

12/23/03

Greg Light DEC C Sites
459-2117 SNAKE RIVER, NAME

Spills

tank farm - old army
at mouth

likely low levels in river but not est. yet.

free product a couple of hundred
feet from shore.

* quite likely

* multiple responsible parties
Chevron and other

main concern - stop offsite migration

tanks are gone - but 200-300'

Locals & Natives are concerned about
contaminated fish.

10/10/21

1. The first part of the paper is devoted to the study of the structure of the group G .

2. The second part is devoted to the study of the structure of the group H .

3. The third part is devoted to the study of the structure of the group K .

4. The fourth part is devoted to the study of the structure of the group L .

5. The fifth part is devoted to the study of the structure of the group M .

6. The sixth part is devoted to the study of the structure of the group N .

7. The seventh part is devoted to the study of the structure of the group O .

8. The eighth part is devoted to the study of the structure of the group P .

9. The ninth part is devoted to the study of the structure of the group Q .

10. The tenth part is devoted to the study of the structure of the group R .

11. The eleventh part is devoted to the study of the structure of the group S .

12. The twelfth part is devoted to the study of the structure of the group T .

**ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION
1992 STATEWIDE WATER QUALITY ASSESSMENT**

NAME OF WATERBODY: SNAKE RIVER

Location or Lat/Long: NOME, AK - MOUTH OF RIVER IS NOME HARBOR

Is the waterbody in a national or state park, monument, refuge, preserve, or similar area?:
 Yes / No / Name: _____

Waterbody Type:	Waterbody Size:	Segment of Waterbody Addressed:
<input checked="" type="checkbox"/> River/Stream	<u>35</u> Miles	From: _____
<input type="checkbox"/> Lake	_____ Acres/Hectares	To: _____
<input type="checkbox"/> Fresh Wetland	_____ Acres/Hectares	Other Description: _____
<input type="checkbox"/> Tidal Wetland	_____ Acres/Hectares	_____
<input type="checkbox"/> Estuary	_____ Square Miles	Size of Segment: _____
<input type="checkbox"/> Coastal Shoreline	_____ Miles	_____
<input type="checkbox"/> Groundwater		

Period of Assessment, From: _____ **To:** _____

Type of Documentation (attach if possible):

- | | |
|---|---|
| <input type="checkbox"/> Water quality data | <input type="checkbox"/> Written report |
| <input type="checkbox"/> Documented oil spill | <input type="checkbox"/> Field notes |
| <input type="checkbox"/> NOV / Enforcement action | <input type="checkbox"/> Overflight |
| <input type="checkbox"/> Photos with documentation | <input checked="" type="checkbox"/> Observation |
| <input type="checkbox"/> Photos without documentation | <input type="checkbox"/> Other |

Describe Source and Nature of Pollution, Documentation Provided and Other Comments:

 ◇ Harbor traffic @ mouth
 ◇ airport construction (w/ dewatering)
 ◇ dredging of entrances & inner harbor
 ◇ snow disposal (high in locality occurring AS)

RESPONDENT INFORMATION:

Name: ROMENESKO **Phone:** 443-2600 **Date:** 4/6/92
Employer: State of AK **Dept:** DEC **Title:** Environmental Engineer
Address: Box 1815 Nome, AK
Education/Experience: _____

TYPE AND SEVERITY OF POLLUTANTS AND SOURCES: (Severity; H= High, M= Medium, S= Slight)**POLLUTANTS:**

- 0 Cause unknown
 1 Unknown toxicity
 2 Pesticides:
 3 Priority organics:
 4 Nonpriority organics:
 5 Metals:
 6 Ammonia
 7 Chlorine
 8 Other inorganics
 9 Nutrients
 10 pH
 11 Siltation/sedimentation
 12 Low dissolved oxygen
 13 TDS/Salinity/Chlorides
 30 Other:
 14 Temperature Modifications
 15 Flow alterations
 16 Other habitat alterations
 17 Pathogens
 18 Radiation
 19 Oil and Grease
 20 Taste and odor
 21 Suspended solids
 22 Noxious aquatic plants
 23 Filling and draining
 24 Total toxics
 25 Turbidity
 26 Exotic species
 27 Debris, foam, scum, etc.
 28 Insufficient stream structure
 29 Arsenic

SOURCES OF POLLUTANTS (Severity; H= High, M= Medium, S= Slight):**Point Sources:**

- 1 Industrial
 2 Municipal
 3 Storm sewers
 4 Combined sewers

Agriculture:

- 11 Non-irrigated crop production
 12 Irrigated crop production
 13 Specialty crop production
 14 Pasture land
 15 Range land
 16 Feedlots
 17 Aquaculture
 18 Animal waste/holding areas
 19 Manure lagoons

Silviculture:

- 21 Timber harvest
 21 Stream restoration projects
 22 Forest management
 23 Road construction/maintenance
 24 Elimination of stream thermal cover

Construction:

- 31 Highway/road
 31 Bridge construction/repair
 32 Land development

Resource Exploration/extraction:

- 51 Surface mining
 52 Subsurface mining
 53 Placer mining
 54 Dredge mining
 55 Petroleum activities
 56 Mill tailings
 57 Mine tailings
 58 Gravel mining
 58 Injection wells

Urban Runoff:

- 40 Surface runoff
 40 Storm sewers

Waste Disposal:

- 61 Sludge
 62 Wastewater
 63 Landfills
 64 Industrial land treatment
 65 Onsite wastewater systems
 66 Hazardous waste
 67 Sewage disposal

Hydrologic Modification:

- 71 Stream channelization
 72 Dredging
 73 Dam construction
 74 Flow regulation/modification
 75 Bridge construction
 76 Removal of riparian vegetation
 77 Streambank modification
 78 Draining/filling of wetlands

Other:

- 81 Atmospheric deposition
 82 Waste storage tank leaks
 83 Highway maintenance/runoff
 84 Petroleum/chemical spills, leaks
 85 In-place containments
 86 Natural sources
 87 Recreational activities
 88 Upstream impoundment
 89 Salt storage sites
 91 Fire damage/restoration
 92 Underground storage tanks
 93 Aboveground storage tanks
 94 Saltwater intrusion
 95 Road salting
 96 Fish, shellfish wastes
 90 UNKNOWN SOURCE

ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION
1994 STATEWIDE WATER QUALITY ASSESSMENT

WB File
115(b)

NAME OF WATERBODY: Snake River

Location or Lat/Long: Nome, AK - mouth of River is Nome Small Boat Harbor

Is the waterbody in a national or state park, monument, refuge, preserve, or similar area?:
 Yes / No / Name: _____

Waterbody Type: River/Stream
 Lake
 Fresh Wetland
 Tidal Wetland
 Estuary
 Coastal Shoreline
 Groundwater

Waterbody Size: 35 Miles
____ Acres
____ Acres
____ Square Miles
____ Miles

Segment of Waterbody Addressed:
From: Headwater
To: Mouth
Other Description: _____
Size of Segment: _____

Period of Assessment, From: _____ To: _____

Assessment completed by: _____

Type of Documentation (attach if possible):

<input type="checkbox"/> Water quality data	<input type="checkbox"/> Written report
<input type="checkbox"/> Documented oil spill	<input type="checkbox"/> Field notes
<input type="checkbox"/> NOV / Enforcement action	<input type="checkbox"/> Overflight
<input type="checkbox"/> Photos with documentation	<input checked="" type="checkbox"/> Observation
<input type="checkbox"/> Fish / Habitat survey	<input type="checkbox"/> Other (please describe below)

Assessment based on: Monitored water quality data Evaluated (Best professional judgement)

Describe Source and Nature of Pollution, Documentation Provided and Other Comments:

Harbor traffic @ mouth
 snow disposal
 dredging of entrance of inner harbor

RESPONDENT INFORMATION:

Name: Romenesko Phone: 443-2600 Date: 2 Feb. 94
Employer: AK Dept: DEC Title: Engineer
Address: Nome District office
Education/Experience: _____

TYPES OF POLLUTANTS (Please indicate relative severity; H= High, M= Medium, S= Slight):

- | | | |
|--|--|--|
| <input type="checkbox"/> Cause unknown | <input type="checkbox"/> Temperature modifications | <input type="checkbox"/> Noxious aquatic plants |
| <input type="checkbox"/> Unknown toxicity | <input type="checkbox"/> Flow alterations | <input type="checkbox"/> Filling and draining |
| <input type="checkbox"/> Pesticides: _____ | <input type="checkbox"/> Other habitat alterations | <input type="checkbox"/> Total toxics |
| <input type="checkbox"/> Priority organics: _____ | <input type="checkbox"/> Pathogens | <input type="checkbox"/> Turbidity |
| <input type="checkbox"/> Nonpriority organics: _____ | <input type="checkbox"/> Radiation | <input type="checkbox"/> Exotic species |
| <input type="checkbox"/> Metals: _____ | <input type="checkbox"/> Oil and Grease | <input type="checkbox"/> Debris, foam, scum, etc. |
| <input type="checkbox"/> Ammonia | <input type="checkbox"/> Taste and odor | <input type="checkbox"/> Insufficient stream structure |
| <input type="checkbox"/> Chlorine | <input type="checkbox"/> Suspended solids | <input checked="" type="checkbox"/> Arsenic |
| <input type="checkbox"/> Other inorganics | | |
| <input type="checkbox"/> Nutrients | | |
| <input type="checkbox"/> pH | | |
| <input type="checkbox"/> Siltation/sedimentation | | |
| <input type="checkbox"/> Low dissolved oxygen | | |
| <input type="checkbox"/> TDS/Salinity/Chlorides | | |
- Other: _____

SOURCES OF POLLUTANTS (Please indicate relative severity; H= High, M= Medium, S= Slight):

- | | |
|--|---|
| <u>Point Sources:</u> | <u>Waste Disposal:</u> |
| <input checked="" type="checkbox"/> Industrial | <input type="checkbox"/> Sludge |
| <input checked="" type="checkbox"/> Municipal | <input type="checkbox"/> Wastewater |
| <u>Urban Runoff:</u> | <input checked="" type="checkbox"/> Landfills industrial land treatment |
| <input type="checkbox"/> Storm sewers | <input type="checkbox"/> Onsite wastewater systems |
| <input type="checkbox"/> Combined sewers | <input type="checkbox"/> Hazardous waste |
| <input checked="" type="checkbox"/> Surface runoff | <input type="checkbox"/> Sewage disposal |
| <u>Agriculture:</u> | <input type="checkbox"/> Septic tank leak |
| <input type="checkbox"/> Non-irrigated crop production | <u>Hydrologic Modification:</u> |
| <input type="checkbox"/> Irrigated crop production | <input type="checkbox"/> Stream channelization |
| <input type="checkbox"/> Pasture land | <input checked="" type="checkbox"/> Dredging |
| <input type="checkbox"/> Range land | <input type="checkbox"/> Dam construction |
| <input type="checkbox"/> Feedlots | <input type="checkbox"/> Flow regulation/modification |
| <input type="checkbox"/> Aquaculture | <input type="checkbox"/> Bridge construction |
| <input type="checkbox"/> Animal waste/holding areas | <input type="checkbox"/> Removal of riparian vegetation |
| <input type="checkbox"/> Manure lagoons | <input type="checkbox"/> Streambank modification/destabilization |
| <u>Silviculture:</u> | <input type="checkbox"/> Draining/filling of wetlands |
| <input type="checkbox"/> Timber harvest | <u>Marinas:</u> |
| <input type="checkbox"/> Stream restoration projects | <input type="checkbox"/> Small boat harbors (up to 10 slips) |
| <input type="checkbox"/> Road construction/maintenance | <input type="checkbox"/> Harbors (recreational/commercial) |
| <input type="checkbox"/> Elimination of stream thermal cover | <input type="checkbox"/> Loading facilities (commercial) |
| <input type="checkbox"/> Log Transfer Facilities (estuary) | <u>Other:</u> |
| <input type="checkbox"/> Log Sort Yard (land) | <input type="checkbox"/> Atmospheric deposition |
| <u>Construction:</u> | <input type="checkbox"/> Waste storage tank leaks |
| <input checked="" type="checkbox"/> Highway/road | <input checked="" type="checkbox"/> Highway maintenance/runoff |
| <input type="checkbox"/> Bridge construction/repair | <input type="checkbox"/> Petroleum/chemical spills, leaks |
| <input checked="" type="checkbox"/> Land development | <input type="checkbox"/> In-place containments |
| <u>Resource Exploration/extraction:</u> | <input checked="" type="checkbox"/> Natural sources |
| <input type="checkbox"/> Surface mining | <input checked="" type="checkbox"/> Recreational activities |
| <input type="checkbox"/> Subsurface mining | <input type="checkbox"/> Upstream impoundment |
| <input type="checkbox"/> Placer mining | <input type="checkbox"/> Salt storage sites |
| <input type="checkbox"/> Dredge mining | <input type="checkbox"/> Fire damage/restoration |
| <input type="checkbox"/> Petroleum activities | <input type="checkbox"/> Underground storage tanks |
| <input type="checkbox"/> Mill tailings | <input type="checkbox"/> Aboveground storage tanks |
| <input checked="" type="checkbox"/> Mine tailings | <input type="checkbox"/> Saltwater intrusion |
| <input type="checkbox"/> Gravel mining | <input type="checkbox"/> Road salting |
| <input type="checkbox"/> Injection wells | <input type="checkbox"/> Fish, shellfish wastes |
| | <input type="checkbox"/> UNKNOWN SOURCE |

ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION
1994 STATEWIDE WATER QUALITY ASSESSMENT

NAME OF WATERBODY: Snake River

Location or Lat/Long: Nome, AK - mouth of River, is Nome Small Boat Harbor

Is the waterbody in a national or state park, monument, refuge, preserve, or similar area?:

Yes / No / Name: _____

Waterbody Type:

- River/Stream
- Lake
- Fresh Wetland
- Tidal Wetland
- Estuary
- Coastal Shoreline
- Groundwater

Waterbody Size:

35 Miles
____ Acres
____ Acres
____ Acres
____ Square Miles
____ Miles

Segment of Waterbody Addressed:

From: Headwater
To: Mouth
Other Description: _____
Size of Segment: _____

Period of Assessment, From: _____ To: _____

Assessment completed by: _____

Type of Documentation (attach if possible):

- Water quality data
- Documented oil spill
- NOV / Enforcement action
- Photos with documentation
- Fish / Habitat survey
- Written report
- Field notes
- Overflight
- Observation
- Other (please describe below)

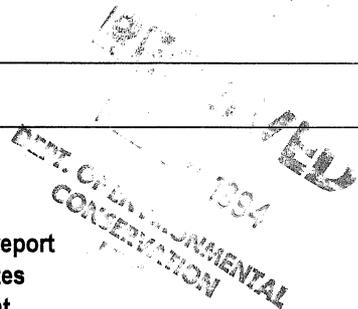
Assessment based on: Monitored water quality data Evaluated (Best professional judgement)

Describe Source and Nature of Pollution, Documentation Provided and Other Comments:

Harbor traffic @ mouth
snow disposal
dredging of entrance of inner harbor

RESPONDENT INFORMATION:

Name: Romenesko Phone: 443-2600 Date: 2 Feb 94
Employer: AK Dept: DEC Title: Engineer
Address: Nome District office
Education/Experience: _____



TYPES OF POLLUTANTS (Please indicate relative severity; H= High, M= Medium, S= Slight):

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|--|--|--|
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| <input type="checkbox"/> Unknown toxicity | <input type="checkbox"/> Flow alterations | <input type="checkbox"/> Filling and draining |
| <input type="checkbox"/> Pesticides: _____ | <input type="checkbox"/> Other habitat alterations | <input type="checkbox"/> Total toxics |
| <input type="checkbox"/> Priority organics: _____ | <input type="checkbox"/> Pathogens | <input type="checkbox"/> Turbidity |
| <input type="checkbox"/> Nonpriority organics: _____ | <input type="checkbox"/> Radiation | <input type="checkbox"/> Exotic species |
| <input type="checkbox"/> Metals: _____ | <input type="checkbox"/> Oil and Grease | <input type="checkbox"/> Debris, foam, scum, etc. |
| <input type="checkbox"/> Ammonia | <input type="checkbox"/> Taste and odor | <input type="checkbox"/> Insufficient stream structure |
| <input type="checkbox"/> Chlorine | <input type="checkbox"/> Suspended solids | <input checked="" type="checkbox"/> Arsenic |
| <input type="checkbox"/> Other inorganics | | |
| <input type="checkbox"/> Nutrients | | |
| <input type="checkbox"/> pH | | |
| <input type="checkbox"/> Siltation/sedimentation | | |
| <input type="checkbox"/> Low dissolved oxygen | | |
| <input type="checkbox"/> TDS/Salinity/Chlorides | | |

Other: _____

SOURCES OF POLLUTANTS (Please indicate relative severity; H= High, M= Medium, S= Slight):

Point Sources:

- Industrial
 Municipal

Urban Runoff:

- Storm sewers
 Combined sewers
 Surface runoff

Agriculture:

- Non-irrigated crop production
 Irrigated crop production
 Pasture land
 Range land
 Feedlots
 Aquaculture
 Animal waste/holding areas
 Manure lagoons

Silviculture:

- Timber harvest
 Stream restoration projects
 Road construction/maintenance
 Elimination of stream thermal cover
 Log Transfer Facilities (estuary)
 Log Sort Yard (land)

Construction:

- Highway/road
 Bridge construction/repair
 Land development

Resource Exploration/extraction:

- Surface mining
 Subsurface mining
 Placer mining
 Dredge mining
 Petroleum activities
 Mill tailings
 Mine tailings
 Gravel mining
 Injection wells

Waste Disposal:

- Sludge
 Wastewater
 Landfills Industrial land treatment
 Onsite wastewater systems
 Hazardous waste
 Sewage disposal
 Septic tank leak

Hydrologic Modification:

- Stream channelization
 Dredging
 Dam construction
 Flow regulation/modification
 Bridge construction
 Removal of riparian vegetation
 Streambank modification/destabilization
 Draining/filling of wetlands

Marinas:

- Small boat harbors (up to 10 slips)
 Harbors (recreational/commercial)
 Loading facilities (commercial)

Other:

- Atmospheric deposition
 Waste storage tank leaks
 Highway maintenance/runoff
 Petroleum/chemical spills, leaks
 In-place containments
 Natural sources
 Recreational activities
 Upstream impoundment
 Salt storage sites
 Fire damage/restoration
 Underground storage tanks
 Aboveground storage tanks
 Saltwater intrusion
 Road salting
 Fish, shellfish wastes
 UNKNOWN SOURCE

END

MEMORANDUM

State of Alaska

Department of Environmental Conservation

To: Eric Decker, Environmental Specialist, WQM

Date: March 6, 1995

Through:

Telephone no: 443-2600

Fax number: 443-5961

From: Randy Romenesko, NDO

Subject: Snake River Impairment

File: 400.83.xxx

On 2 March, 1995 we talked about the subject river. Specifically we discussed whether or not the Snake River was impaired by turbidity and arsenic and are there "persistent exceedences of these water quality standards". It is my opinion the Snake River is not impaired given the criteria that must be met. This opinion is based upon limited scientific data. The opinion is formulated upon discussion with local resource managers and my experiences with this river system.

Concerning turbidity issues:

-Construction activities at the local airport are issued dewatering permits (General Permits), thus effectively eliminating/minimizing turbidity from this source.

-There exists limited mining activities on tributaries to the Snake River. To my knowledge there has been no complaints or actions taken as a result of these activities impacting the River. There is no mining on the River itself.

-Snow storage and associated runoff is of some concern. Snow removal and storage at the local airport is limited by the proximity of the airport to the Snake River. Snow storage in parts of town may impact tributaries to the River. Runoff associated with snow melt is seasonal and temporary.

-Dredging of inner harbor, by the US Corp of Engineers, is done on an as need basis. Usually dredging is done every other year for a week or two. Dredged materials are discharged into Norton Sound.

Concerning Arsenic:

-Arsenic (As) present is naturally occurring, and appear in sediments associated with mined deposits. The US Corp of Engineer has done limited studies on sediments in the inner harbor located at the mouth of the River. Elevated levels in the water column do not appear to be a problem from the limited data available.

Boat harbor activities at the inner harbor are increasing, but do not contribute to As or turbidity.

Snake River

Dredge 6 - turbidity near an issue 5 to 6 years ago.
located between the river & ocean.

ADFG.
-various bean
(NOME)
occurred
with
barbed
March 7

- highly turbid but now the discharge goes through ponds but now drain to ocean.
- Reservoirs upstream that have septic that may leach
- Water is quite clear
- Leachate from Nome Dump to may reach Snake River - 1/2 mile from mouth
- Power plant cooling system may cause a thermal discharge
- Sediment from past mining
- Dredge 5 is in Dry CR - on extreme high water days - there may be turbidity.

Summary

- there are some sources but no documented WA problems now - but water had problems 8-10 years ago.

- there are springs coming from tailing piles in the - tailings are 2 miles long and 1/2 mile ~~long~~ wide - there was an accident in the mid-80's where deep well because of drinking water below tailings.

Suggest calling Mac McLean -