Upper River Tributary Recon Notes

**Oshetna R. (8/12/14) - Photos + Photo Log**

Mouth f Oshetna confined by Fan/TCE

Ice scars ~ 10’ at least above WSE

Plane bed river – incised down into its fan

Heavily armored

Vertically stable

Significant sediment point source

**Goose Ck. (8/13/14) - Photos + Photo Log**

Large Fan

Plane bed channel – uniform, lag deposits

Ice effect on left bank (moraine) – slumping – could be source for sediment deposited at mouth

Likely not producing much sediment though it looks like it may be 🡪 Fan u/s of constriction – this combined with ice effects leaves sediment dump at Goose Ck Fan

Sediment load likely episodic

Large cobbles/boulders on fan, some gravel

Embricate material

Fan ~ 200’ @ widest near confluence

**UNT 228.5 (8/13/14) - Photos + Photo Log**

Boulder step in channel

Huge dam break flood lobe on right side of channel at confluence 🡪 boulders ~ 0.5 m transported

Gravels predominantly gneiss and granodiorite

Classic expansion levee in dry channel (r. side channel)

Non cohesive sediment – gravity flow

Material deposited likely from single, recent event

Evidence of water overflowing banks on steeper portion of channel

Debris and sand on top of overbank surface

Upstream end of back water maybe in small expansion zone in steeper portion of channel

**Jay Creek (8/15/14) - Photos + Photo Log**

Presence of fan

Transporting material up to 128 mm, quite a bit of sand

Fan worked over by ice 🡪 ice adding course fraction

Channel down cutting through fan deposits

Although active fan @ d/s end of Jay Creek where defined small channel and headcut exist – most of the fan material is deposited in floodplain upstream end of Creek and causing sheet flooding

Episodic event - Old channel completely filled in with sediment and LWD

A lot of angular material 🡪 likely sourced from punky bedrock

Larger sediment (gravels) deposited in filled in channel – channel now perched above sheet flow and creek not able to transport them

Very unstable

**Kosina Creek (8/15/14) – Photos (but no photo log)**

Very stable – split channel upstream

Granite dominated

Plane-bed channel

Well defined floodplain

Boulders > 1 m diameter

Does not appear to produce much sediment

Very high transport capacity

Some gravel downstream of mouth on river left

Creek looks like its incised down into its fan

Some fan in Susitna that is boulder armored

Boulders at mouth of Creek and Bedrock on River Right provide enough constriction for a backwater and sediment storage zone upstream

Presence of brown algae

Immediate downstream of Kosina on river right, mass failures in bedrock and hillslope

Very large boulders in main channel off the mouth of Kosina Creek

Gravels downstream of Kosina confluence on Susitna left are largely NOT granite, indicating they’re likely not sourced from Kosina

Side channel downstream of Kosina on Susitna river left is very stable – wide, equi-width, coarse, vegetating on banks, and has steeper gradient

Some fine to medium gravels have been transported into channel but they are not granite, more granodiorite, indicating gravels are not sourced from Kosina Creek

Head of SC is 2.5-3’ from WSE and slopes up ~ 75’ into channel like borad crested weir then drops down to main channel downstream

Transport capacity of SC is pretty low due to channel width – bleeds flow, not sediment

**Watana Creek (8/16/14) – Photos + Photo Log**

Transported material <= 90 mm in fan (mostly fine gravel)

Presence of relatively large fan 🡪 pretty good sediment producer

Turbid water 🡪 identified source due to landslide upstream in tributary from 8/30/14 helicopter flight (see video)

Transported material in mid-channel bars up Watana Ck up to 128 mm

Fan extends ~ 200’ out into Susitna

Not much ice effects observed on fan however ice effects observe d upstream in tributary

Ice transported material (angular bedrock) likely from local bedrock source @ mouth approximately 200’ downstream, willows on bank laid in the upstream direction of Watana ck (likely due to ice)

Bedrock control on E. side of fan

Material in bed up to 180 mm

Banks are vegetated, active surface

**Deadman Creek (8/16/14) – Photos (but no photo log)**

Huge boulders (2m +) at toe of bank and throughout channel – derived from old fan 🡪 lag deposits

Ice paved across fan

Banks of fan surface eroding but boulders at toe maintaining constriction on the Susitna

Most of the erosion at mouth is appears to be ice-driven

Very coarse sand mixed in with boulders on fan

Presence of fan, big enough to hold itself against bedrock constriction on other side

Very steep lower profile held up by very large lag deposited boulders from Deadman

Equi-width, plane bed, steep profile

Low sediment load

High transport capacity

Very stable

Established banks