

Watershed Planning for Southeast Communities Training Series



SOUTHEAST ALASKA
WATERSHED COALITION
CONNECT - INFORM - PARTICIPATE



Nadzaheen Creek, Annette Island

GETTING STARTED the Purpose And Process Of Watershed Planning

March 15, 2021

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Restoration Biologist
419-4677, john@sawcak.org

Handbook for Developing Watershed Plans to Restore and Protect Our Waters

U.S. Environmental Protection Agency, 2008.



Handbook for Developing Watershed Plans to Restore and Protect Our Waters



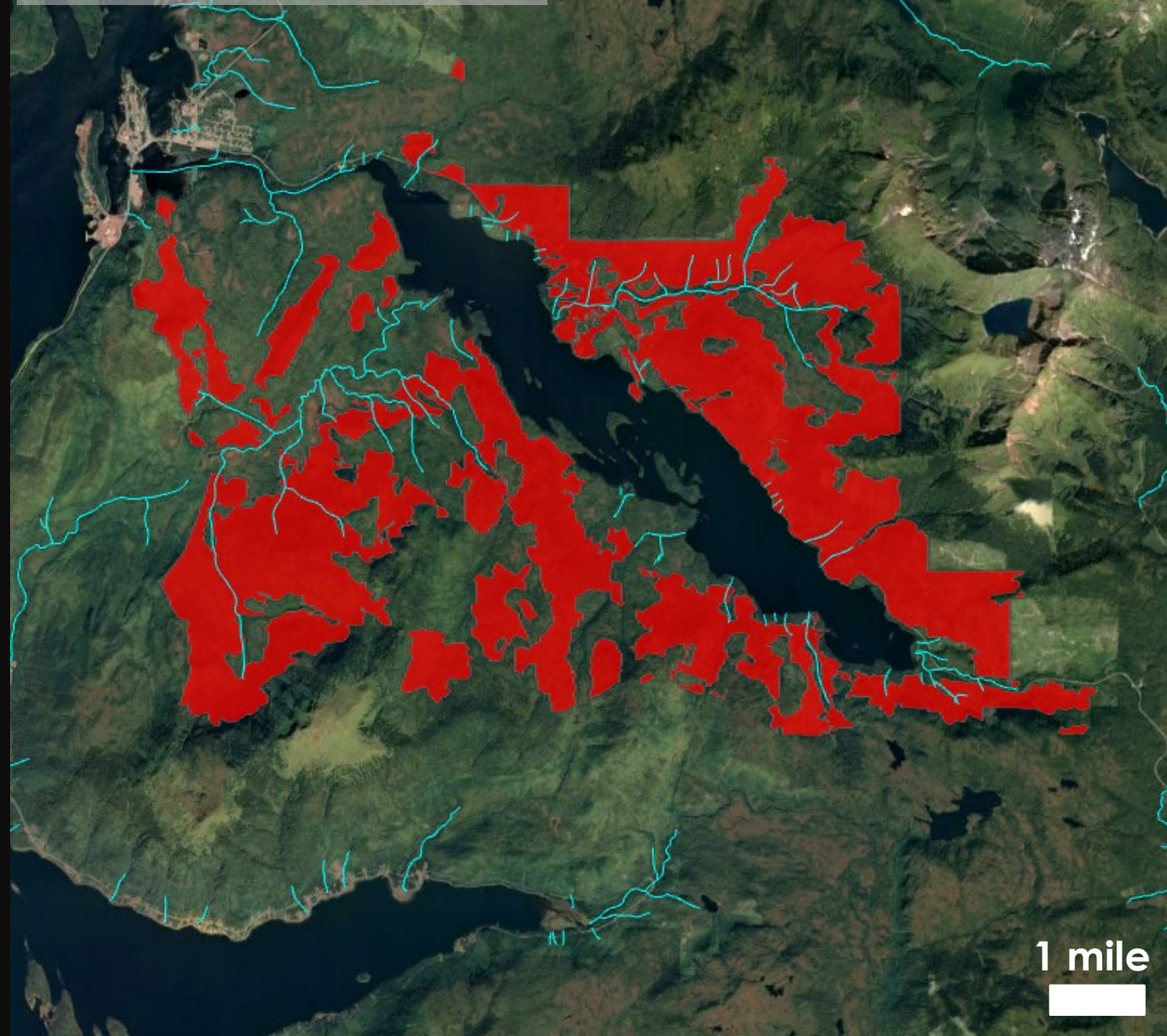
Jordan Creek Watershed

Juneau
- urban impacts



Klawock Lake Watershed

Prince of Wales Island
- forestry impacts



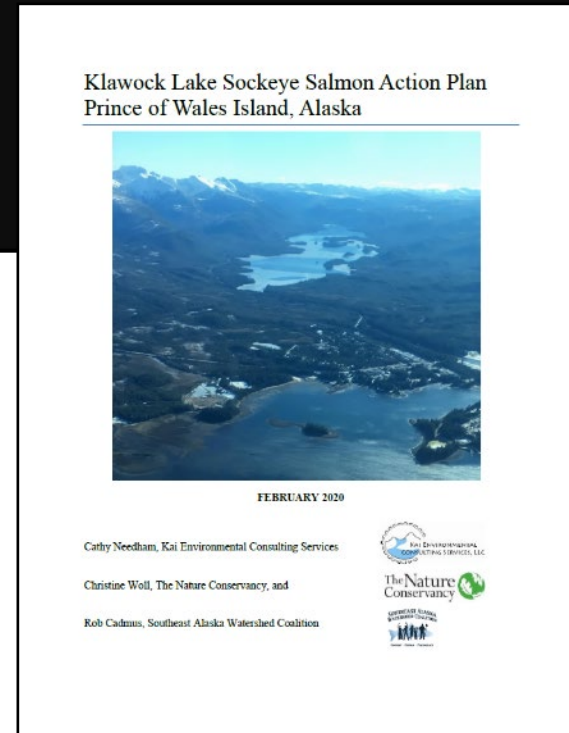
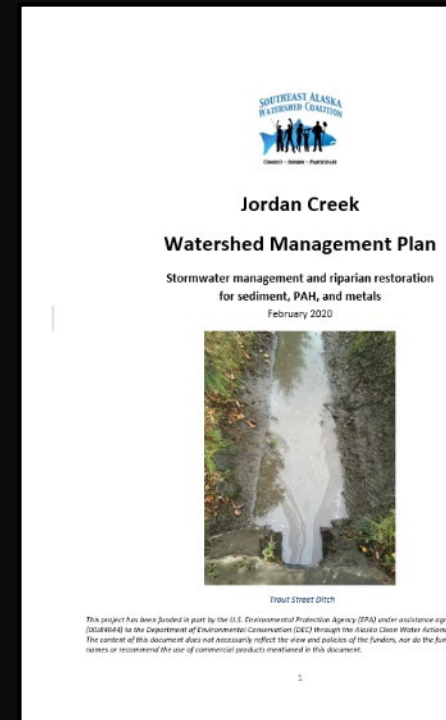
The Watershed Planning and Implementation Process

A Road Map for the Watershed Planning Process

1. Build Partnerships
2. Characterize the Watershed
3. Finalize Goals and Identify Solutions
4. Design an Implementation Program
5. Implement Watershed Plan
6. Measure Progress and Make Adjustments

Why plan?

Never doubt that a small group of thoughtful, committed citizens without a plan can find grant money and do the wrong thing in the wrong place for the wrong reason.



Watershed Plan Documents

The Watershed Planning and Implementation Process

1. Build Partnerships

- **Identify key stakeholders**
- Identify issues of concern
- Set preliminary goals
- Develop indicators
- Conduct public outreach

Klawock Watershed Partners

- Klawock Residents
- Klawock Cooperative Association
- Alaska Department of Fish and Game
- USDA Forest Service
- U.S. Fish and Wildlife
- Southern Southeast Regional Aquaculture
- The Nature Conservancy
- Southeast Alaska Watershed Coalition
- Southeast Alaska Fish Habitat Partnership
- Prince of Wales Tribal Cons. District
- Klawock Heenya Corp.
- Shaanseet, Inc.

The Watershed Planning & Implementation Process

1. Build Partnerships

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Jordan Creek



snow storage



stormwater



riparian loss

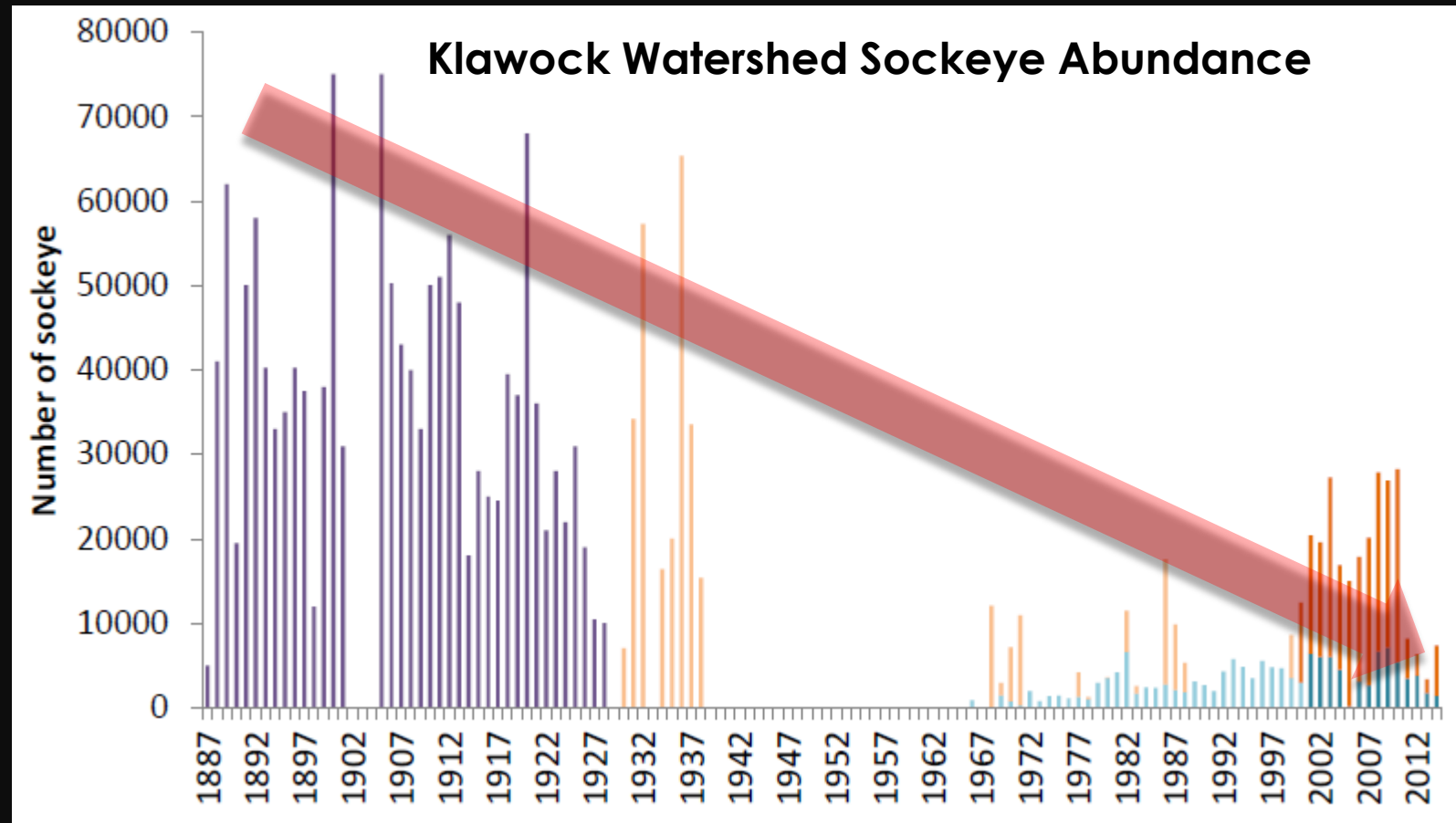


litter

The Watershed Planning & Implementation Process

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The Watershed Planning & Implementation Process

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“To promote healthy and sustainable sockeye salmon populations in Klawock Lake for local communities.”

- Klawock Lake Sockeye Salmon Action Plan

The Watershed Planning & Implementation Process

1. Build Partnerships

- Identify key stakeholders
- Identify issues of concern
- Set preliminary goals
- **Develop indicators**
- Conduct public outreach

Use indicators to assess current environmental conditions

Jordan Creek Indicators



intact riparian area



pollution levels



intact riparian area



litter abundance

The Watershed Planning & Implementation Process

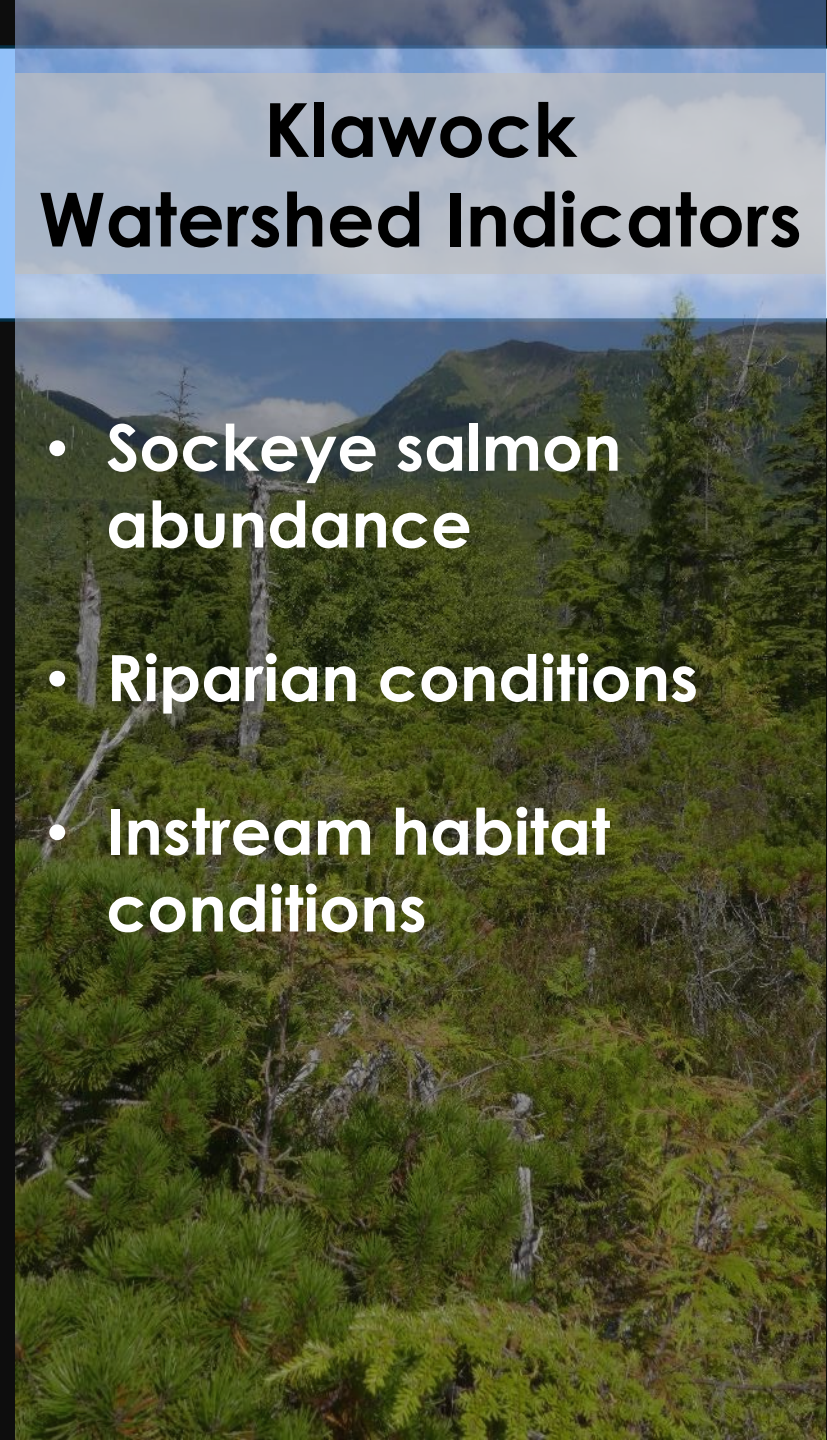
1. Build Partnerships

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- **Develop indicators**
- Conduct public outreach

Use **indicators** to assess current environmental conditions

Klawock Watershed Indicators

- Sockeye salmon abundance
- **Riparian conditions**
- **Instream habitat conditions**



The Watershed Planning & Implementation Process

1. Build Partnerships

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- **Conduct public outreach**

Jordan Creek Watershed - Your Natural Neighborhood



The Jordan Creek watershed includes all of the land that contributes rain and melted snow to Jordan Creek – not just forest, meadow, and wetlands but also yards, roads, streets, and parking lots. Everyone who lives and works in this natural neighborhood can contribute to keeping the stream clean, vegetation healthy, and salmon happy.



Jordan Creek Facts

- Home to Coho salmon, Dolly Varden, and cutthroat trout.
- Flows directly into the Mendenhall Wetlands, a beloved Juneau recreation area and a globally important bird area.

Downstream of the Mendenhall Wetlands because of litter, excess sediments, and low oxygen levels, salmon eggs develop and insects live. This is a problem because of the pollution – which shades the stream and provides a habitat for insects downstream of Egan Drive.



What We're Up To

Beginning in 2019, we will be monitoring the creek for sediment, metals, hydrocarbons, and nitrogen to get a better understanding of Jordan Creek's health. We will also plant trees and shrubs near the Motel 8 to improve bird habitat and filter stormwater. Finally, we will be reaching out to you – landowners and people who live and work in the watershed – to identify solutions to improve the health of your natural neighborhood.

Who We Are

The Southeast Alaska Watershed Coalition is a local nonprofit organization. We work with Southeast Alaskans to steward our watersheds and support communities through participatory projects, research, and learning.

For more information, visit
www.alaskawatershedcoalition.org
www.facebook.com/alaskawatershedcoalition
or email rebecca@sawcak.org

Funding for this work is provided by the Alaska Department of Environmental Conservation through Alaska Clean Water Actions.



The Watershed Planning & Implementation Process

2. Characterize the Watershed

- Gather existing data and create a watershed inventory
- Identify data gaps and collect additional data if needed
- Analyze data
- Identify causes and sources of pollution that need to be controlled
- Estimate pollutant loads

2002

Klawock Watershed Condition Assessment



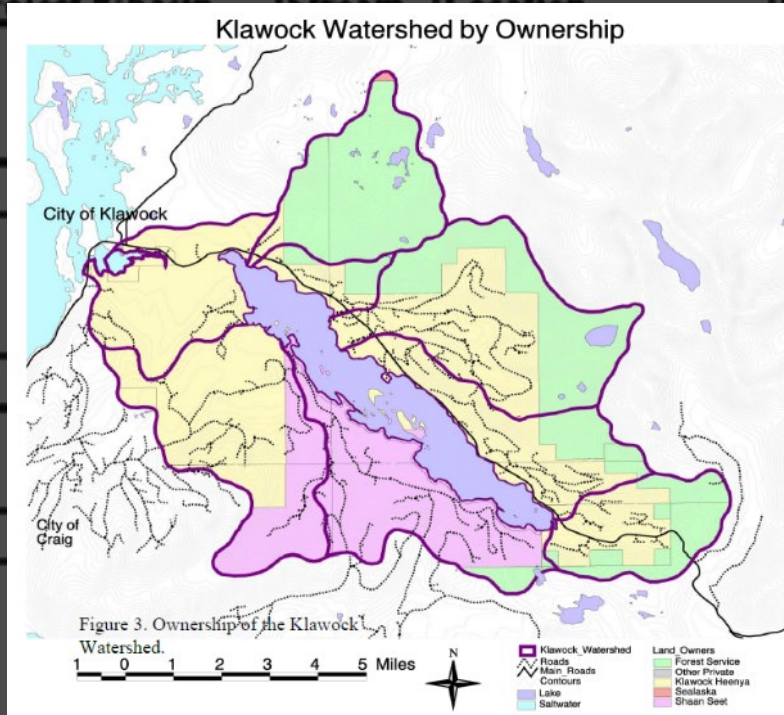
Sponsored by:

Central Council Tlingit and Haida Tribes of Alaska
and
USDA Forest Service
Tongass National Forest
Craig Ranger District

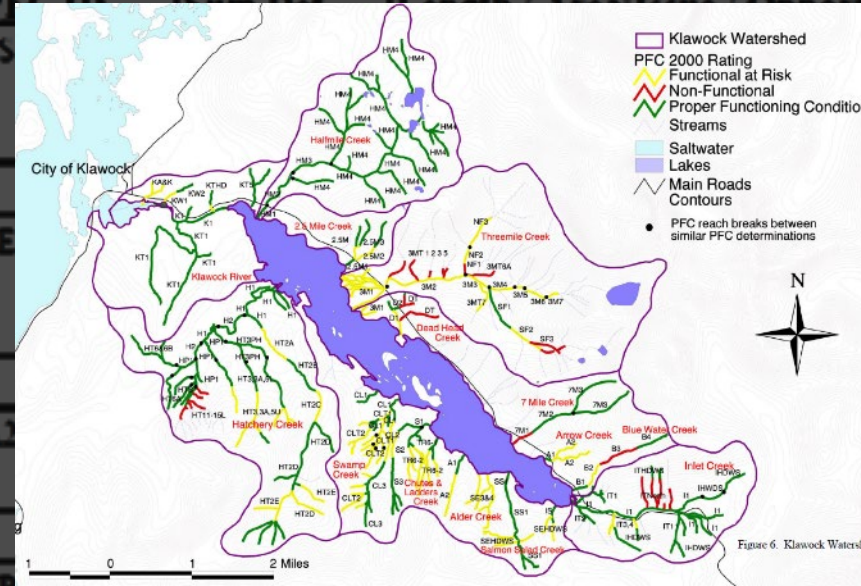
March 2002



- Gather existing data and create a watershed inventory



Ownership



Stream channel condition



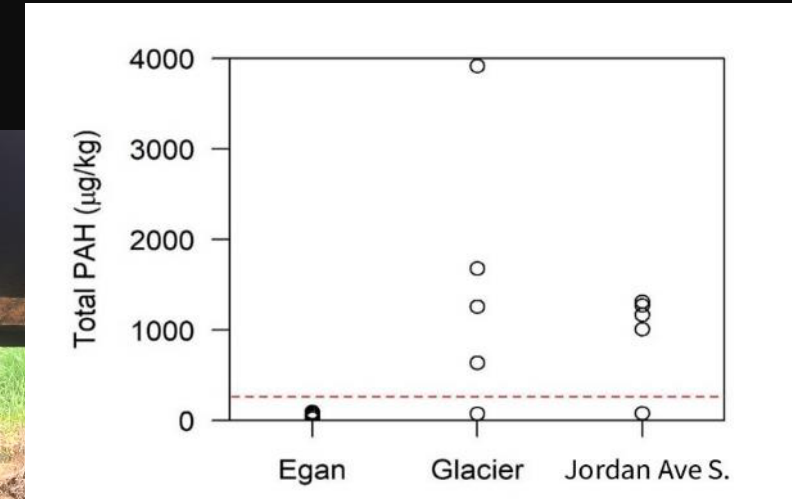
Fish habitat

From: Klawock Lake Watershed Condition Assessment

The Watershed Planning and Implementation Process

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- **Analyze data**
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The Watershed Planning & Implementation Process

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- **Identify the causes/sources of impacts that need to be addressed**

Klawock Watershed Impact Sources

- Past forest management
- Hatchery operations
- **Commercial salmon harvest**

Three-mile Creek

The Watershed Planning & Implementation Process

3. Finalize Goals and Identify Solutions

- Set overall goals and management objectives
- Establish targets
- Identify critical areas
- Develop management measures to achieve goals



goals from the

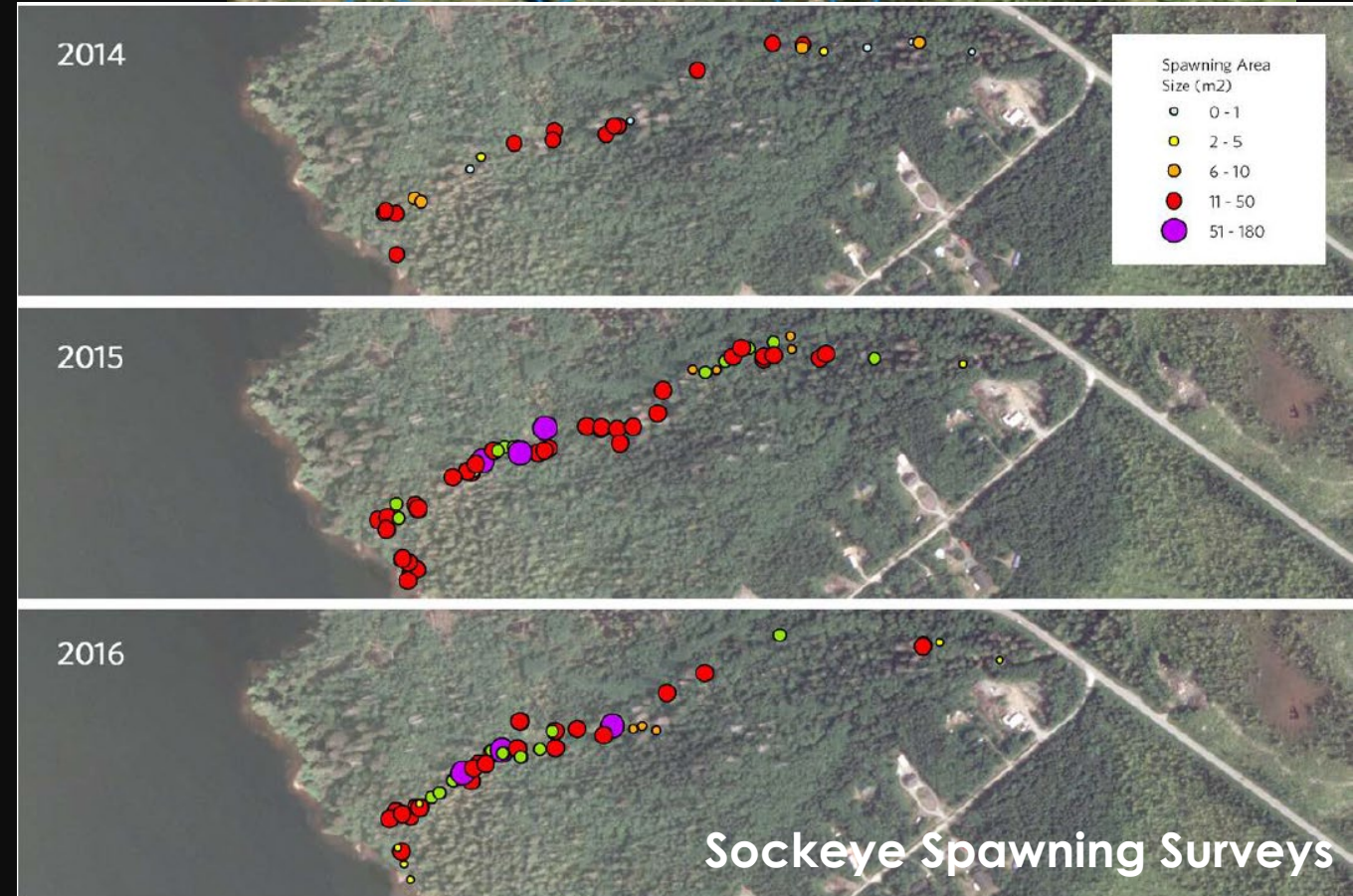
Jordan Creek Watershed Management Plan

1. Reduce bacteria levels
2. Reduce litter abundance
3. Protect, enhance, or restore the riparian zone within the 50-foot stream setback area
4. Meet sediment water quality standards for metals, PAHs, and sediment size

The Watershed Planning & Implementation Process

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The Watershed Planning and Implementation Process

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- Set overall goals and management objectives
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- **Develop management measures to achieve goals**



Hand tool stream restoration

The Watershed Planning and Implementation Process

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- Establish targets
- Determine load reductions needed
- Identify critical areas
- **Develop management measures to achieve goals**



Bioretention Planter

The Watershed Planning and Implementation Process

4. Design an Implementation Program

- Develop implementation schedule
- Develop interim milestones to track implementation of management measures
- Develop criteria to measure progress toward meeting watershed goals
- Develop monitoring component
- Develop information/education component
- Develop evaluation process
- Identify technical and financial assistance needed to implement plan
- Assign responsibility for reviewing and revising the plan

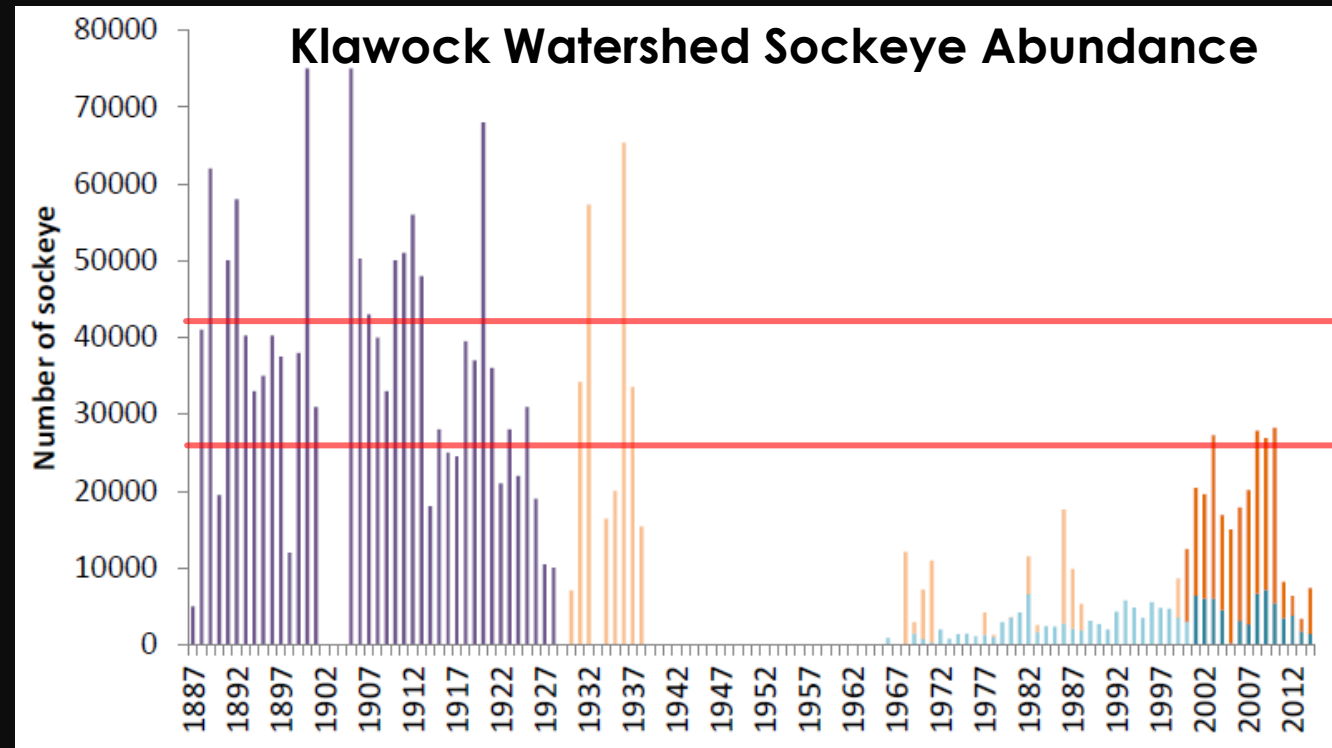
PROJECT

	YEAR						
	2021	2022	2023	2024	2025	2026-2030	2031-2035
Stormwater Management Project (see Sect. A above for details)							
3.1		X					
3.2						X	
JCC.1	X	X					
6.1						X	
9.1	X	X					
9.2				X	X	X	
10.3			X	X			
Secondary Projects (lower priority)							
2.1				X			
3.3						X	X
4.1						X	X
5.1				X			
5.2						X	X

The Watershed Planning and Implementation Process

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Other criteria:

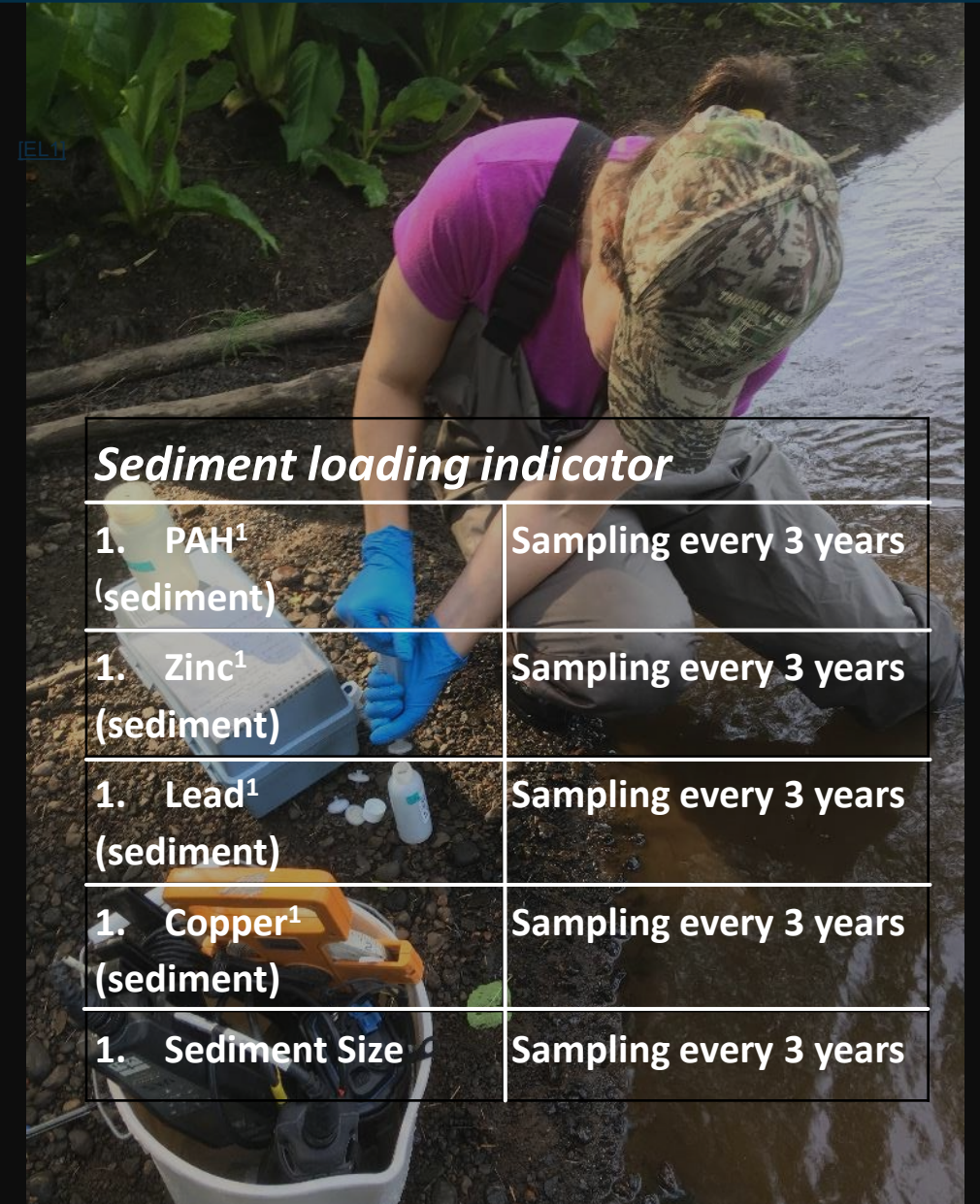
- % of anadromous streams rated properly functioning
- % of riparian forest cond. rated properly functioning



The Watershed Planning and Implementation Process

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Sediment loading indicator

1. PAH ¹ (sediment)	Sampling every 3 years
1. Zinc ¹ (sediment)	Sampling every 3 years
1. Lead ¹ (sediment)	Sampling every 3 years
1. Copper ¹ (sediment)	Sampling every 3 years
1. Sediment Size	Sampling every 3 years

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Informational Flyer

[EL-1]

Legend
— Jordan Creek
— Property Lines

SOUTHEAST ALASKA WATERSHED COALITION
CONNECT • INFORM • PARTICIPATE
907-205-4028
alaskawatershedcoalition.org

CLEANING UP JORDAN CREEK

A LOOK AT STORMWATER

A little about Jordan Creek

- Jordan Creek drains into the Mendenhall Wetlands, a globally recognized Important Bird Area and an estuary for salmon and other commercially important fish species.
- Impervious surfaces (roads, parking lots, roofs) cover approximately 65% of the lower Jordan Creek Watershed. This increases runoff to the stream, flooding risk, and pollution that is washed into the stream.
- The Lower Jordan Creek Watershed experiences some of the highest traffic in the Juneau area.
- Despite the densely developed conditions of Lower Jordan Creek, the stream provides habitat for coho salmon and other fish.

What We Found

- The Southeast Alaska Watershed Coalition (SAWC) and Alaska Department of Environmental Conservation took a close-up look at the water quality and stormwater runoff of Jordan Creek.
- We found that Jordan Creek is polluted with urban runoff. This pollution is bad enough to be a problem for fish, wildlife, and human uses.
- Our assessments found that small steps, like planting trees and letting urban stormwater infiltrate into the ground rather than flow directly into the stream, could improve water quality for salmon and wildlife.

What is in stormwater...

Fertilizers and pesticides contain chemicals that are toxic to fish. When these are applied to your lawn they can wash into nearby streams and impact fish. Use fertilizers and pesticides sparingly.

Bacteria from pet waste can be harmful to fish, wildlife, and humans. Please always pick up and dispose of pet waste.

Ever see a rainbow sheen on the pavement? That's oil or fuel that then gets washed into a stream when it rains.

When your car tires and brakes wear down where does that end up? These materials, which are toxic to fish and wildlife, are left on the roadway and then washed into nearby streams when it rains.

Stormwater: runoff from rain or snow melt that flows over land or impervious surfaces (roads, roofs, parking lots), and does not soak into the ground.

4. Design an Implementation Program

- Identify technical and financial assistance needed to implement plan
- Assign responsibility for reviewing and revising the plan



**ALASKA CLEAN
WATER ACTIONS
(ACWA)**



The Watershed Planning and Implementation Process

5. Implement Watershed Plan

- Implement management strategies
- Conduct monitoring
- Conduct information/education activities

Jordan Creek
Riparian Restoration



The Watershed Planning and Implementation Process

6. Measure Progress and Make Adjustments

- Review and evaluate information
- Share results
- Prepare annual work plans
- Report back to stakeholders and others
- Make adjustments to program

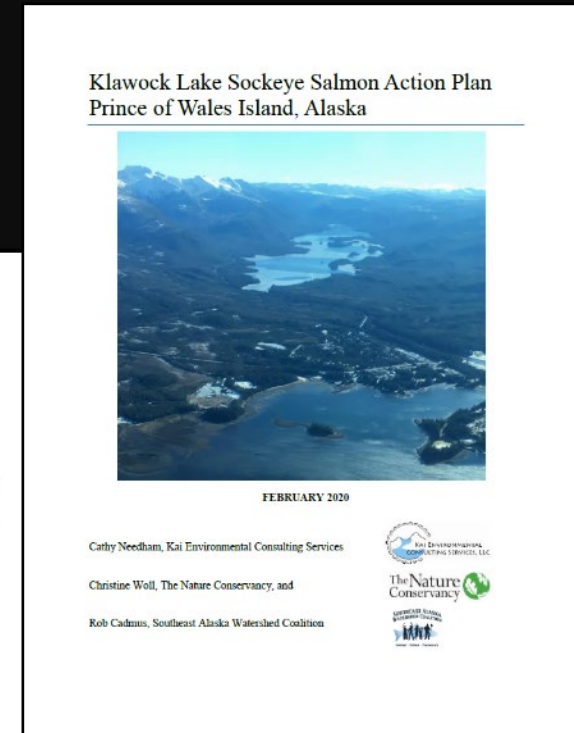
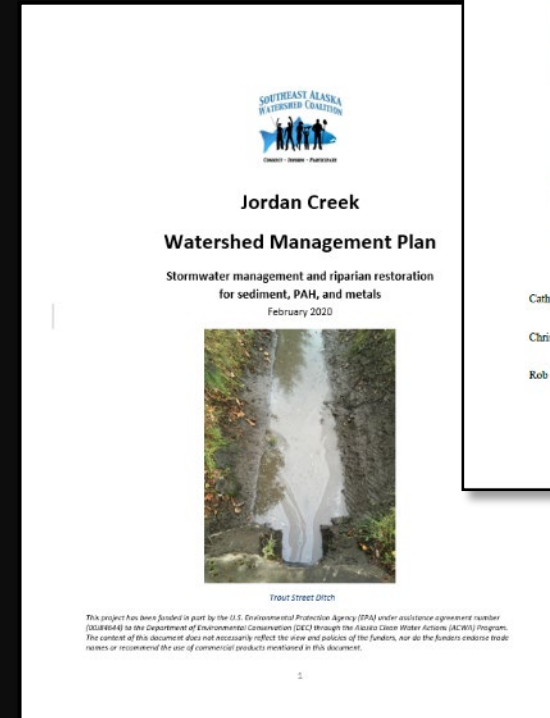
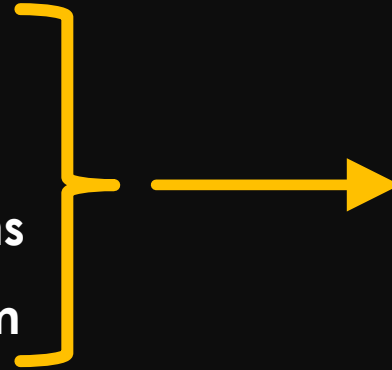
Klawock Stream
Habitat Survey



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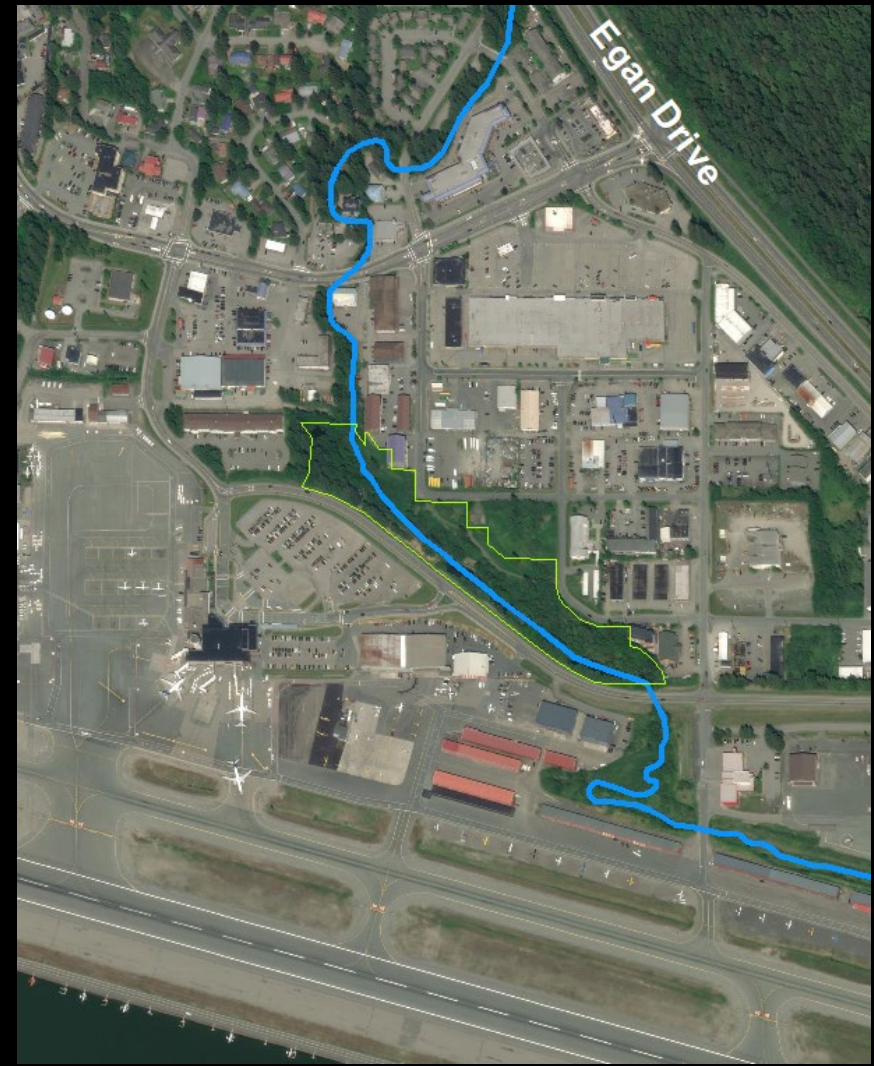
Lower Jordan Creek

THANKS

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2019