of the projects that were not included in this year's budget may need additional planning before they are brought back again for future years.
5) Board-approved One-Page Strategic Plan
6) List of OPA 90 and Alyeska Contractual Requirements to help in identifying what OPA 90 or Alyeska Contract requirements each project addresses.

Committees are asked to look at projects previously proposed for the current fiscal year but were ultimately not included in the budget. If they are still relevant, please review the goals and objectives and submit an updated budget briefing sheet before proposing the project again..

In addition to reviewing deferred FY24 projects, committees are also asked to develop any new projects for fiscal years 2025-2029. Committees are asked to identify priority goals

and objectives, and outline how proposed projects fulfill these goals. When considering potential projects, some questions that should be answered include:

- How does the project support PWSRCAC's mission?
- What OPA 90 or Alyeska Contract requirements does this project address? (See attached list)
- Which projects most directly support the high-priority goals of PWSRCAC?
- What is the rationale for continuing current projects? What will be solved or accomplished by continuing an existing project into the coming fiscal year?
- Do the projects have clear and definitive goals? Are any of the committee's projects likely to continue for multiple years? Please provide a clearly defined end point for each project or indicate how long the project is expected to take to complete.
- Are there any projects that would benefit from multi-committee involvement (i.e., done in partnership with one or more committees)?
- How will information and/or results from the project be used to promote PWSRCAC's mission? Objectives should be clear, specific, and measurable.

Please also think about the following:

- Would your committee like assistance from the Information and Education Committee (IEC) in promoting and/or educating the public on your project? IEC stands ready to help if any projects are identified and brought to them.
- If your project has a scientific component, would it benefit from Scientific Advisory Committee (SAC) review and input? SAC stands ready to help if any projects are identified and brought to them.
- Is this project likely to be supported or opposed by regulators and/or industry?
- Will this project complement other work done by regulators and/or industry?

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Project Scoring Matrix - Proposed FY24 Projects, Ranked and Sorted

Sort Index	Staff	Lead Comm	Lead Comm Rank		FY2024 Projects	Projected FY2024 Budget	Assigned by Staff	Assigned by Board	Assigned By All
							Points	Points	Points
1	AL	TOEM	2	6512	Maintaining the Secondary Containment Systems at the VMT	$27,800	75	67	142
2	AL	TOEM	1	5081	Storage Tank Maintenance Review	$30,000	77	64	141
3	DV	SAC	1	9520	Marine Invasive Species	$156,629	75	58	133
4	AL	TOEM	5	5XXX	Review of JPO Regulatory Oversight of	$50,000	66	60	126
5	BT	IEC	5	3XXX	Illustrated Prevention & Response System Outreach	$20,000	76	48	124
6	MDR	IEC	1	3410	Fishing Vessel Pgm Community	$19,000	76	45	121
7	LS	OSPR	1	6511	History of VMT C-Planning	$10,000	65	54	119
8	AS	POVTS	1	80XX	Vessel Operator Tsunami Hazards Guidance Workshop	$30,000	66	51	117
9	AL	TOEM	3	5591	Crude Oil Piping Maintenance Review	$51,744	57	60	117
10	MDR	IEC	2	3530	Youth Involvement	$50,750	65	49	114
11	DV	SAC	3	9521	Marine Invasive Species - Internships	$6,500	63	50	113
12	RR	OSPR	2	6536	Analysis of Port Valdez Weather Buoy	$17,500	56	56	112
13	JR	OSPR	3	6540	Copper River Delta & Flats GRS	$25,000	62	43	105
14	AL	TOEM	4	5051	Review of Water Quality Data and Toxicity Testing of Effluent from VMT	$30,000	46	49	95
15	DV	SAC	2	9110	PWS Marine Bird & Mammal Winter	$65,138	56	38	94
16	DV	SAC	4	9643	Update of Subsistence Harvests &	$90,594	49	38	87
17	AS	OSPR	5	7035	Virtual Meeting w/ Contracted Vessel	$2,500	39	45	84
18	MDR	IEC	4	3903	Internship	$4,000	34	49	83
19	RR	OSPR	6	752X	Radio Drill Kit	$7,000	39	42	81
20	AS	POVTS	2	8XXX	State of the Industry Tug Technology	$45,000	34	46	80
21	AS	OSPR	4	7060	Vessel Decon Best Practices	$20,000	43	37	80
22	DV	SAC	5	9550	Dispersants	$10,000	36	43	79
23	MDR	IEC	3	3XXX	Cultivating Diverse Engagement	$10,000	20	33	53

Protected Projects - Not Ranked

AJ	IEC	Protected	3200	Observer Newsletter	$7,500
BT	IEC	Protected	3300	Annual Report	$8,000
AJ	IEC	Protected	3610	Web BAT	$8,500
LS	OSPR	Protected	6510	State Contingency Plan Reviews	$94,000
AS	OSPR	Protected	6530	Weather Data & Sea Currents	$16,400
AS	OSPR	Protected	6531	Port Valdez Weather Buoys	$43,700
AL	SAC	Protected	9510	LTEMP	$204,215

Prince William Sound Regional Citizens' Advisory Council
FY2024 Projects Not Included in Budget

Programs & Projects

3903	Internship Project deferred based on long range plan ranking and lack of funds. Project may be brought back mid-year if funding allows.	Draper-Reich, Maia	IEC	$ 4,000
3750	Cultivating Diverse Engagement Project deferred based on long range plan ranking and lack of funds. Project may be brought back mid-year if funding allows.	Draper-Reich, Maia	IEC	$ 10,000
5051	Review of Water Quality Data & Toxicity Testing of Effluent Discharged from the VMT Project deferred due to lack of funds. Project may be brought back mid-year if funding allows.	Love, Austin	TOEM	$ 30,000
5081	Storage Tank Maintenance Review Project partially deferred based on lack of funds, and instead prioritizing project 5591 – Crude Oil Piping Maintenance Review, because the Council has not executed a piping maintenance focused project in a long time, whereas multiple tank maintenance projects have been executed or are ongoing. The part of this project that will be deferred in FY24 is new scope focused on Ballast Water Tank 93. The parts of this project that were started in previous fiscal years, pertaining to Tanks 2, 7, and 94, will be continued in FY24 with committed funds from FY23	Love, Austin	TOEM	$ 30,000
5570	Review of JPO Regulatory Oversight at the VMT Project deferred due to lack of funds, and because the Council is currently requesting a GAO audit that would accomplish the project objectives. Project may be brought back mid-year if funding allows, and the need to move this forward is determined necessary.	Love, Austin	TOEM	$ 50,000
6511	History of Contingency Planning Project deferred based on lack of funds, and need for additional in-house planning and preparation. Project may be brought back mid-year if funding allows, and additional project work is completed.	Swiss, Linda	OSRP	$ 10,000
6540	Copper River Delta & Flats GRS Workshop Project deferred due to lack of funds, for additional in-house planning purposes, and lack of support from key regulatory agencies. Project may be brought back mid-year if funding allows, additional project work is completed, and support is received.	Robida, Jeremy	OSPR	$ 25,000
7060	Vessel Decontamination Best Practices Project deferred based on long range plan ranking and lack of funds. Project may be brought back mid-year if funding allows.	Robida, Jeremy	OSRP	$ 20,000
7525	Radio Drill Kit Project deferred based on long range plan ranking, lack of funds, and may be a project Alyeska/SERVS funds in-house. Project may be brought back mid-year if funding allows, and support is received.	Robertson, Roy	OSPR	$ 7,000
9550	Dispersants Project deferred based on long range plan ranking and lack of funds. Project may be brought back mid-year if funding allows.	Verna, Daielle	SAC	$ 10,000
9643	Comprehensive Update of Subsistence Harvests & Uses in PWS: Patterns in the PWS Communities of Tatitlek and Chenega Project deferred due to lack of support from the communities of Tatitlek and Chenega	Verna, Danielle	SAC	$ 90,594

Section Total	$ 286,594
Total	$ 286,594

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Outyears Projected FY24-FY28

Programs and Projects	Current Approved FY2024	Proposed FY2025	Proposed FY2026	Proposed FY2027	Proposed FY2028
INFORMATION & EDUCATION					
3200--Observer Newsletter	$7,500	$8,000	$8,500	$9,000	$9,500
3300--Annual Report	$8,000	$8,400	$8,800	$9,200	$9,600
3410--Fishing Vessel Program Community Outreach	$19,000	$19,570	$20,157	$20,762	$21,385
3530--Youth Involvement	$75,937	$50,750	$50,750	$50,750	$50,750
3610--Website Presence BAT	$5,440	$4,000	$4,500	$5,000	$5,500
3XXX--Illustrated Prevention & Response System Outreach	$20,000	$14,000			
Subtotal	$135,877	$104,720	$92,707	$94,712	$96,735
TERMINAL OPERATIONS & ENVIRONMENTAL MONITORING					
5081--Storage Tank Maintenance Review	$52,892				
5591--Crude Oil Piping Maintenance Review	$51,744				
5640--ANS Crude Oil Properties		$30,000			
6512--Maintaining the Secondary Containment Systems at the VMT	$16,707				
5XXX--PFAS Mitigation		$35,000			
5XXX--Review of VMT's Mechanical Integrity Program		$40,000			
5XXX--Shore Power for Tankers at the VMT			$40,000		
5XXX--Review of Air Emissions from the VMT			$40,000		
Subtotal	$121,343	$105,000	$80,000	$0	$0
OIL SPILL PREVENTION & RESPONSE					
6510--State Contingency Plan Reviews	$80,000	$102,500	$111,800	$115,154	$118,609
6530--Weather Data/Sea Currents	$16,400	$16,400	$16,400	$16,400	$16,400
6531--Port Valdez Weather Buoys	$51,200	$43,700	$43,700	$43,700	$43,700

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Outyears Projected FY24-FY28

6536--Analysis of Weather Buoy Data	$21,858	$22,514	$23,189	$23,885	$24,601
653X--Comparison of Windy App & Seal Rocks Buoy		$25,000			
653X--Hinchinbrook Entrance Wave Buoy Comparison				$25,000	
7035--Virtual Meeting with Contracted Fishing Vessel Reps	$1,000				
706X--Review of Decanting Technology		$25,000			
Subtotal	$170,458	$235,114	$195,089	$224,139	$203,310
PORT OPERATIONS & VESSEL TRAFFIC SYSTEMS					
8520--Miscommunication in Maritime Contexts	$55,000	$50,000			
80XX--Vessel Operator Tsunami Hazards Guidance Workshop	$30,000				
80XX--State of the Industry Advances in Escort Tug Technology	$45,000				
80XX--MASS Technology Review		$25,000			
Subtotal	$130,000	$75,000	$0	$0	$0
SCIENTIFIC ADVISORY					
6560--Peer Listener Training	$12,440				
9110--PWS Marine Bird & Mammal Winter Survey	$71,738				
9510--Long Term Environmental Monitoring Program	$197,215	$160,000	$164,800	$169,744	$174,836
9512--Determining Concentration & Composition of Oxygenated Hydrocarbons at the VMT	$17,000				
9520--Marine Invasive Species	$216,883	$20,000			
9521--Marine Invasive Species Internships	$6,500	$6,500	$6,500	$6,500	$6,500
Subtotal	$521,776	$186,500	$171,300	$176,244	$181,336
Committee Subtotals	$1,079,454	$706,334	$539,096	$495,095	$481,381
PROGRAMS					
3100--Public Information	$7,390	$7,612	$7,840	$8,075	$8,318
3500--Community Outreach	$65,635	$67,604	$69,632	$71,721	$73,873

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Outyears Projected FY24-FY28

3600--Public Communications Program	$4,149	$4,550	$4,950	$5,350	$5,750
4000--Program and Project Support	$1,800,070	$1,854,072	$1,909,694	$1,966,985	$2,025,995
4010--Digital Collections Program	$5,000	$5,150	$5,305	$5,464	$5,628
5000--Terminal Operations Program	$25,000	$25,750	$30,001	$30,901	$30,002
6000--Spill Response Program	$4,000	$16,000	$16,000	$16,000	$16,000
7000--Oil Spill Response Operations Program	$4,250	$7,420	$7,605	$7,790	$7,975
7520--Preparedness Monitoring	$28,500	$44,400	$50,400	$51,912	$53,469
8000--Maritime Operations Program	$11,160	$13,000	$13,000	$13,000	$13,000
9000--Environmental Monitoring Program	$17,000	$15,900	$15,900	$15,900	$15,900
Subtotal	$1,972,154	$2,061,458	$2,130,327	$2,193,098	$2,255,909
LEGISLATIVE AFFAIRS					
4400--Federal Government Affairs	$64,100	$66,023	$68,004	$70,044	$72,145
4410--State Government Affairs	$35,800	$36,874	$37,980	$39,120	$40,293
Subtotal	$99,900	$102,897	$105,984	$109,163	$112,438
BOARD OF DIRECTORS					
1350--Information Technology		$0	$0	$0	$0
2100--Board Administration	$141,038	$145,269	$149,627	$154,116	$158,740
2150--Board Meetings	$201,500	$207,545	$213,771	$220,184	$226,790
2200--Executive Committee	$3,000	$0	$0	$0	$0
2220--Governance Committee	$0	$0	$0	$0	$0
2222--Finance Committee	$3,000	$2,000	$2,000	$2,000	$2,000
2700--Legislative Affairs Committee	$18,675	$19,235	$19,812	$20,407	$21,019
4005--Facilitated Strategic Planning Workshop	$20,000	$35,000			
Subtotal	$387,213	$409,049	$385,211	$396,707	$408,548
COMMITTEES & COMMITTEE SUPPORT					
2250--Committee Support	$211,067	$217,399	$223,921	$230,639	$237,558
2300--Oil Spill Prevention &	$11,000	$11,330	$11,670	$12,020	$12,381
2400--Port Operations & Vessel Traffic System	$4,000	$7,500	$8,000	$8,500	$9,000
2500--Scientific Advisory Committee	$12,000	$12,360	$12,731	$13,113	$13,506
2600--Terminal Operations & Environmental Monitoring	$4,000	$7,500	$8,000	$8,500	$9,000
2800--Information and Education Committee	$10,000	$10,300	$10,609	$10,927	$11,255
Subtotal	$252,067	$266,389	$274,931	$283,699	$292,700
GENERAL & ADMINISTRATIVE					
1000--General and Administrative	$518,310	$533,859	$549,875	$566,371	$583,362

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Outyears Projected FY24-FY28

1050--General and Administrative--Anchorage	$169,356	$174,437	$179,670	$185,060	$190,612
1100--General and Administrative--Valdez	$177,236	$182,553	$188,030	$193,671	$199,481
1300--Information Technology	$109,588	$112,876	$116,262	$119,750	$123,342
Subtotal	$974,490	$1,003,725	$1,033,836	$1,064,852	$1,096,797
Subtotals	$4,765,278	$4,549,852	$4,469,385	$4,542,614	$4,647,773
Contingency (Current Year	$50,000	$50,000	$50,000	$50,000	$50,000
Total Expenses	$4,815,278	$4,599,852	$4,519,385	$4,592,614	$4,697,773

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Prince William Sound Regional Citizens' Advisory Council
Budget Briefing Sheets FY-2025

Type:
☐ Capital project (Note: separate Capital Projects checklist required)
☐ Program ☐ Protected
☐ Project ☐ Protected
☐ Program/Project Support

Project Number:
Project Title:
Lead Staff:
Project Team Members:
Cross Committee Interest (If yes, which committees):

1. **Description**
    a. **Provide a short description of the program/project**.
    b. **Why is this program/project necessary? What need or information gap is being addressed**?
    c. **How will information or results be used**?
    d. **How will program/project success be measured**?
2. **Program/project goals and objectives** [Should be clear, specific, and measurable with starting and ending dates.]
3. **Strategic plan and mission**
    a. **Which strategic goal(s) or objective(s) does this program/project advance?** [Check all that apply on attached strategic plan page.]
    b. **How/why does the proposed program/project advance PWSRCAC's mission**?
    c. **Which OPA 90 and Alyeska contract requirements does it address?** [Check all that apply on attached OPA 90/Alyeska contract page.]
4. **Project Implementation**
    a. **How will the program/project be accomplished?** (e.g., with in-house staff and/or outside contractors, etc.? Please estimate project manager time in hours.)
    b. **Does the program/project require Alyeska or shipper cooperation**?
    c. **Is this an ongoing program/project? If not, when will it start and when will it be finished**?
    d. **Does the program/project involve partnership or cost sharing with other organizations**?
5. **Budget** (3 year, if applicable). Provide detail for each cost item and summarize on attached budget sheet by account category
    a. **What is the total cost of the program/project over its life**?
    b. **How much was previously spent on this program/project?** (This information may be obtained from the financial manager.)

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Budget

Acct #	Account Title	Notes	FY-2025	FY-2026	FY-2027
50000	Salaries and Wages				
50100	Employer Payroll Taxes				
50400	Group Health Insurance				
50500	Rents				
50600	Utilities—Telephone & Data				
50700	Supplies (consumable)				
50800	Equipment Leases				
50850	Software & Software Subscriptions	Included only in 1300 budget.			
50900	Internet & E Mail Access	Included only in 1300 budget.			
51000	Equipment Purchases (Non-capitalized < $5,000)	Generally, anything $5,000 and more is depreciated over the asset's useful life.			
51100	Dues and Subscriptions	Magazine and other subscriptions.			
51200	Accounting	Included only in 1000 budget.			
51300	Legal Fees				
51450	Professional Fees -- Other				
51600	Advertising				
51700	Education	Tuition and other training expenses, excluding travel.			
51800	Printing & Reproduction				
51900	Postage, Delivery & Shipping				
52300	Conference & Conventions	Conference registration fees and other conference costs, excluding travel.			
52400	Equipment Maintenance				
53000	Insurance	Excluding group health insurance.			
54000	Library & Reference Materials				
55100	Recruiting Expenses				
57000	Research Contributions				
58000	Depreciation & Amortization				
59000	Miscellaneous				
59100	Stipends				
59500	Contracts				
60000	Travel	Describe who is traveling, where they are going, and for what purpose.			
61000	Business Meals				
62000	Meeting Expenses	Meeting room rental and catering expenses.			
	Total				

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Prince William Sound Regional Citizens' Advisory Council
One-Page Strategic Plan

Mission Statement: Citizens promoting the environmentally safe operation of the Alyeska terminal and associated tankers

Link to full FY2024-FY2028 Long Range Plan

Core Purpose: Citizen oversight to prevent oil spills, minimize environmental impacts, and promote response readiness

Core Values

- Represent the interests of our stakeholders by providing an effective voice for citizens
- The foundation of PWSRCAC is volunteerism
- Promote vigilance and combat complacency
- Organizational transparency and integrity through truth and objectivity
- Foster environmental stewardship

Overarching Goals and Objectives

- Compliance with OPA90 and Alyeska contractual requirements.
  ☐ (1) Annual re-certification and funding
  ☐ (2) Maintain regional balance
  ☐ (3) Link projects and programs to OPA90 and Alyeska contract

- Continue to improve environmental safety of oil transportation in our region.
  ☐ (4) Monitor and review development of, and compliance with, laws and regulations
  ☐ (5) Pursue risk-reduction measures and promote best available technologies and best practices
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  ☐ (9) Monitor and review environmental indicators
  ☐ (10) Promote and facilitate effective research for scientific, operational and technical excellence

- Develop and maintain excellent external and internal communication.
  ☐ (11) Advocate for government and industry measures to improve the environmental safety of oil transportation
  ☐ (12) Maintain and improve relationships with government, industry and communities
  ☐ (13) Be the model for citizen oversight and provide support for other citizens' advisory groups
  ☐ (14) Ensure availability of PWSRCAC information
  ☐ (15) Work to improve availability of information to PWSRCAC from industry sources

- Achieve organizational excellence.
  ☐ (16) Effective short and long term planning, with clear and measurable goals for projects
  ☐ (17) Fiscally responsible, efficient, and easily understood financial procedures and reporting
  ☐ (18) Committed to continuous improvement
  ☐ (19) Recognize people as the most important asset of the organization
  ☐ (20) Recruit and develop knowledgeable and committed Board members, volunteers, and staff
  ☐ (21) Strong volunteer structure and support for volunteers

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PWSRCAC's structure and responsibilities stem from the Oil Pollution Act of 1990 (OPA 90) and our contract with Alyeska Pipeline Service Company (Alyeska). These documents guide our organization and it is important to review the following requirements, and if possible the source documents, when developing proposed projects for Board consideration and approval. Following are abbreviated summaries of some of the major requirements from both documents. Please check the box next to each requirement that the proposed project addresses.

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OPA 90 Contractual Requirements

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Alyeska Contractual Requirements

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Prince William Sound Regional Citizens' Advisory Council
Budget Briefing Sheets FY-2025

Type:
☐ Capital project (Note: separate Capital Projects checklist required)
☐ Program ☐ Protected
☐ Project ☐ Protected
☐ Program/Project Support

Project Number:
Project Title:
Lead Staff:
Project Team Members:
Cross Committee Interest (If yes, which committees):

1. **Description**
    a. **Provide a short description of the program/project**.
    b. **Why is this program/project necessary? What need or information gap is being addressed**?
    c. **How will information or results be used**?
    d. **How will program/project success be measured**?
2. **Program/project goals and objectives** [Should be clear, specific, and measurable with starting and ending dates.]
3. **Strategic plan and mission**
    a. **Which strategic goal(s) or objective(s) does this program/project advance?** [Check all that apply on attached strategic plan page.]
    b. **How/why does the proposed program/project advance PWSRCAC's mission**?
    c. **Which OPA 90 and Alyeska contract requirements does it address?** [Check all that apply on attached OPA 90/Alyeska contract page.]
4. **Project Implementation**
    a. **How will the program/project be accomplished?** (e.g., with in-house staff and/or outside contractors, etc.? Please estimate project manager time in hours.)
    b. **Does the program/project require Alyeska or shipper cooperation**?
    c. **Is this an ongoing program/project? If not, when will it start and when will it be finished**?
    d. **Does the program/project involve partnership or cost sharing with other organizations**?
5. **Budget** (3 year, if applicable). Provide detail for each cost item and summarize on attached budget sheet by account category
    a. **What is the total cost of the program/project over its life**?
    b. **How much was previously spent on this program/project?** (This information may be obtained from the financial manager.)

Budget

Acct #	Account Title	Notes	FY-2025	FY-2026	FY-2027
50000	Salaries and Wages				
50100	Employer Payroll Taxes				
50400	Group Health Insurance				
50500	Rents				
50600	Utilities—Telephone & Data				
50700	Supplies (consumable)				
50800	Equipment Leases				
50850	Software & Software Subscriptions	Included only in 1300 budget.			
50900	Internet & E Mail Access	Included only in 1300 budget.			
51000	Equipment Purchases (Non-capitalized < $5,000)	Generally, anything $5,000 and more is depreciated over the asset's useful life.			
51100	Dues and Subscriptions	Magazine and other subscriptions.			
51200	Accounting	Included only in 1000 budget.			
51300	Legal Fees				
51450	Professional Fees -- Other				
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PRINCE WILLIAM SOUND
REGIONAL CITIZENS' ADVISORY COUNCIL

September 2023
Status Report
As of August 4, 2023

3100 – Public Information Program

Objectives: Inform members of the general public, member entities, and agency and industry partners of PWSRCAC projects. Support legal requirements for ongoing updates to the public.

Accomplishments since last report: Staff continues to inform the general public and others about PWSRCAC's projects and mission through publications and online presence.

3200 – The Observer

The Observer: The Council's newsletter, *The Observer*, is produced three times per year in both print and email format. Individual articles are posted to the Council's website. The article archive is available here: www.tinyurl.com/ObserverArchive.

3300 – Annual Report

Objectives: Prepare and publish PWSRCAC's Annual Report each year to:

1. Inform the general public, member entities, and agency and industry partners of PWSRCAC projects and activities; and
2. Support legal requirements for ongoing updates to the public.

Accomplishments since last report: Work to create the content and design for the 2022-2023 report was started. Staff are developing the text content and coordinating with the contracted graphic designer on the layout.

3410 – Fishing Vessel Program Community Outreach

Objectives: For bringing the realities of oil spill response tactics, equipment, and planning to life for citizens within the Exxon Valdez oil spill region communities, the fishing vessel community outreach program is a perfect venue. Each fall and spring SERVS holds its contracted fishing vessel program training in the following communities: Cordova, Valdez, Whittier, Seward, Homer, and Kodiak. The on-water portion of the training, viewed by the public during this outreach tour in partnership with Alyeska/SERVS, shows real-time capabilities of oil spill prevention and response equipment and tactics. This project contracts a local tour boat that will allow interested students, members of the public, and media to observe and learn about oil spill prevention and response.

Accomplishments since last report: The Spring 2023 tour was held in Valdez on Wednesday, May 3, aboard the Stan Stephens vessel Glacier Spirit. Alyeska and SERVS staff joined PWSRCAC staff to share information about the SERVS Fishing Vessel Program and other oil spill response measures with the public. There were 119 passengers total. In attendance were PWSRCAC volunteers, staff, and partners, local reporters, and Valdez community members including groups of students from Gilson Middle School, Valdez High School, and PWS College.

Hosting the tour in Valdez offered extra resources for the passengers to observe and learn about. Participants watched fishing vessels engaged in nearshore response tactics as well as practicing with the open water barge and tug. Narrators shared about local Geographic Response Strategies and a new purpose-built response barge at the dock. We also cruised just outside the security zone of the Valdez Marine Terminal to learn about the facilities and their purposes on site. The oil tanker Alaskan Navigator was at the berth preparing to depart so Angelina Fuschetto spoke about tanker vessels and answered questions about maritime careers. Kate Dugan, Mike Day, and Klint VanWingerden of Alyeska, Angelina Fuschetto of Crowley Alaska Tankers, and Maia Draper-Reich and Jeremy Robida of PWSRCAC contributed narration about their areas of expertise. Additional staff and volunteers circulated and engaged in conversation with smaller groups of passengers.

Fourteen participants filled out an online feedback survey which gathered overall very positive comments. Valdez High School student Izzy Kizer stated about the event, "We need to know how to prevent [oil spills], but when they do happen, it's very important to know how to clean them up. Some of these things, they work on a way larger scale than we're aware of and seeing that helps broaden your perspective."

"It takes a lot of coordination and cooperation from so many different entities in the community and that's really fun for the students to see," said Gilson Middle School teacher Ann Norris. This sentiment was echoed by Mo Radotich, one of several representatives from the Alaska Department of Environmental Conservation on board the tour. "I think it's good for us all to get together – from regulatory, industry, RCAC, community members that are here," said Radotich. "I think it's important to see us working together and keep developing those relationships."


Members of the Valdez community observe SERVS on-water training for contracted fishing vessels. Photos: Dave Janka

3500 – Community Outreach Program

Objectives: Increase awareness of PWSRCAC and increase communications with member organizations and communities in the Exxon Valdez oil spill region.

Accomplishments since last report:

- **May 2 –** Youth Involvement Bligh Reef Expedition, Valdez, AK
  - Five-hour boat trip for local high school and college students to learn about oceanography and oil spill topics.
  - PWSRCAC volunteers and staff, and Alyeska staff attended and participated in the marine science activities and career/education pathway discussions.

- **May 2 –** Youth Involvement Independent Research Course Symposium, Valdez, AK
  - Poster-session style symposium at Prince William Sound College where students funded by PWSRCAC and others shared posters via casual conversation and five-minute presentations.
- **May 3 –** Valdez Marine Terminal tour for PWSRCAC volunteers and staff
  - First onsite tour for PWSRCAC members since COVID began.
- **May 3 –** Fishing Vessel Program Community Outreach tour, Valdez, AK
  - Educational boat tour for the public to observe and learn about the SERVS contracted fishing vessel program and training.
  - Details in the 3410 Fishing Vessel Program Community Outreach tour status report.
- **May 3** – Valdez Community Reception, Valdez, AK
  - Cohosted by Hilcorp, LLC, Alaska Tanker Company, and PWSRCAC at the Civic Center, this event included community attendance, food, and a fire-fighting demo by the SERVS tugs.
- **May 15-16** – Prince William Sound Natural History Symposium, Whittier, AK
  - Outreach Coordinator Maia Draper-Reich participated on the planning committee, presented on "Then & Now: 34 Years Since the Exxon Valdez Oil Spill," and hosted a PWSRCAC booth.
- **May 25** – Guides' Training Session, Valdez, AK
  - Staff members Jeremy Robida and Nelli Vanderburg hosted a free event for Valdez guides to learn about the Valdez Marine Terminal, oil spill prevention and response systems, and PWSRCAC's role.
- **June 3** – Presentation to Kenai Fjords Floating Teachers' Workshop, Seward, AK
  - Maia prerecorded a short talk for field course orientation and delivered "The Spill" books and PWSRCAC materials ahead of time for the participants and instructors.
  - Alaska Geographic and Ocean Alaska Science & Learning Center (National Park Service) are the course facilitators.
- **June 6** – Presentation to Prince William Sound Teachers' Course, Anchorage, AK
  - Maia presented and distributed "The Spill" books and PWSRCAC materials during orientation to the participants and instructors.
  - Alaska Geographic and United States Forest Service are the course facilitators.
- **June 11** – Copper River Nouveau, Cordova, AK
  - Board member Dave Janka, OSPR member Skye Steritz, and staff members Joe Lally and Danielle Verna attended the gala benefit for the Prince William Sound Science Center on behalf of the Council.
- **June 29** – Exxon Valdez oil spill and PWSRCAC overview for visiting youth, Valdez, AK
  - Staff members Donna Schantz and Sadie Blancaflor presented to a group of youth participating in a church intensive via the Epiphany Lutheran Episcopalian Church. The youth were visiting from Soldotna, Anchorage, and Fairbanks.
- **August 4-6** – Salmonfest, Ninilchik, AK
  - Maia hosted the Council's booth in the nonprofit 'Cause'way section of the festival with help from Homer area volunteers.

3530 – Youth Involvement

Objectives: Select proposals for youth activities, in collaboration with partner agencies and organizations throughout the Exxon Valdez oil spill region. Coordinate activities to facilitate hands-on learning about topics related to the Council's mission. Where appropriate and feasible, participate in mission-relevant youth activities.

Accomplishments since last report: The Information and Education Committee completed a revision of the Youth Involvement Request for Proposals (RFP) in time to release the RFP in April/May 2023. The committee received and reviewed four proposals and then voted to fund all four proposed projects. The contracts are out for signature for these projects which will take place over the 2023/2024 school year with the following contractors: Alaska Marine Conservation Council/Kodiak Ocean Science Discovery Program (two projects, both in Kodiak), University of Alaska Anchorage/Prince William Sound College (Valdez), and Center for Alaskan Coastal Studies (Homer).

Two Youth Involvement projects were completed in June; one with University of Alaska Anchorage/Prince William Sound College (Valdez) and one with Gilson Middle School (Valdez).

There are currently four summertime Youth Involvement projects underway with their contracts set to close September 30, 2023. These projects are being facilitated by Alaska Geographic (Western PWS, serving youth from anywhere in Alaska), Copper River Watershed Project (project serving youth in Valdez/Glennallen), Center for Alaskan Coastal Studies (Homer), and Prince William Sound Science Center (Cordova and the Copper River region).

3600 – Public Communications Program

Objectives: This program disseminates information and increases awareness through the Observer newsletter and the Council's online presence. This program helps publicize information generated from the Council's technical committee projects. Project results and information are disseminated in a format that is easily understood by the general public.

The booklet "Stories of a Citizens' Council" is being prepared for a reprint this fall.

3610 – Web Best Available Technology

Objectives: This project helps ensure the Council's websites and web presence using the best and most up-to-date technology available by funding new features, repairs, and upgrades to the Council's websites. This includes regular maintenance and technical upgrades as well as upgrades to such aspects as user experience and branding.

Current projects: The Council's website recently moved to a new host and underwent a major technical upgrade. The technology that manages the library of PDF documents has been upgraded, allowing for improvements in search and promising features that can be implemented in future projects.

Website data: Website usage for www.pwsrcac.org is tracked through Google Analytics for information such as numbers of visitors, location of visitors, how visitors found the site, which pages are visited most often, how much time is spent on particular pages, whether visitors were engaged enough to visit more than one page and much more.

Due to our recent website upgrades coinciding with a major overhaul of Google's analytics program, the data on website usage was not available at the time this report was written. These stats will return in the January Board packet. Please contact Project Manager Amanda Johnson if you would like more details.

3810 – Illustrated Prevention & Response System Outreach

Objectives: Work with artist and author Tom Crestodina to develop artwork for a book and other materials showcasing the oil spill prevention and response system in Prince William Sound. This project hopes to educate stakeholders and the general public about the importance of spill prevention, why the PWS prevention/response system is one of the best in the world, and how it can be kept that way; and create new work partnerships with industry and regulators, similar to how groups collaborate during the fishing vessel training community outreach tours.

Accomplishments since last report: Crestodina's interest and availability were confirmed for fall of 2023. Alyeska and Crowley Alaska Tankers have confirmed their interest in participating, though staff are waiting for further details from Alyeska/SERVS on their level of participation. Once more input from Alyeska is confirmed, staff with work with Crestodina to confirm the scope of work and develop the contract.

5000 – Terminal Operations Program

Objectives: The goal of the Terminal Operations and Environmental Monitoring (TOEM) Program is to prevent hazardous liquid spills and minimize the actual and potential environmental impacts associated with the operation and maintenance of the Valdez Marine Terminal.

Accomplishments since last report:

Tank Vent Damage: During the July 2023 TOEM Committee meeting, the TOEM Committee reviewed and discussed Taku Engineering LLC's report titled "Crude Oil Storage Tank Vent Snow Damage," which found that following the vent damage several tanks had headspaces above the lower explosive limit. This indicates that the presence of a spark in these conditions could have caused an explosion or fire at the VMT, thought that did not occur. The TOEM Committee reviewed the report and recommended that the Board accept it as meeting the terms and conditions of the contract and for distribution to the public. The recommendation came via email vote, as there was not a quorum for the TOEM meeting where the report was reviewed and discussed.

VMT Projects and Maintenance Monitoring: The initial VMT Title V Air Quality permit was set to be released for public comment on June 16, 2023, but has since been delayed. Currently, Alyeska is operating under a permit shield which allows Alyeska to utilize standards set forth in their 2012 Title V Air Quality Permit that expired in 2017. A limited bid for contractors to review the permit and provide comments was issued June 19, 2023, and the TOEM Committee is currently reviewing these proposals in preparation for when the permit is published and opened for public comment.

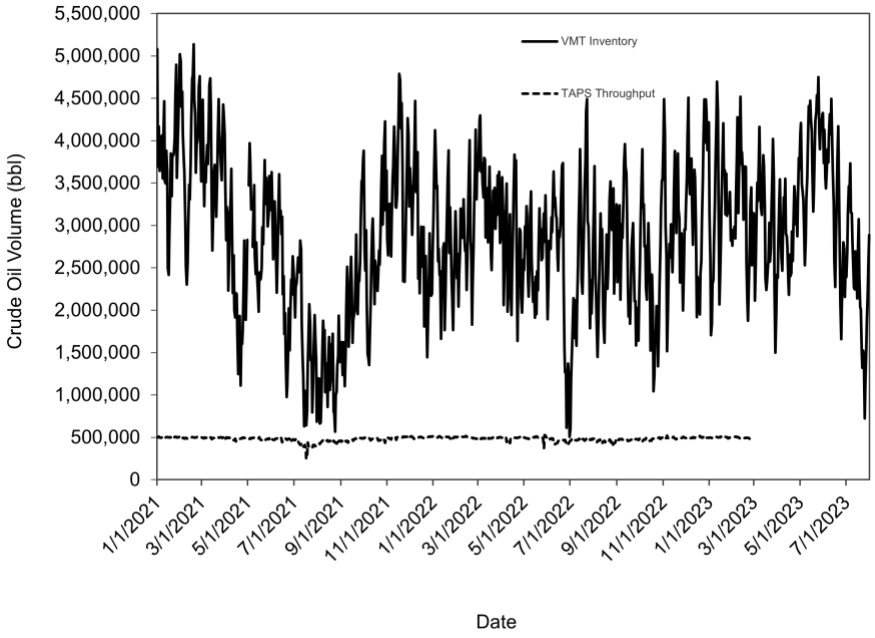
Council staff Sadie Blancaflor and Joe Lally also met with Alyeska staff on June 28 to conduct a tour of the VMT and monitor progress on Tank 8 and Tank 93. Tank 8 is currently in the process of being cleaned to API 653 inspection standards and awaits a decision as to when the tank bottom and cathodic protection system would be replaced and the tank brough back into service. Tank 93 is currently undergoing the replacement of the annular plate and installment of a drip ring.

Outstanding Alyeska responses to Council Recommendations and Information Requests: The Council is waiting for responses from Alyeska regarding multiple information requests and recommendations related to several TOEM projects. Some of the requested information is needed to make progress on current TOEM projects that are being delayed without the information.

Attachments: Graphs depicting a variety of data related to the operation and environmental impacts of the Valdez Marine Terminal.

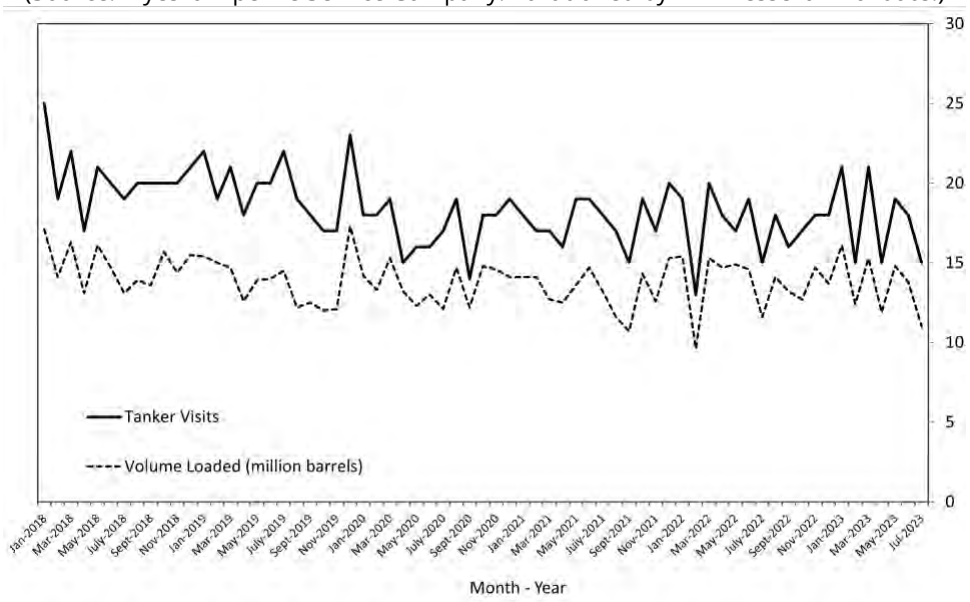
Daily Oil Inventory at the Valdez Marine Terminal and Trans-Alaska Pipeline Throughput

(Source: Alaska Department of Revenue - Tax Division, http://tax.alaska.gov/programs/oil/production.aspx)



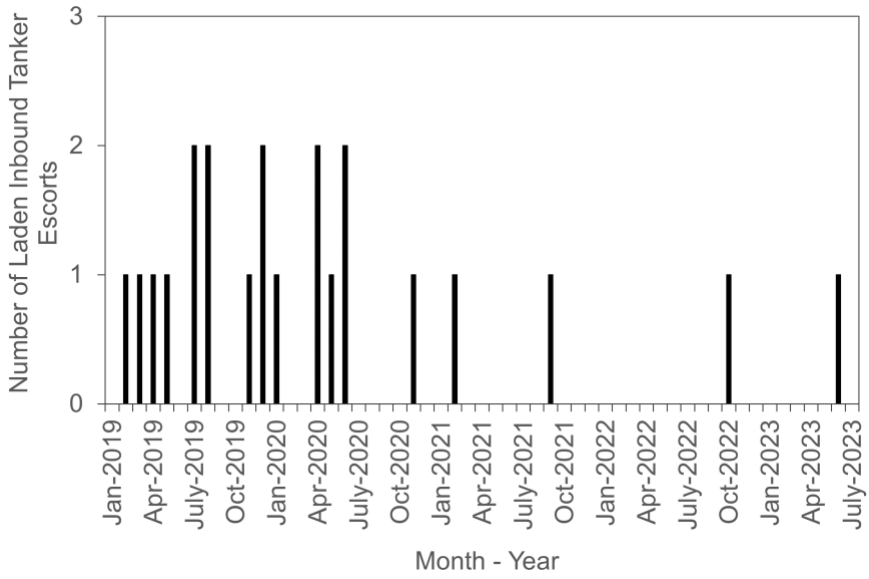
Number of tanker visits and crude oil volume loaded onto ships from VMT

(Source: Alyeska Pipeline Service Company. Partitioned by VMT vessel arrival date.)



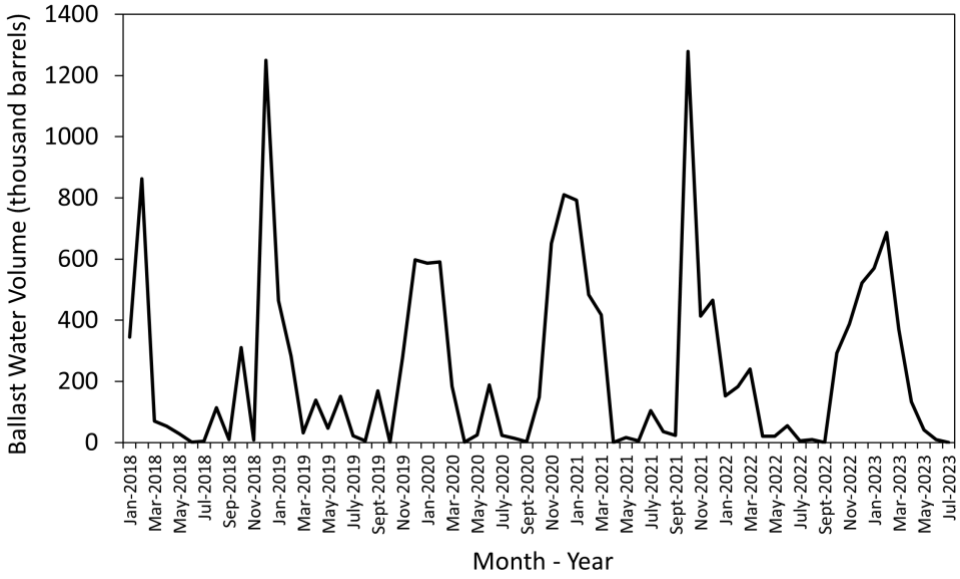
Inbound laden tanker escorts to VMT

(Source: Alyeska Pipeline Service Company. Partitioned by VMT vessel arrival date.)



Monthly ballast water deliveries to Ballast Water Treatment Facility from tanker ships

(Source: Alyeska Pipeline Service Company. Partitioned by VMT vessel arrival date.)



5081 – Crude Oil Tank 7 and Ballast Water Tank 94 Maintenance Review

Objectives: This project would entail performing a technical review of the maintenance of crude oil storage Tank 7 and ballast water storage Tank 94 at the Valdez Marine Terminal. Both Tank 7 and Tank 94 underwent comprehensive internal inspections in 2021. The last time Tank 7 underwent a similar internal inspection was in 2008, and Tank 94's last internal inspection occurred in 2012. The 2021 internal inspections of both tanks will result in a large amount of new information pertaining to the past, current, and future maintenance of each storage tank. Additionally, since their last internal inspections were completed back in 2008 and 2012, Alyeska has gathered and maintained other information, such as cathodic protection system testing records and external inspection results

pertinent to the maintenance of Tanks 7 and 94. The new information generated from the 2021 internal inspections and the other, older information must all be considered to continue to safely maintain each of these tanks. This project is necessary to ensure that Alyeska is using industry best practices and considering all the pertinent information in the decisions they make to safely maintain both tanks, now and in the future.

Accomplishments since last report: Progress on these FY2022 and 2023 projects has stalled because of delays in receiving information from Alyeska – this situation is largely the same as it was during the last report. Tanks 2, 7, and 94 are all back in service now, and the information the Council needs to complete these projects should be available. The Council first requested the Tank 2 information on 3/2/2023 and the Tank 7 and 94 information on 10/7/2021. PWSRCAC continues to work through Alyeska's senior leadership and Liaison to acquire the information requested.

5591 – Crude Oil Piping Maintenance Review

Objectives: This project involves a technical review of the internal inspections of crude oil piping that occurred at the Valdez Marine Terminal (VMT) from 2016 through 2018, and a follow-on inspection of the buried crude oil relief piping that occurred in 2022. The goal of this project is to ensure that the crude oil piping at the VMT is maintained using industry best practices, such that the risks of a spill are minimized.

Accomplishments since last report: The data for the internal inspections of crude oil piping that occurred at the VMT from 2016 through 2018, and a follow-on inspection of the buried crude oil relief piping that occurred in 2022, was requested from Alyeska in June 2023. However, Alyeska noted that the dataset was very large and the estimated delivery time of the data would be in the 3rd quarter of next year (FY2025).

6000 – Oil Spill Response Program

Objectives: Through this program, PWSRCAC develops positions and recommendations on oil spill response technologies; reviews state and federal contingency plans (c-plans) and plan-related issues; promotes compliance, enforcement, and funding of existing environmental regulations; and promotes the incorporation of local knowledge of sensitive areas into contingency planning.

Accomplishments since the last report:

Alaska Regional Response Team (ARRT): General information on the ARRT can be found HERE, and meeting summaries and presentations can be found HERE. The next ARRT meeting is scheduled for September 14, 2023, in Anchorage. Under ARRT, the Regional Stakeholder Committee (RSC) Task Force continues work on the job aid for the RSC Liaison Officer, RSC members, and language to be inserted into the area contingency plans.

Prince William Sound Area Contingency Plan (PWS ACP): The next PWS Area Committee meeting is scheduled for October 5, 2023, in conjunction with the Valdez Marine Terminal IMT exercise on October 4, 2023.

Arctic and Western Area Contingency Plan (AWA ACP): The AWA has scheduled the following subcommittee and workgroup meetings:

- Salvage and Marine Firefighting Workgroup meeting is scheduled for August 17, 2023.

- The Training and Exercise Subcommittee, Admin Subcommittee, and GRS Subcommittee will meet quarterly on the same day. The next meeting is scheduled for October 11, 2023.

6510 – Contingency Plan Review

Objectives: The purpose of this project is to monitor, review, and comment on state and federal contingency plans (c-plans) for the Valdez Marine Terminal (VMT) and the Trans Alaska Pipeline System (TAPS) tankers that transit Prince William Sound. Reviewing c-plans is a major task for PWSRCAC as outlined in both the PWSRCAC/Alyeska contract and OPA 90.

The Prince William Sound Tanker Oil Discharge Prevention and Contingency Plan (PWS Tanker C-Plan) and associated vessel response plans for Alaska Tanker Company, Andeavor (subsidiary of Marathon Petroleum), Crowley Alaska Tankers, Hilcorp North Slope, and Polar Tankers, was renewed on January 31, 2022, and will expire in 2027. Alyeska Pipeline Service Company (Alyeska) Valdez Marine Terminal Oil Discharge Prevention and Contingency Plan (VMT C-Plan) was renewed on November 15, 2019, and will expire in 2024.

Accomplishments since last report:

PWS Tanker C-Plan:

Minor administrative amendments have been submitted and approved over the last several months.

VMT C-Plan:

ADEC recently approved a minor amendment to the VMT C-Plan to replace the barge MINERAL CREEK with the newly built OSRB-5 response barge.

VMT Coordination Workgroup: The VMT Coordination Workgroup met on June 8, 2023. Highlights include:

- Alyeska intends to submit the VMT C-Plan for a sufficiency review in June and plans to submit the plan in August.
- Most changes to the plan will be administrative; no major changes anticipated.

The next VMT Coordination workgroup meeting is scheduled for September 28, 2023.

6512 – Maintaining the Secondary Containment Systems at the VMT

Objectives: This project entails promoting methods Alyeska could use to verify the integrity of the secondary containment systems at the Valdez Marine Terminal's (VMT) East Tank Farm, otherwise known as the catalytically blown asphalt (CBA) liner. The goal of this project is to ensure that the buried CBA liner at the VMT will hold spilled oil long enough to prevent ground or surface water contamination.

Accomplishments since last report: Project Manager Sadie Blancaflor reached out to Alyeska in June 2023 to arrange a meeting with Alyeska engineers and Dr. Craig Benson, the author of 2022 Council report "Methodologies for Evaluating Defects in the Catalytically Blown Asphalt Liner in the Secondary Containment System at the Valdez Marine Terminal." Alyeska declined the meeting and responded on June 22, 2023, noting that they are working on a final report and validation scope and process, and their focus is to report out on the regulatory Condition of Approval timeline.

6530 – Weather Data / Sea Currents Project

Objectives: This project studies wind, water current, and other environmental factors near the Valdez Marine Terminal, in Prince William Sound, and in the Gulf of Alaska. Weather conditions affect the safe navigation of vessels and aids the ability to prevent, respond to, contain, and clean up an oil spill. Accurate weather data for the region supports research and decision making in areas like oil spill response, traffic management, vessel performance specification, and contingency planning.

Accomplishments since last report: The weather station at Cape St. Elias is getting older and is in need of maintenance. Replacement components have been ordered and are on-site in Cordova. Budget permitting, we will replace the equipment sometime in FY2024. The CTD sensor set up at the Valdez tide gauge station is working well. The Council's two weather stations are operating normally.

The new weather station installed on the Kokinhenik Bar on the Copper River Delta is operating normally. There will be a site visit to the station sometime this fall to tighten anchor bolts and readjust guy wires. Going forward, this station's status will be reported as part of Project 6530.

The camera at Nuchek is functioning normally.

6531 – Port Valdez Weather Buoys

Objectives: This project originally assembled and deployed, and continues to maintain, two buoys which measure ocean currents and common weather parameters in Port Valdez. The first buoy is installed near Jackson Point [61.0910°N 146.3811°W] in the vicinity of the Valdez Marine Terminal (VMT). The second buoy is installed at the Valdez Duck Flats [61.1201°N | 146.2914°W]. The Prince William Sound Science Center (PWSSC) partners with the Council to facilitate this project.

The Oil Pollution Act of 1990 requires the Council to study wind and water currents and other environmental factors in the vicinity of the terminal facilities which may affect the ability to prevent, respond to, contain, and clean up an oil spill.

The Council's Board of Directors has long advocated that robust weather monitoring systems be installed in the vicinity of the VMT. This includes proposals to install ultrasonic anemometers at the loading berths and a weather station at the VMT. The Council's Board passed a resolution expressly requesting a weather station be employed at the terminal on January 22, 2016.

Weather is a significant factor in the management of safe crude oil transportation through Prince William Sound. Some of these concerns include marine safety, tanker escort operations, oil spill contingency planning, containment boom design, and safe loading of oil tankers.

Accomplishments since last report: The Spring service visit started on May 22 and buoys were placed back on station May 24. Hulls were cleaned, zincs replaced, one wind meter replaced, and new relative humidity sensors were installed. The next service call will be towards the beginning of October. Draft contracts with the Prince William Sound Science Center and JOA Surveys have been started.

6536 – Port Valdez Weather Buoy Data Analysis

Objectives: In 2019, PWSRCAC was able to install two weather buoys in Port Valdez, one in the vicinity of the Valdez Marine Terminal and the other near the Valdez Duck Flats. The buoys are expected to collect weather data for at least five years. This series of projects will take the data collected in each of

the five years and perform an analysis to determine any weather trends throughout the year and seasonally. The analysis includes current and wind direction and speed information, wave direction and heights, and other pertinent information that can be obtained from the weather data.

Accomplishments since last report: PWSRCAC is in the process of contracting with the Prince William Sound Science Center to analyze the data from 2022. The Port Valdez Weather Buoy Data Analysis Project Team met on June 21, 2023, with Dr. Rob Campbell to discuss the draft Port Valdez Weather Buoy Data Analysis report for the year 2022. Dr. Campbell made revisions to his report based on the feedback he received from the project team and presented the draft report at the July 21, 2023, OSPR Committee meeting. The OSPR Committee recommended the acceptance by the PWSRCAC Board of Directors.

6560 – Peer Listener Training

Objectives: Update the Council's Peer Listener program, which was created and implemented shortly after the Exxon Valdez oil spill to promote community resiliency through a peer-to-peer support network. The update will include assessing the current program, reviewing similar programs nationwide, and revising the Peer Listener Training manual and delivery methods according to contemporary best practices.

Accomplishments since last report: The Council's Peer Listener Manual was updated and revised by contractor Agnew::Beck over the past several months with input from the Project Team and SAC. SAC reviewed the latest edition this summer. The final manual will be presented to the Board for acceptance at the September meeting.

7000 – Oil Spill Response Operations Program

Objective: This program encompasses monitoring and reporting on the activities related to the operational readiness of the oil spill response personnel, equipment, and organization of the TAPS shipping industry. The program also encompasses monitoring actual oil spill incidents within our region and evaluation of overall response readiness. Additionally, the program includes the planning and implementation of PWSRCAC's Incident Response Plan.

Accomplishments since last report: Robida helped staff members Danielle Verna and Austin Love set **passive sampling devices at LTEMP sites** this past spring and early summer. With Love departing PWSRCAC, having another person trained and familiar with the process and sites added depth and flexibility to better support LTEMP in the future. Robida helped with the three Port Valdez sites deployed on May 4, and then Knowles Bay and Disc Island on May 5, and then approximately a month later helped with some of the retrieval efforts. Verna will be leading this LTEMP work going forward and is the best source of information if there are questions. This year marks the 30-year anniversary of the LTEMP program.

The **annual shipper's exercise** took place May 15 through 18. This year, Hilcorp and Alaska Tanker Company led the event and played the role of the responsible party. This was strictly a tabletop exercise, with no equipment or vessels physically deployed. The exercise covered the first 36 hours of a hypothetical tanker spill of 140,000 barrels in mid-Sound, with Hilcorp assuming the role of the Incident Commander at hour 12. The command post was run in a hybrid fashion via the Microsoft Teams platform and the physical command post locations (in Valdez on day one and then in Anchorage on

days two and three). The Council contracted with Nuka to help evaluate the exercise and this report was discussed during the July 21 OSPR Committee meeting.

During the annual shipper's exercise, the Regional Stakeholder Committee (RSC) process was initiated. This exercise objective was related to the Alaska Regional Response Team (ARRT) **RSC Task Force** work which PWSRCAC staff has been a part of.. The Task Force has been developing job aids to assist both the Liaison Officer who will be managing and initiating the RSC and RSC members. The draft version of the Liaison Officer job aid was used for the first time during this exercise and feedback and exercise play led to some further edits during the most recent Task Force meeting. The Task Force believes the Liaison Officer job aid is fairly complete at this point and attention is now turning to developing the RSC Member job aid. Currently, only two of the four area plans in Alaska mention the RSC, and these Task Force work products will create consistency across Alaska and bring this stakeholder engagement process to other parts of the state.

The Arctic and Western Alaska (AWA) Area GRS SubCommittee continues to lead the effort converting **GRSs to a GIS-based system.** The SubCommittee met last spring to discuss anticipated summer efforts that are now underway. As part of their inspection work in the AWA region, USCG staff will conduct a verification of nearby GRSs via the phone app that should make the GRS update process faster and easier. Updates via the app were also done this past spring on some Kodiak GRSs, but this process needs further refinement and practice, and this summer work should help establish those protocols. Quality control work also continues on the GRS data itself, to ensure all was migrated over to the new GIS-based system accurately.

Council staff Roy Robertson and Robida have both been aboard the new **OSRB-5 barge** observing different equipment demonstrations. The barge is an improvement over the Mineral Creek barge, which it will be replacing; there is better housing and amenities for crews, a more functional system for deploying and transferring the Yokohama fenders to a stricken tanker, and a platform that will allow Crucial skimmers and Buster systems to be used similarly to the four other OSRBs. Robida observed open water lightering activity and Robertson observed nearshore support-related activities that were conducted to show the OSRB-5 is a suitable replacement. Stand-alone reports will be generated for these deployments. Alyeska/SERVS sent crew training records and other documentation related to the OSRB-5 to ADEC in June, and incorporation of this barge into the VMT and PWS Shipper C-Plans will occur via minor amendment.

7050 – Virtual Meeting with Contracted Response Vessel Representatives

Objectives: This project funds a virtual meeting with fleet representatives from each of the ports where vessels are on contract with Alyeska/SERVS for spill response. PWSRCAC has conducted similar group meetings face-to-face in the past and they have proved to be a productive way to interact with program participants, assess the overall health of the contracted response vessel program, and inform Alyeska/SERVS of any concerns or potential recommended improvements from the perspective of program participants. Considering both the VMT and PWS Shipper plans rely on these contracted vessels to execute respective contingency plans, it's important that the program remains healthy, that training and exercise activity is engaging and effective, and there are enough vessels under contract to satisfy contingency plan requirements.

Accomplishments since last report: Work has not yet begun on this project.

7520 – Preparedness Monitoring

Objectives: PWSRCAC's Drill Monitoring program falls under a broader program called Oil Spill Response Operations. Objectives for the Drill Monitoring program are to promote oil spill response operational readiness within the EVOS region by observing, monitoring, and reporting on oil spill prevention and response drills, exercises, and training; to provide citizens, regulatory agencies, and responders (Alyeska and the shippers) with independent observations and recommendations to improve preparedness; and provide citizen oversight. Tasks to be completed include:

- Monitor and report on regular oil spill drills and training exercises at the VMT and throughout the Exxon Valdez oil spill region to citizens, the Board, industry, and regulatory agencies
- Provide quarterly recommendations to the PWSRCAC Board of Directors
- Keep PWSRCAC's standing committees (OSPR, TOEM, POVTS, IEC, and SAC) informed
- Produce an annual report on effectiveness and progress of the regularly monitored drills and exercises
- Continue developing and implementing staff training for drill monitoring

Recent Exercises

OSRB-2 Deployment Training – July 13, 2023

SERVS is training the TCC crews on the deployment process on barge OSRB-2. While it is unlikely the TCC crews would be used on the OSRB barges to recover oil during a spill, the cross training is a good opportunity to help the TCC crews understand processes on board the response barges.

Washington Emergency Towing Exercise with the Tug Commander – July 2, 2023

The tank vessel Washington conducted an emergency towing exercise with the tug Commander on July 2, 2023.

Solomon Gulch Hatchery Deployment Training – June 24, 2023

Alyeska deployed the sensitive area protection at the Solomon Gulch Hatchery on June 24. This deployment was focused on training TCC crew how to deploy this protection strategy and was an untimed event.

Tug Commander Vessel Dispersant Exercise – June 15, 2023

The tug Commander's crew demonstrated the tug's dispersant spray system in Port Valdez on June 15, 2023. This was another annual training exercise that the tugs Commander and Champion perform each year.

Tug Challenger Port Valdez U/J Boom Exercise– June 9, 2023

The tug Challenger deployed its onboard skimmer and boom in Port Valdez on June 9, 2023. This was an annual training opportunity for the crew of the Challenger.

MSRC Dispersant Aircraft Tour – June 6, 2023

Staff members Linda Swiss and Roy Robertson toured the MSRC 737 dispersant jet while it was in Anchorage on June 6, 2023. This is the new dispersant delivery system that the PWS Shippers now have under contract after switching from Lynden's C-130.

New Lightering Barge (OSRB-5) Deployment – May 23 & 24, 2023

SERVS conducted demonstrations of the new barge functioning as the lightering barge and as a nearshore task force support barge. The first day included a demonstration of lightering capabilities, including deploying the large Yokohama fenders that serve as a buffer between the ships and deploying the equipment needed to offload a tanker if it lost the ability to offload itself.

The second day focused on demonstrating the offload of the mini and micro barges used by the nearshore task forces to store their recovered oil.

ATC and Hilcorp Annual Shipper's Drill – May 16-18, 2023
This was a three-day hybrid exercise from May 16-18 that included both a virtual command post (using Microsoft Teams) and physical command posts in Valdez and Anchorage. The spill scenario was a 140,000-barrel spill in mid Prince William Sound. The objectives included the transition of spill management from SERVS to Hilcorp, preparation for establishing a Regional Stakeholder Committee (RSC), salvage and lightering of the damaged tanker, and setting up and operating a Joint Information Center (JIC).

International Bird Rescue (IBR) Facility Demonstration – April 22, 2023
Staff member Roy Robertson as well as Alyeska staff were given a tour and demonstration of the IBR facility located in Anchorage on April 22, 2023. This demonstration included descriptions of how oiled birds are treated and processed when they arrive at the facility, and the equipment that would be used.

Alyeska Wildlife Exercise – April 20, 2023
Alyeska conducted a Valdez Marine Terminal (VMT) oiled wildlife response exercise in Cordova on April 20, 2023. This exercise was conducted in Cordova to spread out the training for the Alyeska wildlife response-trained vessels. This was a large exercise that encompassed wildlife hazing, capture, transportation, and stabilization for birds and sea otters. Many of the oiled wildlife response experts, both contractors and agency representatives, participated in this exercise.

Cordova Operational Readiness Exercises (ORE) – April 19, 2023
Alyeska conducted two OREs in Cordova on April 19, 2023. There was an Open Water Response Barge (OSRB) deployment with the tug Commander and barge OSRB-3 in Orca Bay and a nearshore deployment off the barge 500-2 in Nelson Bay.

Whittier Nonmechanical Response and Monitoring Exercise – April 17, 2023
SERVS conducted an Operational Readiness Exercise focused on environmental monitoring of waters before and after the use of nonmechanical response techniques in Whittier. This exercise was going to include a simulation of in-situ burning and the sampling of water on the surface and at depth. However, due to high wind conditions, the exercise was limited to doing water sampling in the Whittier harbor.

Upcoming Drills and Exercises

VMT annual IMT Exercise – October 4, 2023.

8000 – Maritime Operations Program

Objectives: This program reviews port organization, operations, incidents, and the adequacy and maintenance of the Coast Guard Vessel Traffic System, and coordinates with the Port Operations and Vessel Traffic Systems (POVTS) Committee. Major program components include participation with the Valdez Marine Safety Committee (VMSC), monitoring changes to the tanker escort system, reviewing Best Available Technology documents for the tanker escort system and the Vessel Emergency Response Plan (VERP), participating in monthly SERVS/PWSRCAC and ADEC/PWSRCAC communication meetings, and supporting maintenance for the NOAA weather stations.

Accomplishments since last report: Project Manager Alan Sorum participated in a virtual workshop providing crucial insight into the types of data needed to ensure safe and efficient marine commerce in and along the Alaskan coastline. The workshop was hosted by NOAA, National Ocean Service (NOS), Center for Operational Oceanographic Products and Services (CO-OPS).

Sorum has drafted a budget briefing sheet for a potential project related to aquatic noise, and has been researching and following International maritime Organization (IMO) regulatory efforts to reduce greenhouse gases with the POVTS Committee Chair Steve Lewis. Sorum joined a discussion group of scientists, community members, emergency managers and others interested in mitigating the hazards presented by landslides, especially those that generate tsunamis. He continues to monitor the Washington State Tug Escort and Emergency Response Towing Vessel (ERTV) Analysis Project.

Staff have been working with the POVTS Committee to evaluate whale strike reduction strategies, an issue proposed for potential project consideration by Rick Steiner. A memo outlining these efforts was accepted by the Executive Committee at it's July 13 meeting.

Sorum has been working with the City of Valdez to convey the importance of Port Valdez to the Alaska Congressional Delegation and the need to provide a replacement Coast Guard cutter in Valdez.

Working with Alaska Ocean Observing System (AOOS), the Council was able to apply extra funds from the Conductivity, Temperature, and Depth (CTD) sensor grant to help fund the weather station on the Copper River Delta. Sorum works with the OSPR Committee on weather-related projects.

8018 – State of the Industry: Advances in Escort Tugboat Technology and Regulatory Framework

Objectives: This project proposes to review current global advances being used in the design of capable escort tugboats and regulations requiring the use of these vessels.

Accomplishments since last report: A Request for Proposals was published and the POVTS Committee will be recommending a potential contractor to the Board at its September 2023 meeting.

8025 – Vessel Operator Tsunami Hazards Guidance Workshop

Objectives: The goal of this project is to convene a 2-day workshop, with participants representing a diversity of vessel operators, emergency management, and the scientific study of tsunami impacts. Work products generated by the event will include preliminary guidance for vessel operators facing the threat of a tsunami and a list of research topics that could improve future guidance. The proposed guidance will be designed to be applicable in Prince William Sound and similar areas that have complex steep shorelines, and which face the potential of landslide-generated tsunamis.

Accomplishments since last report: The workshop has been set for June 3-4, 2024, and a contract with Nuka Research and Planning Group should be in place by the September Board meeting to facilitate this project. The workshop is being held in concert with the AlaskEX24 Statewide Tsunami Exercise to be held in Valdez on May 29-30, 2024, in Valdez.

8520 – Miscommunication in Maritime Contexts

Objectives: Seeking to identify and address various causes of miscommunication, the proposed project will provide a comprehensive perspective by collecting information on the linguistic, cultural, and

pragmatic needs and practices of native and non-native English-speaking mariners in Prince William Sound. The proposed project would entail the first two of four phases.

Accomplishments since last report: The project is delayed due to a health concern with the Contractor's immediate family. This is a two-year contract, so there will be time to catch up in the new fiscal year.

A comprehensive search of NTSB accident and incident reports has been completed. Reports were considered relevant to this review if communication or language was explicitly or indirectly identified as a contributing or causative factor in the accident or incident. Forty-one reports were identified as relevant and are currently undergoing thematic analysis.

A comprehensive literature search for empirical and synthetic articles in applied linguistics and maritime communication is currently underway.

9000 – Environmental Monitoring Program

Objectives: Coordinate projects developed and overseen by the Scientific Advisory Committee and obtain scientific knowledge and technical information about issues related to the actual and potential environmental impacts of the Valdez Marine Terminal and associated crude oil tankers. The notable tasks to be accomplished under this program are as follows:

- Project manager to attend at least one technical scientific conference.
- Plan and complete budgeted environmental monitoring and scientific research projects.
- Conduct PWSRCAC Science Night.

Accomplishments since last report: Projects managed under this program continue to be planned and executed successfully. Project Manager Danielle Verna attended and presented a poster on a history of the Council's invasive species monitoring projects at the International Conference on Marine Bioinvasions in Baltimore, Maryland, May 16-18, 2023. Science Night planning for 2023 is underway.

9110 – Monitoring Spatial Variability of Marine Birds During Winter in PWS Tanker Escort Zone

Objectives: Provide up to date information on winter marine bird density and distribution throughout the Prince William Sound tanker transit zone, including under-surveyed areas such as the open waters and adjacent bays in and around Port Valdez, Valdez Arm, Tatitlek Narrows, Port Fidalgo, and Port Etches. The notable tasks to be accomplished under this project are as follows:

- Perform winter bird surveys in Prince William Sound for three consecutive years.
- Analyze data obtained during winter bird surveys and report the results of the analysis.
- Make winter bird survey maps readily available for use by spill response managers.

Accomplishments since last report: The marine bird surveys were completed successfully between March 2 – 7, 2023. Staff from the Prince William Sound Science Center analyzed the data and presented a draft report to SAC over the summer. The final report will be presented to the Board for acceptance at the September meeting.

9510 – Long-Term Environmental Monitoring Project

Objectives: Comprehensively monitor the actual and potential environmental impacts related to the Valdez Marine Terminal and associated crude oil tankers and provide the Council with information

about the presence and effects of hydrocarbons generated by the terminal facility and associated tankers. Here are the notable tasks to be accomplished under this project:

- Obtain environmental samples in Port Valdez: marine sediments, mussels, and passive sampling devices.
- Analyze environmental samples.
- Interpret and report results of sample analysis.
- Present analytical findings to the PWSRCAC Board of Directors.
- Maintain Environmental Monitoring Project plan.

Accomplishments since last report: Every five years, an "expanded" LTEMP sampling year is conducted, where environmental samples are collected from Port Valdez as well as additional monitoring stations in Prince William Sound and the Gulf of Alaska. Sampling in 2023, which coincided with this 5-year cycle, successfully took place in Port Valdez via vessel charter in May and June. Additional sampling was successfully carried out at sites in Prince William Sound via vessel charter and helicopter in June. Due to weather constraints, samples were not collected at sites in the northern Gulf of Alaska. SAC and contractors at Owl Ridge Consulting have recommended collecting samples at those sites in June 2024 (rather than later in 2023) to align with our typical sampling window in early summer. All samples collected this year, including mussels, sediments, and passive sampling devices, have been shipped to analytical laboratories, Alpha Analytical and Oregon State University. Once the results are received this fall, Owl Ridge Consulting will work on data interpretation and writing of a final report.

9512 – Determining Concentration and Composition of Oxygenated Hydrocarbons from the VMT

Objectives: Determine the types and amount of oxygenated hydrocarbons that are released from the Ballast Water Treatment Facility at the Valdez Marine Terminal. The notable tasks to be accomplished under this project are as follows:

- Collect water samples from the VMT Ballast Water Treatment Facility following discharge of oily ballast water by tankers.
- Analyze the samples to determine the chemical composition and concentration of oxygenated hydrocarbons.
- Interpret and report findings of the analysis and prepare the report for publication in a peer-reviewed journal.
- Produce recommendations on future research to understand the fate, transport, and toxicity of oxygenated hydrocarbons in the marine environment.

Accomplishments since last report: Results from analysis of the samples and a draft report were presented to SAC this summer. The final report with recommendations and a brief Executive Summary will be presented to the Board for acceptance at the September meeting. The contractor recently presented this project at two scientific conferences – AMOP and the American Society for Mass Spectrometry Conference.

9520 – Marine Invasive Species

Objectives: Understand and minimize the environmental impacts of invasive species potentially arriving in the PWSRCAC region from tanker ballast water and hull fouling. Here are the notable tasks to be accomplished under this project:

- Obtain plankton samples in Port Valdez at three sites: the small boat harbor, Valdez Container Terminal, and Valdez Marine Terminal

- Perform metagenetic analysis on plankton samples to identify variability in the plankton community between locations and through time, and identify any nonindigenous species
- Interpret and report results of plankton metagenetic analysis
- Conduct monitoring of invasive crab and tunicate species in Valdez, Cordova, and Kodiak

Accomplishments since last report: Settlement plates were successfully deployed by the contractor via vessel charter in late June throughout Prince William Sound. The plates will stay in place for three months. Retrieval and analysis of the plates is scheduled for late September. A contract change order was successfully executed to include the second phase of the project (analysis and report).

9521 – Marine Invasive Species Internship

Objectives: Support local students to monitor for invasive species potentially arriving in the PWSRCAC region from tanker ballast water and biofouling. Target species include European green crab and tunicates in the communities of Valdez, Cordova, and Kodiak.

Accomplishments since last report: Recruitment for 2023 Marine Invasive Species Monitoring Interns in Cordova, Valdez, and Kodiak took place this spring. High school students in Valdez and Kodiak have been monitoring monthly throughout the summer. No students in Cordova volunteered for the internship.