COOK INLET REGIONAL CITIZENS ADVISORY COUNCIL

"The mission of the Council is to represent the citizens of Cook Inlet in promoting environmentally safe marine transportation and oil facility operations in Cook Inlet."

Photo courtesy of CIRCAC & Alaska ShoreZone Partnership

Board of Directors & 2021 Annual Meeting

Friday, April 9th, 2021 – 9:00 a.m.

WEBEX VIRTUAL CONFERENCE

COOK INLET REGIONAL CITIZENS ADVISORY COUNCIL

BOARD of DIRECTORS MEETING

****AGENDA****

Friday, April 9th, 2021

WEBEX VIRTUAL CONFERENCE

		Page
9:00 am	**Cook Inlet RCAC Board Meeting** **Call to Order/Roll Call**	
	Approval of Agenda *(Action Item)*	
	Approval of Minutes – Dec. 4, 2020 Board of Directors Meeting *(Action Item)*	
	Welcome & Introductions	
	Agency Ex Officio Directors Remarks	
	CIRCAC Member or Public Comment *(3 minute limit per speaker)*	
9:20 am	**Special Board Recognition Presentations**	
9:30 am	**Presentations on Related Activities**	
	• Hilcorp: North Cook Inlet 2021 Jack-Up Rig Program – Vanessa Hughes, Asset Team Leader	

- AK Dept. of Environmental Conservation Updates – Commissioner Jason Brune

10:30 am **Executive Committee Report**

- 2021 Statement of Financial Position & Budget – through March 31st, 2021 *(Information Item)*

10:50 am **Executive Director's Report** *(Information Items)*

11:15 am **Staff Reports - Status of Programs & Projects** *(Information Items)*

11:45 am **Calendars & Miscellaneous** *(Information Item)*

Closing Comments

12:05 pm **Adjourn**

NOTE: CIRCAC's Annual Meeting will begin after a brief break. **18**

Administration Report
Cook Inlet RCAC Board of Directors Meeting – April 9, 2021

Below you will find a brief update on the primary administrative tasks performed – or assistance provided – by your Administrative staff since the December 2020 Board of Directors meeting:

CIRCAC Office – Corporate office remains closed to the public; staff has a coordinated schedule for all but essential tasks to minimize physical interactions.

Board Elections/Appointments – The process for filling positions on the Board are laid out in Council Policy #4, and the 2021 effort was implemented as directed. There were no organizations seeking membership in any stakeholder group. The Credentials Committee met on March 29 to review the process and certify it was executed in accordance with policy. It further certified the results of the election, and voted to recommend the Board of Directors seat the members for full three year terms at the Annual Meeting on April 9.

Recertification – The draft report is underway and will be submitted to staff for comment and final draft. The Coast Guard has requested receipt of the application in late April.

Financial Audit – The field audit is scheduled to start the week of June 7. Staff will begin to prepare and gather requested financial documents towards the end of May.

Accounts Payable – Staff continues to implement the largely online process for payables. We have maintained a review and written approval procedure of all accounts - by the Executive Director, staff and Officers.

Budgets – Development of the 2022 operating and program budgets will begin within the next couple of months.

Corporate Funding – Funding is on schedule for 2021 to date; additional invoices if necessary will be distributed in May/June.

By-Laws and Policies – As per Policy and Board direction, staff is engaged in an ongoing review of policies for necessary changes and updates.

Insurance and Employee Benefits – Several of CIRCAC's corporate insurance policies have renewed. The transition to a new insurance agent/broker and transferal of relevant corporate lines is complete.

Organizational Support – Administrative staff participates with the Cook Inlet Harbor Safety Committee.

Staff Training – Interviews for a new Administrative Assistant is underway.

Support – Administrative staff supports directors, public members, staff and guests in logistics for meetings and virtual conferences. Such conferences and virtual events include Alaska Marine Science Symposium, Kodiak ComFish, International Oil Spill Conference, and more, many of which having been postponed or canceled in 2020. Staff continues to make virtual meetings by teleconference, videoconference, and webinar both effective and comfortable for participants, utilizing various online platforms.

EMC Staff Report

Chemical and Biological Monitoring Program

Subtidal/Water Quality Monitoring and GIS/Database

1. Radium Isotopes:

Background: This project will expand work by Dr. William Burt of UAF to conduct baseline surveys of Radium isotopes across Cook Inlet to assess the potential utility of Radium as a freshwater tracer and to estimate residence time for waters in the Inlet. Through a grant from the Coastal marine Institute (CMI) to Dr. Burt, CIRCAC will collaborate on a project along with Principal Investigators at the University of Hawaii, Kachemak Bay Research Reserve, and the Ocean Acidification Research Center at UAF. The initial project will take place in Kachemak Bay through the EPSCoR project to test methods and look at radium isotope signatures along a glacially influenced gradient. In Year 2, an exploratory radium survey will take place in Cook Inlet, refined by information gained from the pilot study. Overall, the project aims to highlight the significant value of radium isotope monitoring in the Cook Inlet region by using these isotopes to address multiple key questions and issues for both BOEM and the oceanographic community. CIRCAC's match towards the project will support: (1) sampling within and at the mouths of major rivers to characterize river and groundwater end members, (2) collecting sediment grabs and suspended particle samples to approximate sediment and particle fluxes, (3) sampling along a transect out of the Inlet to assess surface water concentrations of radium isotopes inside/outside the Inlet as well as the offshore transport, and (4) sampling along surface transects in close proximity to a produced water discharge source to examine a produced water signal.

March 2021 Update: Though Dr. Burt's project team faced significant challenges for sampling in 2020 due to COVID restrictions, they were able to sample in Kachemak Bay. Dr. Burt presented their Kachemak Bay Research, conducted through the EPSCoR project, at the virtual Kachemak Bay Science Conference that took place in March 2021. Most of the pre-recorded presentations for that conference are still available. Here is a link to his presentation (https://drive.google.com/file/d/1oYhIgj4Igt6whpC21GBqtR_QLOXqAfIY/view). Our future Cook Inlet project will build on the work that he has done in Kachemak Bay (also see attached email).

2. Oxidized Petroleum Contaminants in Cook Inlet

Background: We will be coordinating research with Dr. Pat Tomco of UAA to more accurately assess the extent of potential petroleum-derived contaminants in Cook Inlet by including oxyPAHs in a pilot sampling program in Cook Inlet. This work is quite expensive, the applications are still being developed, and there are limited opportunities for contractual laboratory analyses, but this opportunity to collaborate will allow us to delve deeper into our analyses of potential hydrocarbon contaminants in Cook Inlet. In our Draft FY2021 budget, funds are included towards this project to extend the sampling area, substrates, and organisms, as

Dr. Tomco's study focuses on specific sampling areas studied by the Southwest Area Network project (USGS and NPS) and will be focused on blue mussels (*Mytilus trossulus*), which doesn't grow beyond spat stage north of Chisik Island area. Initially, I'd like to include dissolved water column fractions, nearshore sediments, and tissues from the deposit-feeding clam *Macoma balthica*.

March 2021 Update: Dr. Tomco received an additional award from the ConocoPhillips Arctic Science and Engineering Fund for "Oxidized petroleum detection in Alaska: Water, sediment, and biological tissues." Description and Timeline: Oxidized petroleum detection has been identified as a priority class of chemicals that should be monitored following an oil spill, but in cold regions such as Alaska, the classification of these chemical compounds are poorly understood. This project will advance two new tools and techniques that are necessary for tracking oxidized petroleum residues that result from spilled oil in the Alaskan marine environment. The goals of this project are to 1) Concept proof a new fluorosensor design that can be used to detect oxidized petroleum residues in the water column, and 2) Characterize baseline levels of oxidized petroleum residues in water, sediment, and biological tissues in Cook Inlet. This project will involve students and leverage several future external funding requests. The project timeline is January 1 – December 31 2021.

3. On-line Data Access

Background: A robust CIRCAC on-line data-access tool is still a high priority and I am working with various contractors and partners to compile disparate datasets into an integrated database for query on-line. This is a complex problem given that data collected over decades will have (1) different method detection and reporting limits, (2) different site selection criteria that limit the ability to aggregate data, and (3) different studies collected data on different parameters, matrices, and analytes. We will be looking to BOEM on their projected titled *Synthesis of Contaminants Data for Cook Inlet: Evaluation of Existing Data as "Baseline Conditions" and Recommendations for Further Monitoring.* Our work compiling our data will dovetail with their effort.

March 2021 Update: We are waiting to find out BOEM's decisions on moving forward with their Cook Inlet hydrocarbon contaminants database project to see how we move forward with them.

Kamishak Bay/Lower Cook Inlet Intertidal Habitats

Background: With our partners at NPS, NOAA, and UAF, we finalized data analyses and report writing for this four-year project and submitted our final report to BOEM for the Lower Cook Inlet Habitat Assessment Project. The "final draft" was submitted in December 2019 and was accepted by BOEM in January 2020. We have transferred the final database to BOEM, as well. The citation for the report is:

Jones, T., S. Saupe, K. Iken, B. Konar, S. Venator, M. Lindeberg, H. Coletti, B. Pister, J. Reynolds, and K. Haven. 2019. Assessment of nearshore communities and habitats: Lower Cook Inlet Nearshore Ecosystem 2015-2018. Anchorage (AK): US Department of the Interior, Bureau of Ocean Energy Management. OCS Study BOEM

2019-075. 221 p.

The report has can be downloaded at:
https://www.boem.gov/sites/default/files/documents/regions/alaska-ocs-region/environment/BOEM%202019-075.pdf

March 2021 Update: The National Park Service had a project on the west side of Cook Inlet in fall 2021 where they hoped to collect some subtidal habitat data adjacent to some of our study sites to begin looking at developing a habitat model that links nearshore subtidal habitat to mapped intertidal habitat data. They were weathered out of that survey but were able to work with a UAF graduate student to test some sampling methods in Kachemak Bay. We will be coordinating sampling efforts with them for future work in lower Cook Inlet. For publications, we are still waiting to hear about the manuscripts submitted by first author Danielle Siegert titled "*Trophic structure of rocky intertidal communities in contrasting high-latitude environments*" to a special journal of Deep Sea Research for work conducted during our lower Cook Inlet habitat study. In future sampling efforts, I will look for opportunities to evaluate a N-S gradient of Particulate Organic Matter stable isotope signatures as a tie between Cook Inlet's physical/chemical environment and nearshore biology. This might potentially be coordinated with future sampling for the oxy-PAH or Radium isotope studies. We will also continue to explore potential partnerships for incorporating a subset of our study sites into a long-term monitoring program such as the Gulf Watch Alaska or NPS's SouthWest Area Network (SWAN).

Coastal Habitat Mapping Program

Alaska ShoreZone

1. ShoreZone Imaging, Mapping, and Website

Background: The Alaska ShoreZone Program website hosted by NOAA transitioned from flash to javascript. The NOAA ShoreZone "splash page" is at https://www.fisheries.noaa.gov/alaska/habitat-conservation/alaska-shorezone and the link to the javascript imagery and data access website is https://alaskafisheries.noaa.gov/mapping/sz_js/index.html?tab=szSimple&layout=h2. The Alaska ShoreZone Partner's webpage (www.shorezone.org), currently maintained by ShoreZone contractors at Coastal and Ocean Resources, Inc. (CORI), has found a stable home via the on-line platform Word Press. They've updated the links to the new NOAA ShoreZone webpages and will be doing additional updates following some of our planning meetings this spring. CIRCAC is funding redesign of the Shore Station Database and will also add all of the newest shore stations from our Alaska Peninsula surveys (described below).

CIRCAC has sponsored ShoreZone aerial surveys and mapping since 2001 when we initiated the Alaska program in Cook Inlet. Unfortunately, it means that our earlier surveys are also the oldest surveys done in Alaska, using the oldest technology. Though we were able to fund resurveys of all of Cook Inlet in 2009, some of the shorelines in our areas of concern have low resolution imagery mapped onto low resolution digital shorelines.

March 2021 Update: EMC has set aside funding to resurvey the outer Kenai Peninsula coastline and will be conducting that survey in summer 2021 or May 2022. We are able to leverage additional funding from the National Park Service (NPS) to extend the survey further east and ensure that we capture the shorelines of the Kenai Fjords National Park.

2. Shore Station Surveys and Database

Background: Along with the ShoreZone aerial surveys and habitat mapping, we have conducted on-the-ground surveys at hundreds of sites throughout our areas of concern. These shore station surveys provide detailed species-level information and verification of geomorphology for sites of differing substrates and wave exposures in areas where we conduct the aerial surveys. These sites have been compiled since 2001 and now includes hundreds of sites throughout the Gulf of Alaska, and over half of them were either sponsored by CIRCAC or we were a key participant on opportunistic surveys. With our contractors at Archipelago Marine Research Inc. (ARCHI) and Coastal and Ocean Sciences, Inc. (CORI), CIRCAC worked with NOAA to develop the Shore Station database that is linked on-line on the NOAA ShoreZone website. In 2020, we developed our contract with ARCHI to redesign the data access to the shore station data and coordinated with NOAA to bring in new shore station data and update taxonomic codes and other ShoreZone descriptors to match changes made to the ShoreZone habitat mapping protocols. The existing database, with its update taxonomic tables, has also been moved to the javascript site described above.

March 2021 Update: Our contractors at ARCI have been working with NOAA to complete Tasks a-d of our contract with them from last year:

a. Web-post the AK Peninsula sites to the new online NOAA Javascript ShoreZone site
b. Update master species list in ACCESS database
c. Assemble and check station photos
d. Conduct a pilot project to integrate ShoreZone shore station data into Alaska Ocean Observing System data portal using Alaska Peninsula data.
e. Expand database to include historical Gulf of Alaska shore station survey data and photographs and prepare data for serving on Alaska Ocean Observing System data portal.

The most recent update from ARCHI from January 2021 described the progress since fall as:

a. The AKP16 data has been appended to previous tables, and a new region name has been added for the AK Peninsula, resolving overlap of newest AK Pen stations with older surveys by assigning Anikachak stations to new AK Peninsula Region and two AKP16 sites to the Katmai region. These data are not yet posted on-line but ARCHI transferred the data to NOAA to prepare for uploading to new javascript site.

b. Added new Bioband ShoreZone codes into the look-up tables and new fields to the species code look-up table for higher taxonomic levels, morphological codes, and feeding strategies. The old 3-letter bioband codes in the database will not be shown anymore in the webposting, as all posted bioband names are now translated to the full species name (or to lowest taxonomic level identified).

c. CORI put together a beautiful ShoreZone data dictionary that has been added to the NOAA ShoreZone site ….it's listed under 'supporting materials' on the NOAA site. It

does not include all of the attributes in the shore stations database, but is an example of user-friendly metadata access that we should consider for the shore station site.

d. And, as yet incomplete, compiling the higher taxonomic levels in the master species database table for all taxa listed for all shore stations (note that all taxa for the AKP16 stations are completed). An update for the Synonym table is also needed. These are 'fine tuning' for additional fields in the taxa lookup table and don't affect the value/completeness of the shore station observations themselves.

3. Other ShoreZone-Related Activities

Environmental Sensitivity Maps:

Background: For a subject related to ShoreZone, I participated in a series of review meetings for NOAA's Environmental Sensitivity Index (ESI) program. ESI data and maps provide shoreline habitat and use data to aid in oil spill planning and response. The data collected for ESI goes hand-in-hand with the imagery and data reported by ShoreZone methods and we have worked hard to integrate the two programs. With budget shifts within NOAA, they are looking to better coordinate ESI with related datasets and were asking users to identify how the data are used and how best to focus future data updates and methods of serving the data to the oil spill planning and response community. The original in-person meetings planned for March 2020 were post-poned until fall 2020. wever, the meeting planned for March 10-12 in Silver Springs, MD (at NOAA Headquarters) was cancelled and will be rescheduled for most likely the fall.

March 2021 Update: The original in-person workshop planned for last spring was rescheduled to four separate virtual meetings, the first of which was on October 28th where we reviewed NOAA's ESI mapping protocols and where several states demonstrated their state-sponsored databases that fulfill their ESI needs for oils spill planning and response. Subsequent meetings took place on November 10th, November 18th, and December 2nd. Based on discussions during the first two meetings, we had an Alaska-focused meeting on November 13th with CIRCAC, PWSRCAC, the Oil Spill Recovery Institute (OSRI), AOOS, and several agencies to discuss potential ways to integrate ShoreZone and ESI data into AOOS data portals. We will be following-up on some of the ideas brought forward and CIRCAC may lead a Cook Inlet demonstration project.

Human Impressions:

Background: In 2012, we developed a photography exhibit of ShoreZone imagery from the Gulf of Alaska coast titled *Coastal Impressions: A Photographic Journey along Alaska's Gulf Coast*. The exhibit was sponsored by the CIRCAC and developed in partnership with NOAA Fisheries, Alaska Fisheries Science Center Auke Bay Laboratories, and the Alaska ShoreZone program. The exhibit, along with an exhibit booklet, was presented across the state and so well received that two years later another exhibit was developed by BOEM, NOAA, and NPS titled *Arctic Impressions: A Photographic Journey along Alaska's Arctic Coast*, which was equally successful and was even presented during President Obama's visit to the Arctic. Since then, NOAA has provided funding to Coastal and Ocean Resources, Inc. to review ShoreZone imagery for an exhibit titled "Human Impressions along Alaska's Coast." Two of us from the Alaska

ShoreZone Partner Steering Committee were asked to help develop the scope, types of human uses to be represented, and to review the draft project.

March 2021 Update: A draft Human Impressions exhibit booklet and photo selection have been submitted to NOAA and we are currently in the review and revision process.

Macrocystis Kelp

Background: Since our last survey of the Kodiak, Afognak, and Shuyak Island *Macrocystis* beds, additional reports of *Macrocystis* kelp in the western Gulf of Alaska have been reported, including the east side of Afognak Island and near Sand Point in the Shumagin Islands, which is a western range extension. This kelp grows in thick beds very near shore and has implications for oil spill risk and oil retention, and is likely to respond to changes in sea surface temperature and circulation related to climate change.

March 2021 Update: Kelp frond samples that we collected in 2009 and preserved are going to be analyzed by a group of researchers through a project of the University of British Columbia, University of Victoria, and the Hakai Institute. They have the samples in-hand and will be analyzing them along with samples I collected opportunistically from southeast Alaska. CIRCAC's *Macrocystis* kelp mapping surveys are currently on-hold and may take place in summer 2021 or spring 2022.

Cook Inlet Response Tool (CIRT)

Background: Since our Cook Inlet Response Tool (CIRT) was migrated along with hundreds of other data sources to AOOS's Next Generation User Interface, we continue to provide training support and looking to update data layers, although no new training was conducted this winter.

March 2021 Update: As mentioned above, we have been discussing the potential to integrate ESI data into the CIRT tool and had our first teleconference in November. No actions have taken place yet but we will be working with OSRI to identify potential funding to move forward with a demonstration project. We currently have numerous data sets that we would like to integrate into the CIRT tool, including potentially ESI data, but also the ShoreZone shore station data and our hydrocarbon and water quality data. We plan to integrate with the new project by BOEM to compile Cook Inlet hydrocarbon data in a new partnership to include historical and recent Cook Inlet data.

Physical Oceanography Program

Cook Inlet Ocean Observing

Background: AOOS requested input into their 2022-2027 five-year plan for Alaska ocean observing. Since 1999, EMC has supported or conducted physical oceanographic research to help better understand Cook Inlet's circulation towards improving future oil spill trajectory model forecasts. We've supported satellite drifter buoys, Acoustic Doppler Current Profiler (ADCP) deployments, High Frequency ocean surface current radars, current meter deployments,

and hydrographic surveys. Our goal is to partner with agencies and CIRCAC's PROPS committee to develop a high resolution three-dimensional on-line accessible circulation model that can be further developed into a particle trajectory/oil spill trajectory model. In 2019, NOAA's Cook Inlet Operational Forecast System (CIOFS) circulation and hydrographic model transitioned from developmental mode to operational mode after a decades-long effort by NOAA that started with deployments of current meters and Acoustic Doppler Current Profilers (ADCPs) throughout the Inlet. The model is currently running in operational model and every six hours provides forecasts for sea surface height and three-dimensional currents, temperature, and salinity based on inputs of meteorological and hydrological conditions. Its scope includes Cook Inlet and Shelikof Strait. This model can be used operationally by NOAA's Office of Restoration and Response for oil spill modeling in the event of a significant spill. At this time, CIOFS is not available for web-access or public use. As well, verification of the model needs to be conducted and in the paucity of recent oceanographic observations or real-time measurements, a hind-cast analysis against historical data sets will help identify model strengths and weaknesses.

March 2021 Update: CIRCAC's subaward proposal to AOOS was titled "*Cook Inlet Ocean Observing and Hydrographic Modeling to Support Oil Spill Prevention and Response*" and was submitted to AOOS in December 2020 for subsequent submission to the national IOOS program. Our overall goal of the proposed 5-year plan is, thorough a multi-agency coordinated effort, to test and improve ocean circulation modeling in support of a sustained, accessible oil spill trajectory model for Cook Inlet maintained and served on an AOOS on-line portal. Specific goals included:

1. Establish a collaborative effort to evaluate the effectiveness of Cook Inlet circulation forecast models (with a focus on NOAA's Cook Inlet Operational Forecast System (CIOFS) and BOEM's Regional Ocean (ROMS) Model), assess critical observing gaps, fill data gaps, and conduct model hindcasts for model validation and improvements.
2. Coordinate with AOOS, UAF, and BOEM to deploy High Frequency (HF) Radar systems in Cook Inlet to provide near real-time measurements of surface flow fields to ensure that both the CIOFS and the ROMS models accurately model Cook Inlet's complex oceanography, especially in the lower and middle Inlet and its boundaries.
3. Collect synoptic CTD data along two cross-Inlet transects, between the Forelands and east of Kalgin Island, with vessel-mounted ADCP, to ensure that models more accurately represent stratification, vertical currents, convergence zones, and north-south salinity gradient.
4. Assemble and deploy a mooring with CTD instruments (bottom and near surface) and upward-looking ADCPs to collect oceanographic data for time scales that capture variability over tidal cycles, seasonally, and inter-annually.

Following that submission, another opportunity arose with AOOS and other partners to develop a proposal to the IOOS Coastal and Ocean Modeling Testbed (COMT) project, to basically address task number 1 above, but in a much more thorough and detailed manner. We developed a project team that included the new AOOS Executive Director, Sheyna Wisdom, Molly and other

AOOS staff, programmers from Axiom Data Science who are the developers of all of the AOOS data portals, several branches of NOAA, including Dr. Kris Holderied of the Kasitsna Bay Laboratory, and CIRCAC.

We submitted our proposal in early March titled "*Coastal and Ocean Modeling Testbed Project: Cook Inlet Ocean Forecast Model (CIOFS): Validation, Enhancement, and Development of Applications (C-VEDA)*." The overall goal is to improve use and accelerate development of the existing National Oceanic and Atmospheric Administration (NOAA) CIOFS model to meet stakeholder needs. More specifically, our proposed C-VEDA project will C-VEDA will: 1) generate a 20-year three dimensional (3D) hindcast data product from CIOFS and make available an existing hindcast from a second Cook Inlet model; 2) assess model accuracy with detailed model-to-data and model-to-model comparisons; 3) provide recommendations to NOAA for CIOFS improvements based on validation results and stakeholder engagement; 4) develop and test the implementation of CIOFS-based tools and applications to meet stakeholder needs; and 5) implement those applications operationally on the AOOS data system.

New Cook Inlet publication: Last fall, I mentioned that Dr. Mark Johnson was working on a manuscript to update descriptions of Cook Inlet circulation based on more recent data than some of the publications that we have all relied on based on data from the 1970s. Since then, his publication (*Subtidal surface circulation in lower Cook Inlet and Kachemak Bay, Alaska*) was accepted and published and is available for free download at https://www.sciencedirect.com/science/article/pii/S2352485521000013?via%3Dihub). He synthesizes data from multiple projects, including many that we either funded or carried out (e.g. Cook Inlet boundary conditions hydrographic surveys, deployments of HF Radars, support of satellite drifter deployments, towed ADCP measurements across the tidal rips, etc…).

Oil Fate and Effects Programs

Marine Oil Snow in Cook Inlet

Background: We supported research on natural marine snow sedimentation in Kachemak Bay in 2018 and 2019. The research also included studies on the formation of marine snow aggregates and laboratory created marine oil snow. At the Gulf of Mexico Oil Spill Ecosystem Science (GOMOSES) conference in February 2020, I met with Dr. Nancy Kinner of CRRC and other scientists conducting research on Marine Oil Snow to discuss potential thesis tasks for a new graduate student for the summer of 2020 and to plan proposals and manuscripts. In early 2020, we submitted a Study Plan idea to BOEM through NOAA's Office of Response and Restoration. Unfortunately, it was not selected for funding.

For summer 2020 fieldwork, we outlined some tasks for a new graduate student that could be done with the graduate student staying at University of New Hampshire (UNH) and not traveling to Alaska due to COVID. These included (1) compiling data on areas in Alaska's marine environment where the environmental drivers for the formation of oil-related marine snow potentially exist (e.g. oil spill risk, high primary production, and link to benthic habitat) and (2) having me send carboys of seawater throughout the spring and summer (beginning in April) via Fedex for oil, sediment, and dispersant roller-bottle experiments at UNH. These plans were

modified when UNH closed down their university to research through the summer.

March 2021 Update: With support from CIRCAC, graduate student Quinn Wilkens spent the fall and early winter constructing a large-scale roller table to culture phytoplankton and developing plans with CIRCAC and researchers from CRRC, UNH, and Bigelow Laboratories for experiments where he can vary levels of oil and sediment to observe aggregate sinking velocities in different environmental conditions. To maintain applicability to coastal Alaska, Quinn will use a cold water phytoplankton species seasonally abundant in Alaska, sediment sourced from Cook Inlet, and Alaska North Slope (ANS) crude oil. Settling velocities will be measured using specialized cameras, with the ability to track individual aggregates over time. These experiments will then be paired with resuspension measurements in UNH's oil flume to determine current velocities required to re-suspend aggregates from the ocean floor after initial settling. Ultimately, this research explores potential pathways in which oil may impact the benthic environment, and aid in informed decision-making during an event.

Marine Oil Snow in Spill Response:

Background: Last summer I was asked to join a team of authors working on a paper about Marine Oil Snow (MOS) and Marine Oil Snow Sedimentation and Flocculent Accumulation (MOSSFA) that would be geared towards policy. The rest of the team were MOS/MOSSFA research scientists, most focused on the Gulf of Mexico. For that paper, I wrote sections on Arctic conditions and shallow water events and developed a decision-tree and supporting information that would help emergency responders and planners evaluate the potential for MOS/MOSSFA to reach the benthic environment.

March 2021 Update: Our manuscript "*Integrating marine oil snow sedimentation and flocculent accumulation (MOSSFA) events into oil spill response and damage assessmen*t" has been published in the Marine Pollution Bulletin was accepted for publication, following peer-review. CIRCAC funded the open-source publication costs to ensure that the paper is accessible to decision-makers who don't have a subscription to that particular journal or access to a research library. A pdf of the paper can be downloaded) from https://www.sciencedirect.com/science/article/pii/S0025326X2100059X?via%3Dihub. It is also attached at the end of this staff report.

Technical Review Program

APDES Permits

1. Background (Cook Inlet General Permit):

We are still awaiting ADEC's final decision regarding the Cook Inlet general oil and gas discharge permit and I will update you when the final permit is announced. As you know, in 2019, ADEC opened the draft Alaska Pollutant Discharge Elimination System (APDES) **General Permit** to Discharge to Waters of the United States - Oil and Gas Exploration, Development and Production in State Waters in Cook Inlet. We reviewed the permit and associated fact sheet, mixing zone model results, and other associated documents. The Permit would replace the expired 2007 general permit AKG315000 for discharges to state waters. The draft Permit also included mixing zones for discharges from a previously zero-discharge

platform.

March 2021 Update: ADEC has not yet released the final permit.

2. Background (Osprey Platform Individual Permit):

We are also awaiting a decision by ADEC regarding an Individual Permit that we reviewed in 2019. As a reminder: On April 24th, ADEC announced that they had prepared an Alaska Pollutant Discharge Elimination System (APDES) Draft Permit AK0053309 available for a 30-day public review. This was a proposed **Individual Permit (IP)** for Cook Inlet Energy, LLC, Osprey Platform. This platform was originally developed as a zero-discharge platform for produced water and has been operating as such since its inception. The General Permit (GP) above also included produced water discharges from the Osprey Platform in the proposed permit, so Cook Inlet Energy likely applied for an IP in case the GP was challenged in court. Comments were originally due on May 27th, just 5 days after the comments on the GP were due. They extended that deadline after receiving numerous requests from CIRCAC and others, though by only 5 days. The review period ended May 31st and CIRCAC comments were presented to the Protocol Committee for review, revision, and approval.

March 2021 Update: ADEC has not yet released the final permit.

3. Background (KLU Julius R. Platform Individual Permit):

On March 4, 2019, ADEC received an application from Furie Operating Alaska LLC for the reissuance of APDES Individual Permit AK0053686 – KLU Julius R. Platform. Furie subsequently submitted an amendment to the application in November 2019 to include an additional, new discharge of produced water.

March 2021 Update: ADEC released a draft permit for review in February. CIRCAC submitted a comment letter. ADEC announced that they had approved the final draft permit but it has not yet been posted.

Environmental Impact Statement Review:

Background: The Bureau of Ocean Energy (BOEM) Outer Continental Shelf (OCS) Oil and Gas Program for 2017-2022 included one lease sale in the Cook Inlet Planning Area, Sale 258, scheduled for 2021. In fall 2020, BOEM conducted public scoping virtual meetings, one of which I attended, with the purpose of soliciting public input on the scope of the proposed 2021 Cook Inlet Lease Sale 258 EIS, significant issues, reasonable alternatives, and potential mitigation measures. On Jan. 13, 2021, BOEM released an Area Identification Decision and a draft Environmental Impact Statement (EIS) analyzing the potential environmental impacts of holding the proposed sale. A Notice of Availability for these documents was published in the Federal Register Jan. 15, 2021 and initiated a public comment period originally scheduled to run from Jan. 16 to March 1. On Feb. 4, 2021, **BOEM canceled the scheduled public comment period and public hearings.**

Additional Activities

1. Strategic Planning – In December 2020, I led the discussion on Strategic Plan updates for the CIRCAC Board of Directors. The draft language that was presented to and approved by the EMC, PROPS, and Protocol committees was presented and unanimously approved.
2. As a board member of the Alaska Research Consortium (ARC), I participated in board meetings and review meetings for the Alaska Seafood Futures and Alaska Seafood Applied Research initiatives. We had meetings on Dec 10, Dec 15, Dec 16, Jan 25, and a board meeting is scheduled for April 2.
3. Over the past three months, I've written several support letters (e.g. HB 54 for Aquatic Nuisance Species, an EVOSTC Education and Outreach proposal for Girls on Water) and peer-reviewed several proposals. Also solicited support letters for our Coastal Ocean Modeling Testbed (COMT) proposal from the Southwest Alaska Pilots Association (SWAPA) marine pilots, CISPRI, Hilcorp, and Marathon.
4. In December, I submitted a BOEM Study Plan Idea titled "*Ocean observations to validate and improve Cook Inlet circulation model capabilities.*" The focus was on deployment of high frequency ocean surface current radars in Cook Inlet.
5. The Alaska Marine Science Symposium (AMSS) was held virtually this year on January 25-28. The presentations were recorded ahead for viewing at any time, but panel session were live.
6. On January 29th, attended the virtual Annual Review meeting of the Arctic Domain Awareness Center (ADAC).
7. On February 6th, I attended (virtually) a seminar titled "Crowdcast: Sounds in Nature" co-organized by EMC member Dr. John Morton. Some of the acoustic data collected during the lower Cook Inlet seismic work in fall 2019 was presented.
8. On February 12, we had an Oil Spill Recovery Institute (OSRI) Board Meeting (virtual).
9. On March 6th, participated in a ShoreZone cost-benefit analysis meeting. Will be having a follow-up meeting on April 1st to discuss my input to the analysis.
10. The Kachemak Bay Science Conference was held virtually on March 15-18. I believe you can still access presentations at https://www.kachemakbayscience.org/schedule.html .

Ice Monitoring Cameras

Staff and our contractors have been working to ensure each of the cameras within the Ice Monitoring Camera Network is functioning. We are currently working with an electrical contractor to install a camera at a new location. Marathon has agreed to allow the installation of a camera on their Nikiski LNG dock. This camera will replace the camera currently located at the ASRC facility. The ASRC camera provided fair images of the Inlet near the KPL dock, however that camera was one of the first camera styles purchased for this project and does not produce the best field of view. Once the new camera is installed and operational, the same contractor will demobilize the camera located at the ASRC facility. Any equipment that can be refurbished and reused will be saved.

Additionally, our work to include access to the camera system by the Southwest Alaska Pilots Association (SWAPA) marine pilots has been accomplished and is being used frequently. We recently gave access to view the Ice Monitoring System to the Coast Guard Command Center and to the Marathon Marine Superintendent. Both are very happy to have this great tool for use in their operations.

Finally, staff worked with Cook Inlet Energy personnel and our electrical contractor to remove the camera and data carrier equipment from the Osprey platform. Since the platform has been shut down, there is no power available to operate the camera. We made the decision to retrieve the equipment to refurbish and reuse as possible.

Geographic Resource Inventory Database (GRID)

Staff and our primary contractor introduced GRID to the Hilcorp drill planning committee. The GRID will be exercised at the Hilcorp March drill exercise segment. Staff is working with Hilcorp to provide GRID training prior to the drill exercise.

We have begun collecting data for upper Cook Inlet. Once the upper Inlet data is collected, we will collect data for Kodiak to complete the dataset for CIRCAC's area of responsibility and area of concern. Once the GRID has been proven we will include it in the Cook Inlet Response Tool (CIRT) for use during emergencies.

Streamlined Oil Discharge Prevention and Contingency Plan Regulations

Staff participated in a webinar hosted by the Regulations and Guidance Group of the Alaska Department of Environmental Conservation's (ADEC) Prevention, Preparedness, and Response Program in early December. The goal of the webinar was to familiarize interested stakeholders with recent amendments to the Oil Discharge Prevention and Contingency Plan (ODPCP) regulations under 18 AAC 75. Streamlined ODPCP regulations for non-tank vessels have been around for some time. However, this amendment allows non-crude oil tank vessels and barges with a total storage capacity of **less than** 500 barrels (21,000 gallons) to apply for a streamlined plan. The key here is the incorporation for tank vessels and barges of less than 500 barrels capacity. This will help bring into regulatory oversight smaller vessels transporting refined oil products.

Alaska Regional Response Team Meeting

Staff attended the Alaska Regional Response Team (ARRT) virtual meeting in February, where ARRT sub-committee reports and presentations were heard. These were followed by the Alaska Region, Area Committee reports from the four Area Contingency Plan Committees (Prince William Sound, Southeast Alaska, Alaska Inland, Artic and Western Alaska Area).

The Arctic and Western Alaska Area (AWA) Committee presented information regarding the committee's next meeting date, Steering Committee future plans, applicable Inland Plan cross reference updates, and new tools and references recently included. Additionally, recent case summaries such as the Barge 141 grounding, the slop oil spill at the Trading Bay Production Facility, and the Non-Crude Streamlined C-plan regulation change were also included.

Additional presentations regarding dispersant capabilities for Alaska, Alaska Oil and Gas Association updates, and an operational update from Hilcorp were heard. Concerning dispersant capabilities, the Marine Spill Response Corporation (MSRC) reviewed their current and future dispersant capabilities that include the addition of Boeing 707 jets to their current Hercules C-130 air platforms that will decrease response times and increase response range for aerial dispersant applications. Hilcorp provided an operational update for their statewide operations.

Geographic Response Strategy (GRS)

Staff has been working with our contractors and the agencies within the GRS workgroup to develop 25 stream crossing GRS. Staff recently met with each of the GRS workgroup members and the Environmental Protection Agency (EPA) to coordinate these GRSs through the development process for approval and inclusion in the GRS catalog.

Harbor Safety Committee Workgroups

Staff has attended virtual meetings for the Harbor Safety Committee (HSC) Workgroup Chair(s), the Harbor Safety Plan (HSP) workgroup, and the Navigation Safety (Nav Safety) workgroup.

Staff acts as the Chair for the HSP workgroup that recently reviewed and approved the results of information collected from the HSP public review. That review included additional information for the Port of Alaska and Port MacKenzie, along with useful phone numbers. These changes will be forwarded for HSC approval and inclusion into the HSP.

During the Workgroup Chair meeting, the Nav Safety workgroup chair brought forward information regarding Aids to Navigation (ATON) outages in Cook Inlet. This prompted a Navigation Safety Workgroup meeting that included U.S. Coast Guard Waterways Safety Supervisors from Sector Anchorage and representatives from Hilcorp with responsibility and authority for the offshore platforms. The workgroup discussed the path to notify and repair the outage of range lights and platform navigational lights. Additionally, the Nav Safety workgroup chair (Capt. Garay- Southwest Alaska Pilot) spoke to a navigational issue regarding the change from heavy fuel oils to Ultra Low Sulfur Diesel (USLD) fuel used in the large vessels that pilots navigate in and out of Cook Inlet. It has become apparent that vessel performance characteristics have changed while using the ULSD fuel, resulting in less power. This is of particular concern while operating in ice conditions. The workgroup resolved that new vessel rpm cards should be provided to the pilots by the vessel's master, that indicate engine control differences when the vessel is using USLD fuel, allowing the pilots to adjust their engine control commands accordingly.

Alaska Oil Spill Technology Symposium (AOSTS)

Staff is a member of the AOSTS organizing committee and has met throughout the past year to discuss ways to try to present the symposium. However, due to Covid-19 we were forced to postpone those plans.

Since the organizing committee values in-person, face-to-face interactions and the field demonstration components as key features of the AOSTS, we are now looking towards April 2022 for the next AOSTS to be held in Fairbanks, Alaska**.** With Covid-19 vaccines becoming more available, our hopes are that travel and concern for attending large meetings in person will ease.

The committee agreed that the agenda originally planned for April 2020 needed to be updated for an April 2022 audience, to reflect the research that has continued to move forward while working in unprecedented ways. Therefore, the AOSTS organizing committee will be hosting a virtual listening session during late summer/fall 2021 to hear about new agenda topics and what lessons have been learned from incorporating novel ways of doing things during Covid-19 restrictions. Staff will continue to participate as a member of the organizing committee and CIRCAC will remain a sponsor of this very important Alaska event.

Drill Planning

Hilcorp

Staff has been participating in the Hilcorp annual joint field exercise. This exercise has been conducted in virtual workshop segments and will culminate with a field deployment scheduled for April.

The exercise centers on the Swanson River Field (SRF) operations; a sinkhole impact to the Swanson River Oil Pipeline (SROP) and a flowline (that is regulated by the Alaska Department of Environmental Conservation). Oil backflows into the rupture area and most of the line fill is released into the environment resulting in a sinkhole. Personnel safety, wildlife safety, and public information and liaison activities will be the focus for the tabletop portion of this exercise.

Staff has worked with Hilcorp to participate by providing GRID training prior to the next drill segment and then assisting the planning and logistics section to use the GRID during the drill segment.

Protocol Control Committee

Staff Report

Since the December 2020 Board of Directors meeting the Protocol Control Committee has reviewed and provided comments regarding one Contingency Plan and one Alaska Public Notice for comments regarding regulatory variance.

Those instances were:

- BlueCrest Alaska Operating LLC Hansen Production Facility Oil Discharge Prevention and Contingency Plan

    - This plan was previously submitted as the Cosmopolitan Development Project ODPCP with that plan version referring heavily to oil well drilling, associated drilling operations and organization. Because BlueCrest has decided not to conduct drilling activities and to cold stack the drilling rig this plan has undergone extensive revision including the deletion of large amounts of information in almost every section. In many instances, the information deleted provided good guidance and insight regarding spill response, response planning and safety. There are several areas within each scenario in Section 1 that warrant clarification and other areas within Section 2 that pertain to their substance abuse policy, security program, and training program that should also be revisited and clarified.

- Application for Sundry Approvals Forms to modify current status of offshore exploration wells KLU 1, KLU 2A and KLU 4 from “Suspended” to “Plug and Abandoned”

  This variance focused on the three subsea wells that had been suspended by Furie Operating Alaska, LLC and their request to change their status from suspended to plugged and abandoned, leaving them as is, (properly plugged, but extending approximately 15 feet above the mud line).

  Our comments sought to point out the State of Alaska and federal regulations that establish a baseline expectation for safe oil and gas operations in Alaska. Likewise, we also pointed out the expected adherence to the baselines and agreements in place when those wells were drilled. That being, Furie had not provided any substantial justification for leaving the wells in perpetuity in their current state and that the commission should require Furie to Plug and Abandon the three wells in question, commensurate to the regulatory requirement cited in 20 AAC 25.172(b), namely the established requirement to cut the well head off at 5 feet below the mudline along with other plug and abandonment requirements to complete the “Plug and Abandon” process. Our comments also pointed out the possible navigational hazards posed by the wells extending above the mud line.

Public Outreach Report – April 2021

Advertising

Paid advertising continues to be the main avenue for public outreach, with event plans for 2021 still developing. A scaled-down version of our radio campaign that was started in 2020 is continuing at least through the summer with regular underwriting spots being aired locally on KBBI and KDLL. We've also continued some print advertising projects, with ads in special editions of the Peninsula Clarion and Alaska Business Magazine in addition to annual appearances in local Chamber of Commerce travel guides. We have also extended our contract for digital advertising at the Kenai Airport.

Scholarships

The 2021 program was widely launched in early January to school targets – teachers, counselors, administrators and staff in public and private schools, home school programs, the University of Alaska system and other in-state schools, and maritime programs throughout the United States. Subsequent notices went to USCG Sector Anchorage, local National Guard personnel, Alaska Native organizations and local chambers of commerce. We publicized on social media and the state-wide What's Up newsletter. Reminder notices were issued for the March 25 deadline for receipt. In all, 10 applications were received - four for the environmental scholarship, six for the maritime, two candidates are seeking both. Only one application was rejected; nine will be presented to the Scholarship Committee for consideration during teleconference interviews, scheduled for April 20. Selections will be made and students notified on that date.

Newsletters

January – Board of Directors update; Scholarship application announcement; CISPRI expands response fleet

February – No newsletter

March – Cook Inlet Harbor Safety Committee recap; United States Coast Guard annual address; Board meeting announcement; scholarship update

COOK INLET REGIONAL CITIZENS ADVISORY COUNCIL

ANNUAL MEETING

****AGENDA****

Friday, April 9th, 2021

VIRTUAL CONFERENCE

12:20 pm (est.) **Cook Inlet RCAC 2021 Annual Meeting**

Call to Order/Roll Call

Approval of Agenda

Seating of Members of the Board of Directors

Directors – 3 year terms *(Action Item)*

- Re-election of Gary Fandrei, Aquaculture Associations
- Re-election of Paul Shadura, Commercial Fishing Group
- Re-appointment of John Williams, City of Kenai
- Re-appointment of Carla Stanley, City of Homer
- Re-appointment of Rob Lindsey, City of Kodiak

Election of Officers *(Action Item)*

- President (1 year term)
- Vice-President (1 year term)
- Secretary/Treasurer (1 year term)

(For information purposes, the 2020 Officers were: President – John Williams; Vice-President – Robert Peterkin, II; and Secretary/Treasurer – Gary Fandrei)

Selection/Appointment: Committee Members

Executive Committee *(Action Item)*

- President (Serves as Chair) (1 year term)
- Vice-President (1 year term)
- Treasurer (1 year term)
- 2 Board Members At-Large (1 year terms)

(For informational purposes, the 2020 Members were: John Williams, Robert Peterkin, Gary Fandrei, Deric Marcorelle and Bob Flint)

Audit Committee *(Action Item)*

- Treasurer (Serves as Chair) (1 year term)
- 2 Board Members At-Large (1 year term)
- 1 Board Member Alternate (1 year term)

(For informational purposes, the 2020 Members were: Gary Fandrei, Molly McCammon, Grace Merkes and Robert Peterkin as Alternate)

Credentials Committee *(Action Item)*

- Vice-President (serves as Chair) (1 year term)
- 2 Board Members At-Large (1 year term)
- 1 Board Member Alternate (1 year term)

(For informational purposes, the 2020 Members were: Grace Merkes, Gary Fandrei, Robert Peterkin and Michael Opheim as Alternate)

Protocol Control Committee *(Action Item)*

- 5 Board Members (1 year term)
- 1 Board Member Alternate (1 year term)

(Committee elects Chair. For informational purposes, the 2020 Members were: Robert Peterkin, Bob Flint, Deric Marcorelle, Paul Shadura, Rob Lindsey and Gary Fandrei as Alternate

Prevention, Response, Operations & Safety Committee *(Action Item)*

- 3 Board Members (1 year term)
- 3 Board Member Alternates (1 year term)

(Committee elects Chair. For informational purposes, the 2020 Members were: Rob Lindsey, Deric Marcorelle, Bob Flint, Michael Opheim, Carla Stanley and Walt Sonen)

- 6-8 Public Members (3 public members nominated for seating)
  - Bob Pawlowski (re-appointment – 3 yrs.)
  - Jan Hansen (re-appointment – 3 yrs.)
  - Kyle Crow (new appointment – 3 yrs.)

Environmental Monitoring Committee *(Action Item)*

- 3 Board Members (1 year term)
- 3 Board Member Alternates (1 year term)

(Committee elects Chair. For informational purposes, the 2020 Members were: Michael Opheim, Molly McCammon, Carla Stanley, Deric Marcorelle)

- 6-8 Public Members (2 public members nominated for seating):
  - Dick Prentki (re-appointment – 3 yrs.)
  - Eric Klein (re-appointment – 3 yrs.)

1:00 pm (est.) **Adjourn**