Resurrection Creek

Stream Restoration Project

Seward Ranger District

Brian Bair
Project Fisheries Biologist

Chugach National Forest

Seward Ranger District

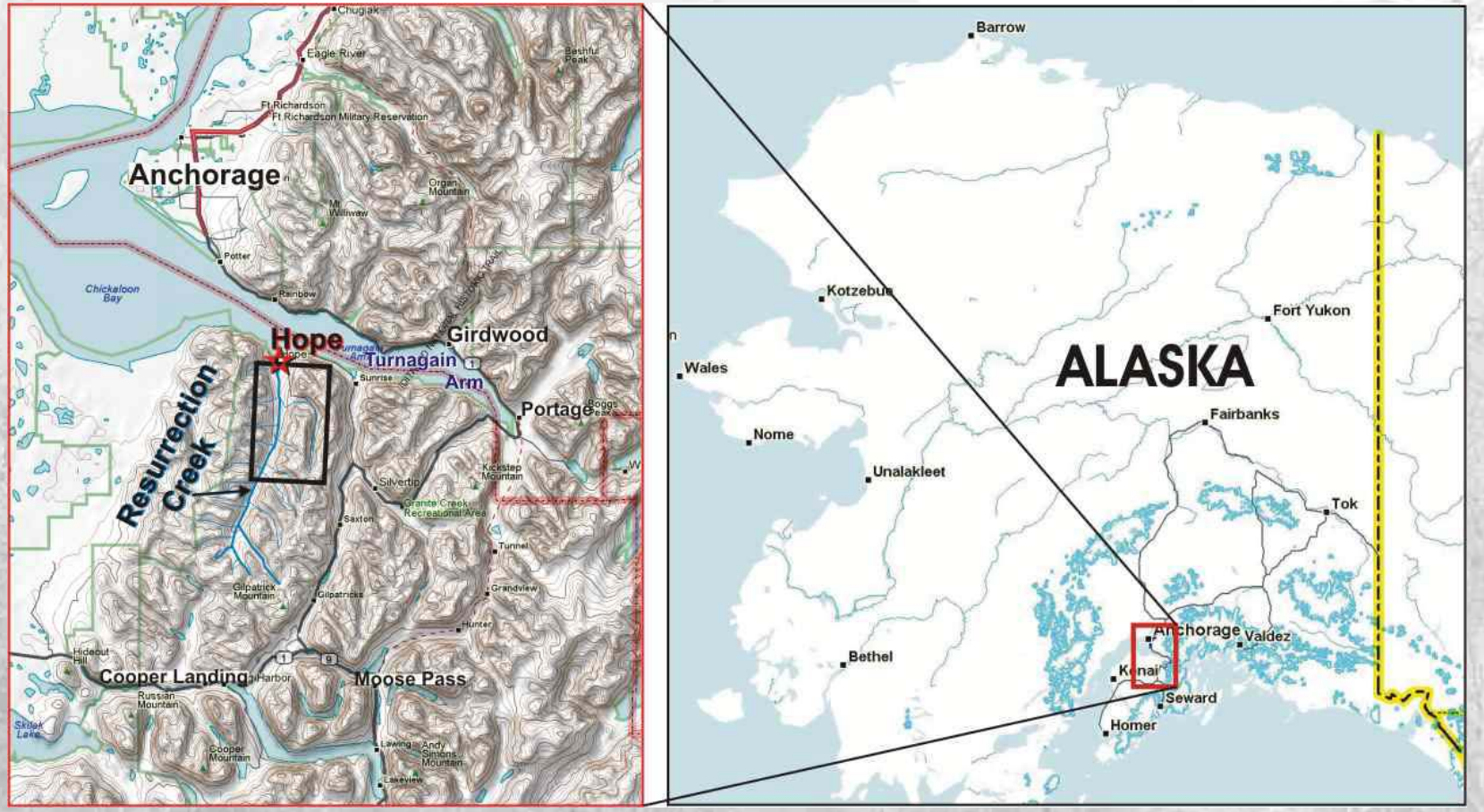
TEAMS Enterprise Unit

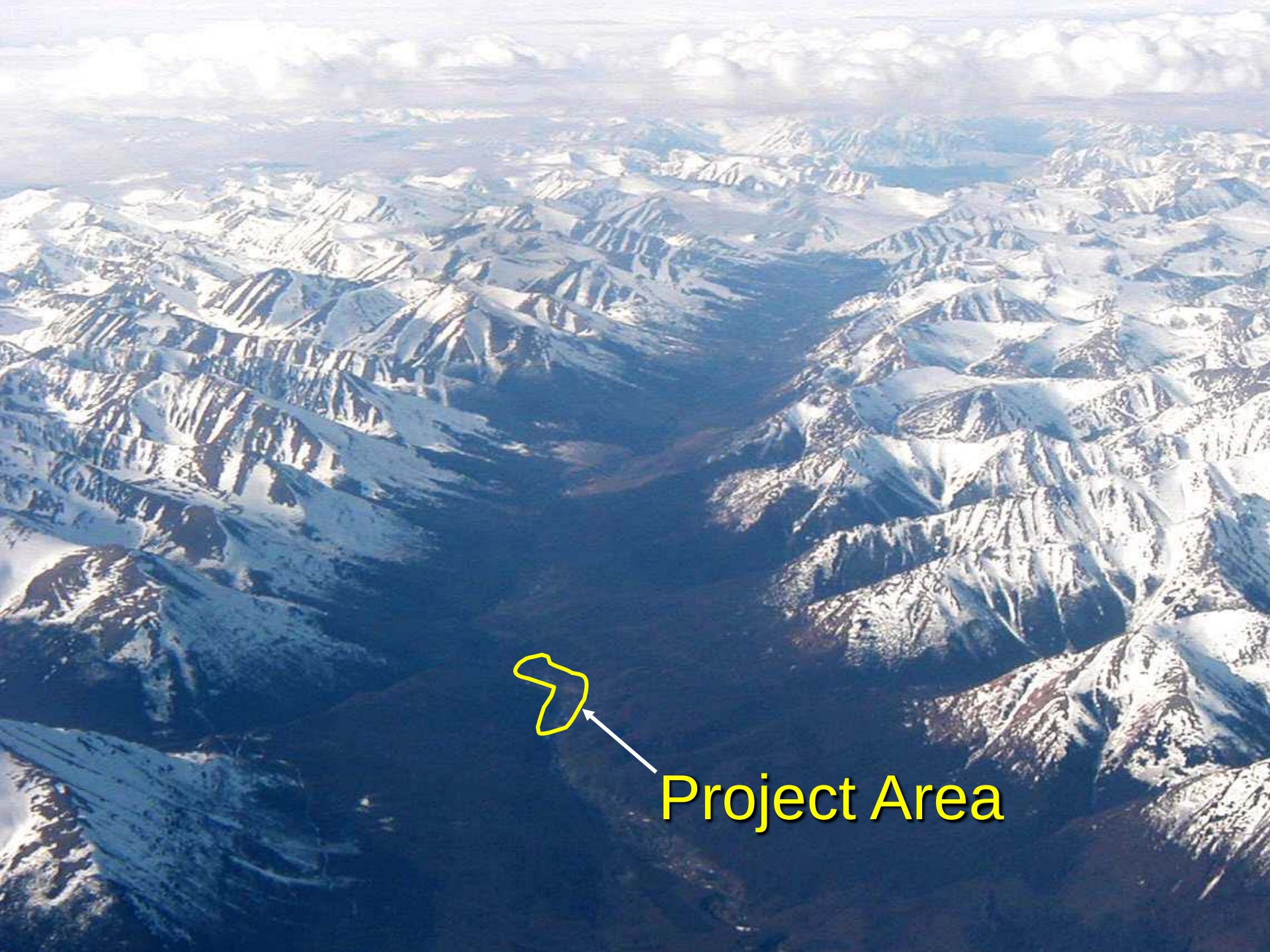
Dave Blanchet

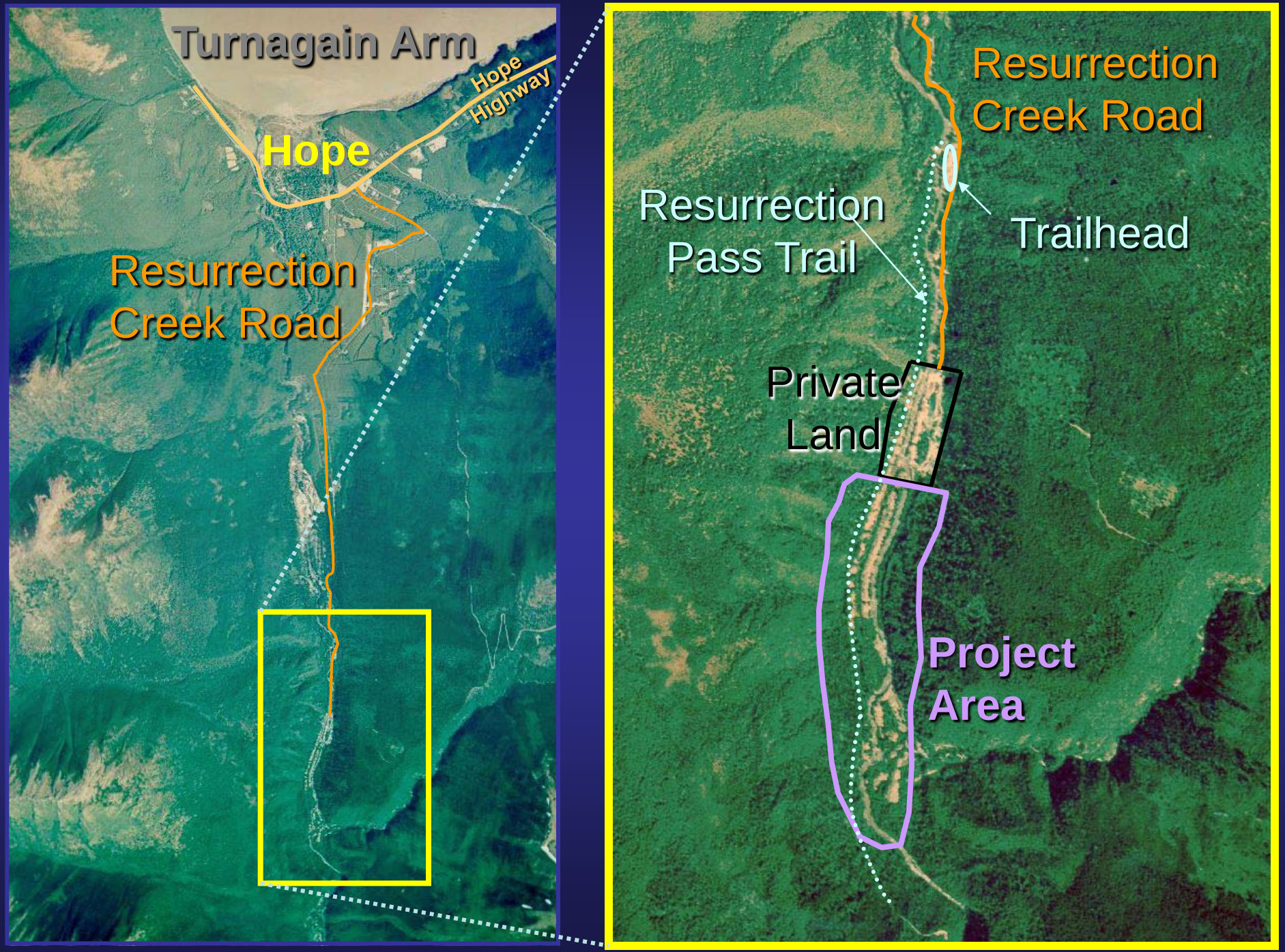
Bill MacFarlane

John Lang

Project Area




Project Area


Turnagain Arm
Hope Highway
Hope
Resurrection Creek Road
Resurrection Creek Road
Resurrection Pass Trail
Trailhead
Private Land
Project Area

History

- Home to one of Alaska's Early Gold Rushes in 1888

Extensive hydraulic and hand placer mining began in 1895 and continued intermittently into the 1950s.

Hydraulic mining provided the power needed to process large volumes of alluvial gravels for gold.

Archives, University of Alaska, Fairbanks

Past Restoration Planning and Implementation

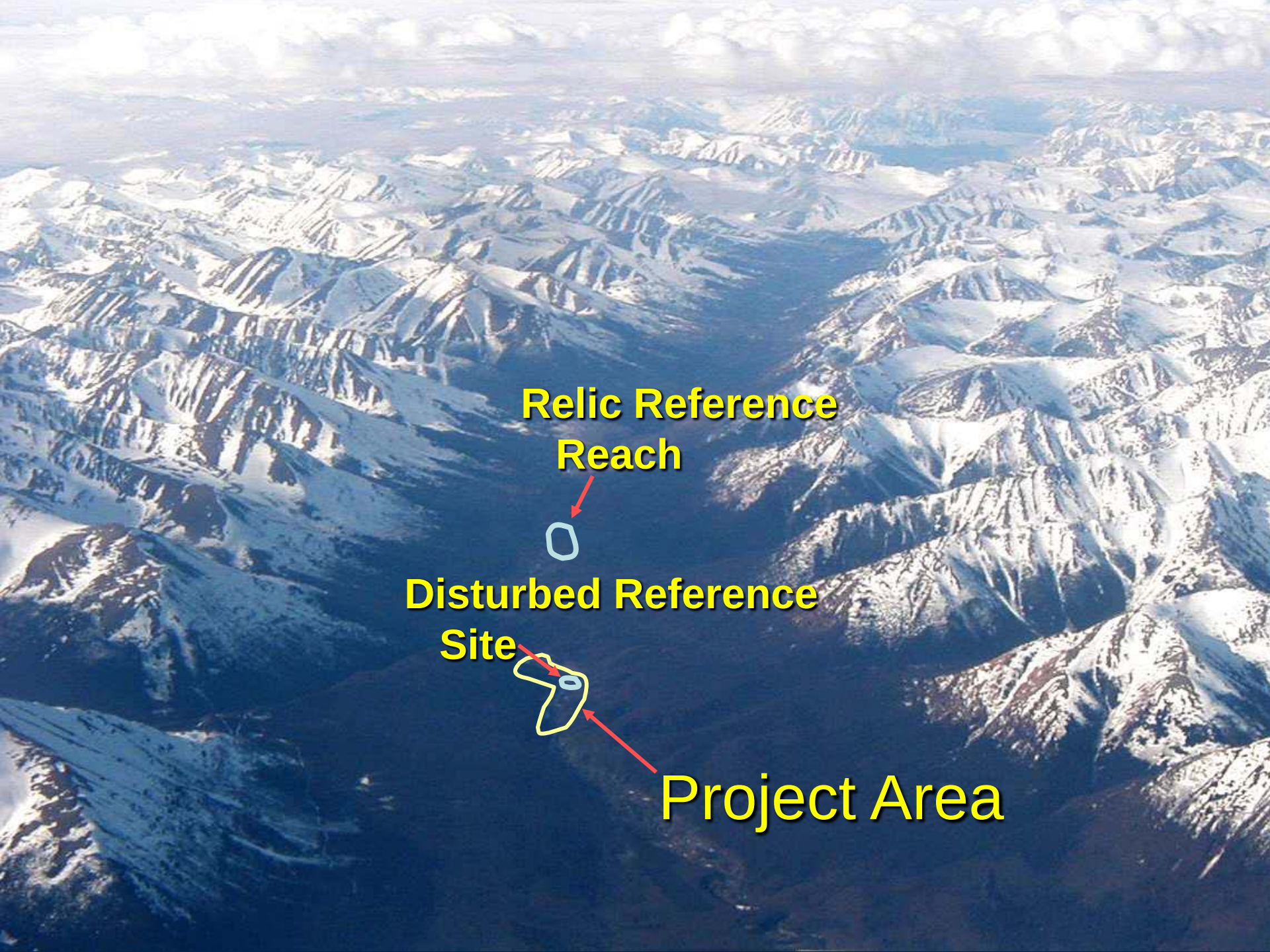
- Resurrection Creek Watershed Association Hydrologic Condition Assessment (Kalli and Blanchet, 2001)

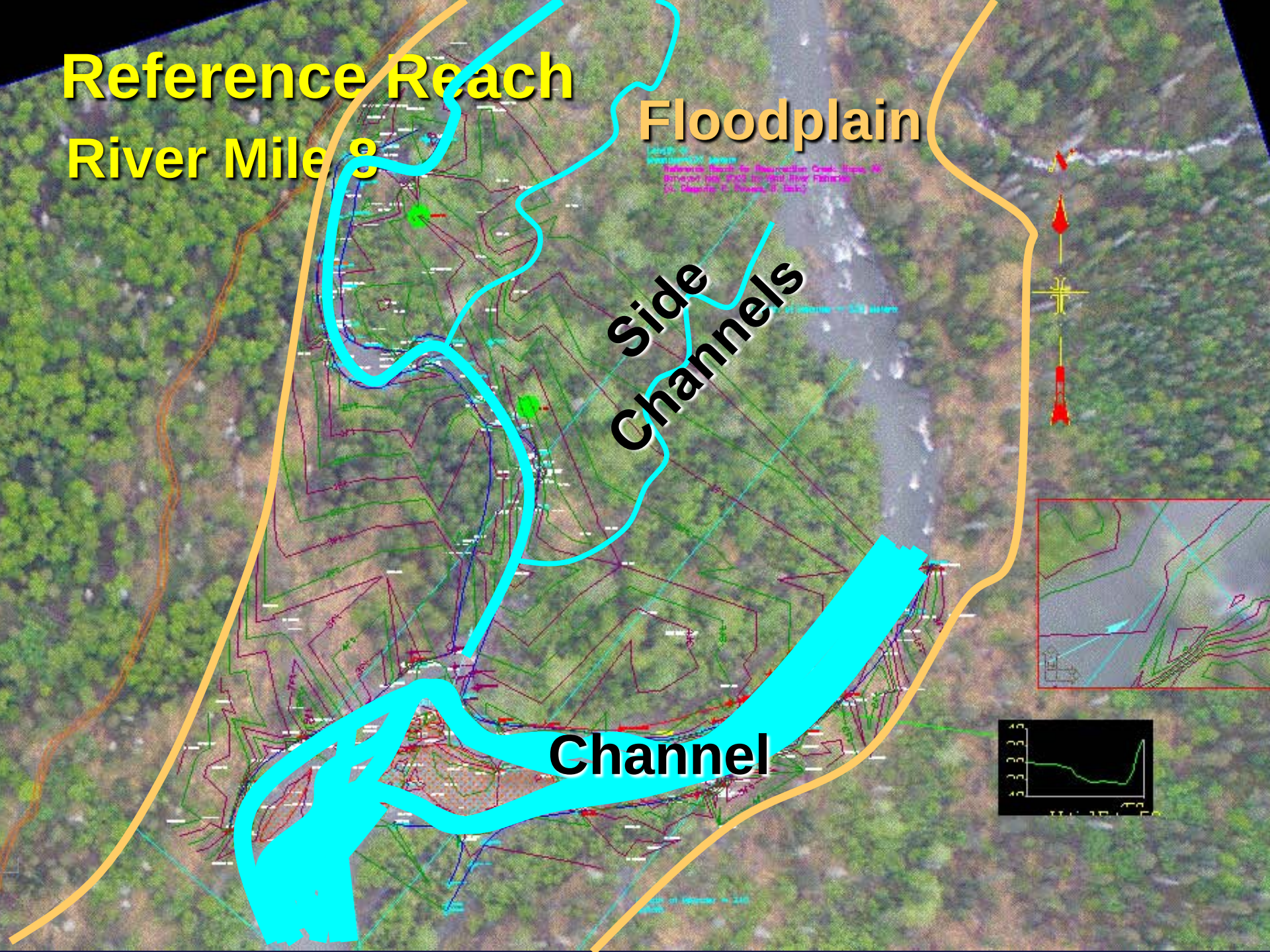
- Resurrection Creek Landscape Assessment Recommended Rehabilitation of the lower 6 river miles of stream (USDA-FS, 2001)

- Resurrection Creek Stream Channel and Riparian Restoration Analysis (River Mile 5 – 6.5) (Bair, Powers and Olegario, 2002)


•Steep, Constrained Channel
•Mostly riffle habitat


Without intervention, poor fish and wildlife habitat conditions will persist, conceivably for centuries


Relic Reference Reach
Disturbed Reference Site
Project Area


Reference Reach
River Mile 8
Floodplain
Side Channels
Channel

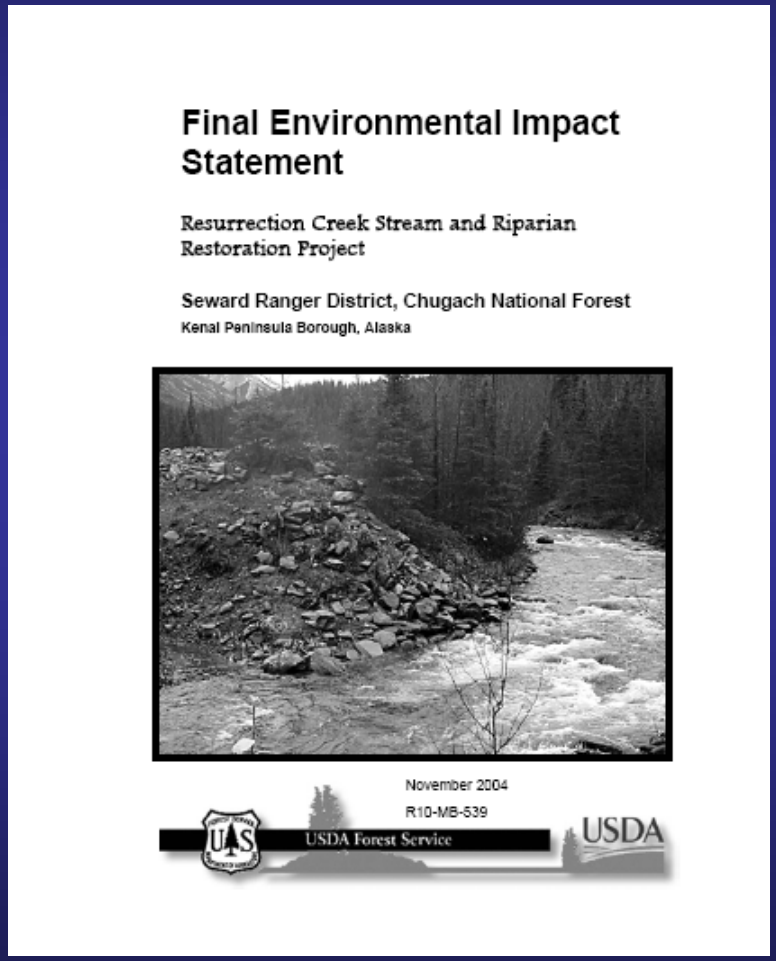
Channel Morphometry
Resurrection Reference Reach

Valley Length	814 feet
Valley Slope	0.02 (2%)
Valley Width	705 feet
Channel Length	1404 feet
Elevation Drop	16 feet
Thalweg Slope	0.0117 (1.17%)
Riffle Slope	0.015 (1.5%)
Rosgen Channel Type	C3-4
Bankfull Width	55.0 feet
Bankfull Ave. Depth	1.8 ft.
Sinuosity	1.7
Large In-stream Wood/Mile	346 pieces (>12 in. in diameter)
Entrenchment ratio	7.9
Pools/Mile	19
D50	98mm
Length of Meander	371-551 feet
Belt Width	197-295 feet
Ave. Bed Shear Stress	6.3-8.3 Kg/m^2

Restore fish habitat by increasing:

- Pools from 3 to 23 per river mile
- Side channel flow from <1% to 20%.
- Large in-stream wood from 8 to 330 pieces/river mile
- Spawning gravel from 160 to 2,000 yd^2 per river mile

- **Resurrection Creek EIS (Chugach National Forest and TEAMS, 2003-2004)**



- **Contracting and Implementation 2005-2006**

Resurrection Creek Stream Restoration

~1.4 Mile Stream

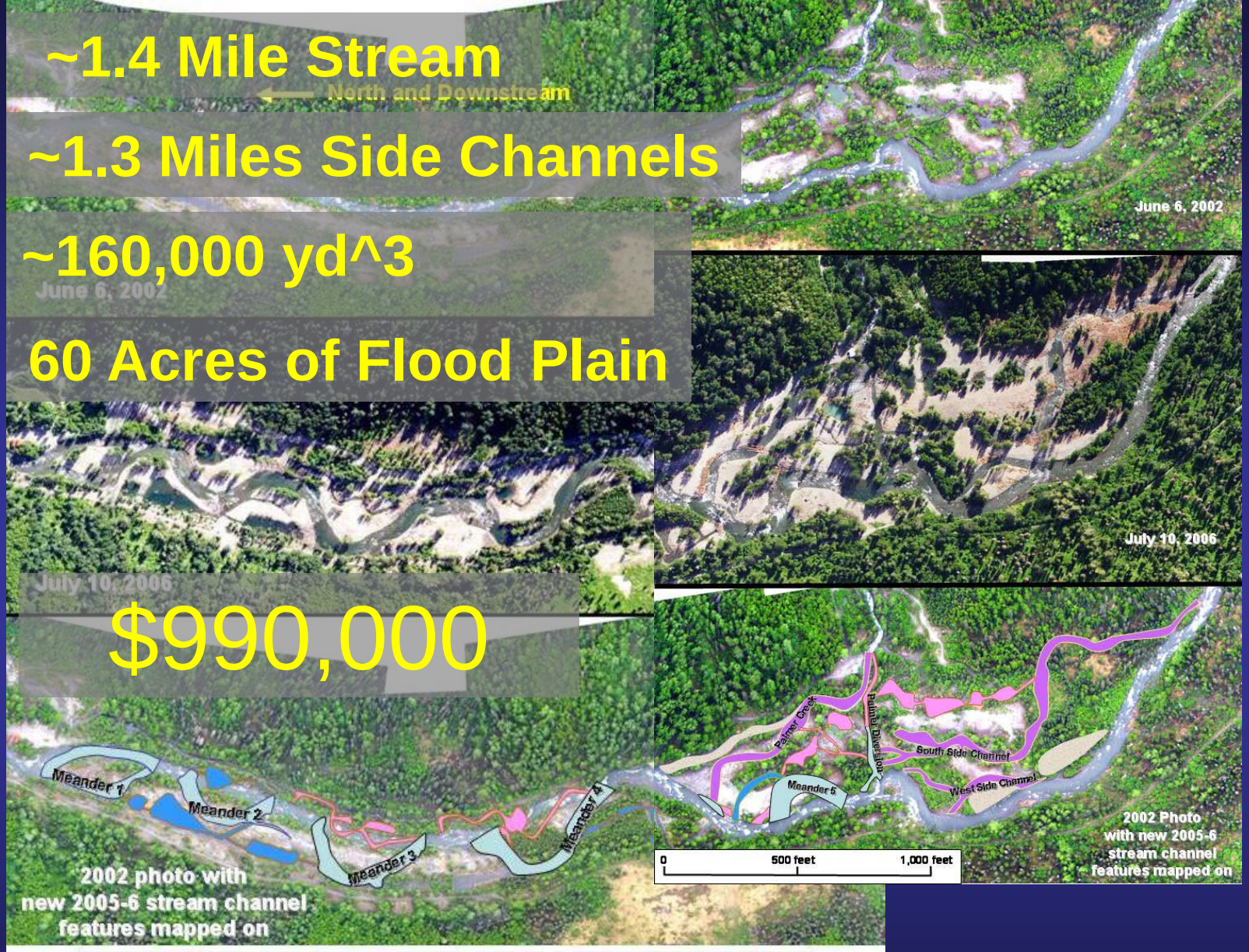
North and Downstream

~1.3 Miles Side Channels

~160,000 yd^3

60 Acres of Flood Plain

$990,000

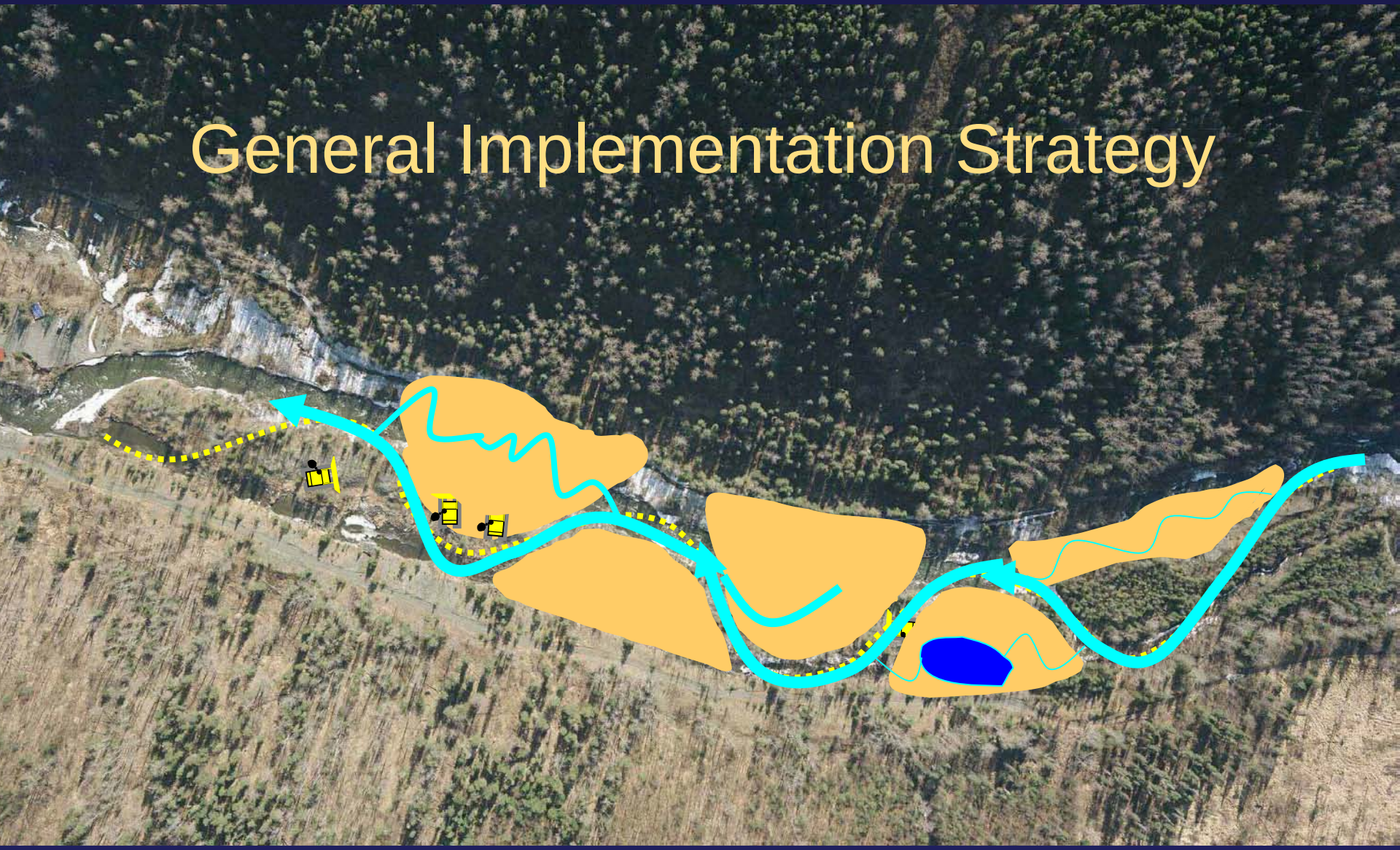


Legend

- 2005 Major stream diversions
- 2005 Side channels
- 2006 New channels carrying more than 20% of flow
- 2006 New side channels carrying less than 15% of flow

0 — 1,000 feet — 2,000 feet

General Implementation Strategy



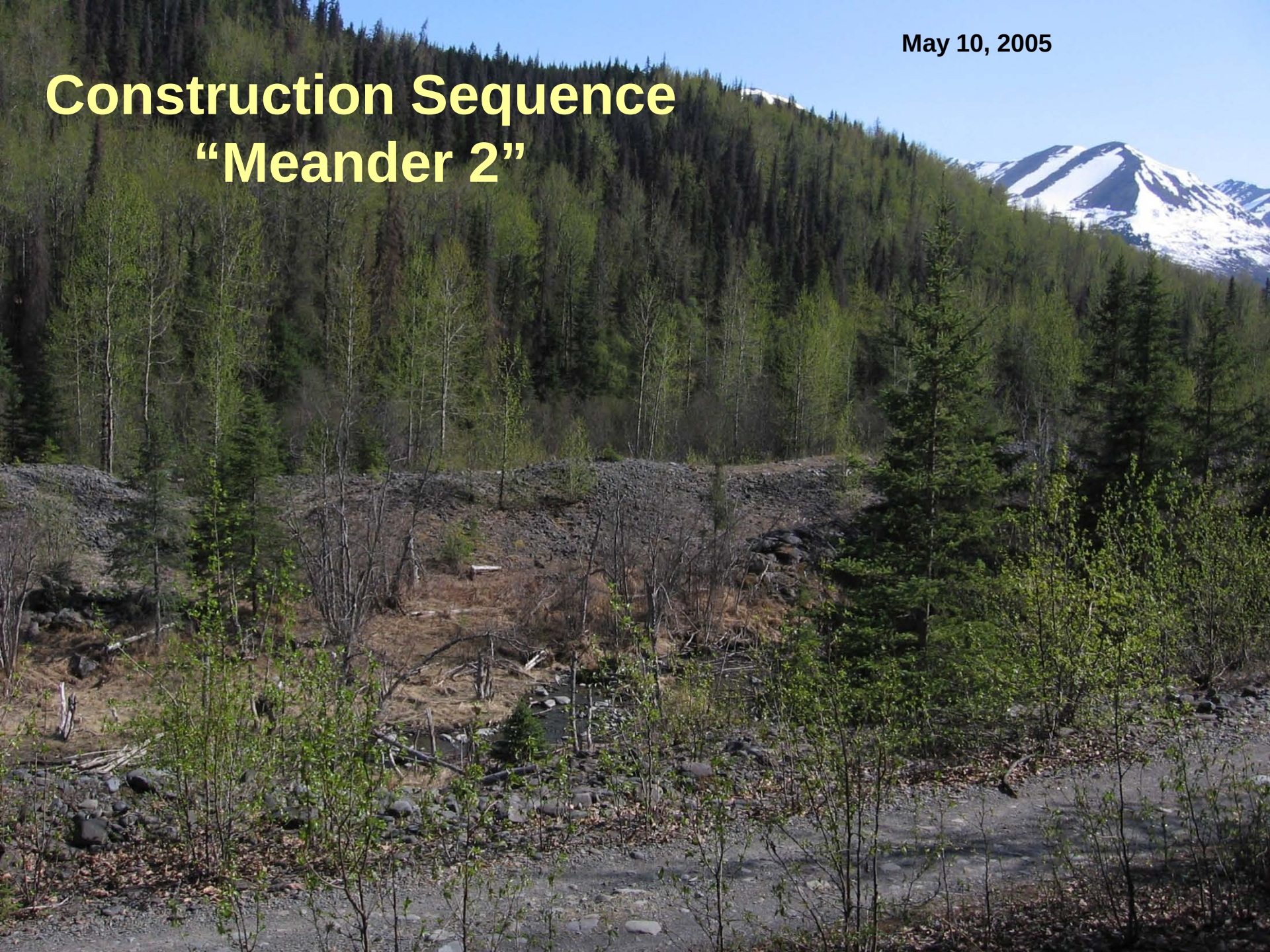

D8R


DEERE

Reference Reach Side Slough Logjam Entrance

Reference Reach Side Slough Logjam Entrance

Reference Reach Side Slough below Logjam

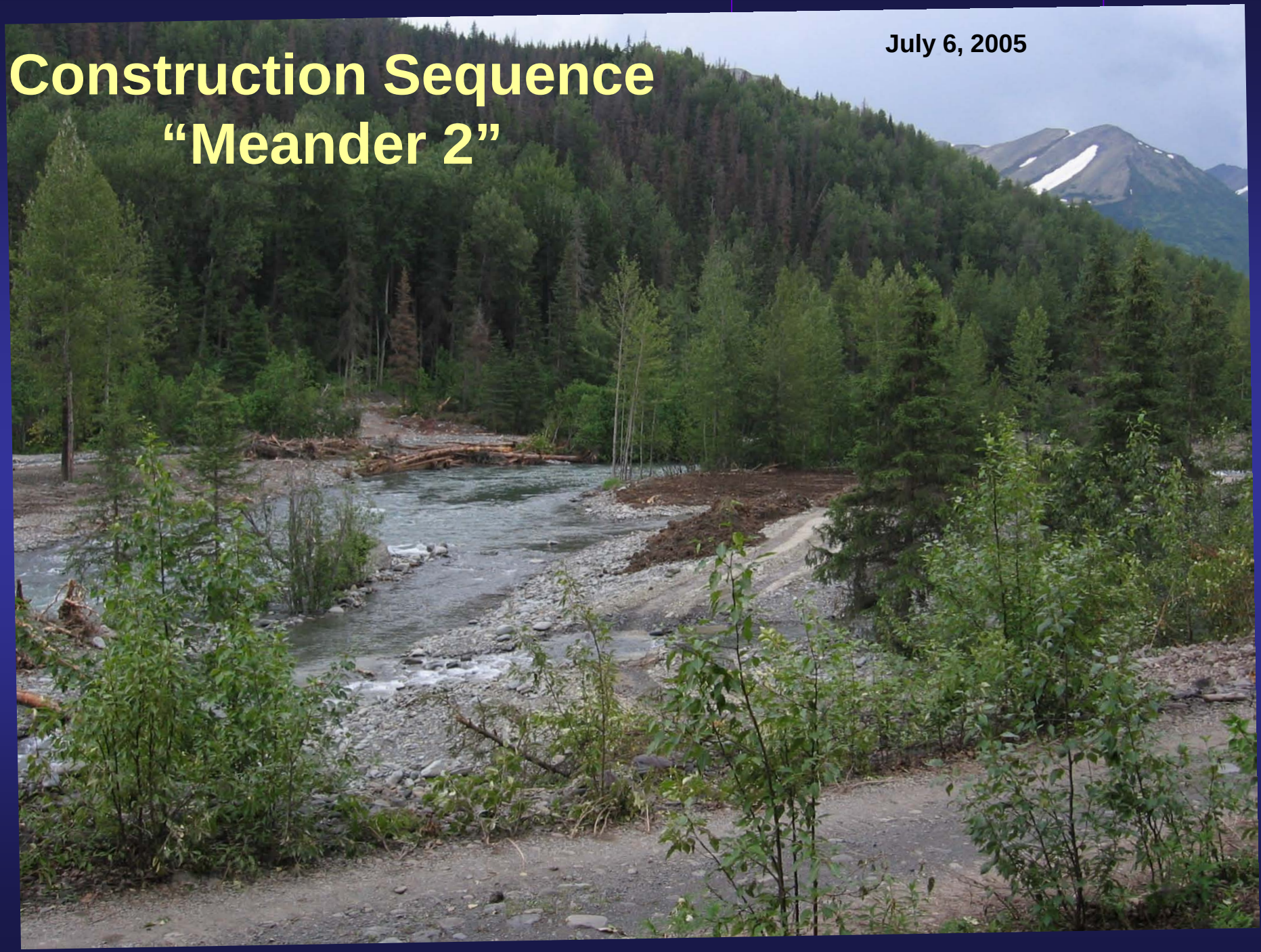

May 10, 2005
Construction Sequence
“Meander 2”

Construction Sequence
“Meander 2”

Construction Sequence
“Meander 2”

Construction Sequence
“Meander 2”

Construction Sequence
“Meander 2”



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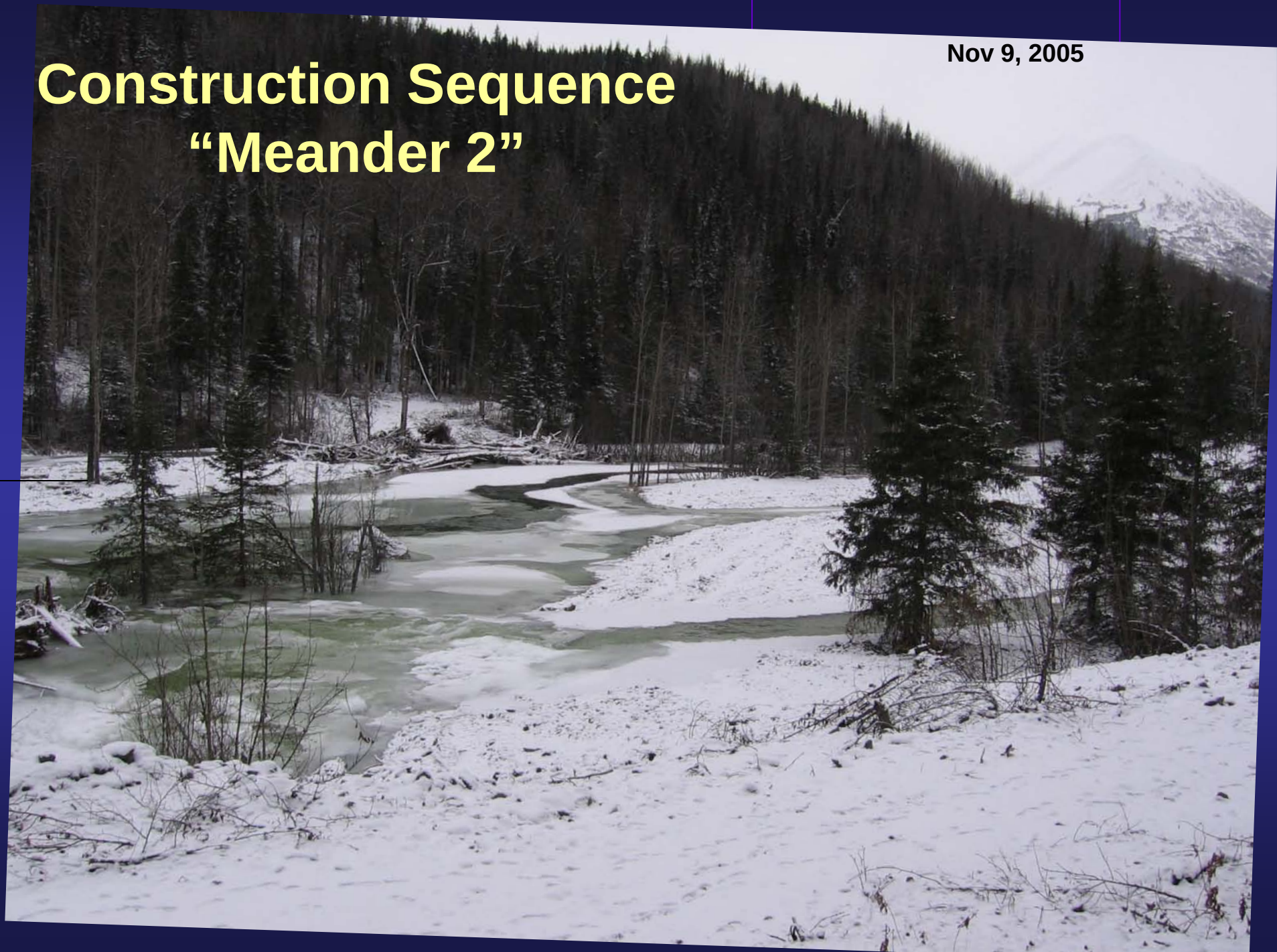

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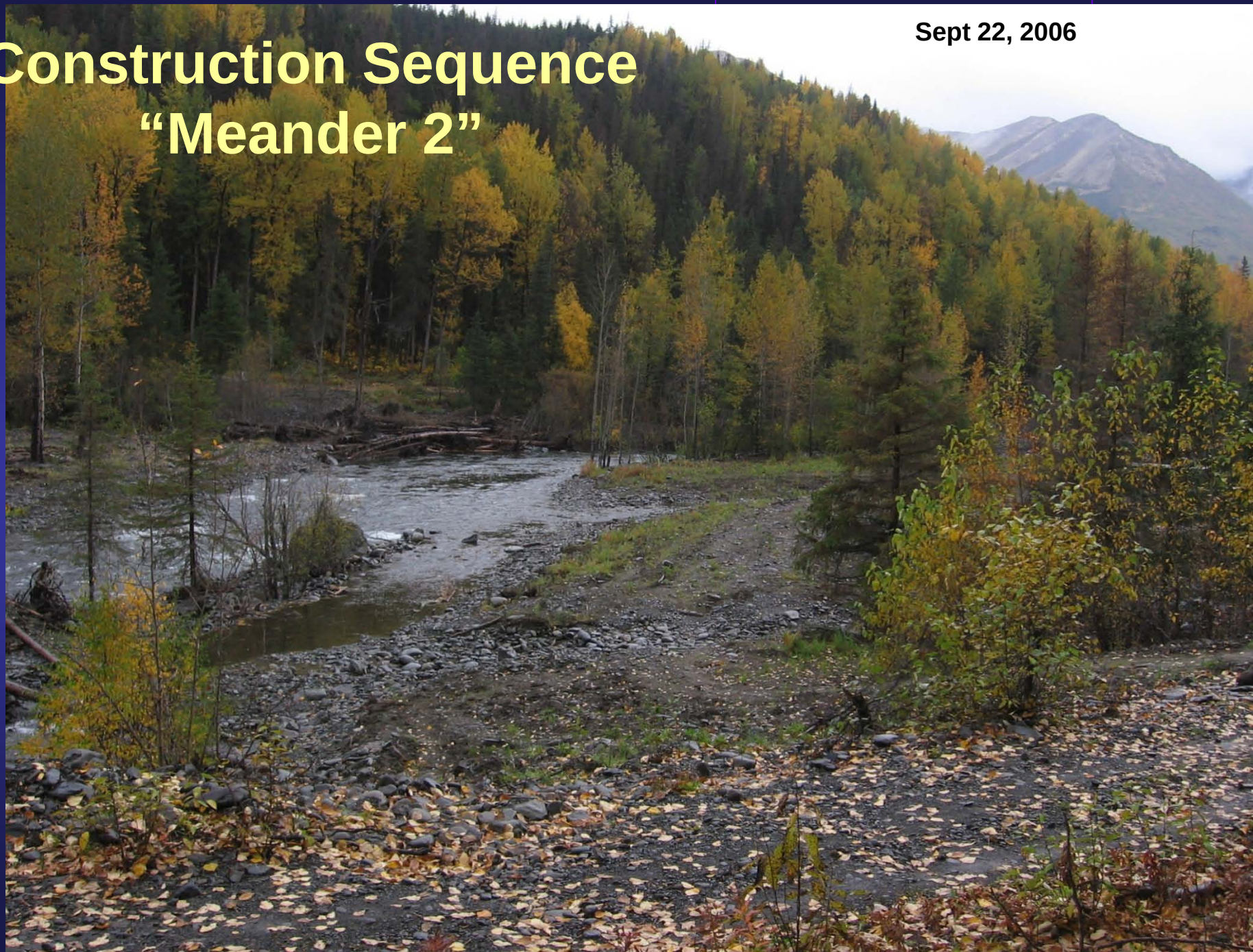

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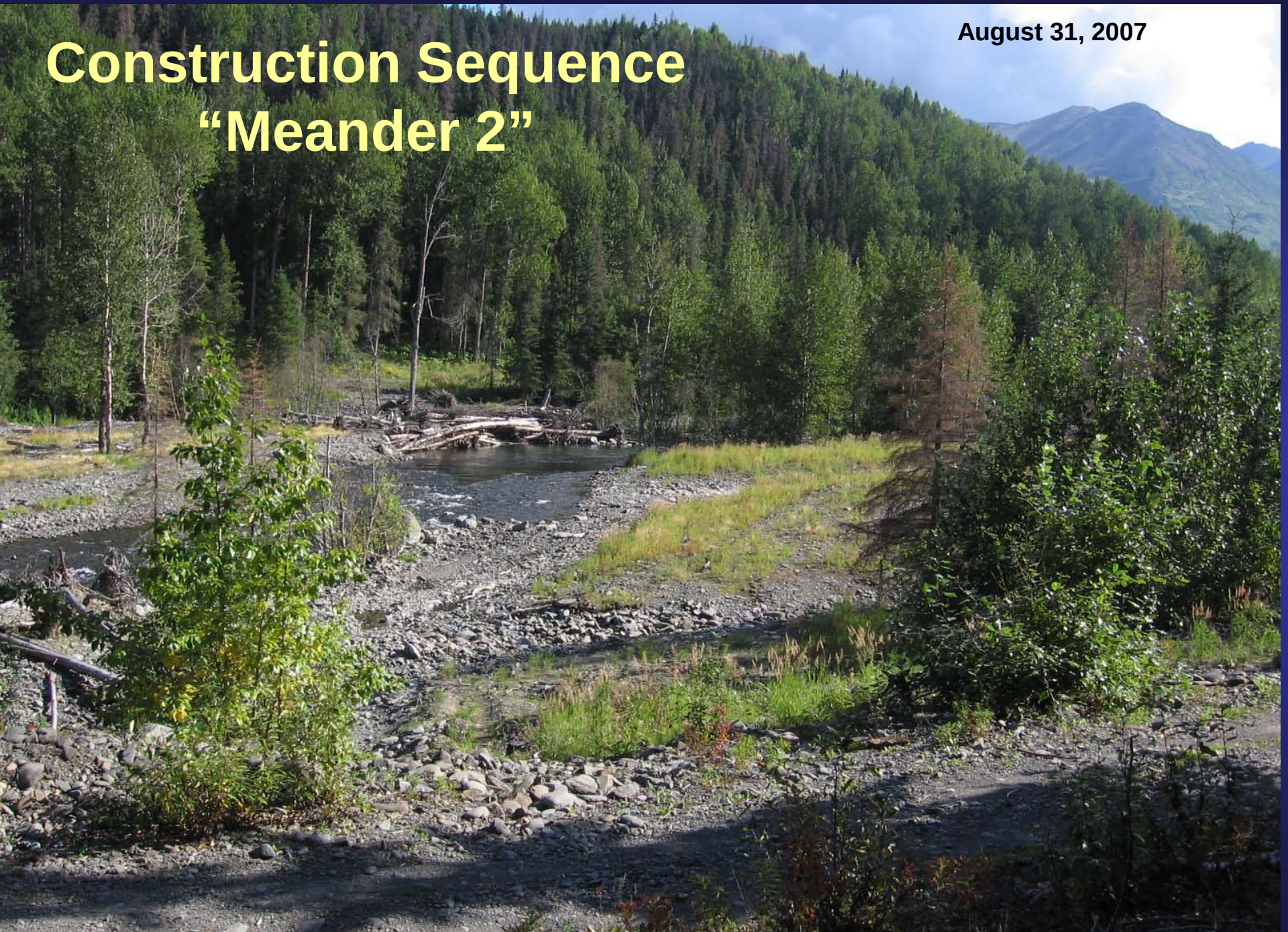
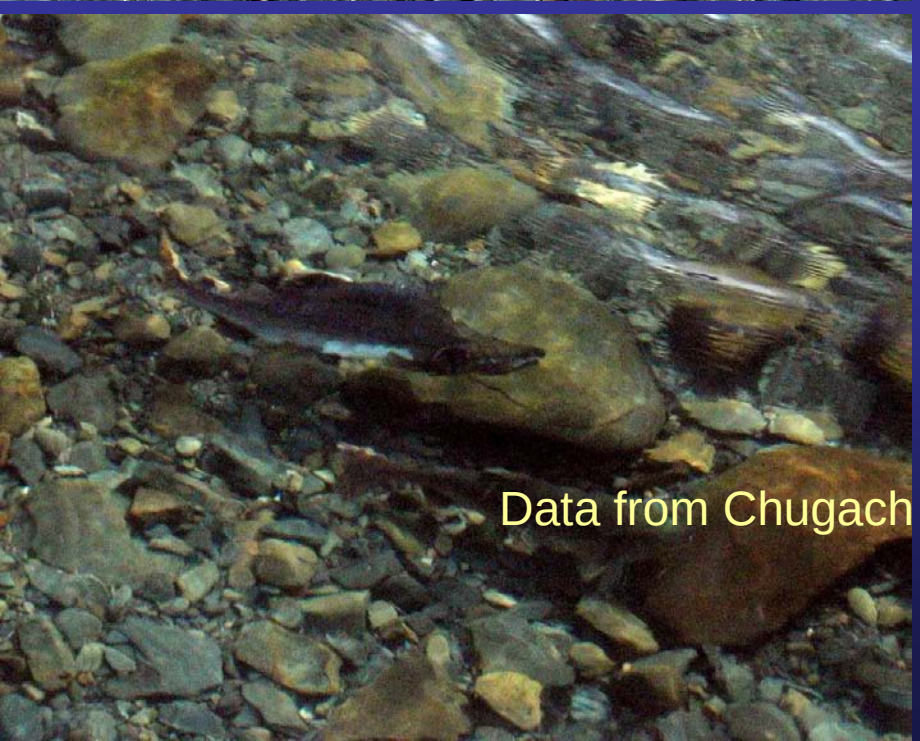
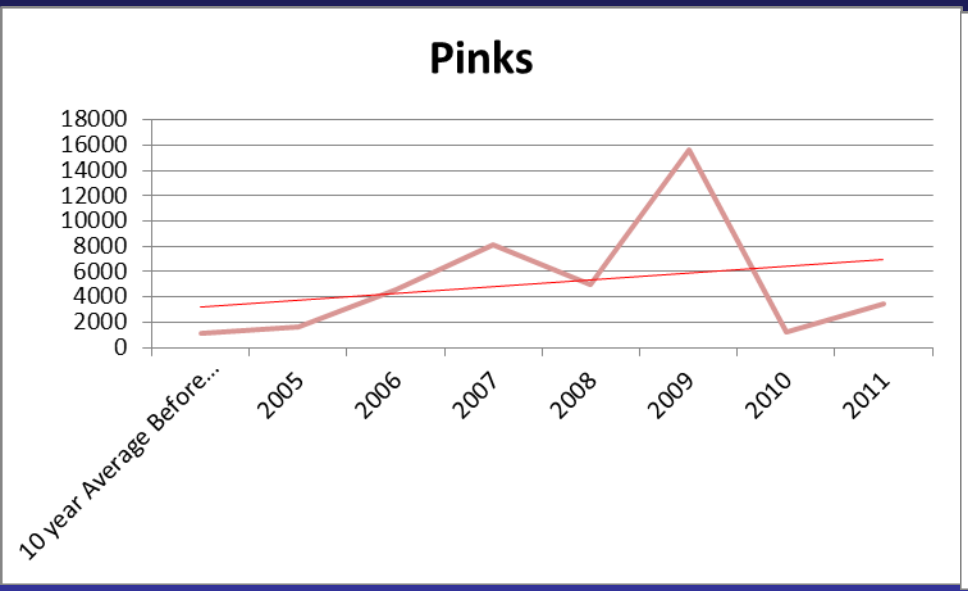


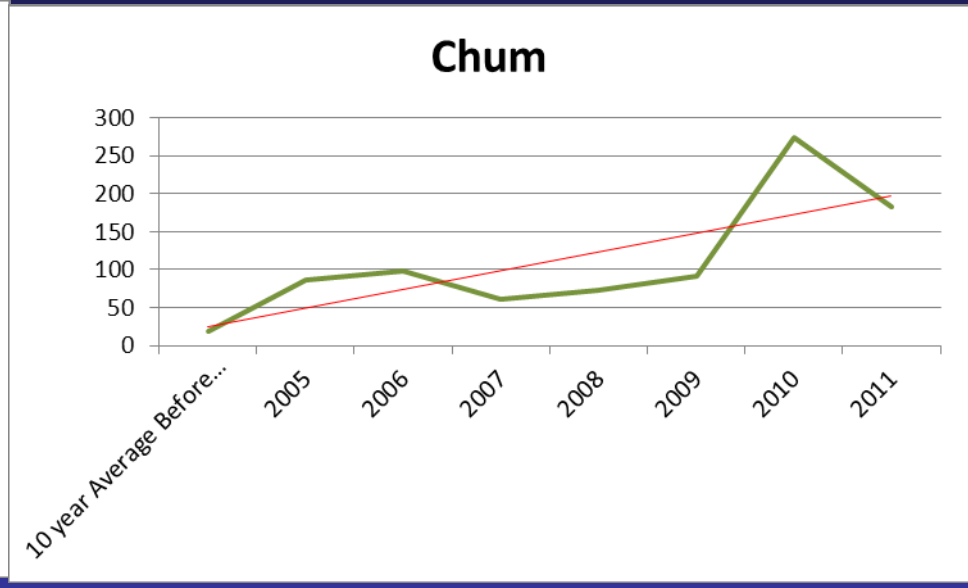
Approximate number of fish at peak of run

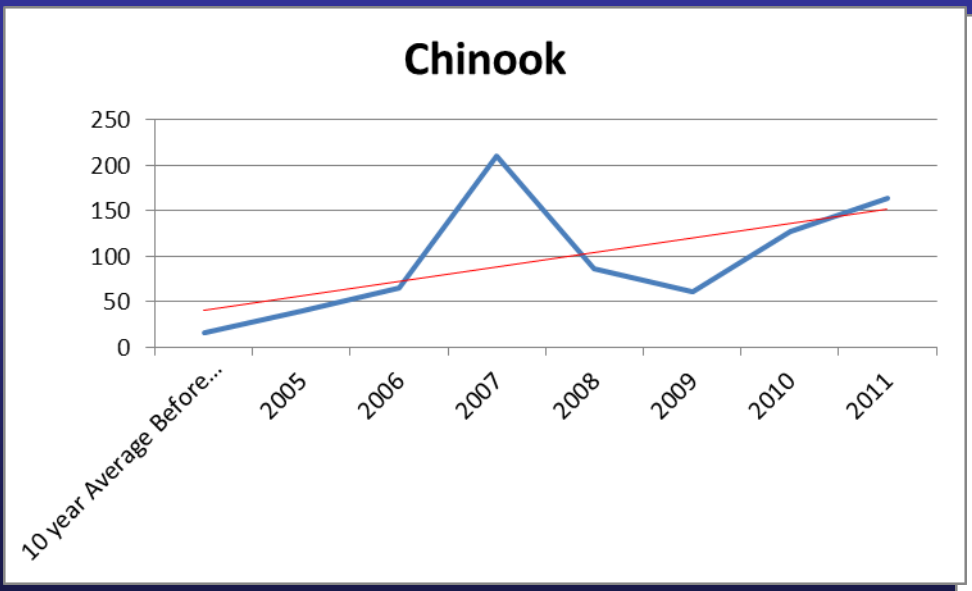


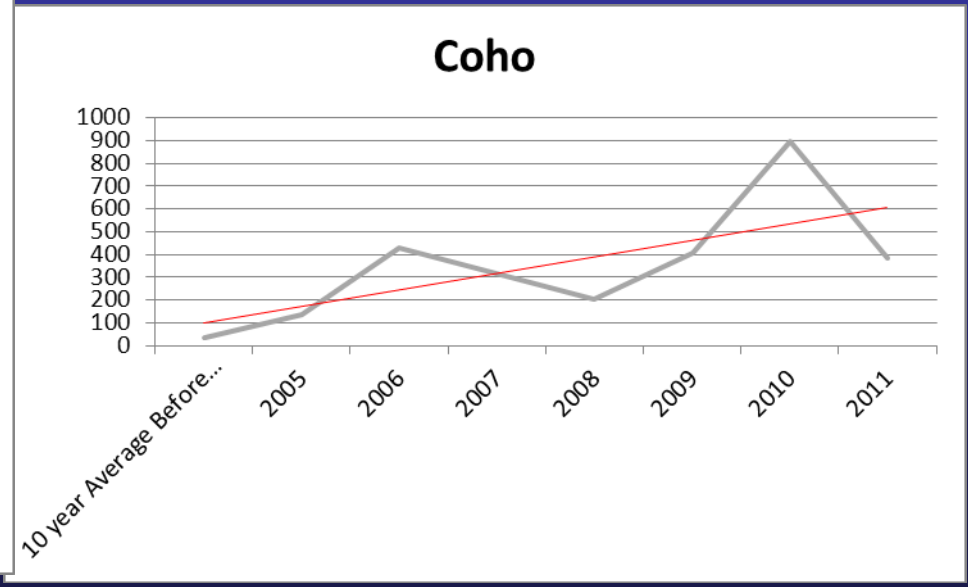
Data from Chugach National Forest fisheries

Approximate numbers of fish at peak run

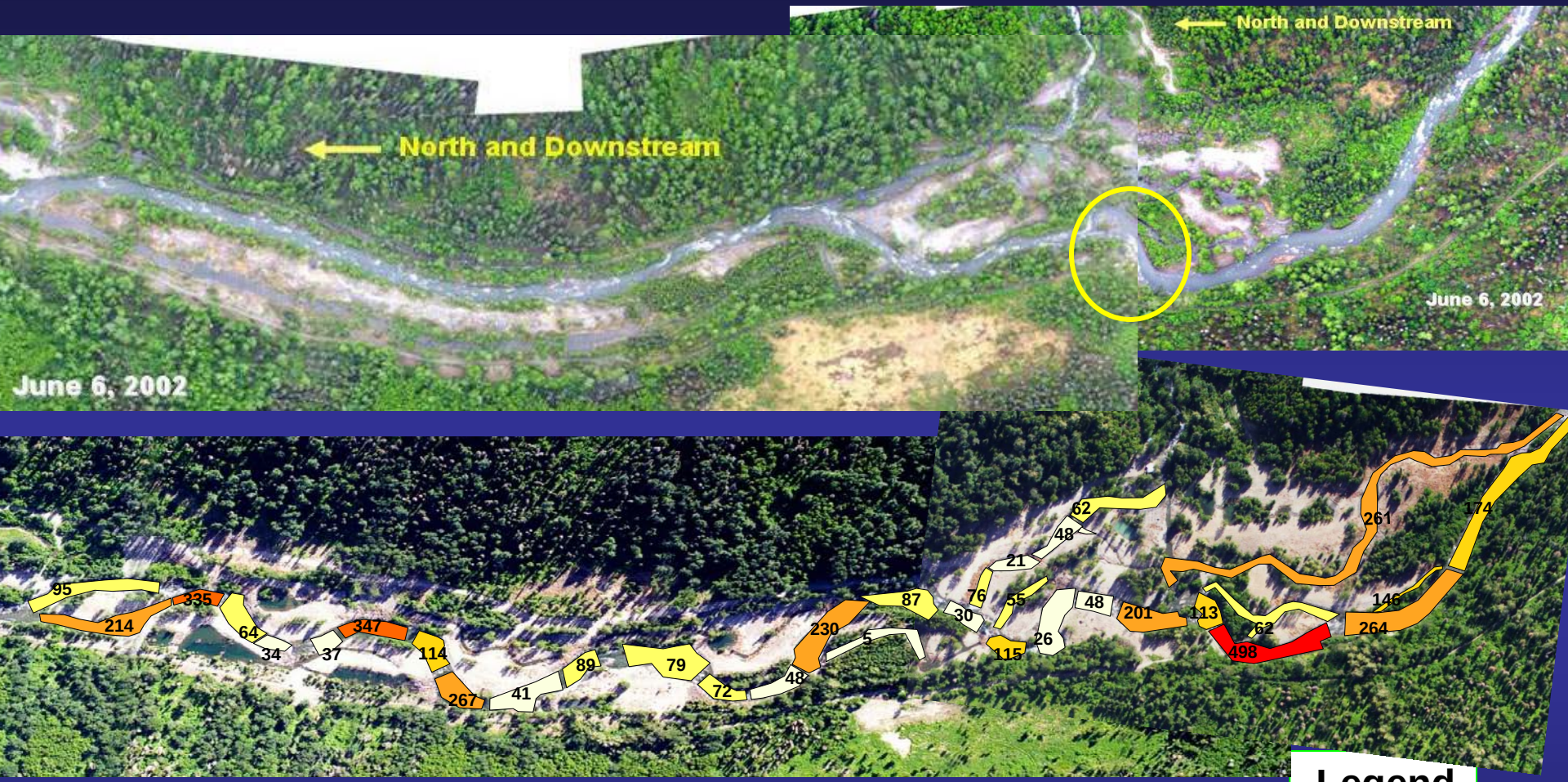








Adult Chinook Salmon Locations
Mid to Late in Run – August 3, 2006



Adult Pink Salmon Numbers by Location
Peak of Run – August 17, 2006

Legend

- 0-50
- 50-100
- 100-200
- 200-300
- 300-400
- 400-500

Thank You

http://www.fs.fed.us/r10/chugach/news_releases/res_creek_rest.html