

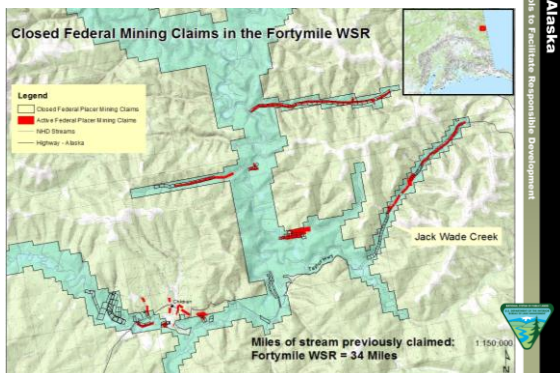


Presentation Overview

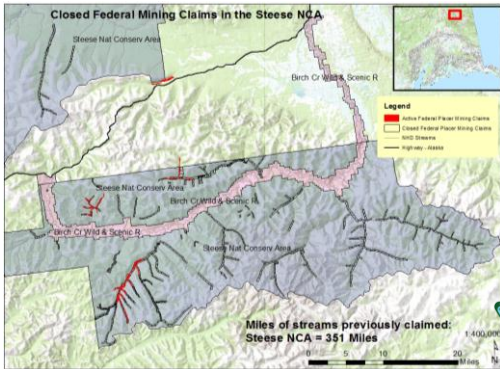
- Mitigation (Restoration) Opportunities
- Placer Mining Reclamation
- Demonstration Project
 - Stream Functions Pyramid and Policy
 - Design and Construction Process
 - Workshops
 - Tools to Improve Reclamation Outcomes



Mitigation Opportunities



Mitigation Opportunities



BLM Alaska
New Tools to Facilitate Responsible Development

Historic Placer Mining



BLM Alaska
New Tools to Facilitate Responsible Development

Historic Placer Mining



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New Tools to Facilitate Responsible Development

Current Placer Mining



Current Reclamation Requirements

Regulations and BLM Policy

- 43 CFR 3809.420 - requires the rehabilitation of fisheries habitat during reclamation
- BLM Policy (H-3809-1) – “...stable channel form with adequate vegetation to reduce erosion, dissipate stream energy, and promote the recovery of instream habitats.”



Results

Ketchum Creek 2012



Results

Ketchum Creek 2015



Results

Franklin Creek 2015

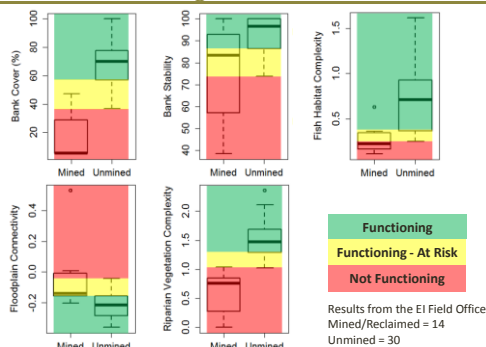


Results

Kokomo Creek 2013



BLM National Aquatic Monitoring Framework Results



BLM Alaska
New Tools to Facilitate Responsible Development



Jack Wade Creek Demonstration Project

Test the latest science

- Demonstrate application of Natural Channel Design Methodology at a former placer mine site.
- Monitor the effectiveness of the techniques at establishing functional lift and rehabilitating fisheries habitat.

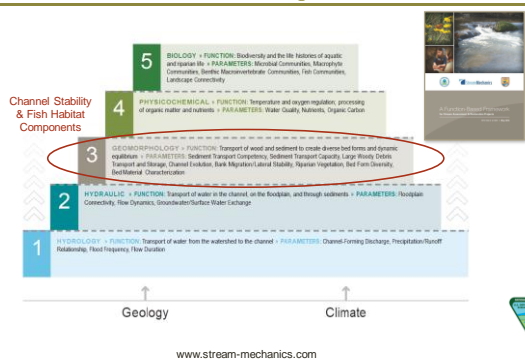
Stream Functions Pyramid Framework

- Demonstrate how the SFP framework could be successfully used in Alaska as a method of determining restoration potential and functional lift for streams.

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New Tools to Facilitate Responsible Development



BLM Alaska IM2015-004 Reclamation Effectiveness Monitoring & Baseline Data Collection



BLM Alaska
New Tools to Facilitate Responsible Development



Jack Wade Creek Demonstration Project

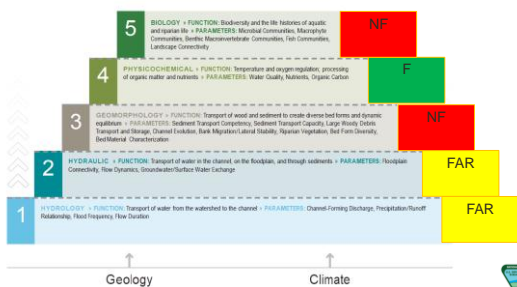
Process Steps

1. Data Collection
2. Functional Assessment
3. Goals/Objectives
4. Design
5. Construction
6. Monitoring



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Function-Based Assessment Results



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Function-Based Goal

Design a stable channel that provides habitat for Arctic grayling.



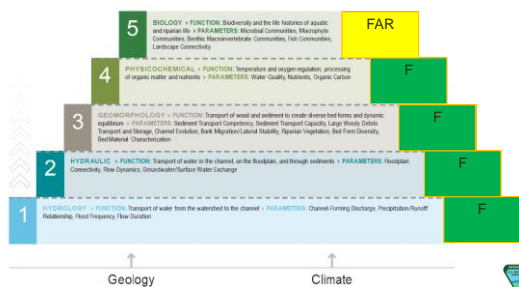
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Function-Based Objectives

- Improve floodplain connectivity by creating a bankfull channel and floodplain.
- Improve bed form diversity by establishing riffles and pools.
- Provide lateral stability by transplanting vegetation.
- Establish riparian vegetation with transplants and organic matter.

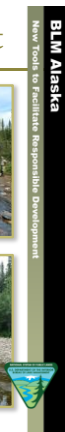
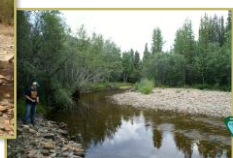


Function-Based Assessment Results



Jack Wade Creek Demonstration Project

Developed the Design



Construction Team



Early Test



Jack Wade Creek Demonstration Project



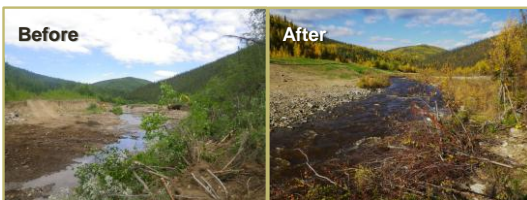
Jack Wade Creek Demonstration Project



Jack Wade Creek Demonstration Project



Jack Wade Creek Demonstration Project



Jack Wade Creek Demonstration Project



Jack Wade Creek Demonstration Project



Jack Wade Creek Demonstration Project

3 Workshops/Field Tours held in September

- Permitting Agencies/Mitigation Banks/ Conservation Groups
- Miners
- BLM Staff



JWC Demonstration Project – Next Steps

Monitoring

- Determine actual Functional Lift using the SFP Framework.
- Show change over time using BLM NAMF methods
- Report lessons learned

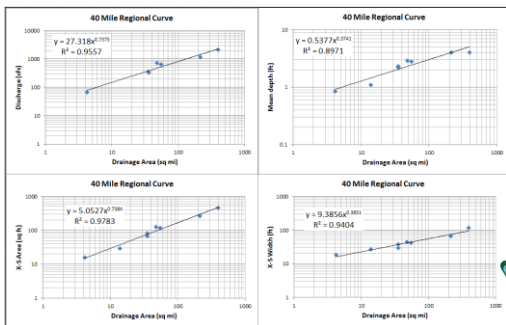
Tools for Miners/Mitigation Banks

- Refine NCD process for Alaska placer mine reclamation sites
- Develop BMP toolbox
- Explore opportunities to improve outcomes



Tools to enhance success...

Watershed Specific Regional Curves



Tools to enhance success...

Technical Assistance

