2024 Watershed Update

Municipality of Anchorage

Alaska Department of Transportation and Public Facilities

A.laska
P.ollutant
D.ischarge
E.limination
S.ystem

Today's Agenda

9:30 APDES Storm Water Program

- Welcome and Introductions
- Agency Updates
- 2023 Anchorage MS4 Permit Audit Results – *Kenna Billups, MOA*

Monitoring Program

- Stormwater Outfall Monitoring – *Cindy Helmericks, HDR, Inc.*
- Dry Weather Screening – *John Buzza, HDR, Inc.*

Illicit Discharge Highlight – *Kyle Cunningham, MOA*

Emergency Snow Site Management – *Kyle Cunningham, MOA*

Watershed Education Activities – *Cherie Northon, AWC*

10:45 Break for Refreshments

11:00 Current Issues

- Wetlands Determination: How Wetlands are Defined and Identified Under Clean Water Act – *Ryan Yelle, MOA, and Emily Creely, Anchorage Watershed Commission*

12:00 Discussion & Adjournment

APDES Annual Meeting

Municipality of Anchorage
and Alaska Department of Transportation
and Public Facilities

Agency Updates

WATERSHED MANAGEMENT

APDES Annual Meeting

Municipality of Anchorage
and Alaska Department of Transportation
and Public Facilities

Anchorage Storm Water Permit Compliance

*APDES = Alaska Pollutant Discharge Elimination System

*MS4 = Municipal Separate Storm Sewer System

WATERSHED MANAGEMENT

APDES Annual Meeting

Municipality of Anchorage
and Alaska Department of Transportation
and Public Facilities

Anchorage Storm Water Permit Compliance

MOA & ADOT – Owners of the MS4 – Responsible Party

Stormwater - Regulated as category of Waste Water - Under the Clean Water Act, National Pollutant Discharge Elimination System (NPDES)

Alaska has Authority to Administer NPDES = APDES

WATERSHED MANAGEMENT

APDES Annual Meeting

Anchorage Storm Water Permit Compliance

Mandated Programs-

- Construction – Erosion & Sediment Control
- New Development – Runoff Quantity Reduction
- Street Operations & Management
- Discharge Management – Residential/Industrial
- Monitoring – Dry & Wet Weather, Pesticides
- Education

APDES Annual Meeting

Municipality of Anchorage
and Alaska Department of Transportation
and Public Facilities

2023 MS4 Permit Audit Result

6th Inspection – New Process

- Field Inspections
- Interview Inspections
- Findings

WATERSHED MANAGEMENT

Field Inspections

Snow Dumps

MOA:

- Northwood
- Tudor Rd.
- Spruce St.
- Sitka St.
- C St. & 100th
- Powder Ridge Pit
- Commercial Dr.
- Mountain View Dr.

DOT:

- O'Malley Rd.
- Highland Rd.

Catch Basin Cleaning

MOA:

- 36th & MacInnes St.

WATERSHED MANAGEMENT

Interview Inspections

Infrastructure and Street Maintenance

MOA:

- SOPs planned to update in 2024
- Catch basin cleaning

DOT:

- SOPs reviewing in 2024
- New facility

Interview Inspections

Construction Site Runoff Control

MOA:

- 458 inspections
  - Track outs, inadequate BMPs, stockpile stabilization

DOT:

- 276 inspections
  - Excessive snow from 2022-2023 winter
- SWPPPTrack

Interview Inspections

Illicit Discharge Management

MOA:

- Update mapping

DOT:

- Spill response planning

APDES Annual Meeting

Stormwater Outfall Monitoring

Presented by:

Cindy Helmericks
HDR, Inc.

APDES Annual Meeting

Dry Weather Screening

Presented by:

John Buzza
HDR, Inc.

APDES Annual Meeting

Illicit Discharge Highlights

Presented by:

Kyle Cunningham
MOA

University Lake – June 2023

Initial Report:

- June 22, 2023 – Voicemail from resident states sheen and strong fuel smell on south shore of U Lake.
  - Key* - caller provided Lat/Long of observation
- ADEC, MOA WMS and Street Maintenance initial response
  - Absorbent booms installed around storm drain outfall and at outlet of lake
  - Street Maintenance removes ~20gallons of fuel from OGS (oil and grit separator) upstream of storm drain outfall

University Lake – June 2023

Follow-up Response:

- June 23 – September 26, 2023
  - Storm drain system investigation, source identified as fuel vault located on ANMC campus
  - Contractor US Ecology hired to preform ongoing maintenance of OGS, deploy additional marine/hard boom in lake, and remove contaminated vegetation and material from lake
  - Oil absorbent booms installed in all storm drain manholes between source and outfall
  - Warning signs and caution tape put up around the lake and dog park & park is closed to public
  - FWS performs wildlife hazing activities to keep waterfowl and other animals out of sheen
  - Ongoing coordination between contractor, ANMC, MOA, ADEC, EPA, and FWS

University Lake – June 2023

Conclusion:

- July 11, 2023 – University Lake Park reopened to public
  - Oil absorbent boom remain around MS4 outfall and upstream manholes, oil absorbent pom-poms remain in lake
- September 26, 2023 – Lake and MS4 inspected by US Ecology and MOA and remaining booms are removed
- 152 gallons of fuel, 90 gallons of sludge recovered

Ongoing Needs:

- Develop better reporting hierarchy, strategy, and coordination between response agencies
- Review OGS cleaning and maintenance SOPs
- ANMC retrofits fuel vault
- Discuss how to take ANMC fuel vault “off-line”

APDES Annual Meeting

Emergency Snow Site Management

Presented by:

Kyle Cunningham
MOA

Temporary Snow Storage – AO 2024-6

- January 24, 2024 – Anchorage Assembly approves AO 2024-6 allowing for temporary snow disposal sites to deal with excessive snowfall and limited capacity at permitted snow sites

Municipal Clerk's Office
Amended and Approved
Date: January 24, 2024

Submitted by: Chair of the Assembly at the Request of the Mayor
Prepared by: Dept. of Law
For reading: January 9, 2024

ANCHORAGE, ALASKA
AO No. 2024-6, As Amended

AN ORDINANCE OF THE ANCHORAGE MUNICIPAL ASSEMBLY WAIVING OR MODIFYING CERTAIN PROVISIONS OF THE ANCHORAGE MUNICIPAL CODE, INCLUDING TITLE 21, LAND USE PLANNING, AND TITLE 15, ENVIRONMENTAL PROTECTION, TO ALLOW FOR TEMPORARY SNOW DISPOSAL SITES DUE TO THE LARGE VOLUME OF SNOW AND INSUFFICIENT LOCATIONS TO PLACE THE SNOW; TO INCLUDE A STREAMLINED PERMITTING PROCESS, AND APPEAL PROCESS UNDER TITLE 14, AND ALLOWING FOR DISCRETIONARY WAIVERS DEEMED IN THE PUBLIC INTEREST.

WHEREAS, this season's snowfall has greatly exceeded the normal average;

WHEREAS, all currently available private snow disposal sites within the Anchorage bowl are at capacity; and municipal snow disposal sites are not available to private snow-hauling contractors;

WHEREAS, new, temporary, snow disposal sites are needed to maintain driving, parking, walking, emergency access, and other activities on private properties and privately maintained roads and sidewalks from becoming unduly problematic or even dangerous to the public as more snow accumulates; and

WHEREAS, the Municipality has passed similar ordinances during winters of high snowfall, see AO 2012-23 (Approved February 28, 2012) and AO 2023-7(S), As Amended (Approved February 21, 2023); now, therefore,

THE ANCHORAGE ASSEMBLY ORDAINS:

Section 1. Anchorage Municipal Code Title 21 provisions governing the Conditional Use Permit process for snow disposal sites, including AMC 21.03.080 (Conditional Uses), AMC 21.03.180 (Site Plan Reviews), AMC Chapter 21.05 (Use Regulations), and AMC 21.05.060E.8. (Snow Disposal Sites), are hereby waived or modified as follows.

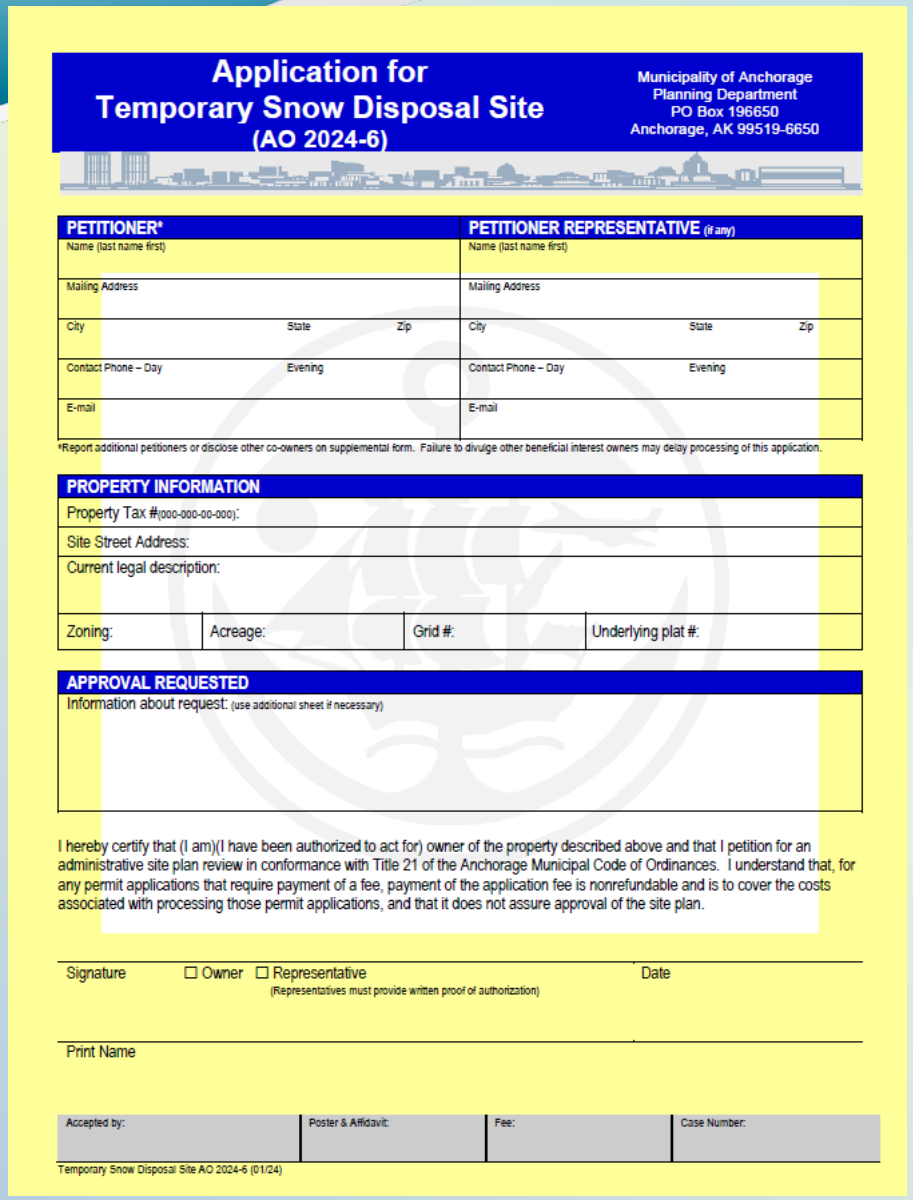
Any site that would otherwise require a Conditional Use Permit may, upon filing of a complete application, be granted a temporary permit in lieu of a Conditional Use Permit by the Planning Director.

The application must contain the following information to be considered complete and eligible for a temporary permit:

A drainage and water quality plan prepared by a licensed professional engineer. This plan shall analyze the effects of the snow disposal activity upon subsurface and surface water quality conditions and shall specify mitigation measures to reduce identified impacts. This provision may be

Temporary Snow Storage – AO 2024-6

- MOA Planning Dept. creates permit/application for temporary snow disposal site
  - *All approved permits expire no later than August 1, 2024 or date the last snow or ice is present on the property, whichever occurs first
  - Outlines submittal and approval requirements
  - Applications reviewed by MOA Planning, Traffic, Private Development, WMS, Health Department, Land Use Enforcement, Fire, ROW, and ADOT



Application for Temporary Snow Disposal Site (AO 2024-6)

Municipality of Anchorage
Planning Department
PO Box 196650
Anchorage, AK 99519-6650

PETITIONER*	PETITIONER REPRESENTATIVE (if any)
Name (last name first)	Name (last name first)
Mailing Address	Mailing Address
City State Zip	City State Zip
Contact Phone – Day Evening	Contact Phone – Day Evening
E-mail	E-mail

*Report additional petitioners or disclose other co-owners on supplemental form. Failure to divulge other beneficial interest owners may delay processing of this application.

PROPERTY INFORMATION

Property Tax #(000-000-00-000):
Site Street Address:
Current legal description:

Zoning:	Acreage:	Grid #:	Underlying plat #:

APPROVAL REQUESTED

Information about request: (use additional sheet if necessary)

I hereby certify that (I am)(I have been authorized to act for) owner of the property described above and that I petition for an administrative site plan review in conformance with Title 21 of the Anchorage Municipal Code of Ordinances. I understand that, for any permit applications that require payment of a fee, payment of the application fee is nonrefundable and is to cover the costs associated with processing those permit applications, and that it does not assure approval of the site plan.

Signature ☐ Owner ☐ Representative Date
(Representatives must provide written proof of authorization)

Print Name

Accepted by:	Poster & Affidavit:	Fee:	Case Number:

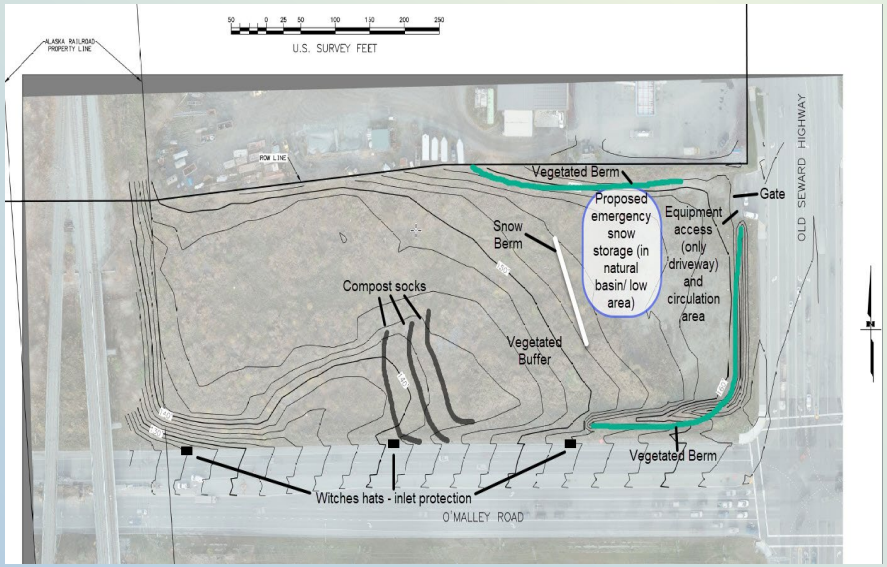
Temporary Snow Disposal Site AO 2024-6 (01/24)

Temporary Snow Storage – AO 2024-6

Requirements:

- Site plan
  - Topography <2ft contours
  - Roads, culverts, drainage, surface water
  - Location and depth of wells and on-site w/in 500ft of property
  - Ultimate receiving waters
  - Snow pile locations and limits
  - Location of berms, barriers, other BMPs to control runoff
- Drainage and water quality plan
- Dust and litter control plan
- Hours of operation
- Access via a collector or larger street
- Letters of non-objection

2 applications have been approved so far



APDES Annual Meeting

Watershed Education Activities

Presented by:

Cherie Northon
Anchorage Waterways Council

APDES Annual Meeting

Wetlands Determination

Presented by:

Ryan Yelle, MOA &
Emily Creely, Anchorage Watershed Council

Q&A Discussion

Anchorage MS4 Permit

2023 MOA Dry Weather Screening (DWS) Program

March 6th, 2024

285-1

01 DWS Overview

02 2023 DWS Field Work

03 2023 DWS Results

DWS Program Objectives

- Dry Weather Screening (DWS) Program
- Detect and reduce illicit discharges to the Municipal Separate Storm Sewer System (MS4)
- Illicit discharge = any discharge not entirely composed of stormwater

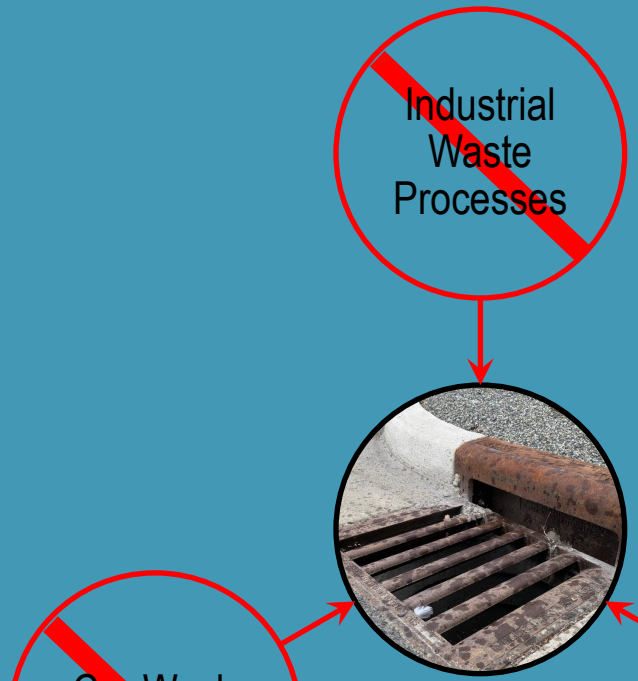
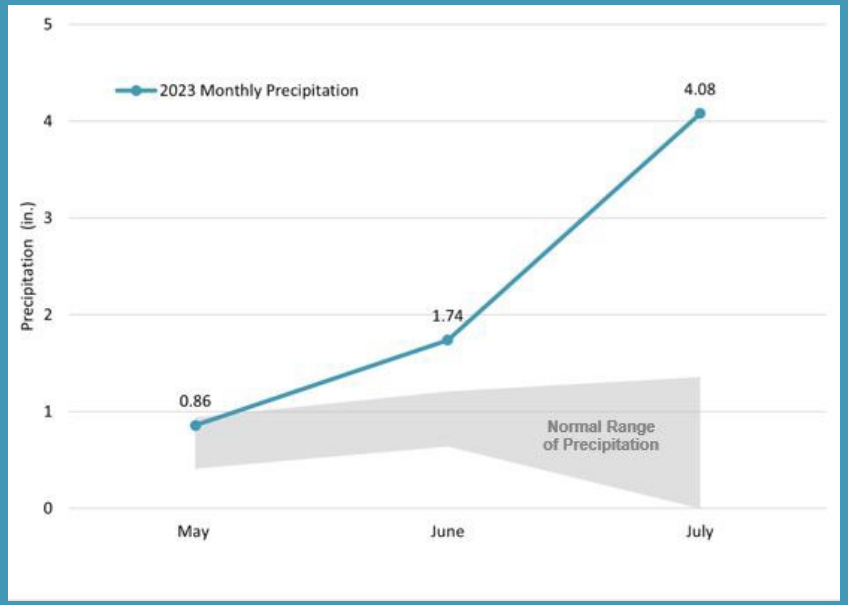


Image Credit: Alaska News Source

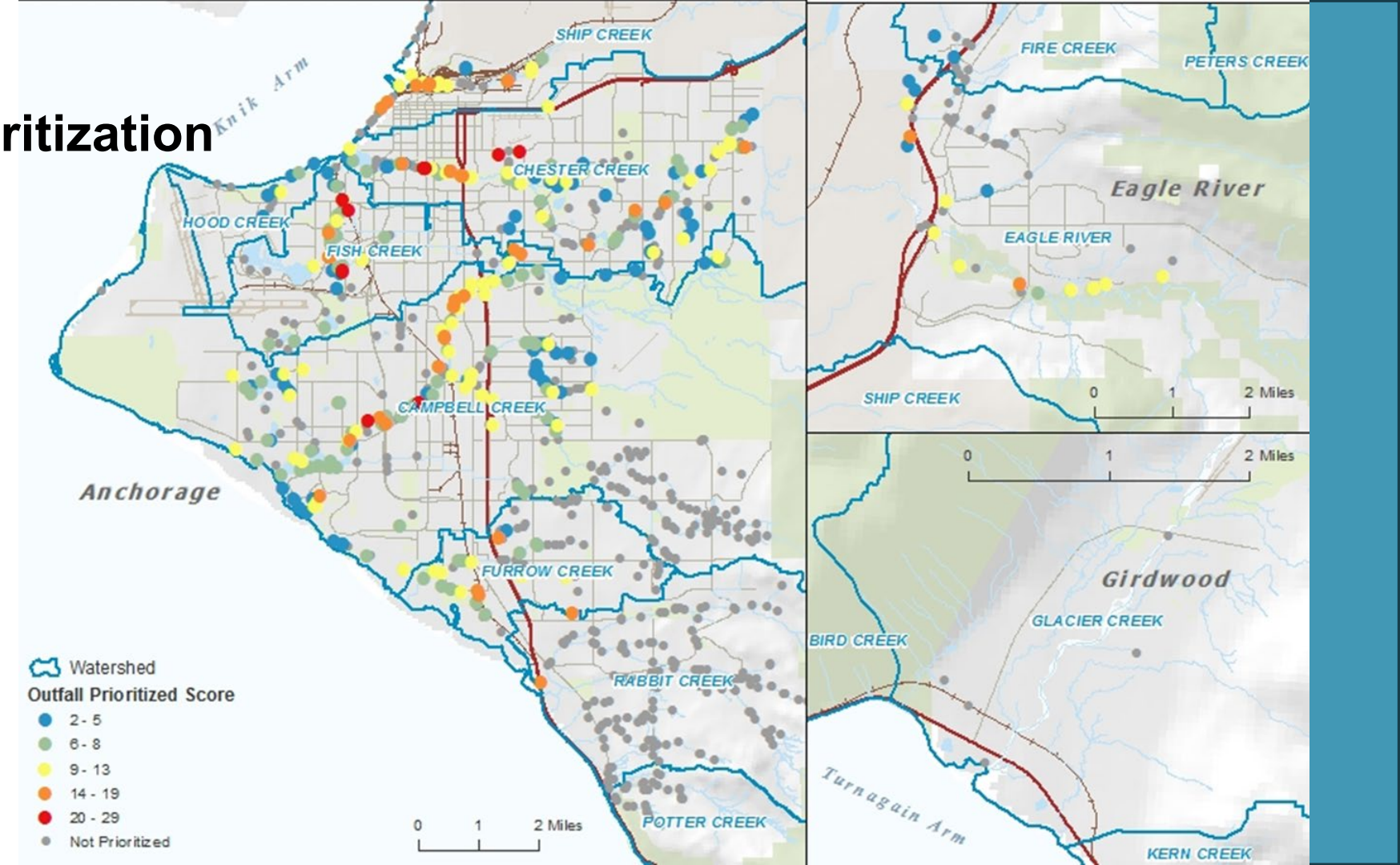


DWS Program Overview

- Municipal Separate Storm Sewer System (MS4) permit
  2020 – 2025 cycle
- May-July
- Conducted after at least 48 hours of dry weather

1. Outfall evaluation and prioritization
2. Annual monitoring of 30 outfalls
3. Sampling of suspected illicit discharges

Prioritization



DWS Monitoring

- Historical record of previous monitoring efforts
- Potential indicators of illicit discharge:
  - Odors
  - Color
  - Clarity
  - Floatables
  - Deposits
  - Stains
  - Sheen
  - Surface scum
  - Debris

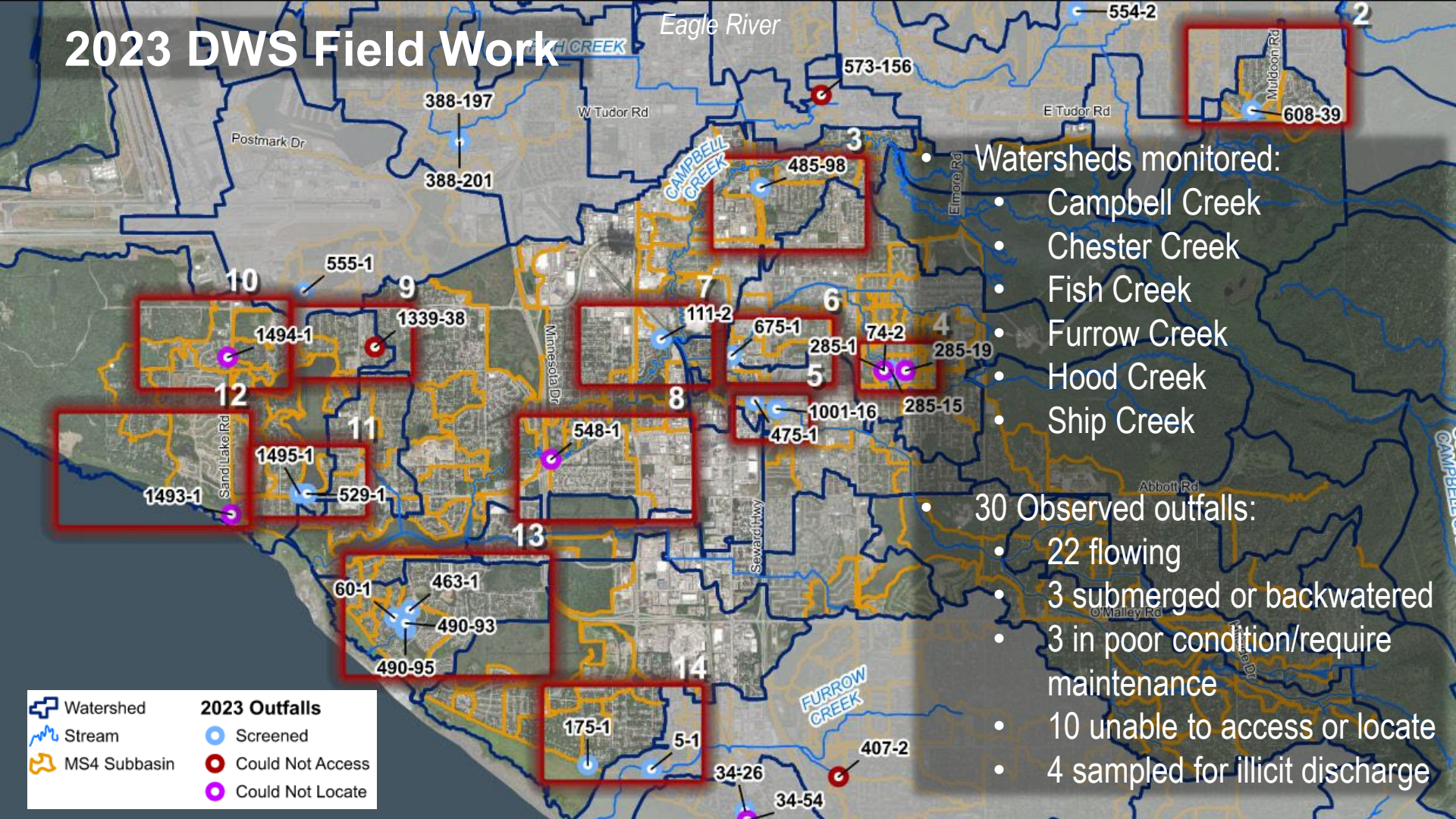
Furrow Creek
292-192, 2022

DWS Tested Parameters

Measurement Type	Parameter	Reporting Range	Threshold
Field	pH	0 – 14 STD	≤ 4 or ≥ 9 STD
	Total Chlorine	0.1 – 3.4 mg/L	≥ 1.0 mg/L
	Detergents	0.05 – 1.2 mg/L	≥ 1.0 mg/L
	Total Copper	0.1 – 4.0 mg/L	≥ 1.0 mg/L
	Total Phenols	0.1 – 5 mg/L	≥ 0.5 mg/L
	Turbidity	0.1 - 1,000 NTU	≥ 250 NTU
Laboratory	Fecal Coliform	1 colony/100 mL – too numerous to count	≥ 400 colonies/100 mL

- 7 tested parameters
- Observe for maintenance issues

2023 DWS Field Work



- Watersheds monitored:
  - Campbell Creek
  - Chester Creek
  - Fish Creek
  - Furrow Creek
  - Hood Creek
  - Ship Creek
- 30 Observed outfalls:
  - 22 flowing
  - 3 submerged or backwatered
  - 3 in poor condition/require maintenance
  - 10 unable to access or locate
  - 4 sampled for illicit discharge

Results – Chester Creek Watershed

Watershed	Outfall ID	Date	Flow	pH	Total Chlorine (mg/L)	Detergents (mg/L)	Total Copper (mg/L)	Total Phenols (mg/L)	Turbidity (NTU)	Fecal Coliform (colonies/100mL)
Chester Creek	299-28	6/19/2023	Medium	7.2	<0.1	<0.05	<0.1	<0.1	3.2	6.02
	554-2	6/19/2023	Medium	7.0	<0.1	<0.05	<0.1	<0.1	0.51	6.02
	554-2 DUP	6/19/2023	Medium	7.1	<0.1	<0.05	<0.1	<0.1	0.51	6.02
	568-1	6/16/2026	Low	7.1	<0.1	>1.2	<0.1	<0.1	44.1	TNTC
	568-1 RES	6/19/2023	Low	6.8	<0.1	>1.2	<0.1	<0.1	47.5	58,300

Notes: mg/L = milligram per liter; NTU = nephelometric turbidity; mL = milliliters; R = replicate sample; DUP = Duplicate; RES = Resample; TNTC = too numerous to
Detection limit for fecal coliform is 1.67 col/100mL.

Results – Chester Creek Watershed - 568-1

- Sample for fecal resulted in too numerous to count (TNTC). Resample resulted in 58,300 (colonies/100 mL) three days later
- Initial and resample for detergents was >1.2 mg/L
- A follow up investigation by WMS was performed
- Three subsequent sampling events investigated possible sources: nearby carwash, boat distributor, and storm sewer system
- No source confirmed – treated as independent, unconnected sources

Results – Fish Creek Watershed

Watershed	Outfall ID	Date	Flow	pH	Total Chlorine (mg/L)	Detergents (mg/L)	Total Copper (mg/L)	Total Phenols (mg/L)	Turbidity (NTU)	Fecal Coliform (colonies/100mL)
Fish Creek	388-201	6/19/2023	Low	7.0	<0.1	<0.05	<0.1	<0.1	23.4	6.02

Notes: mg/L = milligram per liter; NTU = nephelometric turbidity; mL = milliliters; R = replicate sample; DUP = Duplicate; TNTC = too numerous to count; Detection limit for fecal coliform is 1.67 col/100mL.

2023 DWS Results Summary

- 30 outfalls monitored
- 4 outfalls sampled
- Exceedance for fecal coliform and detergents at Outfall 568-1


Thank you
Questions?

2023 MOA Stormwater Outfall Monitoring (SWM) Program

March 6th, 2024

01 Stormwater Monitoring Program Overview

02 2023 SWM Program Results Overview

03 2023 SWM Program Conclusions

01

STORMWATER MONITORING PROGRAM OVERVIEW

Objectives of Stormwater Monitoring (SWM) Program

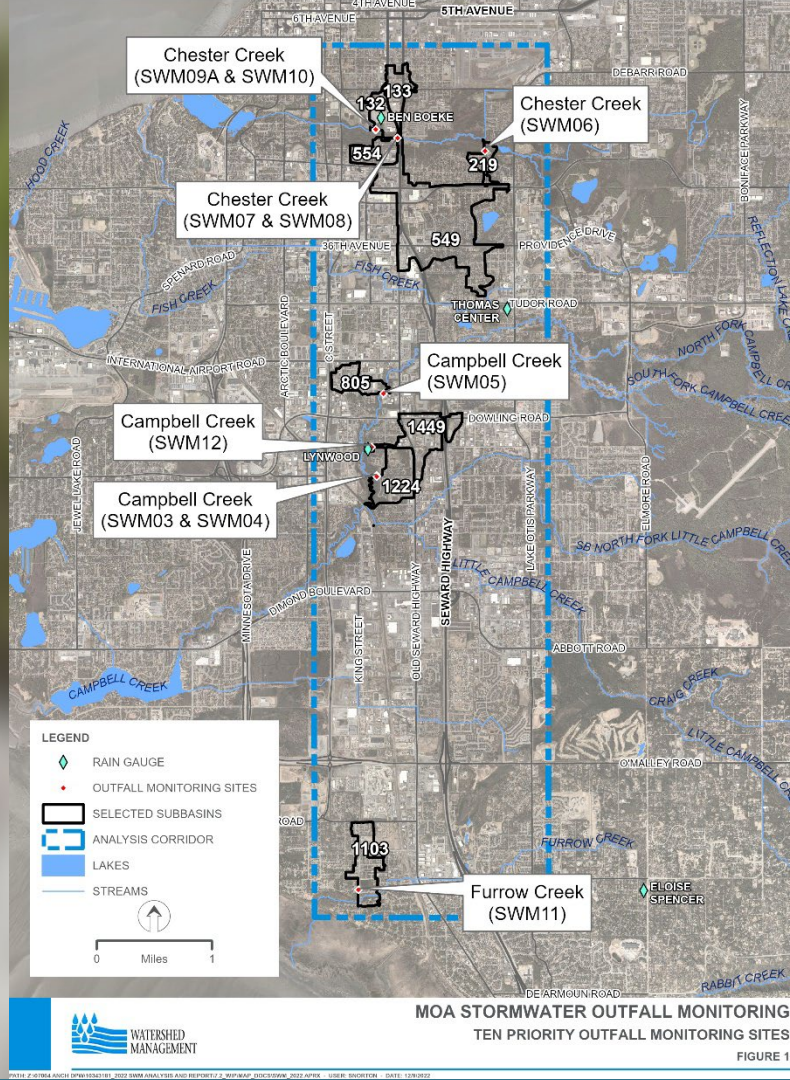
- Meet the requirements of the Municipal Separate Storm Sewer System (MS4) permit (2020 – 2025)
- Estimate annual pollutant loading

Used to:

- Assess the effectiveness of existing stormwater controls
- Prioritize portions of the MS4 that need additional controls
- Measure whether Total Maximum Daily Load (TMDL) objectives are met

SWM Monitoring Corridor

- Ten priority outfall sites
- Outfalls geographically distributed
- Represent variety of Subbasin land-use types
  - Industrial
  - Mixed
  - Residential
- Outfalls discharge to Campbell, Chester, and Furrow Creek Watersheds



SWM Program Methodology

- Sampling occurs once 0.1 inch of precipitation is reached in 24 hours and is preceded by 24 hours of ≤0.1 inch of precipitation
- Outfall discharge calculated from flow velocity and outfall geometry
- Water quality parameters assessed through qualitative observations, field measurements, and laboratory testing

SWM Tested Parameters

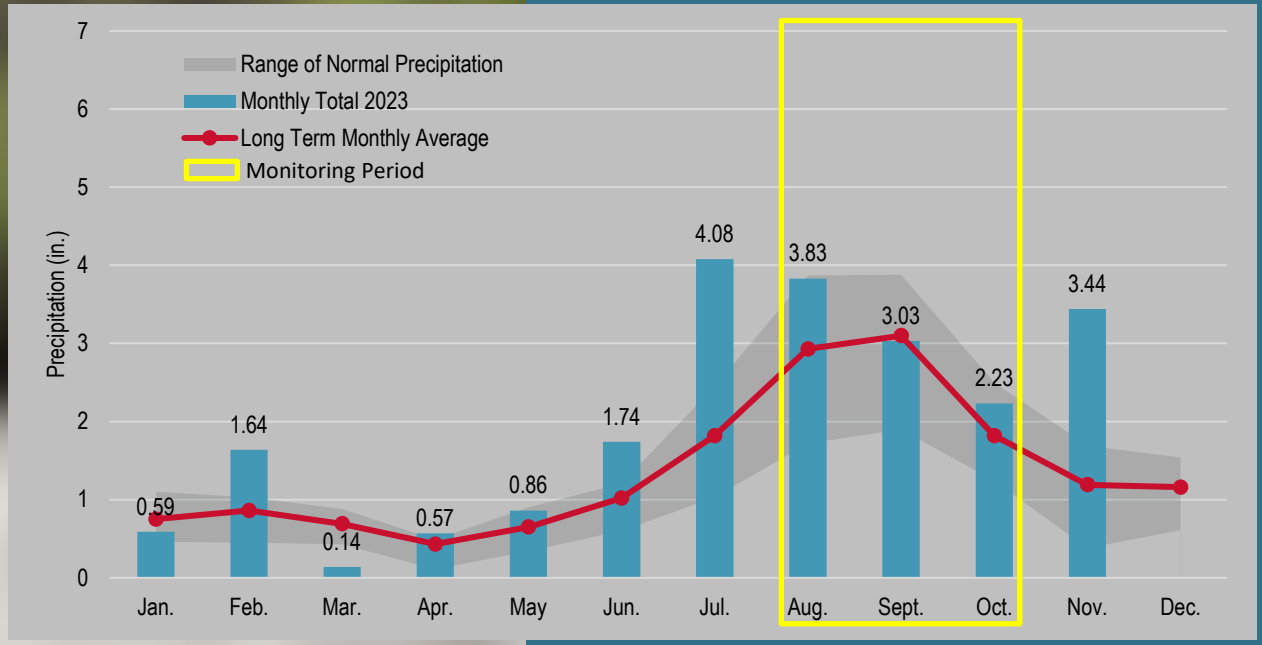
Field Measurements and Observations

Parameter	Purpose
Flow	Characterize flow & loading
Specific Conductivity	Stormwater quality
Dissolved Oxygen (DO)	Stormwater quality
pH	Stormwater quality
Temperature	Stormwater quality
Turbidity	Stormwater quality
Odor	Qualitative Observation
Color	Qualitative Observation
Clarity	Qualitative Observation
Floatables	Qualitative Observation
Deposits or Stains	Qualitative Observation
Sheen	Qualitative Observation
Surface Scum	Qualitative Observation
Debris	Qualitative Observation

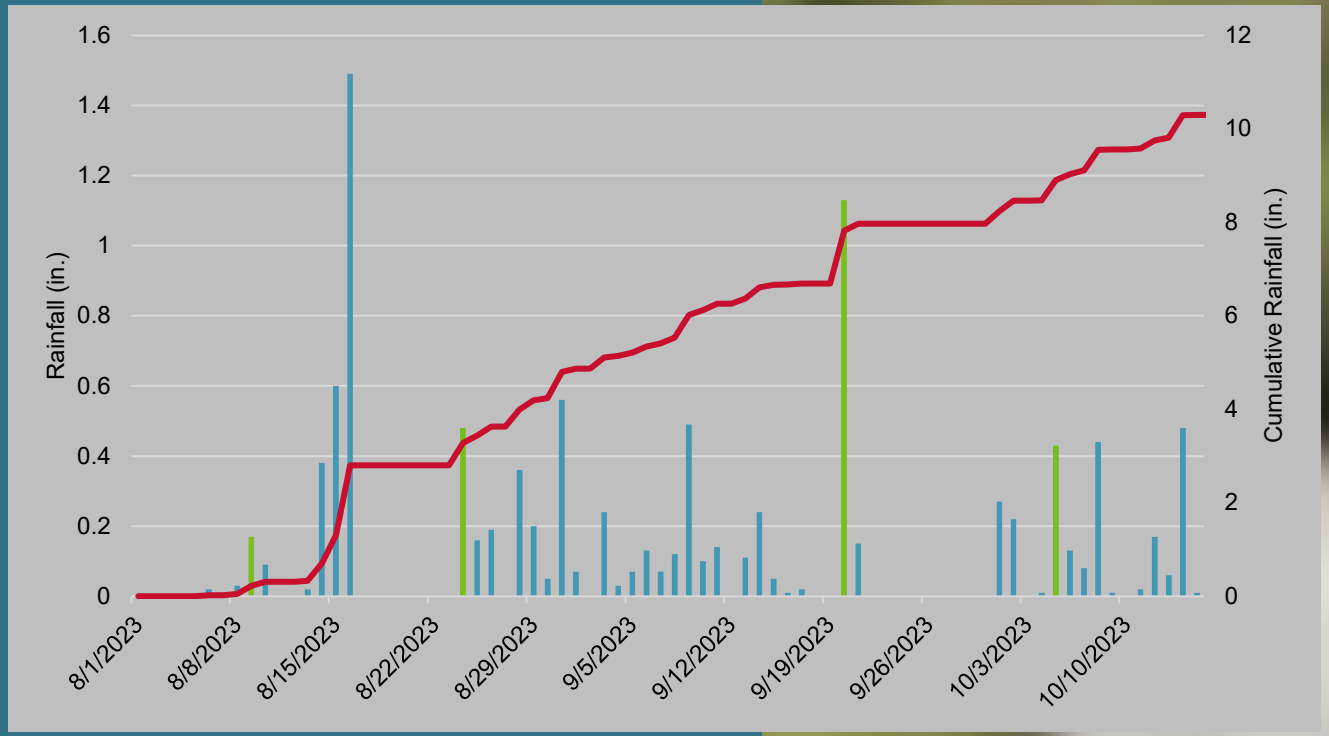
Laboratory Measurements

Parameter	Purpose
5-Day Biochemical Oxygen Demand (BOD_5)	Stormwater quality
Fecal Coliform	Stormwater quality & loading
Total Suspended Solids (TSS)	Stormwater quality
Total Aromatic Hydrocarbons (TAH)	Stormwater quality & loading
Total Aqueous Hydrocarbons (TAqH)	Stormwater quality & loading
Dissolved Copper	Stormwater quality
Total Hardness	Stormwater quality

2023 Precipitation vs. Historical Averages



2023 Monitoring Events

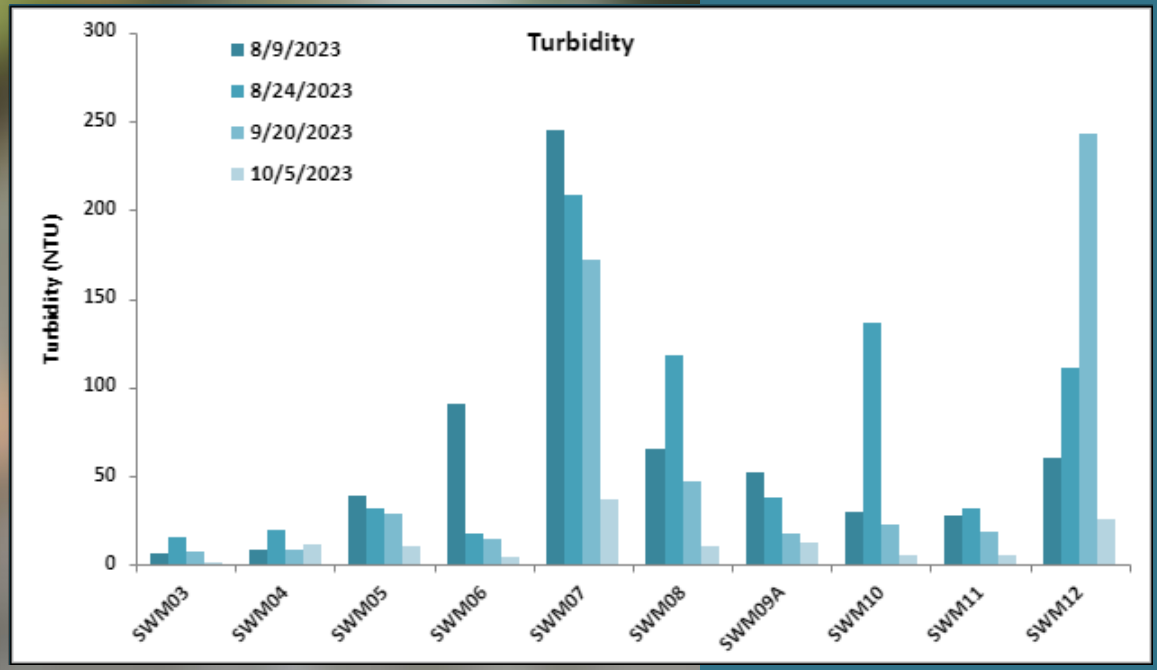


02

2023 SWM PROGRAM RESULTS OVERVIEW

2023 SWM Program Field Measurements

- Flow Rate
- Turbidity
- Dissolved Oxygen (DO)
- Total Dissolved Solids
- pH
- Temperature



TAKEAWAY

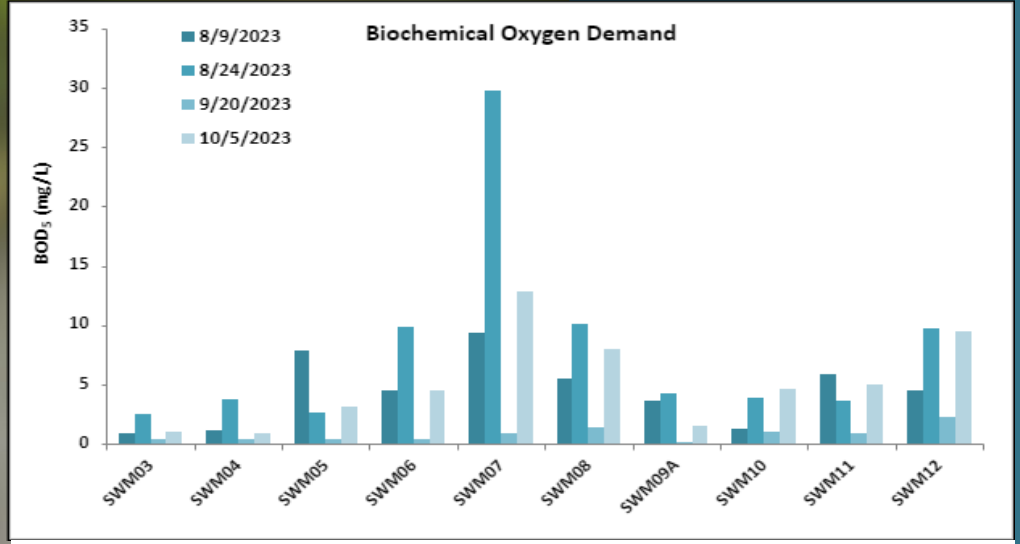
- Consistent temperatures
- pH below AWQS Standard during Storm event 3
- High Turbidity at SWM07 and spike at SWM12

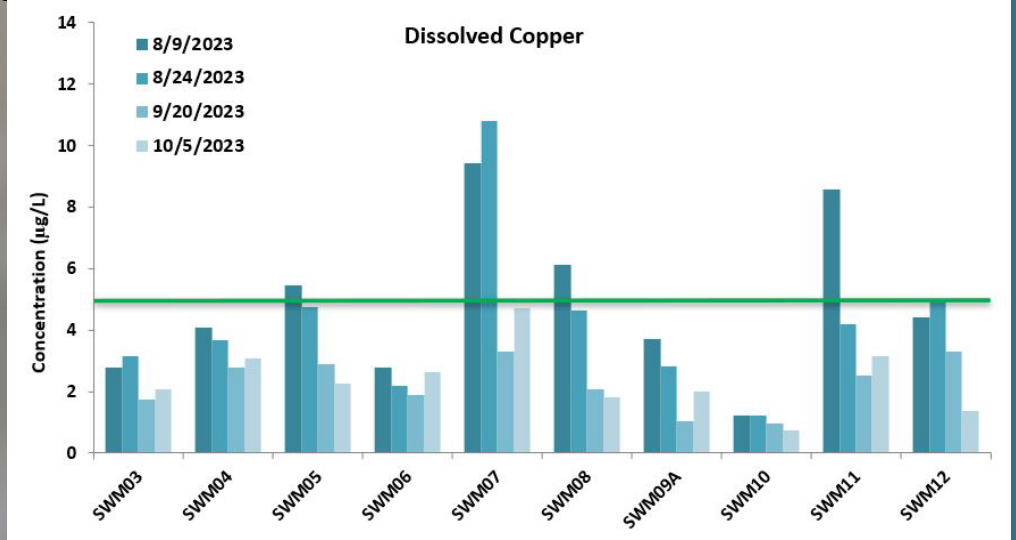
2023 SWM Program Laboratory Measurements

- Biochemical oxygen demand (BOD_5)
- Total Suspended Solids (TSS)
- Fecal Coliform
- Hardness
- Dissolved Copper
- Hydrocarbons (TAH and TAqH)

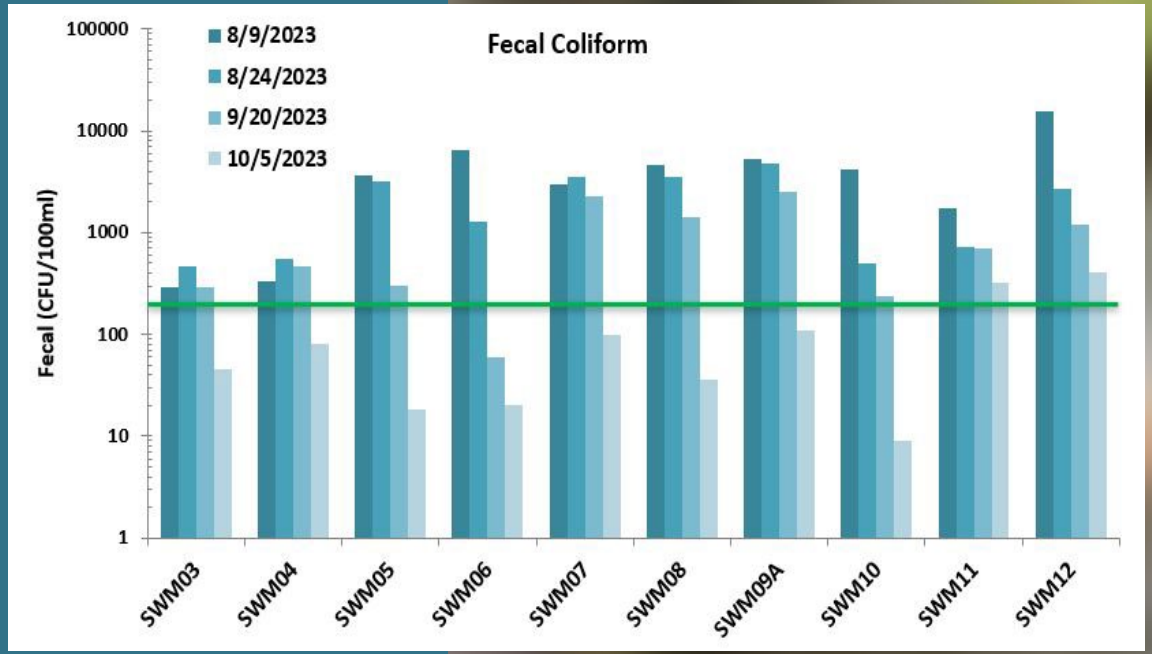
TAKEAWAY

- BOD_5 – SWM07 Spike
- Copper decreased from 2021 and 2022
- TSS measurements generally below 50 mg/L





2023 SWM Program Fecal Measurements



= *indicates upper AWQS fecal coliform limit of 200 CFU/100 mL*

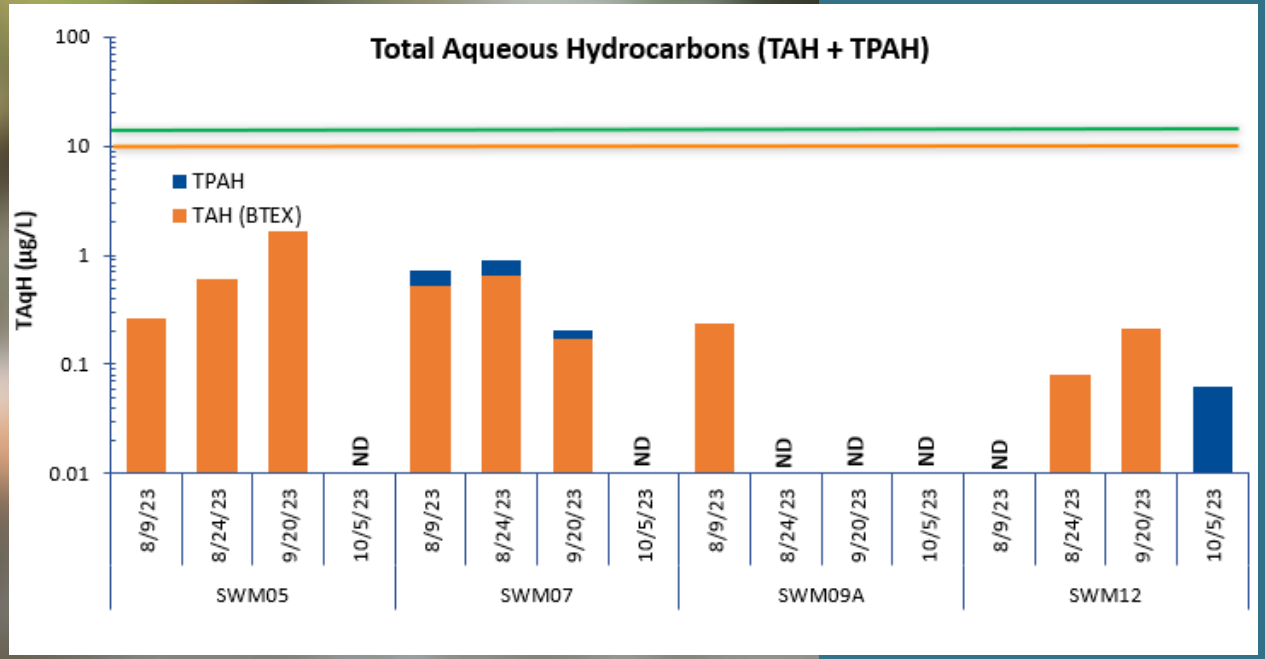
- Fecal levels generally normal when compared to data record
- 15,455 CFU/100mL at outfall SWM12 during Storm Event 1

TAKEAWAY – within historical range

2023 SWM Program Hydrocarbon Measurements

- All samples below AWQS limits for TAH and TAqH
- Many results are estimated low by lab

TAKEAWAY – No detection of TPAH at 6 outfalls, 2 outfalls for BTEX

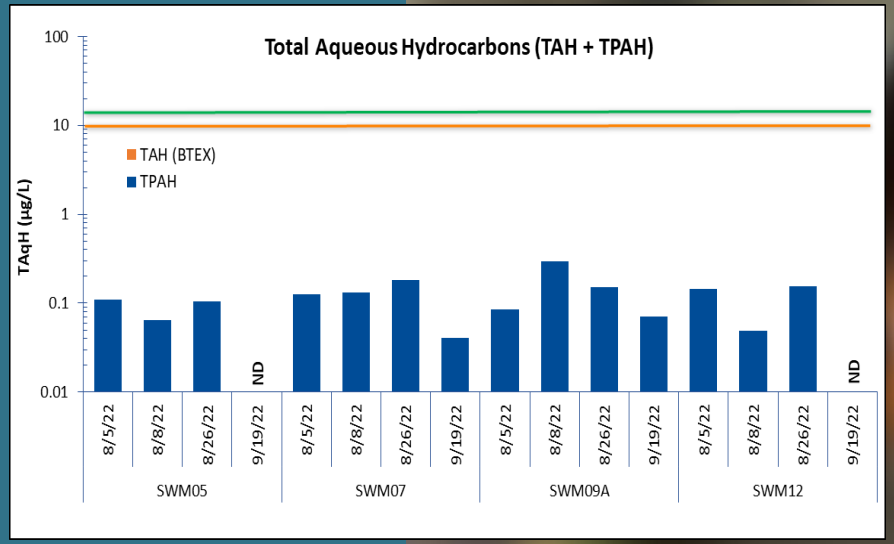


= indicates the upper AWQS TAH limit of 10 µg//L

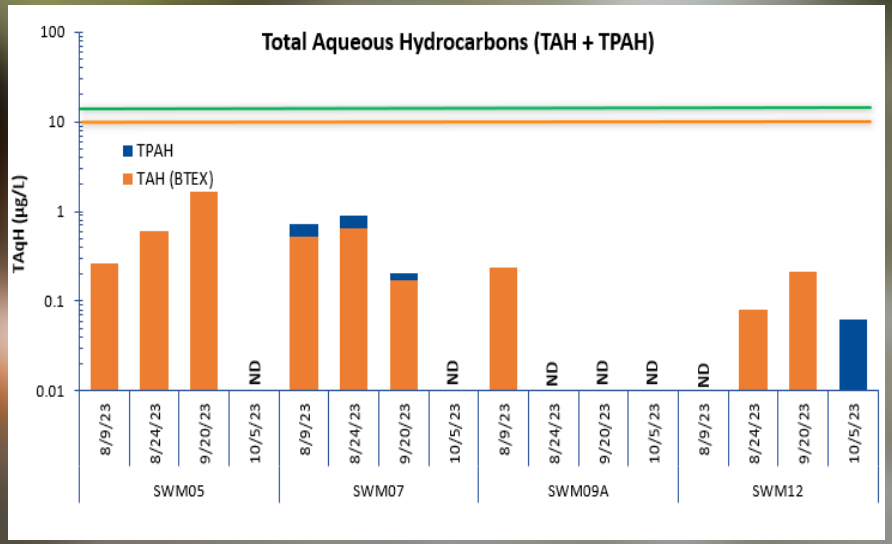
= indicates the upper AWQS TAqH limit of 15 µg/L

Comparison of Hydrocarbons

2022 Hydrocarbons



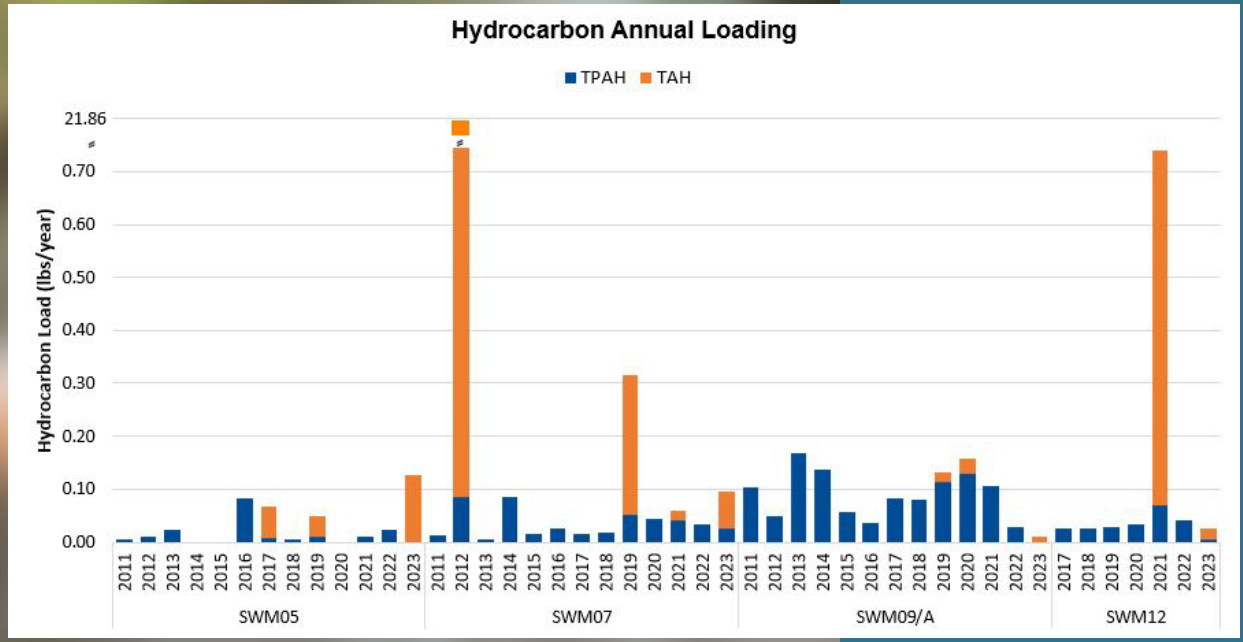
2023 Hydrocarbons



= indicates the upper AWQS TAH limit of 10 µg//L

= indicates the upper AWQS TAqH limit of 15 µg/L

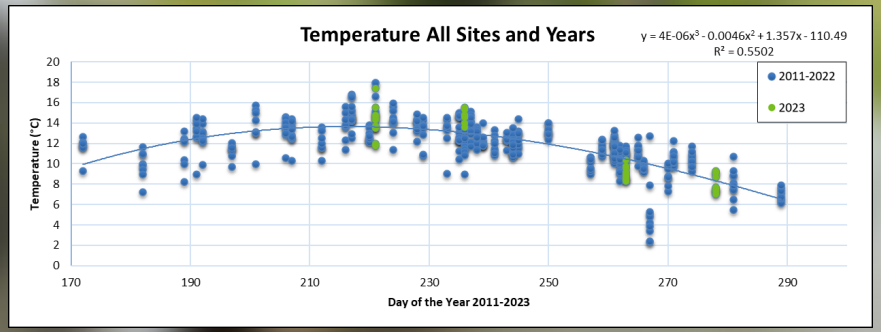
Hydrocarbon Annual Loading

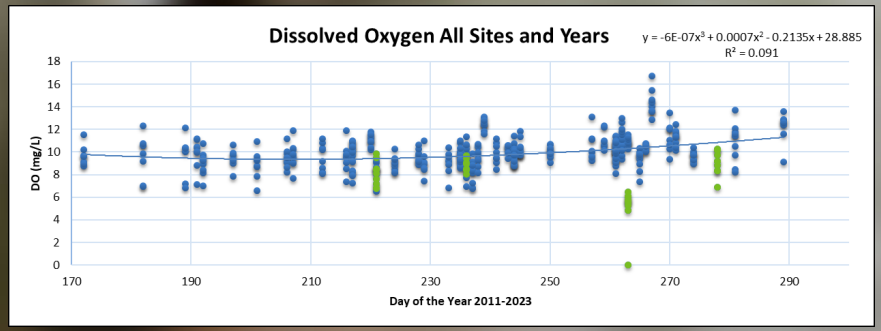


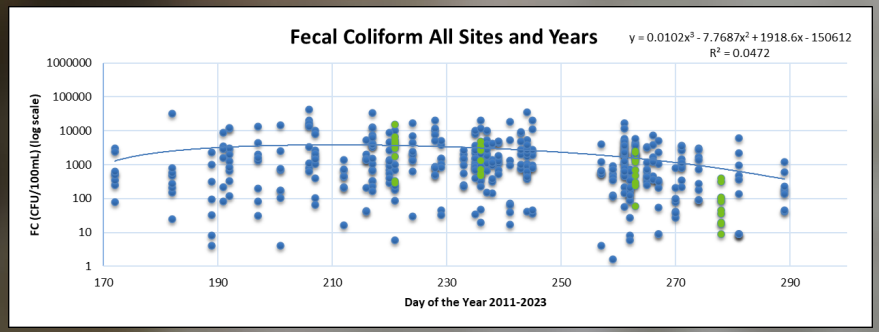
Seasonal & Multi-Year Trends

- Available data remains limited.
- Some seasonal affects observed in temperature-dependent parameters
- Studies show 20-years of data needed to establish statistical power

● = *2023 Results*
● = *2011 – 2022 Results*







03

2023 SWM PROGRAM RESULTS AND CONCLUSIONS

2023 SWM Program Conclusions

- Late season sampling, total precipitation higher than normal
- Samples generally fell within historical ranges for the program
- Annual hydrocarbon loading estimates for TAH (BTEX) detection in 2023 had higher levels of detection than previous years while TPAH detection had lower levels of detection

SWM Program: Looking Ahead

- Investigating intensity of storms and affects on results
- Continued monitoring of hydrocarbons to determine if part of a broader trend

Thank you

Questions?

Anchorage Waterways Council: 40 Years of Making a Difference

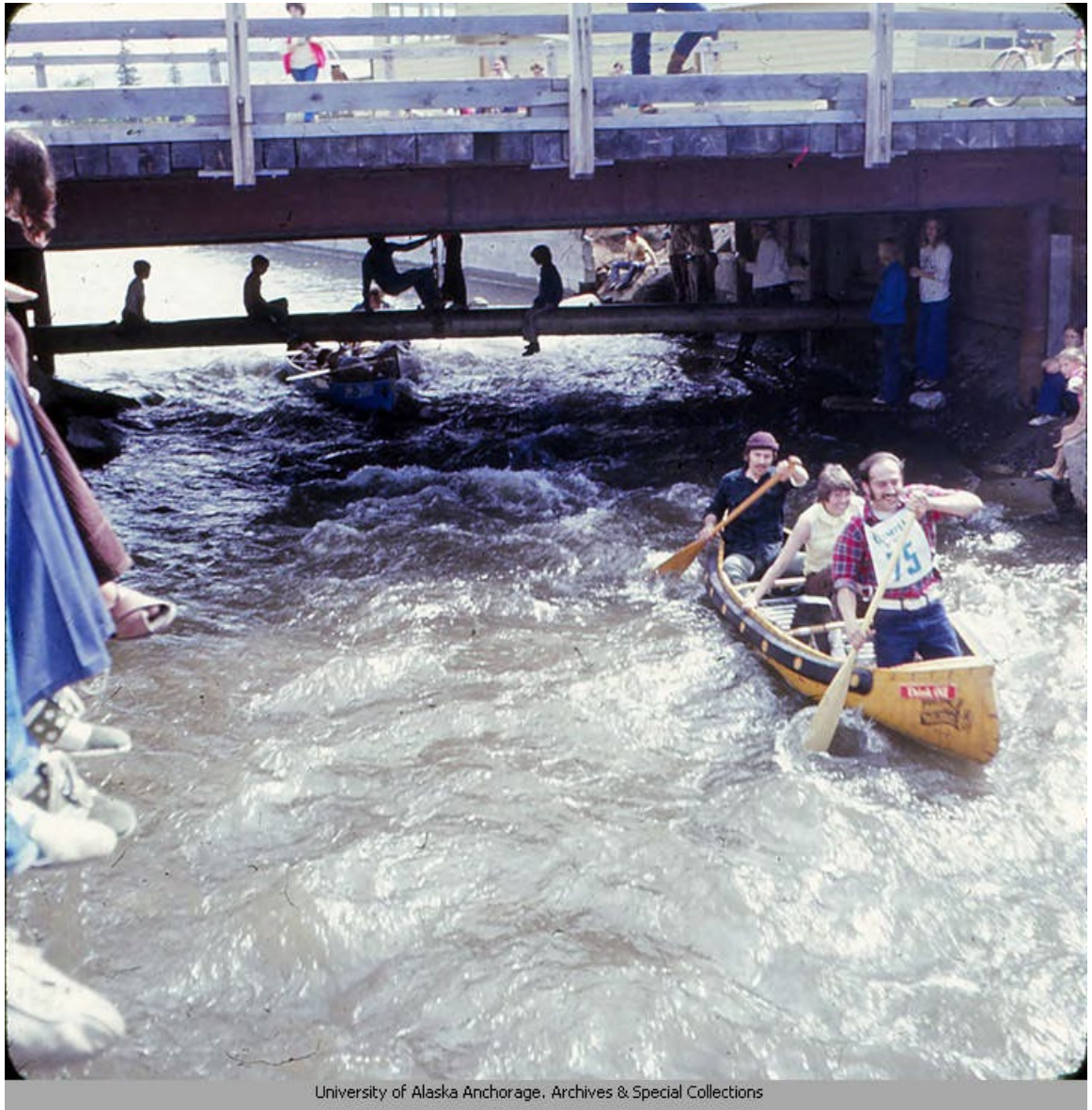
APDES 2024 Annual Meeting
March 6, 2024

Cherie Northon, Ph.D.
Executive Director

Anchorage Water Quality in the 80s:

- A 1984 report (DEC), "*An Investigation of Surface Water Quality in Four Selected Streams Within the Anchorage Urban Area*", documented gross contamination in:
  - Campbell Creek, Campbell Lake, and Little Campbell Creek
  - Chester Creek and Westchester Lagoon
  - Fish Creek
- This report drew the attention of Dr. Rodman Wilson, public health director (1982-1987) under then-mayor Tony Knowles, because of the impact of **raw sewage** in local streams and lakes.
- In the mere 70 years when Anchorage expanded out from a tent city along Ship Creek, there was little regard towards drainage and the impact on the Municipality's local streams and aquifers.
- And, this was coming back to roost!

1985 - The Campbell Creek Classic was cancelled!



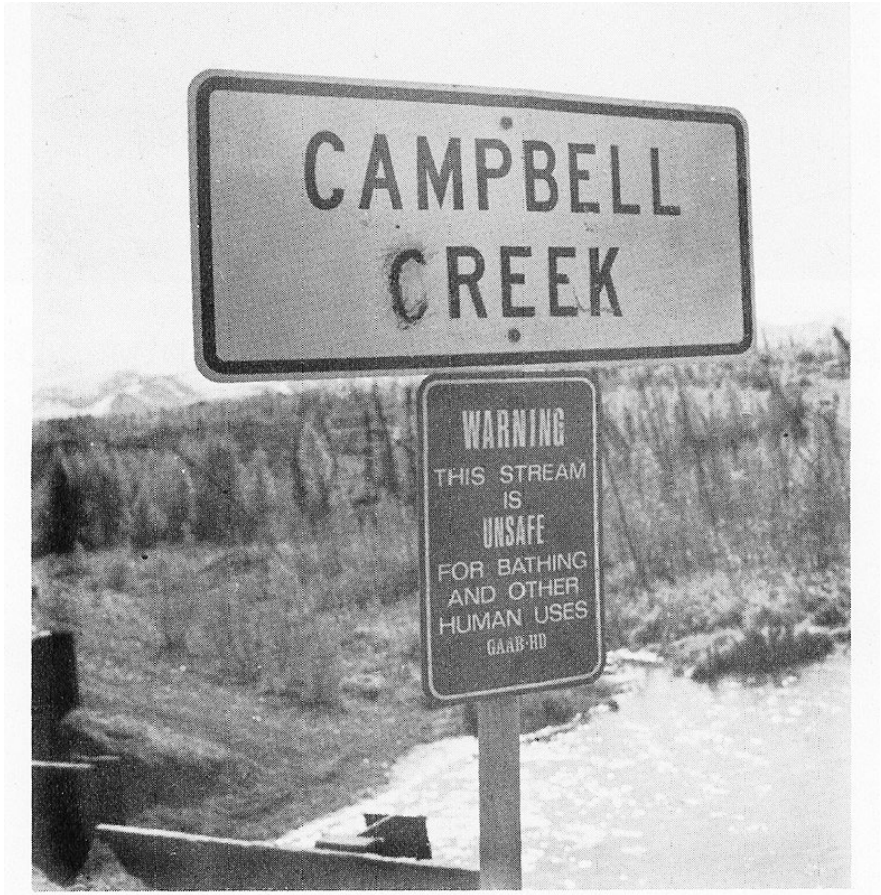
University of Alaska Anchorage, Archives & Special Collections

Pollution ends annual race in city creek

Campbell Creek Classic off

By CRAIG MEDRED
Daily News reporter

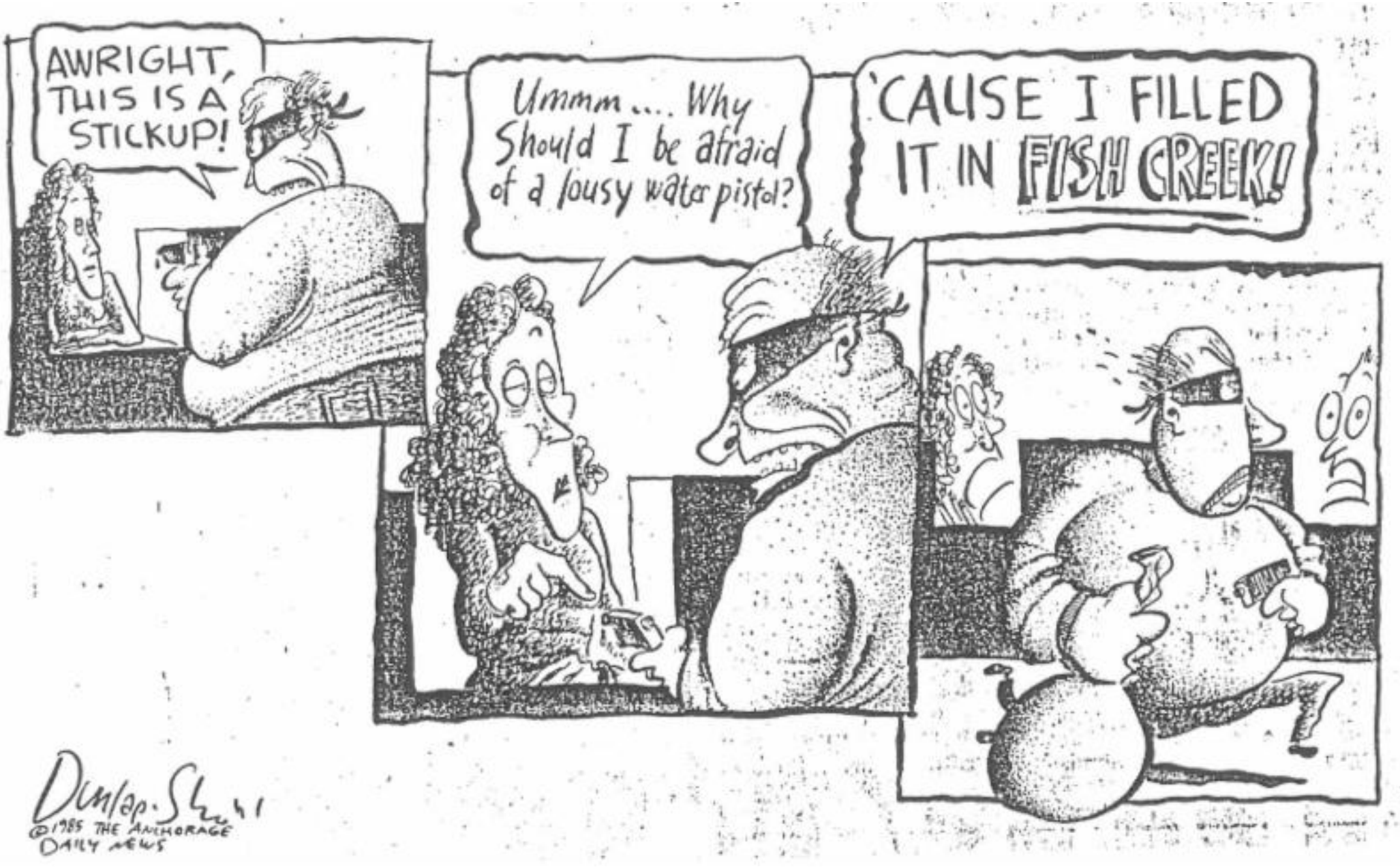
Warning signs were posted

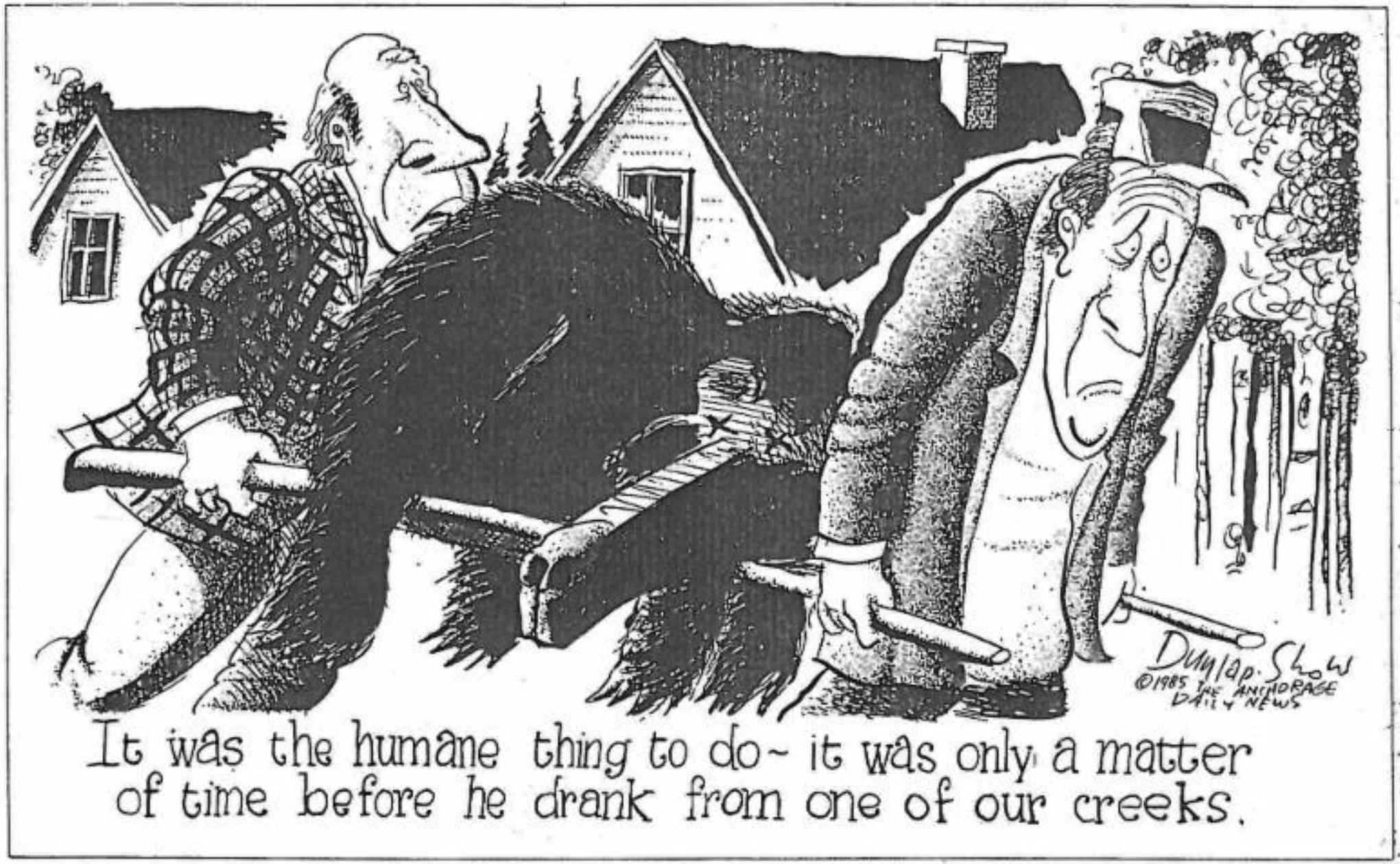


Times photo by Al Grillo

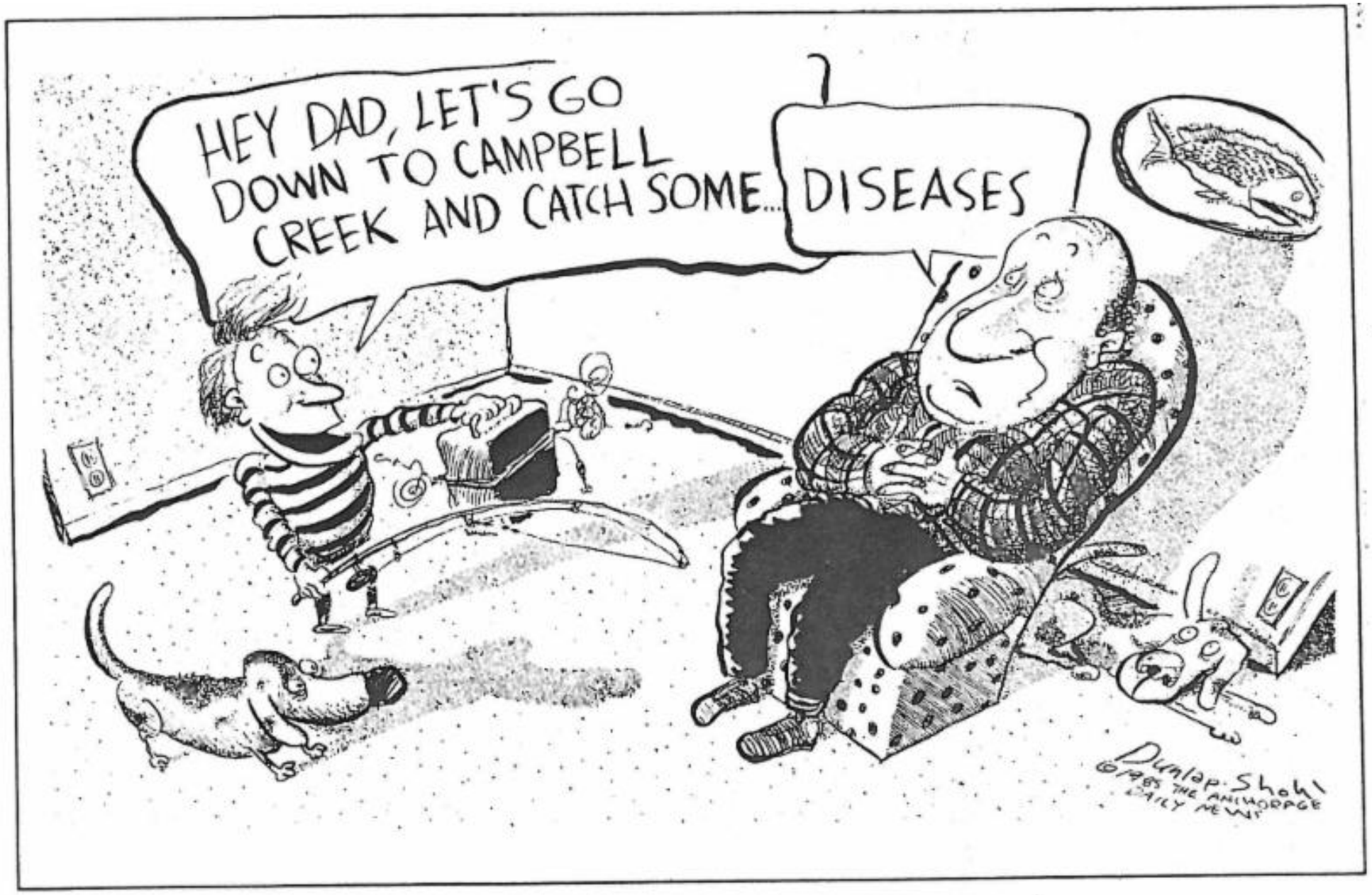
Maybe ducks can't read

Larry William and his son, Brandon, 15 months, feed the ducks and sea gulls at Westchester Lagoon. The ducks don't seem to mind the polluted water, or else they can't read. Today is creek cleanup day for the Anchorage area, when residents hike up their pants legs and pick the trash from local waterways. Many of Anchorage's creeks and lakes have been declared polluted.


AWRIGHT, THIS IS A STICKUP!
Ummm.... Why Should I be afraid of a lousy water pistol?
'CAUSE I FILLED IT IN FISH CREEK!
Dunlap Shaw '85
©1985 THE ANCHORAGE DAILY NEWS



It was the humane thing to do~ it was only a matter of time before he drank from one of our creeks.


HEY DAD, LET'S GO DOWN TO CAMPBELL CREEK AND CATCH SOME...
DISEASES
Dunlap-Shohl
©1985 THE ANCHORAGE DAILY NEWS

Anchorage Waterways Council - 1984

- In 1984, a citizens group organized and became the **Anchorage Waterways Council**.
- Anchorage Waterways Council (AWC) was incorporated in 1985 as a 501 c 3 non-profit
- **Mission:** *to promote the **prevention** of further environmental degradation; and to **protect**, **restore**, **and enhance** the waterways, wetlands, and associated uplands within the Municipality of Anchorage.*
- Intent: “to clean up all the waterways within the Municipality by 1990”
- Goals:
  - Education on pet waste, yard additives, litter, and vehicle maintenance
  - Respond to issues
  - Influence public policy
  - Community service projects including the first Creek Cleanup on Chester Creek

Annual Creek Cleanup

- The first Creek Cleanup was on Chester Creek in May 1984.
- This May will be our 40th!

Anchorage Waterways Council - 2024

- Volunteer working board: 9 members
- Staff: 1 full-time and 2 part-time
- Funded by contracts, grants, and membership/donations
  - APDES Stormwater education and outreach - 14 years
  - Scoop the Poop – 20 years
  - Creeks as Classrooms – program for youth - 15 years
  - Citizens' Environmental Monitoring Program - 25 years
  - Loons, Line, and Lead: Monofilament line recycling and lead tackle - 9 years
  - Annual Creek Cleanup - 40 years
  - Responding to issues – 40 years
  - 6PPD – quinone – 3 years

Volunteer Water Quality Monitoring

Loons, Line & Lead

LOSE THE LEAD & PICK UP YOUR LINE
LOVE A LOON

ANGLERS CAN HELP SAVE LOONS & OTHER SPECIES FROM LEAD POISONING

Monofilament Recycling

Creeks as Classrooms

Scoop the Poop!

Creek Cleanup

Volunteer Water Quality Monitoring

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Scoop the Poop!

Creek Cleanup

Chester Creek Sampling

Birgit Hagedorn, Ph.D., geochemist, AWC board member

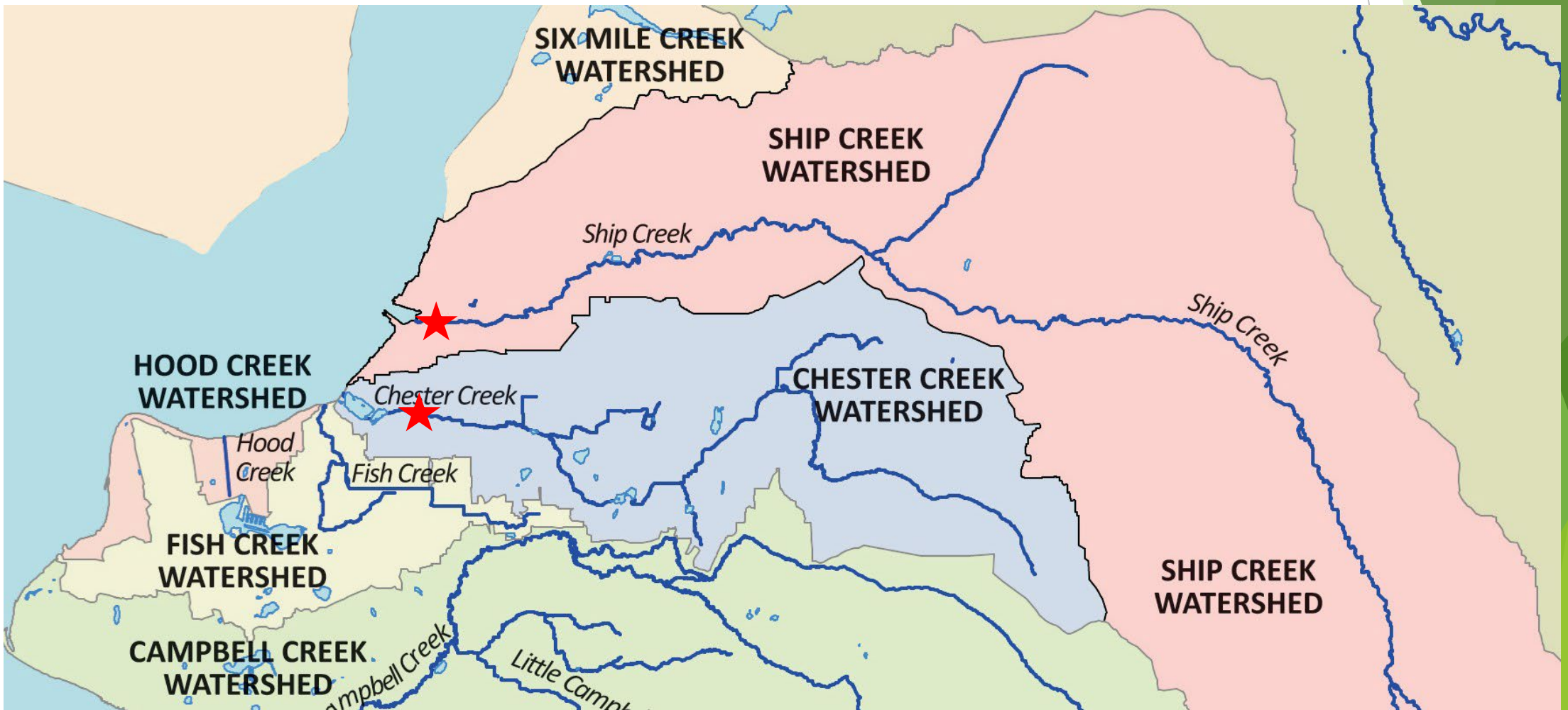
New Emerging Contaminants: 6PPD-Quinone

- 6PPD is added into tire rubber manufacturing to prevent tire degradation.
- As tires wear, they break down and the particles travel to surface water in road runoff.
- 6PPD Quinone has been found to be lethal in very small amounts:
  - Coho salmon = 95 ng/L or 0.095 (ppt) parts per billion
  - Brook trout = 590 ng/L (ppt) or 0.59 parts per billion
  - Rainbow trout = 1000 ng/L (ppt) or 1 part per billion
- Worldwide: 3.1 billions tires manufactured annually
- Terri Lomax at DEC holds 1-2 meetings annually for researchers, tire manufacturers, and others to connect on the latest findings.

6PPD-Quinone analyses in Anchorage

Eurofins/Test America California
Funding for 10 samples @ $500/ea

2 sampling events:
04/13/21 snowmelt
07/02/21 heavy rain



Ship Creek

Storm drain outflow
4/13/21 0.34 µg/L
7/2/21 0.38 µg/L

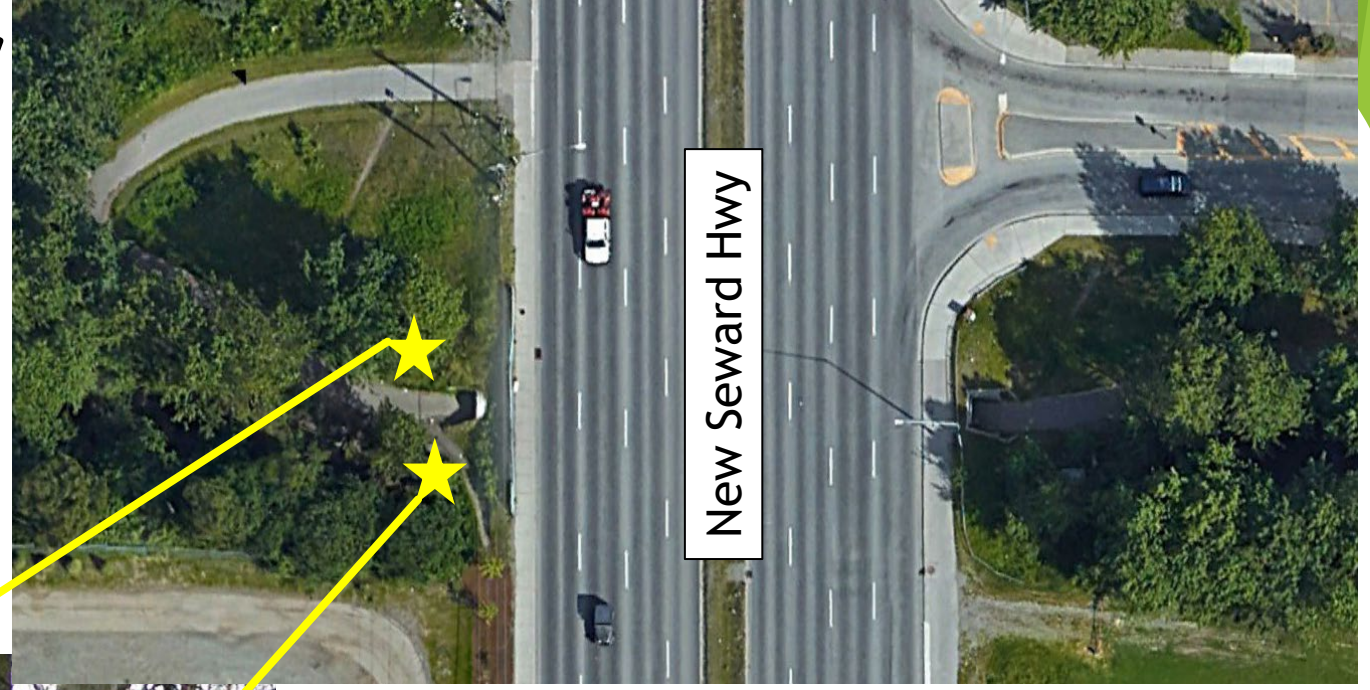
Storm drain outflow
4/13: 0.038 µg/L
7/2: ND

Creek
4/13/21 ----
7/2/21 ND µg/L

Storm drain outflow
4/13/21 ----
7/2/21 0.35 µg/L

Lethal Level **L50** @ **0.8±0.16 µg/L**

Chester Creek



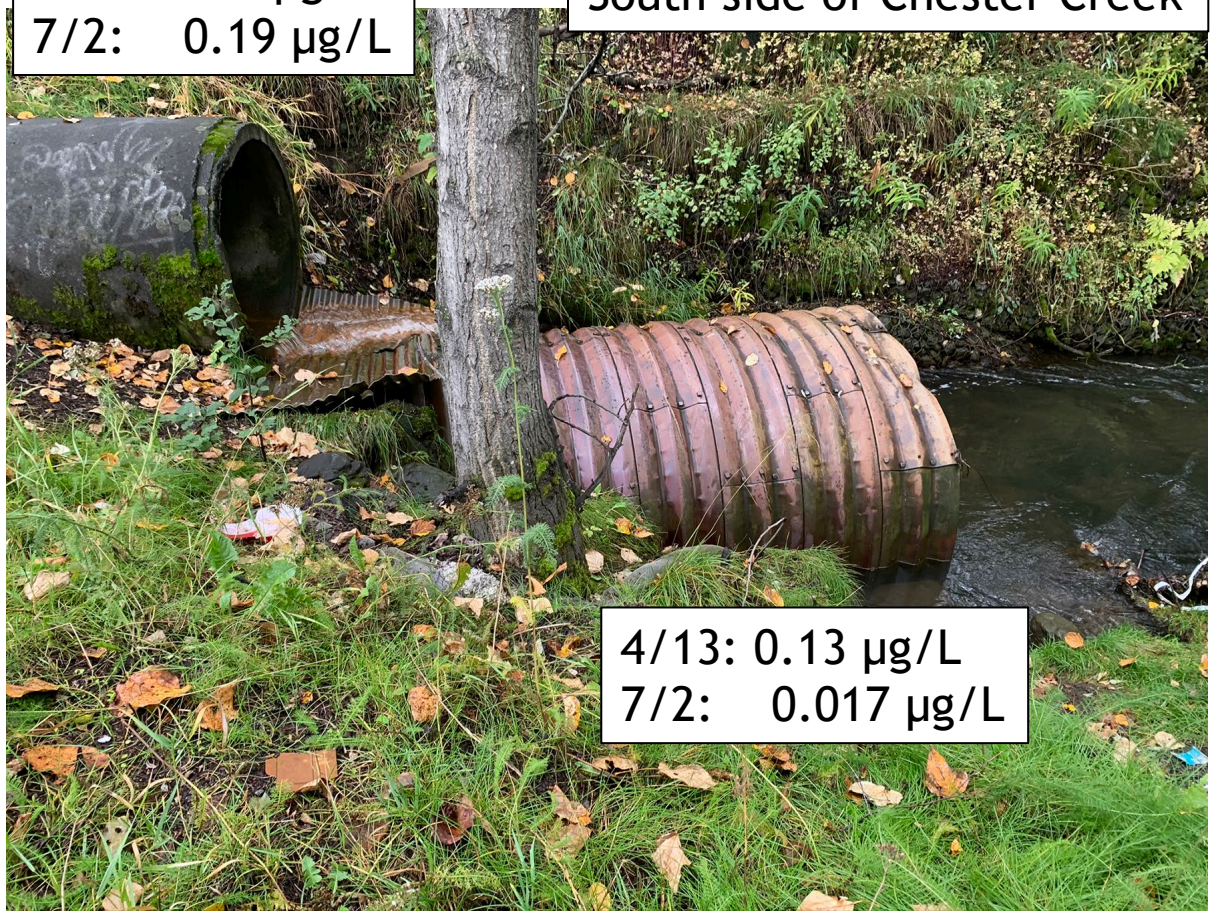
Chester Creek

North side of Chester Creek

4/13/21 1.3 (1.1) µg/L
7/2/21 0.69 µg/L

4/13: 0.36 µg/L
7/2: 0.19 µg/L

South side of Chester Creek



4/13: 0.13 µg/L
7/2: 0.017 µg/L

Lethal Level **L50: 0.8±0.16** µg/L

What will be the issues in 2064?

Thank you!

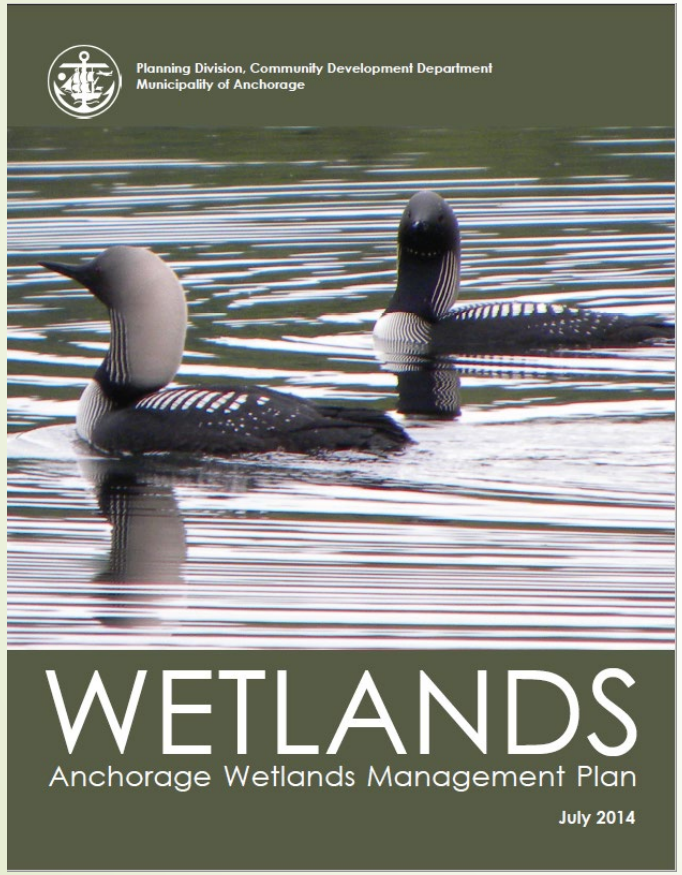
cherie@anchoragecreeks.org

Wetland Permitting within the Municipality of Anchorage

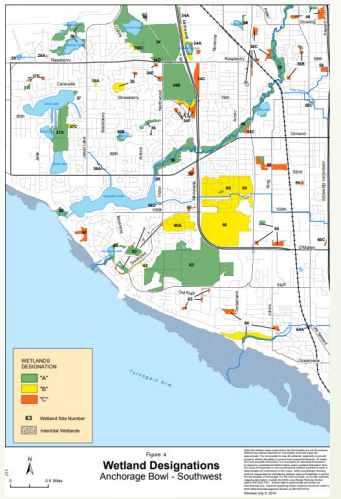
Ryan Yelle
Manager, MOA Long-Range Planning

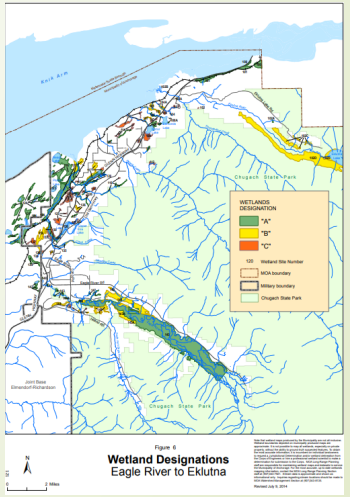
March 6, 2024

Wetland Identification and Protections within the MOA



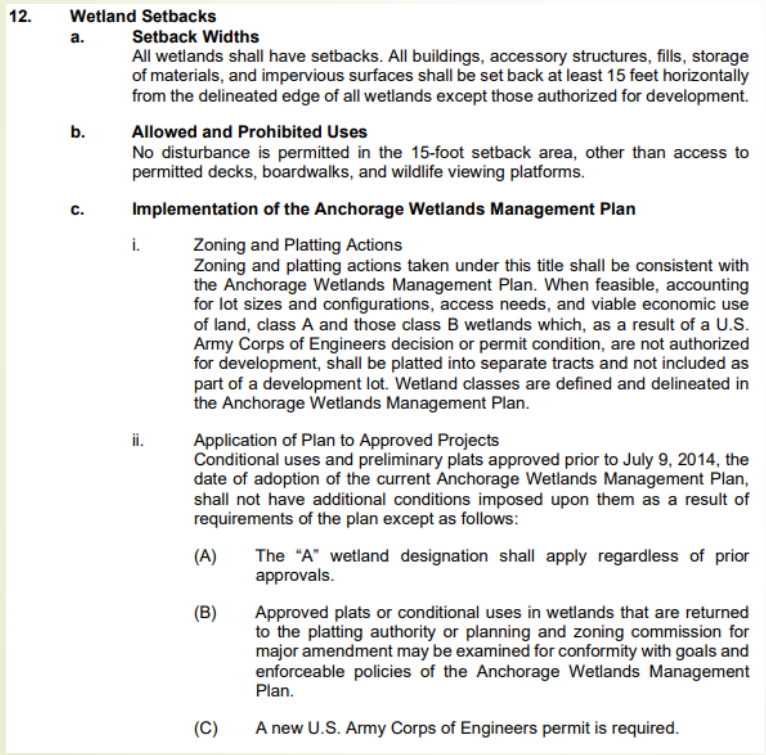
- Anchorage Wetlands Management Plan adopted in July 2014 via AO 2013-132(S) as an element of the Anchorage Comprehensive Plan
- Provides mapping and classification of all known and potential freshwater wetlands within the MOA
- Partly written to facilitate USACE General Permit





Relation of AWMP to Title 21 – Land Use Code

AMC 21.07.020B.12 *Wetland Setbacks*



12. Wetland Setbacks

a. Setback Widths

All wetlands shall have setbacks. All buildings, accessory structures, fills, storage of materials, and impervious surfaces shall be set back at least 15 feet horizontally from the delineated edge of all wetlands except those authorized for development.

b. Allowed and Prohibited Uses

No disturbance is permitted in the 15-foot setback area, other than access to permitted decks, boardwalks, and wildlife viewing platforms.

c. Implementation of the Anchorage Wetlands Management Plan

i. Zoning and Platting Actions

Zoning and platting actions taken under this title shall be consistent with the Anchorage Wetlands Management Plan. When feasible, accounting for lot sizes and configurations, access needs, and viable economic use of land, class A and those class B wetlands which, as a result of a U.S. Army Corps of Engineers decision or permit condition, are not authorized for development, shall be platted into separate tracts and not included as part of a development lot. Wetland classes are defined and delineated in the Anchorage Wetlands Management Plan.

ii. Application of Plan to Approved Projects

Conditional uses and preliminary plats approved prior to July 9, 2014, the date of adoption of the current Anchorage Wetlands Management Plan, shall not have additional conditions imposed upon them as a result of requirements of the plan except as follows:

(A) The "A" wetland designation shall apply regardless of prior approvals.

(B) Approved plats or conditional uses in wetlands that are returned to the platting authority or planning and zoning commission for major amendment may be examined for conformity with goals and enforceable policies of the Anchorage Wetlands Management Plan.

(C) A new U.S. Army Corps of Engineers permit is required.

- AMC Title 21, all Zoning and Platting Actions shall be consistent with the AWMP
- 15-foot setback protections for all wetland units identified within the AWMP, except those authorized for development
- Implies there is an intent and pathway to authorize development

MOA Wetland Permitting Pathway

- Administered by the Planning Department (Long-Range Planning)
- Previously bifurcated administration between USACE and MOA depending upon wetland classification within the AWMP
  - Class A & B = USACE
  - Class C = MOA
- General Permit expired on April 30, 2021, and was not renewed by USACE
- Wetland permits are now based upon jurisdiction, not classification within AWMP
- MOA requires both Jurisdictional Determination and approved Wetland Delineation from USACE prior to moving forward with permit review.

Site Examples

Strawberry Bog

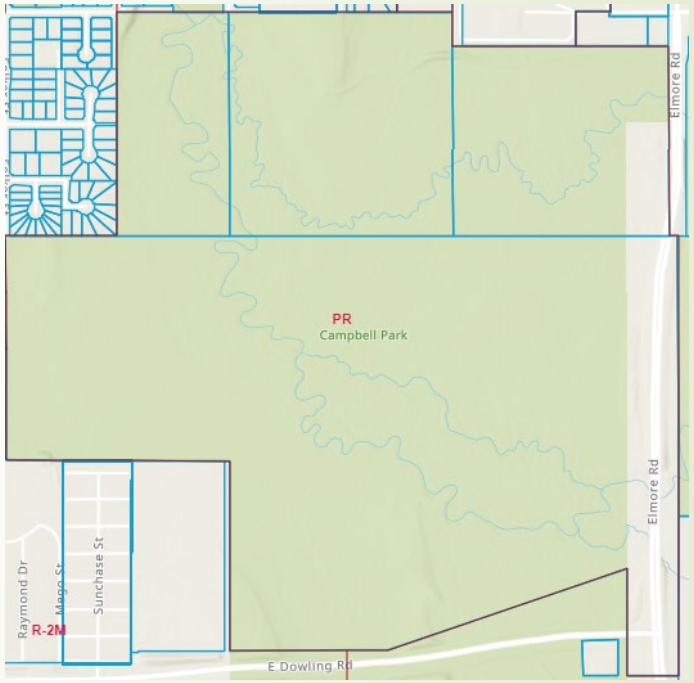
SW of Minnesota and Raspberry Road

- ≈109 acres
- Class A Wetlands
- Previously Determined to be Non-Jurisdictional
- No Park Dedication

vs

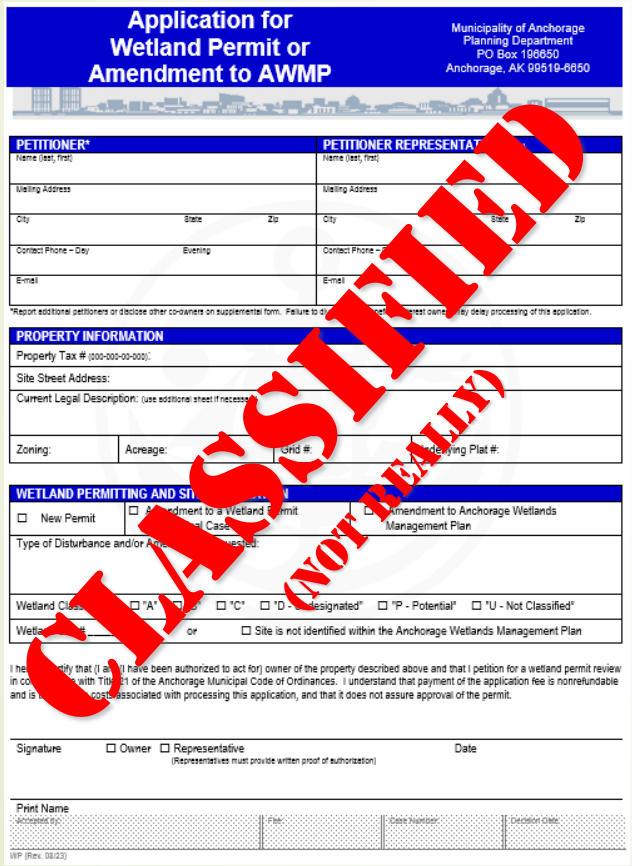
Campbell Park

NW of Dowling Road and Elmore



- ≈250 acres
- Class A Wetlands
- Very Likely Jurisdictional
- Dedicated Parkland

Establishing MOA Wetland Policy



Application for Wetland Permit or Amendment to AWMP

Municipality of Anchorage
Planning Department
PO Box 196650
Anchorage, AK 99519-6650

PETITIONER*

PETITIONER REPRESENTATIVE

Name (last, first)

Mailing Address

City State Zip

Contact Phone – Day Evening

E-mail

*Report additional petitioners or disclose other co-owners on supplemental form. Failure to disclose all interest owners may delay processing of this application.

PROPERTY INFORMATION

Property Tax # (000-000-00-000):

Site Street Address:

Current Legal Description: (use additional sheet if necessary)

Zoning: Acreage: Grid #: Underlying Plat #:

WETLAND PERMITTING AND SITE INFORMATION

☐ New Permit ☐ Amendment to a Wetland Permit ☐ Amendment to Anchorage Wetlands Management Plan

Type of Disturbance and/or Amendment Requested:

Wetland Class: ☐ "A" ☐ "B" ☐ "C" ☐ "D - Undesignated" ☐ "P - Potential" ☐ "U - Not Classified"

Wetland Type: or ☐ Site is not identified within the Anchorage Wetlands Management Plan

I hereby certify that (I am/I have been authorized to act for) owner of the property described above and that I petition for a wetland permit review in compliance with Title 21 of the Anchorage Municipal Code of Ordinances. I understand that payment of the application fee is nonrefundable and is to cover costs associated with processing this application, and that it does not assure approval of the permit.

Signature ☐ Owner ☐ Representative Date
(Representatives must provide written proof of authorization)

Print Name

Accepted By: Fee: Case Number: Decision Date:

WP (Rev. 08/23)

CLASSIFIED (NOT REALLY)

- Administrative approval with advisement from MOA Watershed and Natural Resources Advisory Commission as needed
- Process will improve consistency with expectations, review process transparency, and standardized evaluation criteria
- Work session with Watershed Commission on March 27th to begin discussions
- On track to have process formalized by August

Questions?

Ryan Yelle

Manager, Long-Range Planning

MOA Planning Department

Ryan.Yelle@anchorageak.gov

907-343-7935

WETLAND DELINEATIONS *POLICY | PROCEDURE | PRACTICE*

Emily Creely

Professional Wetland Scientist

Watershed & Natural Resources Advisory Commission

PRESENTATION OVERVIEW

- Introduction
- Policy
- Practice
- Procedure
- Discussion

POLICY: CLEAN WATER ACT

Section 404 of the Clean Water Act

- regulates discharge of fill material in Waters of the U.S. but provided no definition
- Congress let clarification go to the agencies.
- Wetlands are considered 'other' Waters of the US
- The Corps of Engineers and EPA jointly administer the Section 404 permit process and have defined WOTUS by regulation since 1970s

POLICY: CLEAN WATER *RULE*

Definition of WOTUS and its Relation to Wetlands

- By Court Case until 2015
  - SWANCC & Rapanos
- Rulemaking
  - 2015 Clean Water Rule
  - 2019 Clean Water Rule
  - Court cases
- New Definition of WOTUS (March 2023)
  - Returned to SWANCC & Rapanos

POLICY: CLEAN WATER *RULE*

- Supreme Court Decision (May 2023)

The Supreme Court majority decision determined that wetlands must have a ***continuous surface water connection*** to a water of the U.S. (traditionally navigable water, or tributary thereof).

This is a more stringent approach than the most recent definition.

Corps USACE District Office needs to issue guidance to determine what constitutes a ***continuous surface water connection***.

Guidance could result in a small or massive shift in determining jurisdiction of wetlands. Stay tuned..

PROCEDURE: WHAT ARE WETLANDS?

Areas periodically or permanently inundated by surface or groundwater and support vegetation adapted for life in saturated soils

Wetlands support fish and wildlife (food chain production, rearing habitat, nesting, etc) and perform erosion control, provide storm and flood water storage, ground and surface water recharge, and natural water filtration.

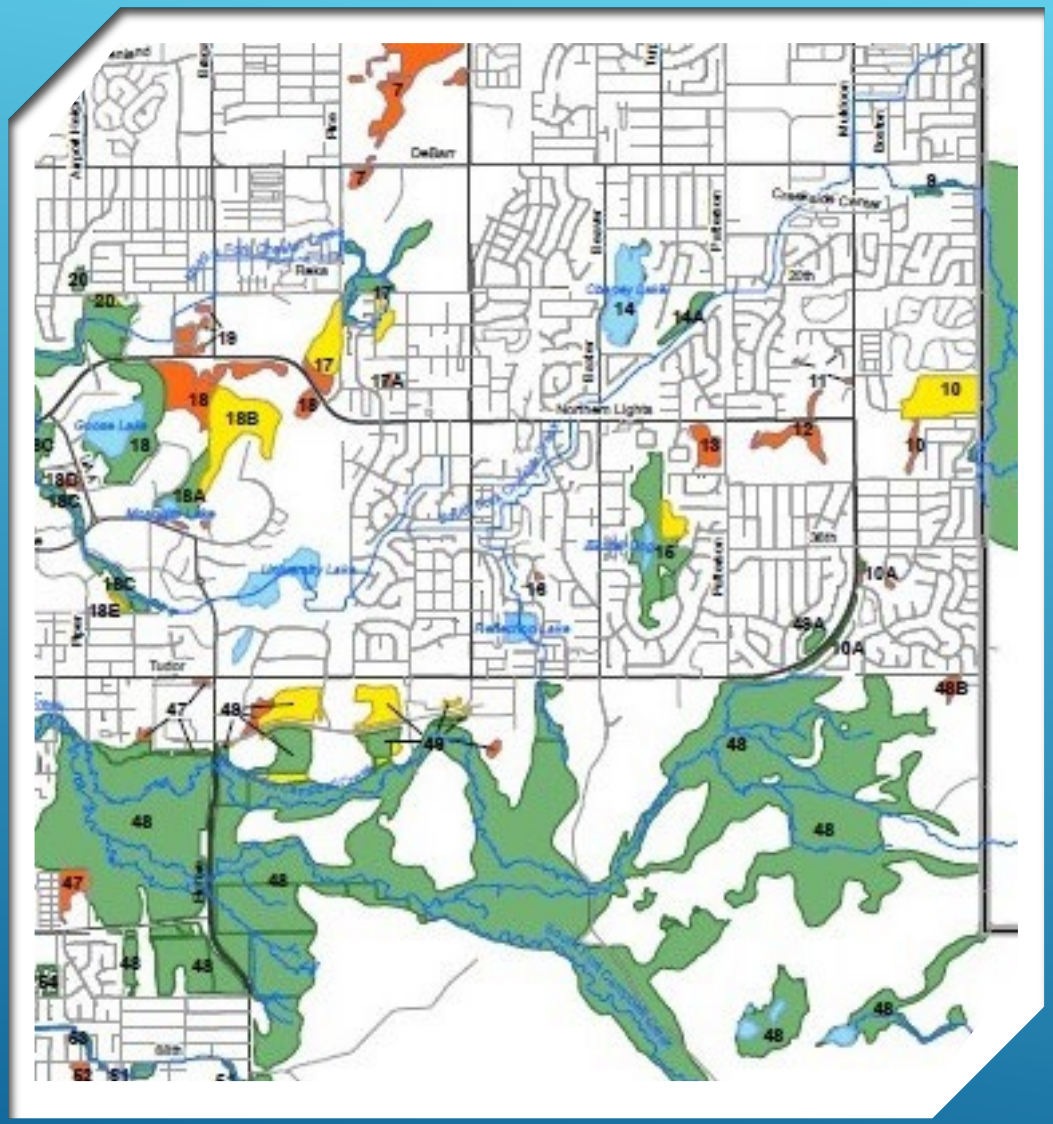
PROCEDURE: DELINEATION

- **Delineate Area**
- **Corps Review for Jurisdiction**

Three parameters

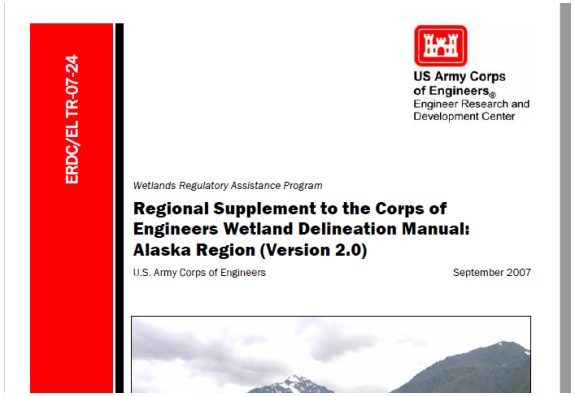
- Vegetation
- Soils
- Hydrology

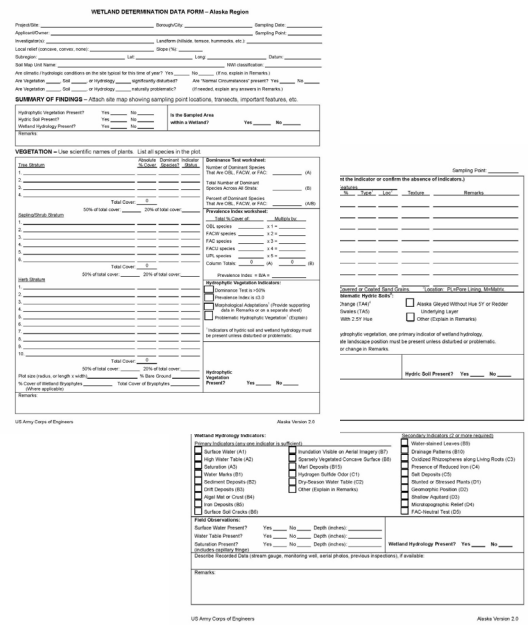
- Document plants, soils and hydrology
- Note landscape and hydrologic patterns



PROCEDURE: PRE-FIELD WORK

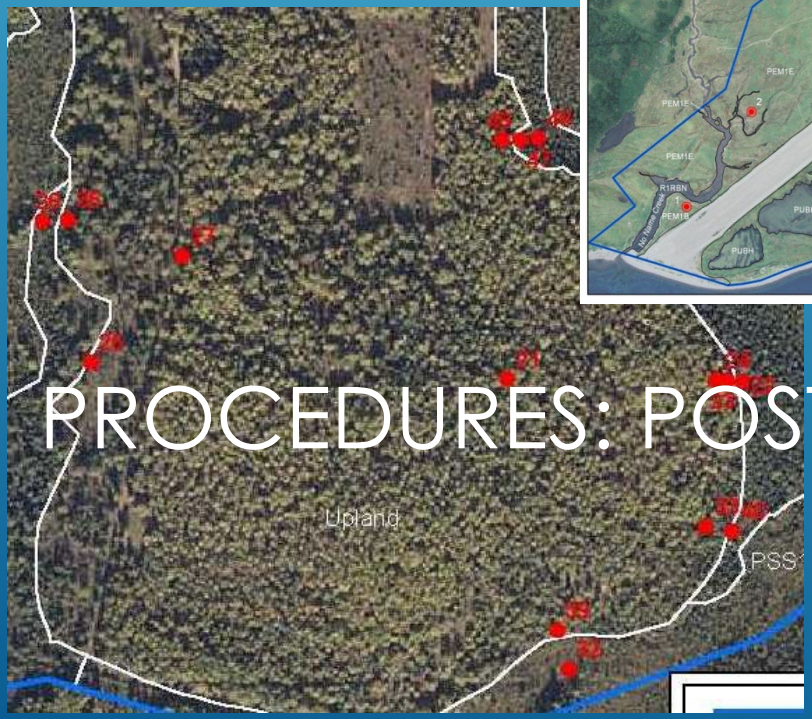
- Check Available mapping (NWI, MOA)
- Use Available Aerials/Google Earth
- Determine precipitation patterns

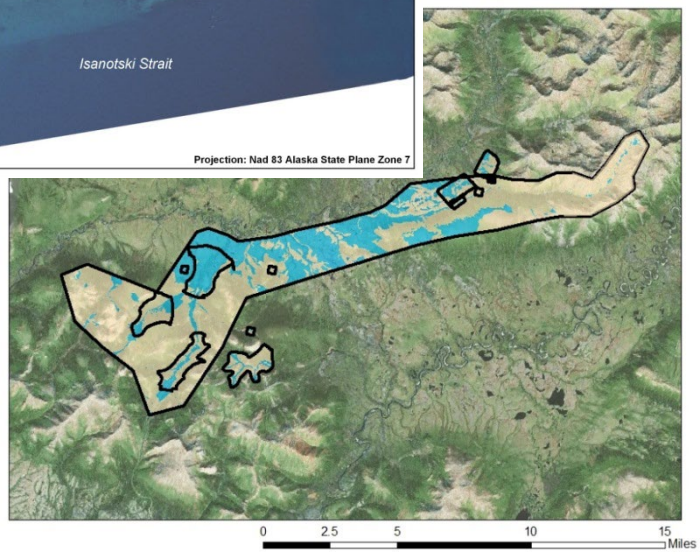




PROCEDURES: MANUALS & DATA SHEETS

Mapping

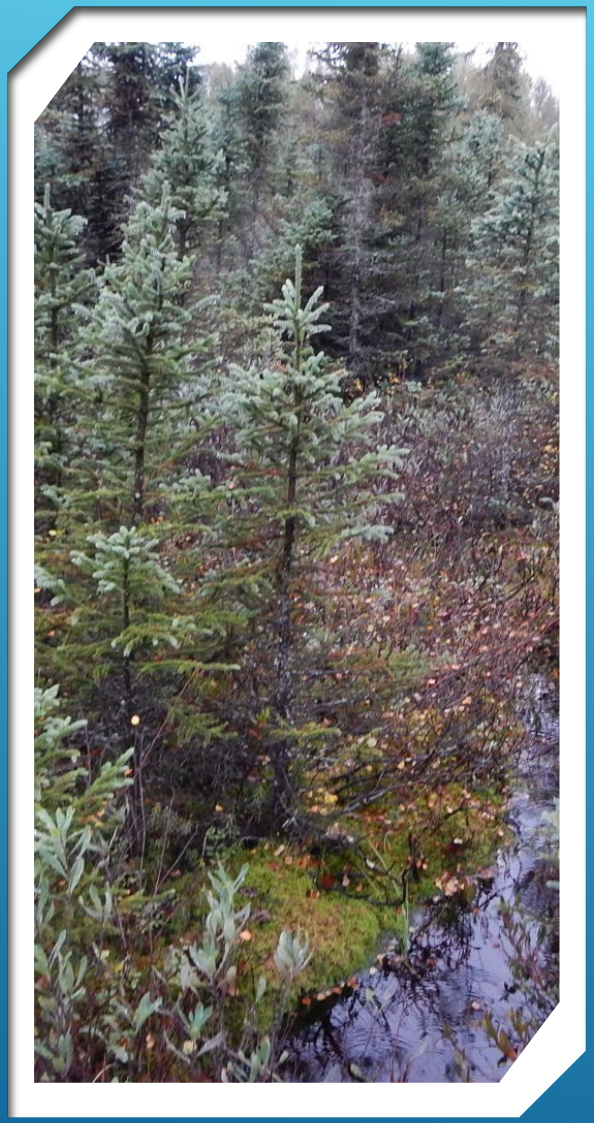




PROCEDURES: POST-FIEL

PROCEDURE: JURISDICTIONAL DETERMINATION (JD)

- Submit Mapping and Report to Corps and they determine jurisdiction



- 2-3 small wetlands
- no surface water
- “wetlands…are isolated, intrastate, non-navigable, and have no connection to interstate or foreign commerce…pursuant to the federal guidance on the Solid Waste Agency of Northern Cook County versus U.S. Army Corps of Engineers, a Department of the Army (DA) permit is not required for any activities which may occur on your property.”

PRACTICE: NORTHLINK

Questions/Discussion