Mid Snake River/Succor Creek Watershed Advisory Group Meeting October 22, 2012

TMDL Development for Birch, Hardtrigger, McBride, and Pickett Creeks

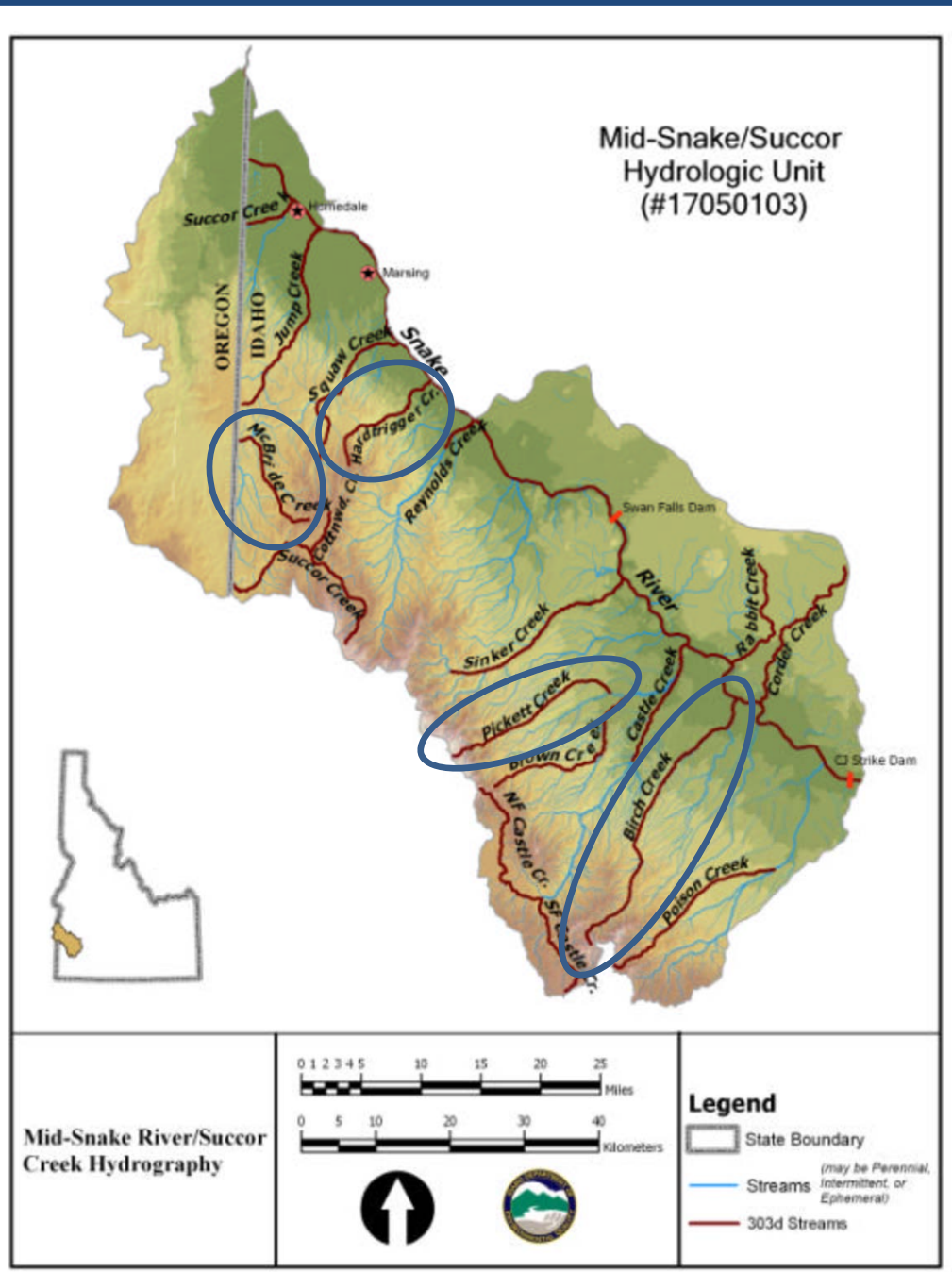
Watershed Advisory Groups (WAG)

39-3615 – 3616 Creation & Duties of each Watershed Advisory Group

- *Each watershed advisory group shall generally be responsible for recommending those specific actions needed to control point and nonpoint sources of pollution* within the watershed so that, within reasonable periods of time, *designated beneficial uses are fully supported* and other state water quality plans are achieved. Watershed advisory groups shall, as described in this chapter, consult with the director and *participate in the development of each TMDL* and any supporting subbasin assessment for water bodies within the watershed, *and shall develop and recommend actions needed to effectively control sources of pollution*. In carrying out the provisions of this section, the director and the watershed advisory groups shall employ all means of public involvement deemed necessary or required in chapter 52, title 67, Idaho Code, and shall cooperate fully with the public involvement or planning processes of other appropriate public agencies.

WAG Participation in TMDL Process

- DEQ develops a strategy paper and **updates the WAG**.
- DEQ requests WQ data, if necessary, and **shares WQ data with WAG**.
- DEQ drafts the SBA with **WAG input**.
- DEQ develops WQ targets, TMDL load analysis, and with **WAG input**.
- DEQ provides draft TMDL to **WAG for review**.
- DEQ considers/incorporates/responds to **WAG comments**.
- Tech Editing
- EPA review
- **WAG Review** - If WAG is not in agreement with an SBA/TMDL, the position and the basis for it will be documented in the notice of public availability.
- **Public Comment** opportunity
- If the WAG still disagrees with the SBA/TMDL after public comments have been considered and incorporated, **DEQ must incorporate the WAG's dissenting opinion** in the TMDL that is submitted to U.S. EPA.
- DEQ submits TMDL to the U.S. EPA for approval.
- DEQ and **WAG develop an implementation plan** to reach the goals of the TMDL.


Mid-Snake/Succor
Hydrologic Unit
(#17050103)
OREGON
IDAHO
Succor Creek
Homedale
Marsing
Jump Creek
Squaw Creek
Snake
Hardtrigger Cr.
McBride Creek
Cottonwood Cr.
Reynolds Creek
Swan Falls Dam
Succor Creek
River
Rabbit Creek
Cordel Creek
Sinker Creek
Pickett Creek
Brown Cr.
Castle Creek
CJ Strike Dam
NF Castle Cr.
Birch Creek
Poison Creek
Mid-Snake River/Succor
Creek Hydrography
0 1 2 3 4 5 10 15 20 25
Miles
0 5 10 20 30 40
Kilometers
Legend
State Boundary
Streams
(may be Perennial, Intermittent, or Ephemeral)
303d Streams

Assessment Units & Pollutants

Birch Creek

Assessment Unit	Beneficial Use	2010 IR 303 (d) listed Pollutant(s)
ID17050103SW021_02, _03, & _04 Headwaters to the Snake River	COLD	Sedimentation/Siltation

Hardtrigger Creek

Assessment Unit	Beneficial Use	2010 IR 303 (d) listed Pollutant(s)
ID17050103SW008_02 Headwaters to the Snake River	COLD	Sedimentation/Siltation

McBride Creek

Assessment Unit	Beneficial Use	2010 IR 303d listed pollutant(s)
ID17050103SW004_02 & _03 Headwaters to the Oregon State Line	COLD	Sedimentation/Siltation

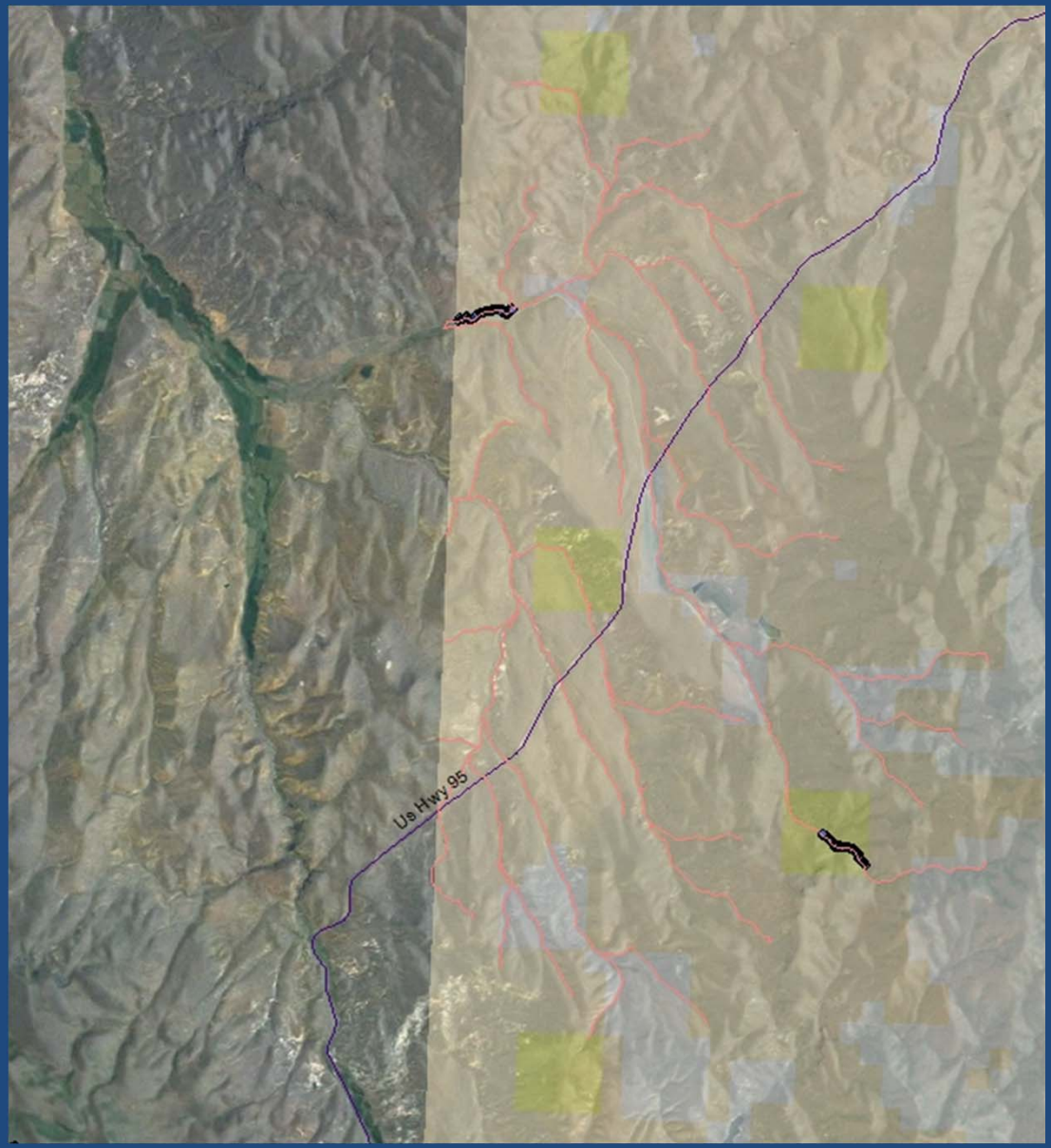
Pickett Creek

Assessment Unit	Beneficial Use	2010 IR 303 (d) listed pollutant (s)
ID17050103SW016_~~02~~ & _03 Headwaters to Catherine Creek	COLD	Sedimentation/Siltation

- **Common To All:**
  - Each AU listed as impaired for: Sedimentation/Siltation
  - “This assessment unit was delisted for sediment, because it is intermittent. EPA's public comment said that mere intermittency was not sufficient for delisting. Hence, this AU has been 're-listed' for sediment, pending late-spring monitoring.”

- **Birch Creek** ID17050103SW021_02, _03 & _04; 1st – 4th order
  - 65.99, 15.12, & 2.7 Total Stream Miles in AU
- **Hardtrigger Creek** ID17050103SW008_02; entire drainage
  - 23.03 Total Stream Miles in AU
- **McBride Creek** ID17050103SW004_02 & _03; 1st – 3rd order
  - 73.11 & 6.89 Total Stream Miles in AU
- **Pickett Creek** ID17050103SW016 ~~_02~~ & _03; 1st – 3rd order
  - 27.53 & 6.43 Total Stream Miles in AU

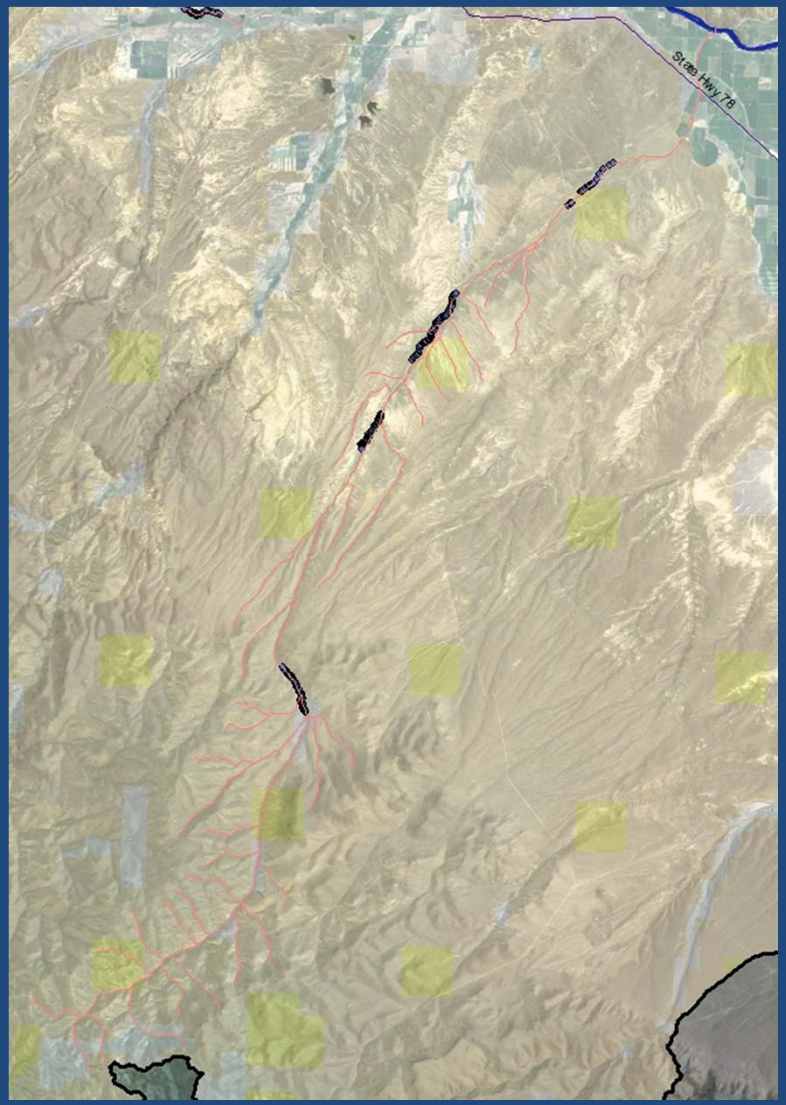
McBride Creek



Hardtrigger Creek

Pickett Creek

Birch Creek



Idaho Water Quality Standards

- **08. Sediment**. *Sediment shall not exceed quantities* specified in Sections 250 and 252, or, in the absence of specific sediment criteria, quantities *which impair designated beneficial uses*. Determinations of impairment shall be based on water quality monitoring and surveillance and the information.
    - **250.02.e (Cold Water Aquatic Life)** – Turbidity, below any applicable mixing zone set by the Department, shall not exceed background turbidity by more than fifty (50) NTU instantaneously or more than twenty-five (25) NTU for more than ten (10) consecutive days.
    - **252.01.b.1 (Water Supply Use) –** Increased by more than five (5) NTU above natural background, measured at a location upstream from or not influenced by any human induced nonpoint source activity, when background turbidity is fifty (50) NTU or less.
    - **252.01.b.2 (Water Supply Use) –** Increased by more than ten percent (10%) above natural background, measured at a location upstream from or not influenced by any human induced nonpoint source activity, not to exceed twenty-five (25) NTU, when background turbidity is greater than fifty (50) NTU.

Bank Stability Inventories

- NRCS protocol and calculations
  - Bank stability $\geq$ 80% indicates stable banks and correlates to $\leq$ 28% fines
  - supportive of Cold Water Aquatic Life
  - 85% bank stability provides Margin of Safety
  - Year Round Targets

ERODING BANKS FIELD FORM

Stream: McBride Creek Reach: Lower Reach Date: 8/1/2011

	GPS point (start)	GPS Point (end)	Length (m)	Average height (m)	GPS point (start)	GPS Point (end)	Length (m)	Average height (m)
L	001	002	44	0.5				
R	003	004	12	2.0				
R	005	006	28	0.3				
V	007	008	25	0.2				
R	009	010	17	0.25				
R	011	012	27	0.25				
L	013	014	22	0.35				
	015	016	72	1.4				
R	017	018	16	0.3				
R	019	020	58	0.9				
V	021	022	48	1.7				
R	023	024	34	0.4				
R	025	026	12	0.3				
L	027	028	17	0.8				
R	029	030	8	0.5				
L	031	032	40	2.5				
R	033	034	38	0.5				
R	035	036	14	0.4				
R	037	038	14	0.3				
V	039	040	13	0.6				
R	041	042	32	0.6				
L	043	044	62	1.2				

Bank erosion evidence	0	1	2	(3)	w/100m	Lateral channel stability	0	1	(2)
Bank stability condition	0	1	(2)	3		Channel bottom stability	(0)	1	3
Bank cover/vegetation	0	1	(2)	3		In-channel deposition	(-1)	0	1

TOTAL SCORE: 8

Typical Bank Material: SAGEBRUSH, GRASS, SOME SMALL ROCK (~10-20mm)

Notes: CREEK IS DRY OTHER THAN POOLS.
1ST 14 WAYPOINTS BEFORE ROAD CROSSING OF CREEK REACH STARTED @ APPROX STATELINE

Bank Erosion Calculations

Erosion Rate at Sampled Reach (E): $E = [A_E * R_{LR} * D_B]/2000$

where: A_E = eroding area (ft^2)

R_{LR} = lateral recession rate (ft/year)

D_B = bulk density of bank material (lps/ft^3)

Bank Erosion Rate (ER) of total segment length: $E_R = E/L_{BB}$

where: E_R = bank erosion rate (tons/mile/year)

E = bank erosion over sampled reach

L_{BB} = bank to bank stream length over sampled reach

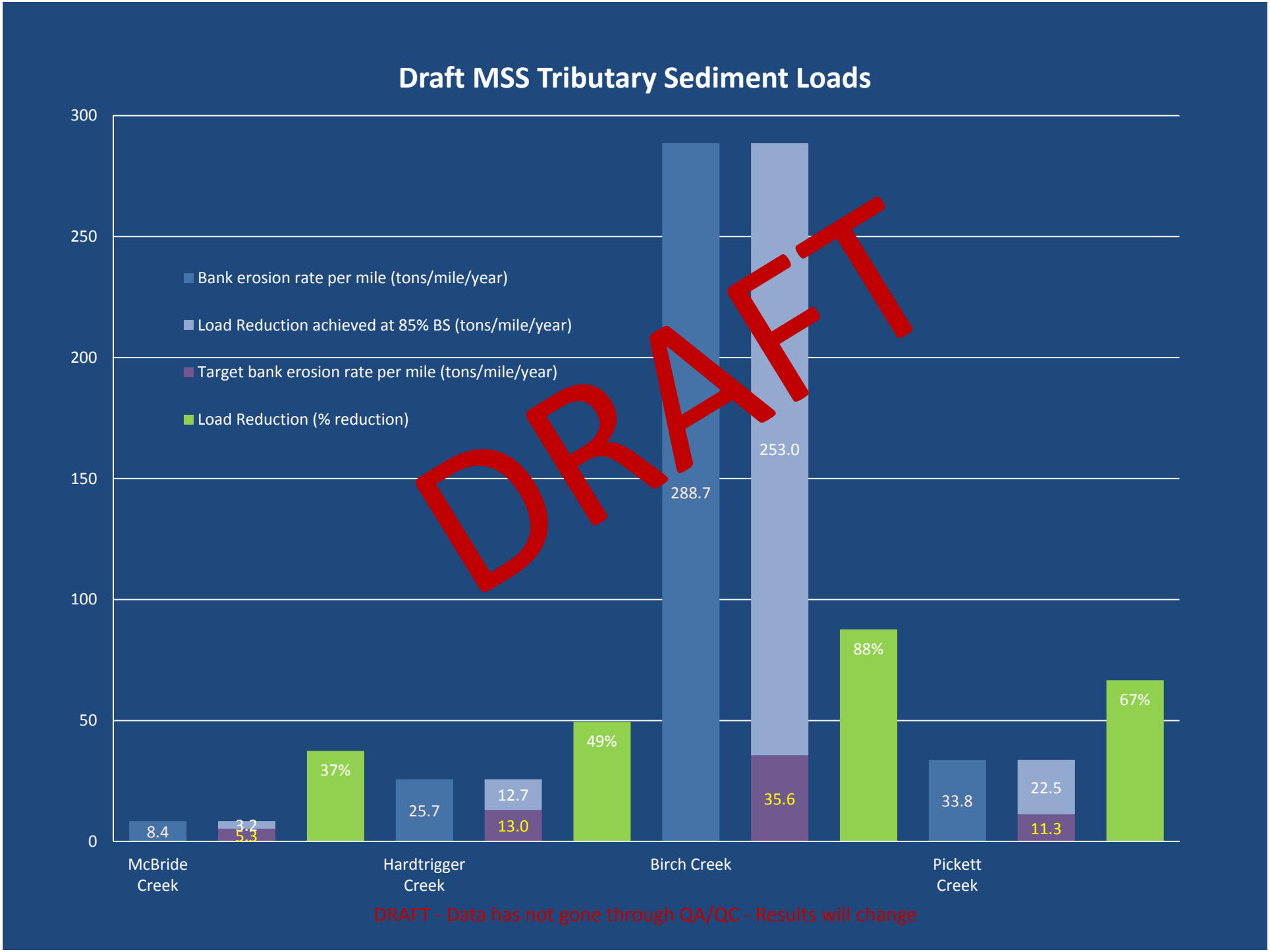
In 2011 and 2012:
33/220 Watershed Miles Surveyed
(~15% of total AU lengths)

DRAFT

Low Erosion/High Stability

High Erosion/Low Stability

DRAFT - Data has not gone through QA/QC - Results will change


Draft MSS Tributary Sediment Loads
300
250
200
150
100
50
0
Bank erosion rate per mile (tons/mile/year)
Load Reduction achieved at 85% BS (tons/mile/year)
Target bank erosion rate per mile (tons/mile/year)
Load Reduction (% reduction)
DRAFT
8.4
3.2
5.3
37%
25.7
12.7
13.0
49%
288.7
253.0
35.6
88%
33.8
22.5
11.3
67%
McBride Creek
Hardtrigger Creek
Birch Creek
Pickett Creek
DRAFT - Data has not gone through QA/QC - Results will change

Support for Approach

- 1999 – Lemhi River Subbasin Assessment and TMDL
- 2001 – Pahsimeroi River Subbasin Assessment and TMDL
- 2001 – Blackfoot Subbasin Assessment and TMDL
- 1983 – Proceedings from NRCS Channel Evaluation Workshop

Alternative Approaches

- Succor Creek – 22 mg/L TSS.
  - Sage Creek as major contributor (agricultural return).
- Jump Creek – 25 NTU (65 mg/L TSS).
  - Listed as impaired for turbidity
  - Chronic Water Quality Standard

Proposed Timeline

- ***October 2012:*** Present TMDL strategy to WAG
- ***Nov. – Dec. 2012*:** Determine bank stabilization/ sediment targets
- ***Jan. – Feb. 2012:*** Develop TMDL
- ***March 2013*:** Draft TMDL review by WAG
- ***April 2013*:** Public Comment
- ***May 2013*:** Finalize TMDL

Contact Information

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Comments/Questions????