

The background of the slide is a light gray gradient with several realistic water droplets of various sizes scattered across it. The droplets have highlights and shadows, giving them a three-dimensional appearance.

2018 INTEGRATED REPORT AGENCY OUTREACH

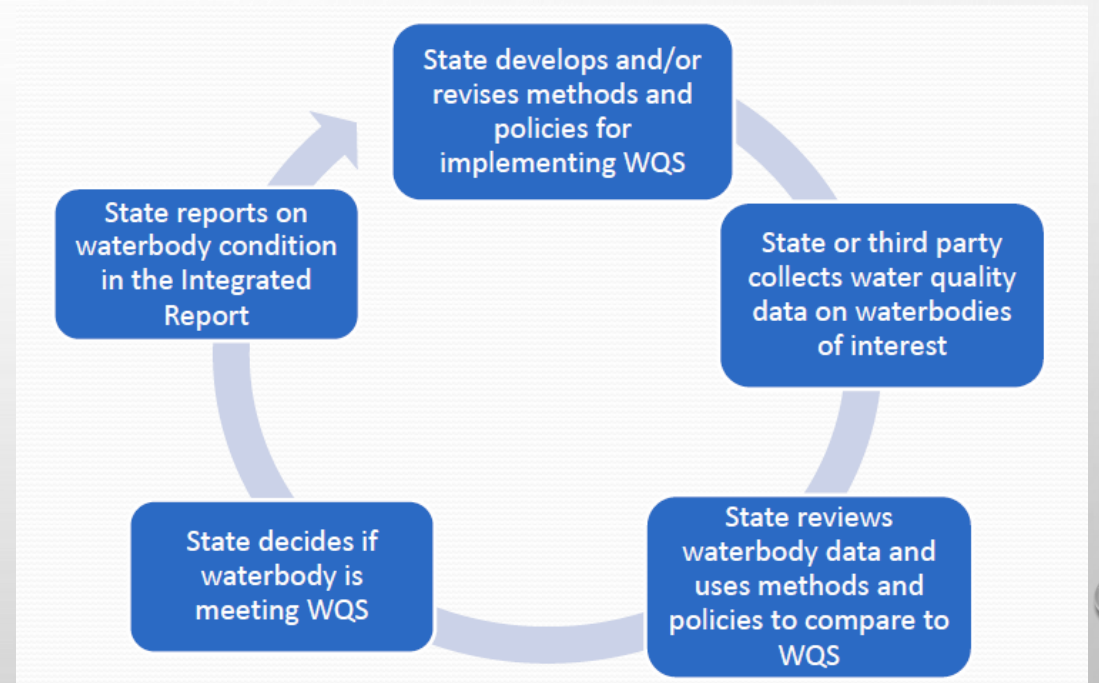
APRIL 23, 2018

AGENDA

- INTRODUCTIONS & PURPOSE OF MEETING
- OVERVIEW OF CLEAN WATER ACT REQUIREMENTS
- KENAI RIVER AND BEACHES FINDINGS
- OTHER WATERS FINDINGS : 34 WATERS HEALTHY (INCLUDING PREVIOUSLY IMPAIRED)
BOULDER CREEK & TRIBUTARY CREEK (POLLUTED)
- NEXT STEPS

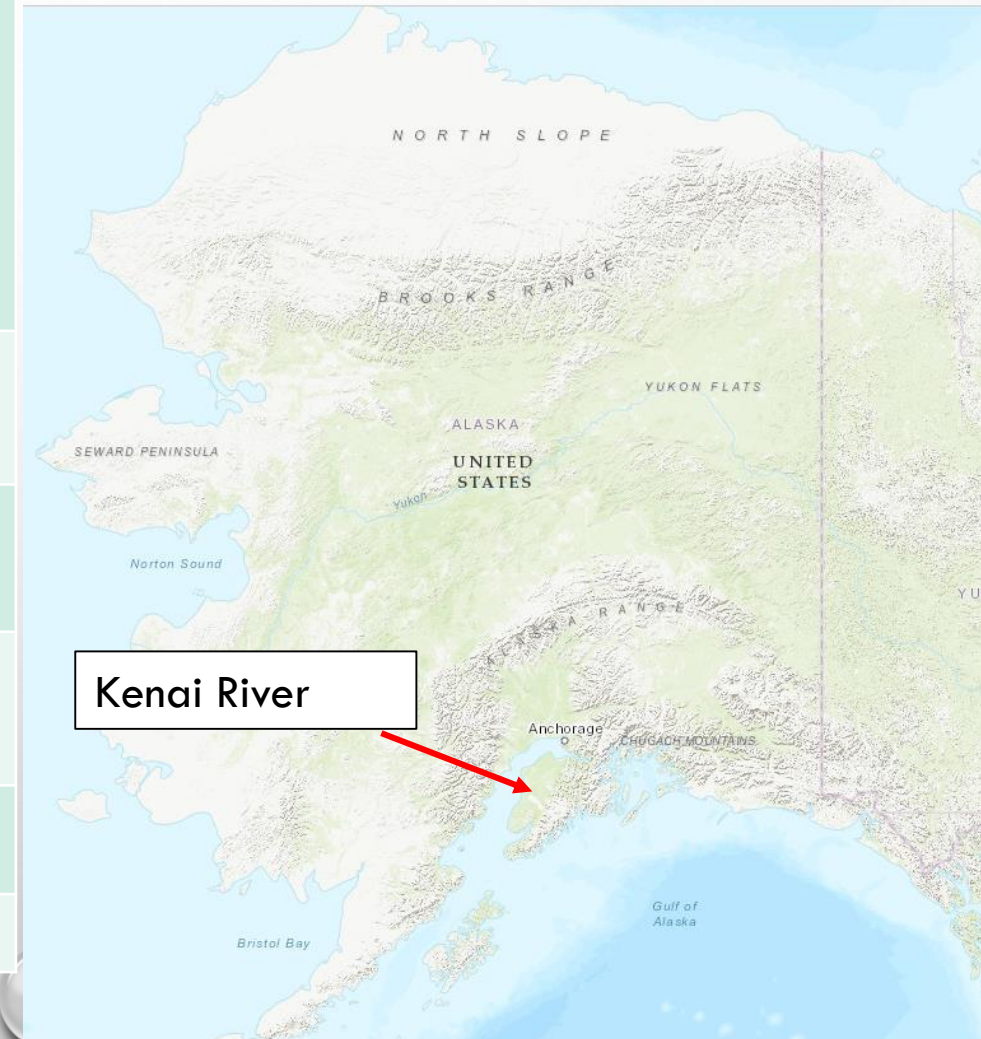
CLEAN WATER ACT REQUIREMENTS

- CONGRESS REQUIRES THAT STATES REPORT ON THE HEALTH OF ALL WATERS IN THE STATE EVERY 2 YEARS. NEED TO IDENTIFY WATERS THAT ARE NOT MEETING STATE WATER QUALITY STANDARDS.
- ALASKA ADOPTS STANDARDS, THESE ARE THE BASIS FOR REVIEWING WATER QUALITY DATA (INCLUDES CUMBERSOME PERIODIC PUBLIC REVIEW OF STANDARDS)
- CYCLICAL PROCESS
- NATIONAL REQUIREMENTS PLAY A LARGE ROLE IN DECISIONS



KENAI RIVER - BACKGROUND

Available Data	<ul style="list-style-type: none"> • 17 years of data collection (2000-2017); 109 total zinc and copper samples on mainstem of Kenai River. • Kenai River Zinc and Copper Pollution Study (ACWA FY17) evaluated trends of zinc and copper data 2000-2014 and produced a review of scientific literature regarding sources for zinc and copper pollution • 2000 – 2009: zinc levels were low and stable throughout the sampling sites. • 2010-2014: rise in zinc levels from RM 23 downstream. • Zinc levels have continued to rise in the lower 23 river miles since 2014.
Current status	<p>IR 2014/16: Propose impairment for turbidity. Meeting criteria (Category 2) for pH, DO, arsenic and heavy metals (arsenic, cadmium, chromium & lead). (temperature analysis in IR 2020 or IR 2022)</p>
Other programs/ agencies involved	<p>Soldotna Project (DEC/WQSAR – WQS), ADF&G, DNR- Parks and Outdoor Recreation</p>
Key stakeholders	<p>Cities of Kenai and Soldotna, Kenai Peninsula Borough, Kenai River Sportfishing Association, Kenai River Professional Guide Association, Kenai River Special Management Area advisory board</p>
Controversial issues/concerns?	<p>Any proposed impairment of the Kenai River generates intense public interest</p>
Staff contact	<p>Jeanne Swartz Improving and Protecting Alaska's Water Quality</p>



TRENDS OVER TIME (SOURCE: KENAI RIVER WATERSHED ZINC AND COPPER POLLUTION, 2017)

AVERAGE ZINC (NOT ADJUSTED FOR HARDNESS)

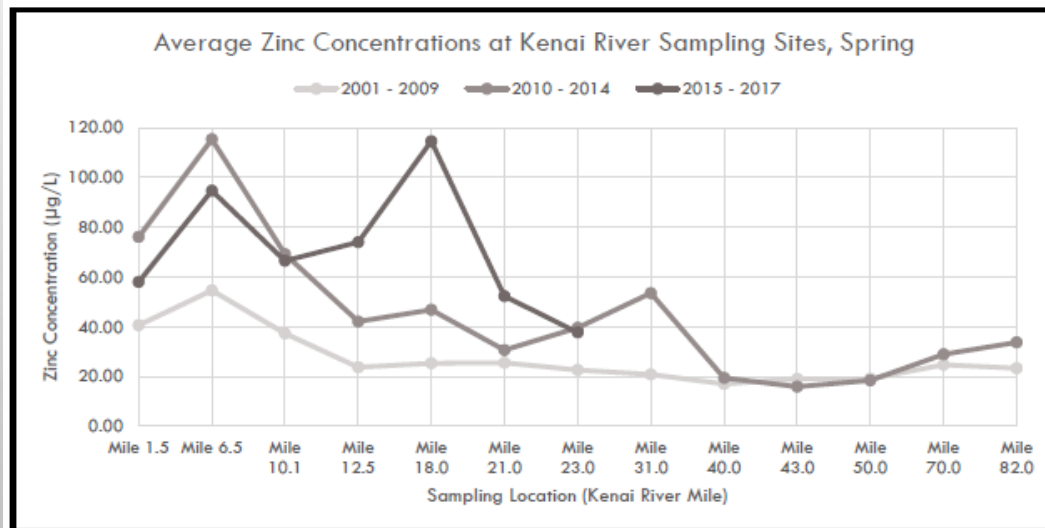


FIGURE 2: AVERAGE ZINC CONCENTRATIONS AT KENAI RIVER SAMPLING SITES, SPRING

AVERAGE COPPER (NOT ADJUSTED FOR HARDNESS)

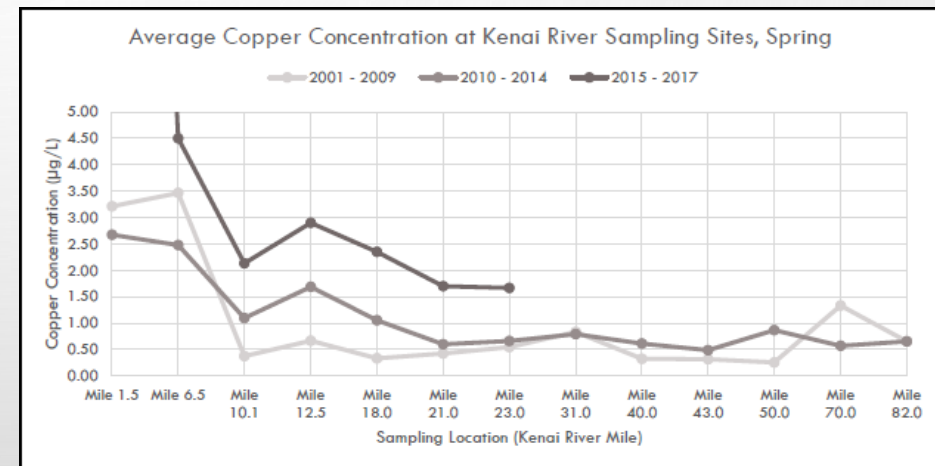
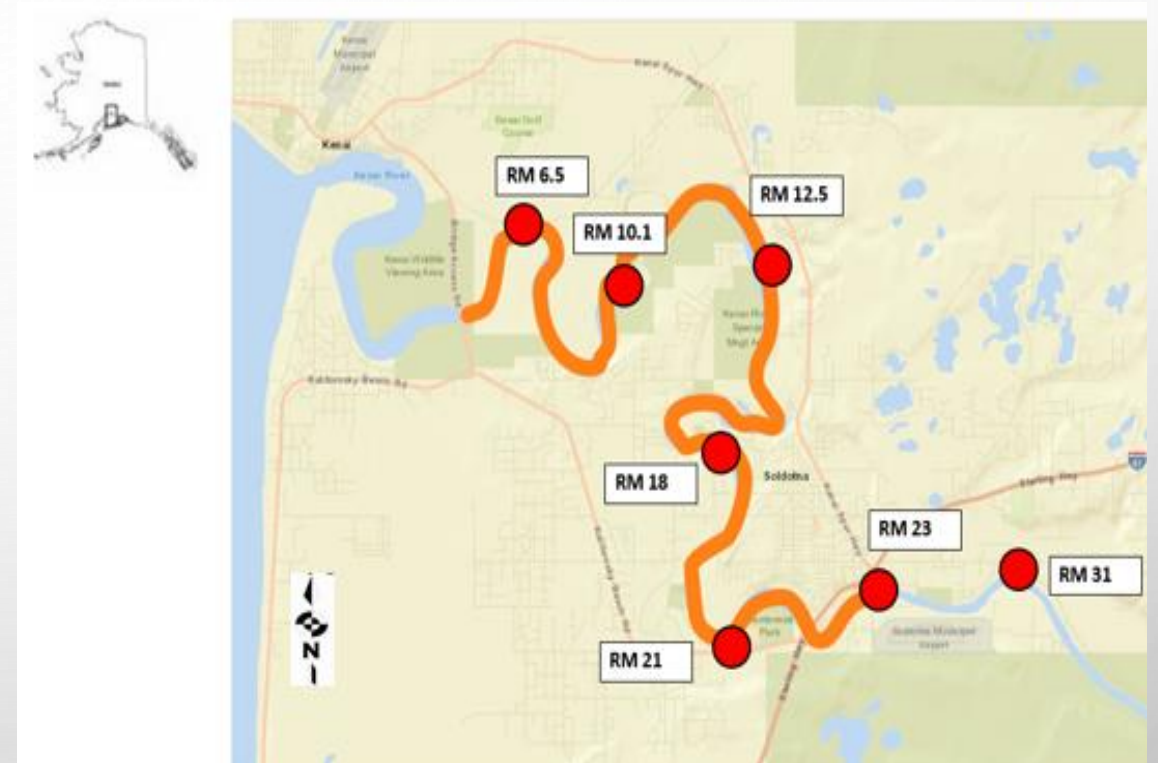


FIGURE 6: AVERAGE COPPER CONCENTRATIONS AT KENAI RIVER SAMPLING SITES, SPRING

Note: The average spring copper concentration from 2015 – 2017 at RM 1.5 was 30.70 µg/L, largely resulting from a result of 52.00 µg/L in April 2017. The sample result at this site for 2015 was 9.40 µg/L, while 2016 sample analysis reported a value of less than 10.0 µg/L.

KENAI RIVER – ZINC (HARDNESS DEPENDENT)

Designated use(s) not being met	Chronic aquatic life and acute aquatic life
Season	Year round
Number of data points:	6 sites sampled on 6 dates through 3 consecutive years (2015-2017).
Suspected sources:	Urban stormwater runoff, galvanized metals in culverts
Natural background information:	Low to absent natural sources of zinc; zinc levels rising since 2010
Supplemental information:	Kenai Watershed Forum studies: 2015 and 2017; on public internet
Data concerns:	None; DEC-approved QAPP for sampling, qualified lab analysis

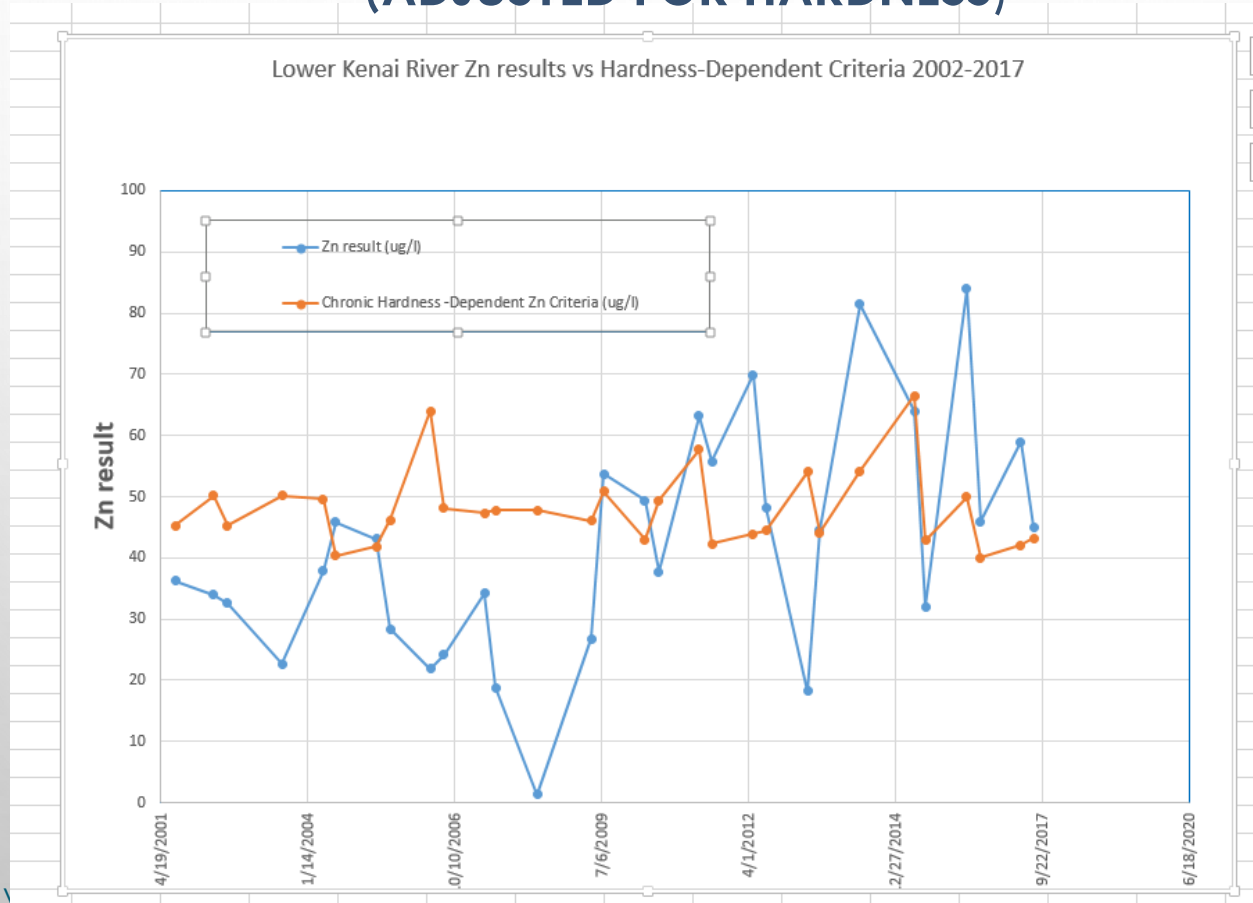


TREND GRAPH

CHRONIC ZINC AVERAGES for Kenai River, RM 6.5 to RM 23

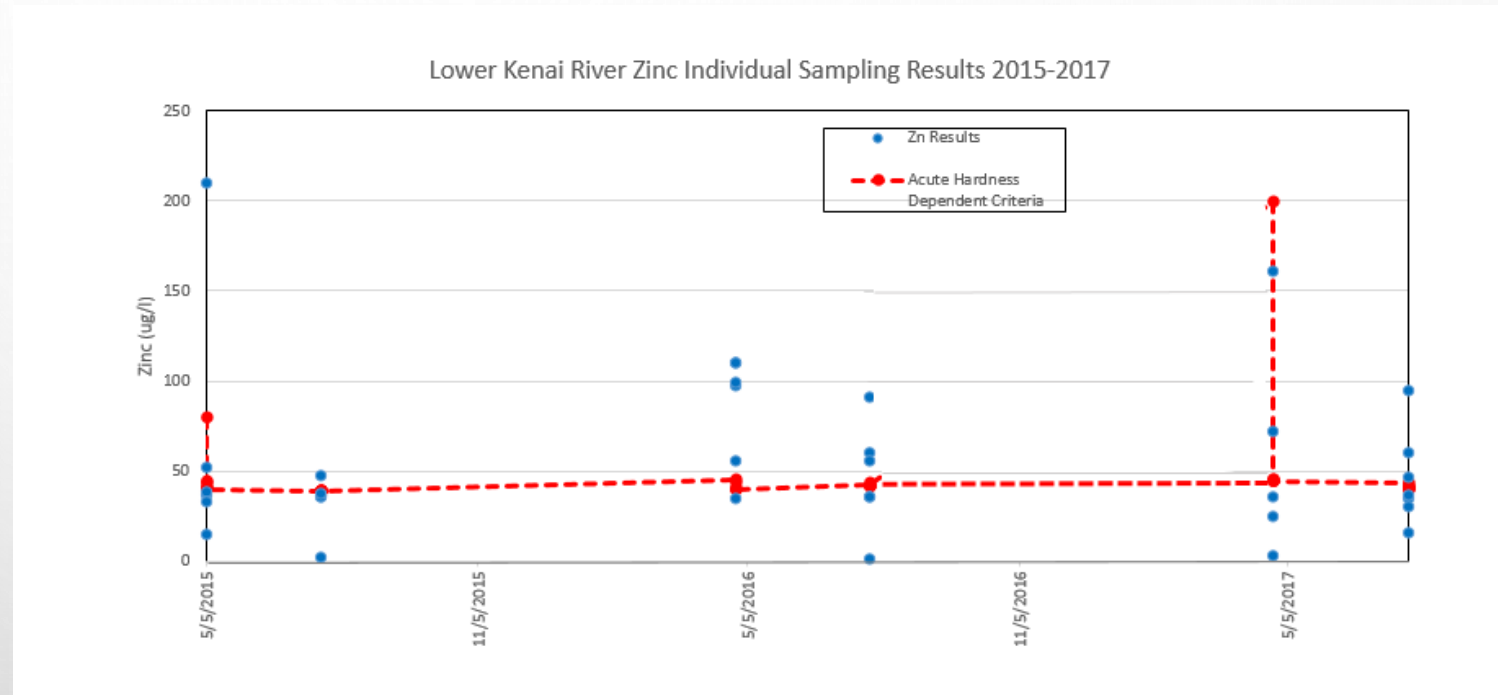
2002-2017

(ADJUSTED FOR HARDNESS)



KENAI RIVER – ZINC ACUTE AQUATIC LIFE

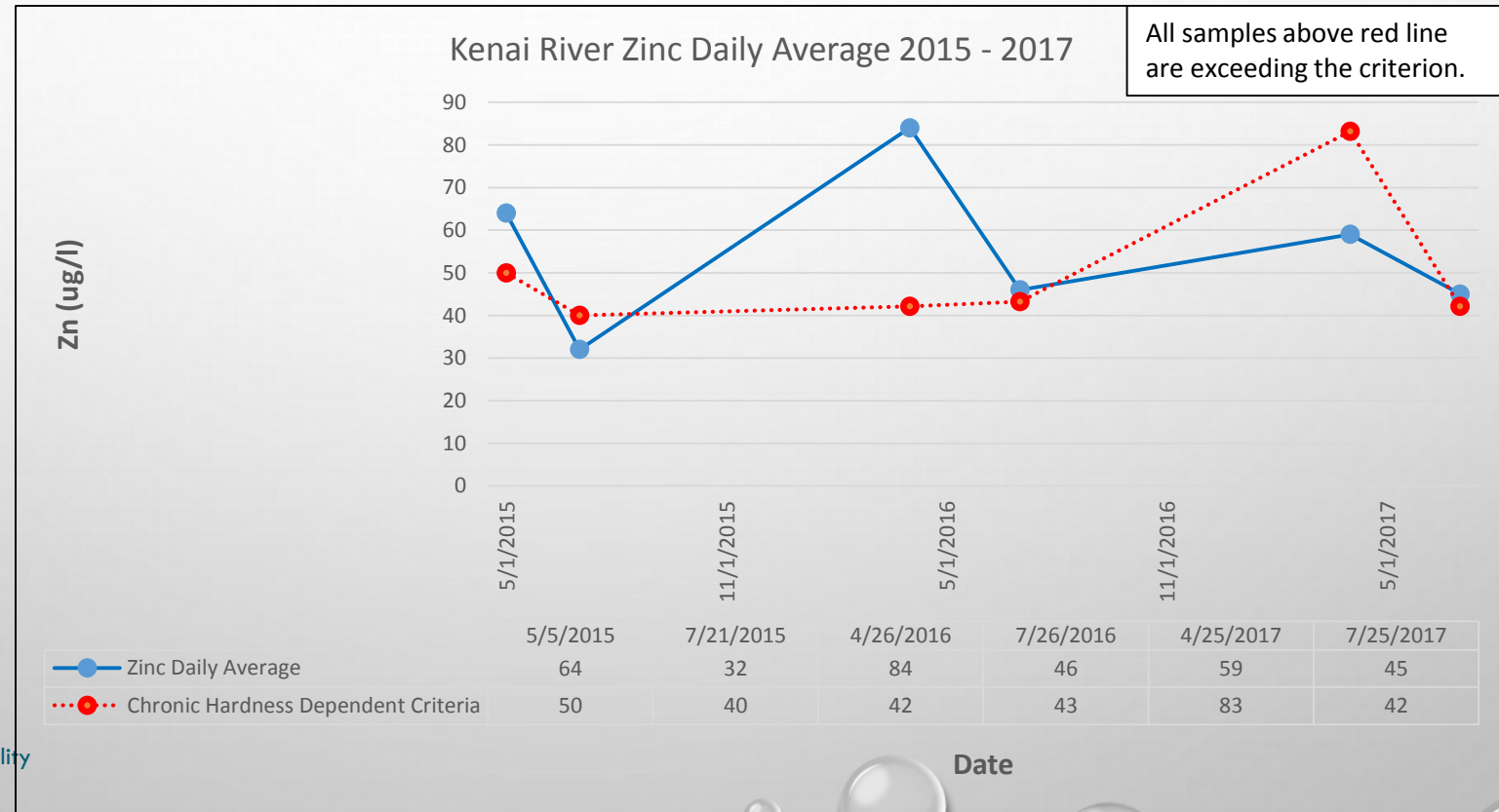
RM	Exceedances	Total Samples
6.5	3	6
10.1	2	5
12.5	1	6
18	3	6
21	4	6
23	2	6
31	0	1



KENAI RIVER – ZINC CHRONIC AQUATIC LIFE

Chronic Aquatic Life Criteria

Date	Data (All locations averaged)	Chronic Hardness Dependent Criteria
5/5/2015	64	50
7/21/2015	32	40
4/26/2016	84	42
7/26/2016	46	43
4/25/2017	59	83
7/25/2017	45	42



KENAI RIVER BEACHES - BACKGROUND

Available Data (bacteria)

- 5 years of data collection (2010-2015); 134 total fecal coliform grab samples and 31 geometric (geo) means on Kenai River beaches.
- ACWA Grant FY 11-15 reports: Kenai River Beaches Monitoring projects monitored the presence of indicator bacteria before and during the personal use dipnet fishery at the mouth of the Kenai River in Kenai, Alaska.
- Exceedances were reported before, during and after the dip net fisheries season for all years monitored.

Current status

IR 2014/16: Propose impairment for turbidity. Meeting criteria (Category 2) for pH, DO, arsenic and heavy metals.
Currently in Category 3 for bacteria.
Temperature data analysis anticipated in IR 2020 or IR 2022

Other programs/ agencies involved

DHSS, ADF&G, DNR- Parks and Outdoor Recreation

Key stakeholders

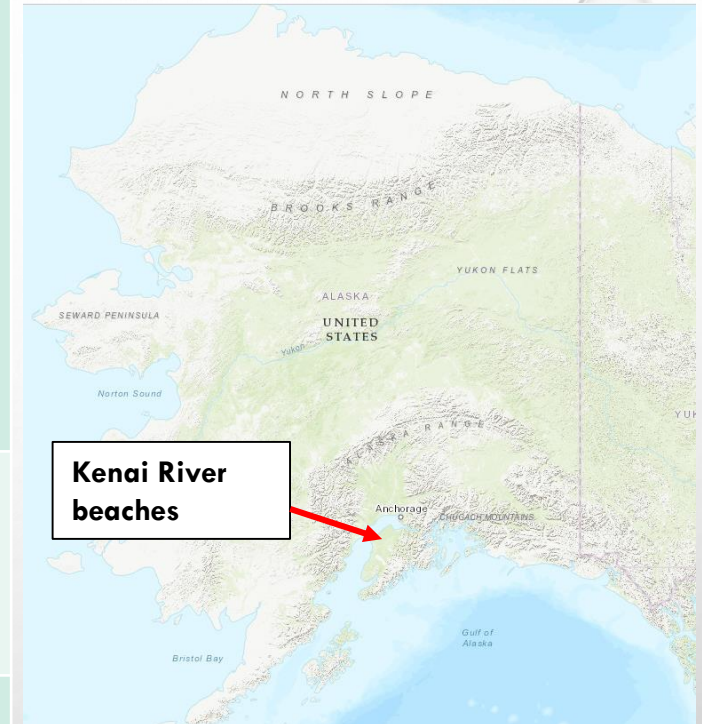
City of Kenai, Kenai Peninsula Borough, Kenai River Sportfishing Association, Kenai River Professional Guide Association, Kenai River Special Management Area advisory board, Kenai Watershed Forum

Controversial issues/concerns?

Any proposed impairment of the Kenai River, including its beaches, generates intense public interest

Staff contact

Jeanne Swartz



KENAI RIVER COASTAL BEACHES- FECAL COLIFORM

Designated use(s) not being met	Single Sample Site Data Criteria – Water Supply (i) aquaculture, (ii) seafood processing. Note: recreation and harvesting uses not yet evaluated, but are not attained.
Season	July during salmon fishery
Number of data points:	29 grab samples and 18 rolling 30-day geo-mean. Sampled 2013-2015
Frequency of exceedances:	72% (>10% may not exceed) and 100% (30 day geo-mean)
Suspected sources:	Seagulls. MST results – trace human, ruminant, and dog. Personal Use fishery exacerbates seagull presence.
Natural background information:	Established gull rookery adjacent to beach.
Supplemental information:	Kenai Watershed Forum studies, 2012 and 2015, on internet
Data concerns:	None; DEC-approved QAPP for sampling, qualified lab analysis



DEC RESPONSIBILITIES

- LET THE PUBLIC KNOW WHEN WATER EXCEEDS STANDARDS
- WATERBODY DETERMINATION IN THE INTEGRATED REPORT

ANCHORAGE DAILY NEWS, JULY 7, 2016

SAMPLES COLLECTED ON JULY 9 AND SUNDAY SHOWED ENTEROCOCCI AND FECAL COLIFORM BACTERIA AT DOUBLE THE STATE STANDARDS FOR RECREATIONAL WATER, ALASKA DEC PROJECT MANAGER TIMOTHY STEVENS SAID.

STEVENS SAID THE ELEVATED LEVELS WERE DETECTED IN SAMPLES FROM THE SOUTH BEACH OF THE KENAI RIVER, BUT THAT THE DEC WAS ADVISING PEOPLE RECREATING ON BOTH THE NORTH AND SOUTH BEACHES TO TAKE PRECAUTIONS IN ORDER TO MINIMIZE THE RISK OF ILLNESS.

"IF ONE OF THE BEACHES HAS ELEVATED LEVELS, EVERYBODY USING THE BEACHES DOWN THERE SHOULD TAKE ELEVATED PRECAUTIONS," STEVENS SAID.

ENTEROCOCCI OR FECAL COLIFORM BACTERIA CAN CAUSE STOMACHACHES, DIARRHEA AND EYE, EAR AND SKIN INFECTIONS, STEVENS WROTE IN THE PRESS RELEASE.

"DON'T DRINK THE WATER; SHOWER OR RINSE OFF AFTER BEING IN CONTACT WITH THE WATER, AND COOK ALL SEAFOOD TO A MINIMUM INTERNAL TEMPERATURE OF 145 DEGREES FAHRENHEIT TO DESTROY PATHOGENS," THE RELEASE ADVISES.

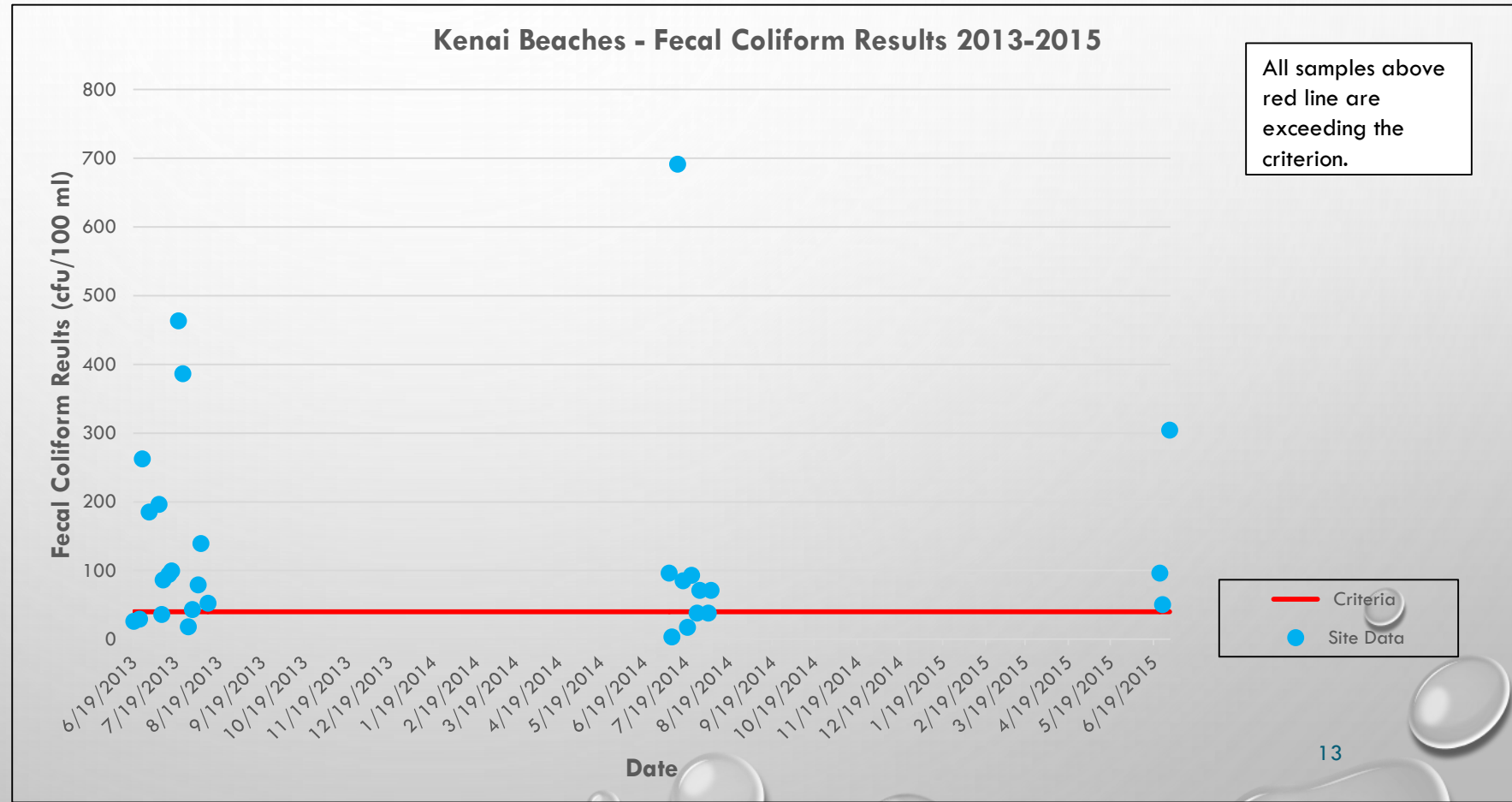
KENAI BEACHES- FECAL COLIFORM

Kenai Beaches -Fecal Coliform Samples		
Date	Criteria	Site Data
6/19/2013	40	26
6/23/2013		29
6/25/2013		262
6/30/2013		185
7/7/2013		196
7/9/2013		36
7/10/2013		86
7/14/2013		94
7/16/2013		99
7/21/2013		463
7/24/2013		386
7/28/2013		18
7/31/2013		43
8/4/2013		79
8/6/2013		139
8/11/2013		52
7/7/2014		96
7/9/2014		3
7/13/2014		691
7/17/2014		85
7/20/2014		17
7/23/2014		93
7/27/2014		38
7/29/2014		71
8/4/2014		38
8/6/2014		71
6/23/2015		96
6/25/2015		50
6/30/2015		304

PUF
201
3

PUF
201
4

Water Quality



OTHER DECISIONS/CHANGES

- 34 WATERS WITH PARAMETERS THAT ARE HEALTHY INCLUDING PREVIOUSLY “LISTED” WATERS (E.G. BONANZA, EAGLE RIVER, & MAMMOTH)
- BOULDER CREEK (CENTRAL) – INCREASED TURBIDITY; TMDL NEARING COMPLETION
- TRIBUTARY CREEK (HAWK INLET) – HIGH LEAD; 2 EXCEEDANCES IN LAST 3 YEARS; 9 EXCEEDANCES IN THE LAST 10
- 1 PLAN FOR RESTORING A WATER COMPLETED
- MOVING AWAY FROM LARGE REPORT FORMAT

NEXT STEPS

- CURRENTLY SHARING DATA (ADF&G, ADNDR, ADOT, AHSS, CITY OF KENAI, CITY OF SOLDOTNA, KRSMA BOARD)
- PUBLIC NOTICE
- GET PUBLIC COMMENT
- PREPARE RESPONSE TO COMMENT AND FINAL LISTS
- SUBMIT TO US ENVIRONMENTAL PROTECTION AGENCY FOR APPROVAL OF IMPAIRED LIST OF WATERS

THANK YOU

- QUESTIONS
- RESOURCES
 - REPORTS: [HTTP://DEC.ALASKA.GOV/WATER/WATER-QUALITY/REPORTS](http://DEC.ALASKA.GOV/WATER/WATER-QUALITY/REPORTS)
 - WATER QUALITY STANDARDS [HTTP://DEC.ALASKA.GOV/WATER/WATER-QUALITY/STANDARDS/](http://DEC.ALASKA.GOV/WATER/WATER-QUALITY/STANDARDS/)