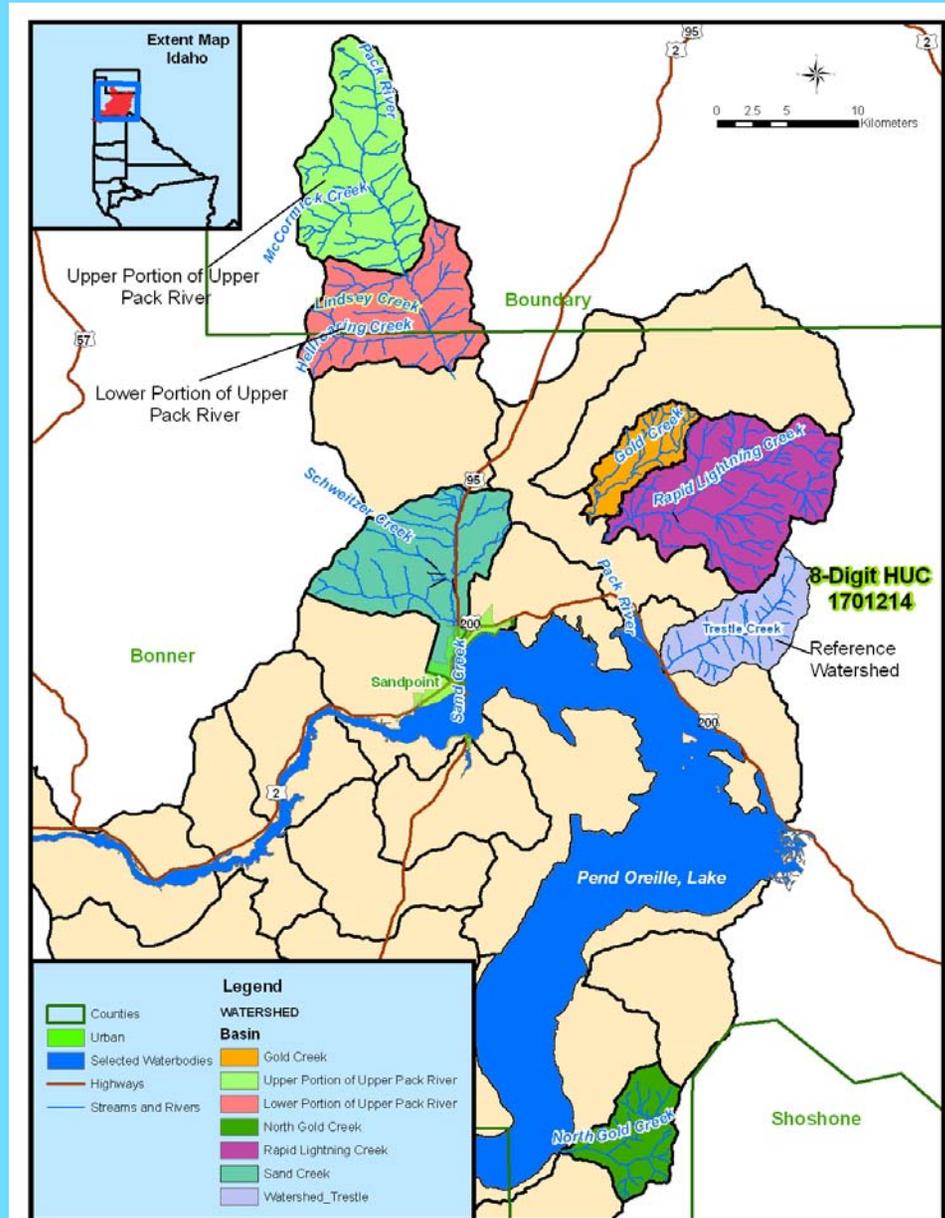


Pend Oreille Tributary Working Group Sediment Discussion

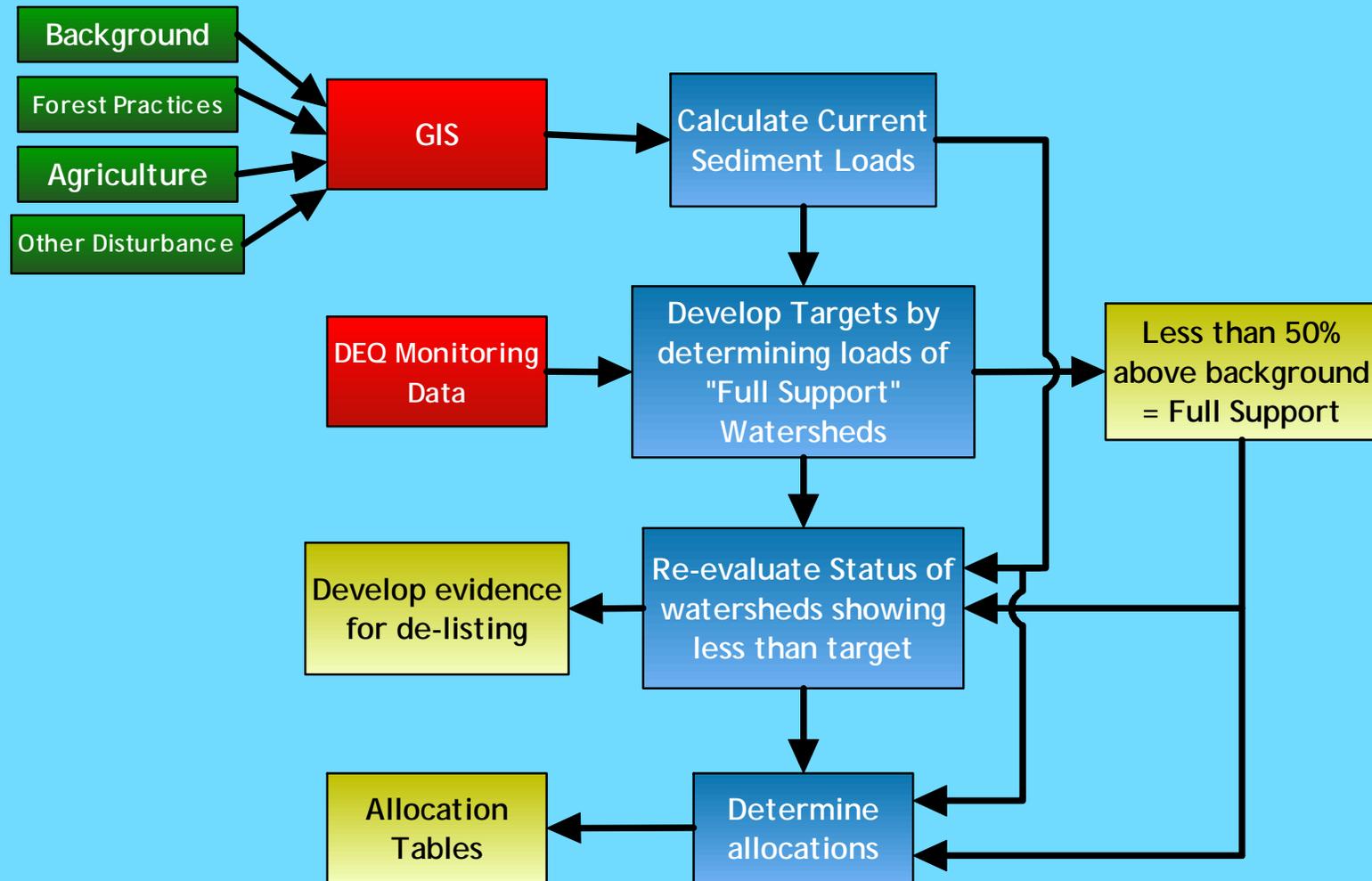
March 20, 2007



WATERSHED BOUNDARY MAP



Sediment TMDL Process



SEDIMENT SOURCES

Background

- Forest
- Shrubland
- Barren (no delivery)
- Water (no delivery)
- Mass Wasting
- Fire

“Non-Natural”

- Cropland
- Pastureland
- Urban
- Mass Wasting
(originating from road
or harvested area)
- Harvest
- Roads
- Road Crossings

WAG Questions

- Harvest Activities not shown clearly
- Is sparse rural development in model
- Paved roads need to receive a lower delivery coefficient
- Ownership of roads needs to be included

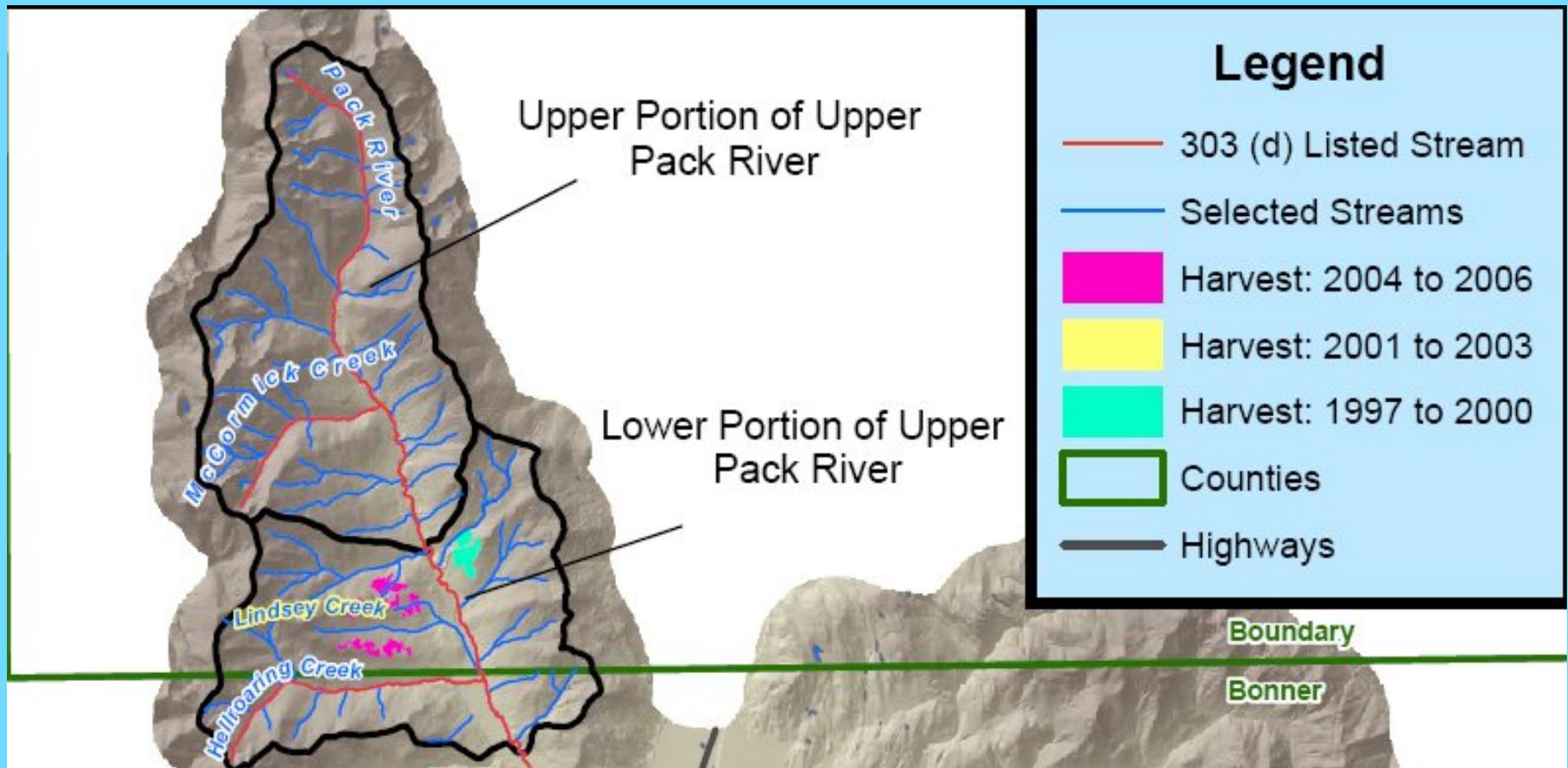


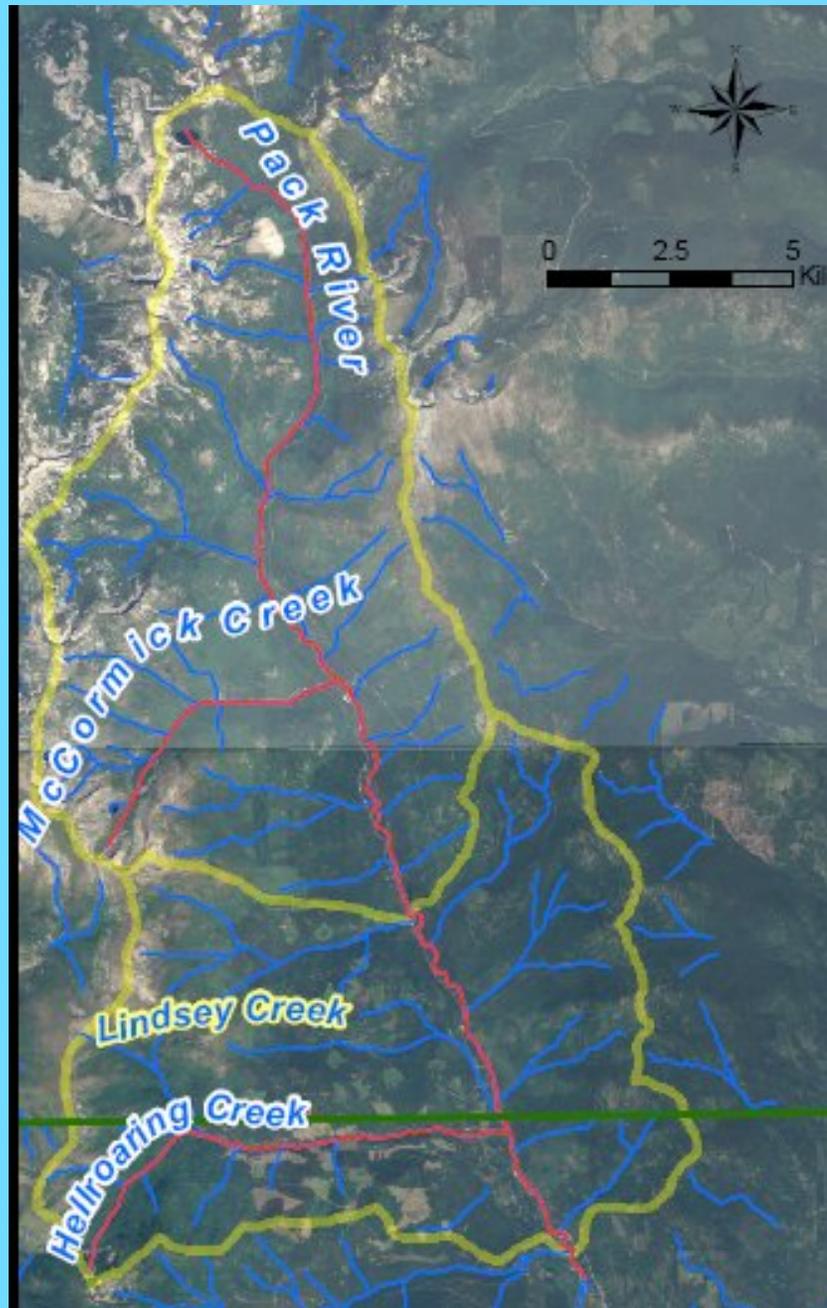
WAG Questions

- Review land use coverage in Sand/Schweitzer
- Pastureland delivery coefficients below natural background level is atypical
- Look at 100% delivery model
- Literature review provided
- Differentiate between natural and non-natural mass wasting in tables
- Redo load allocations to reflect changes

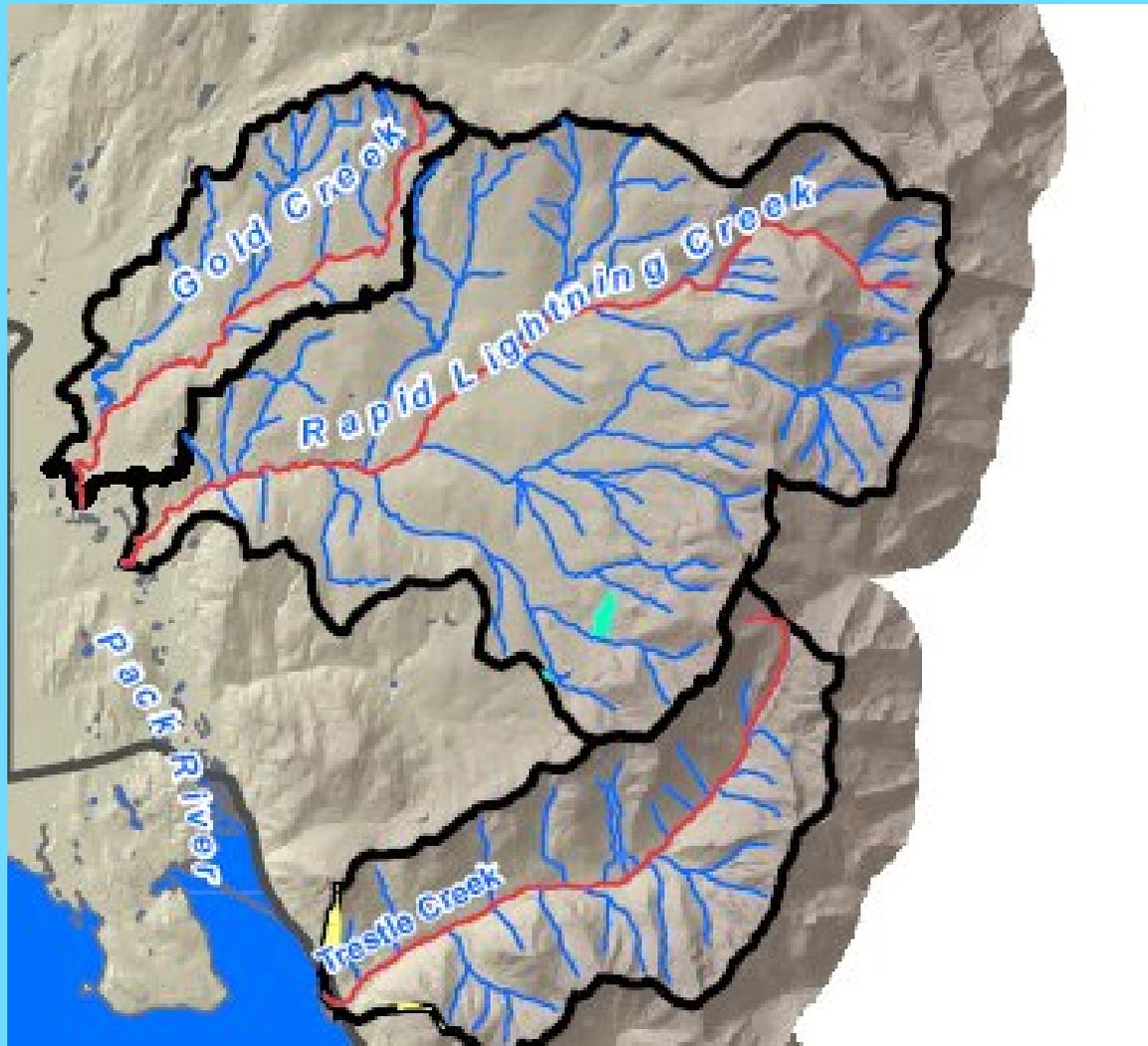


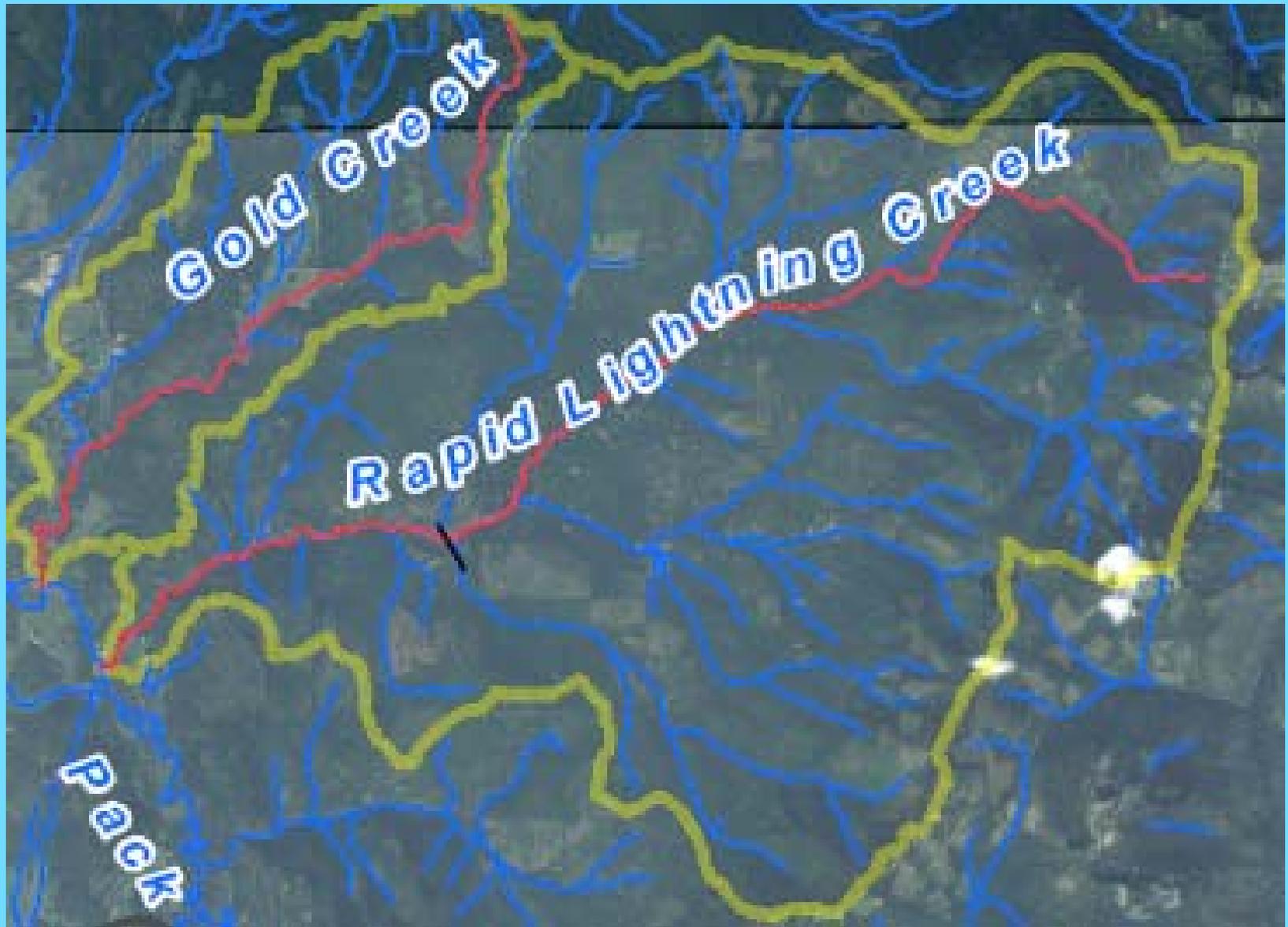
Harvest Activities



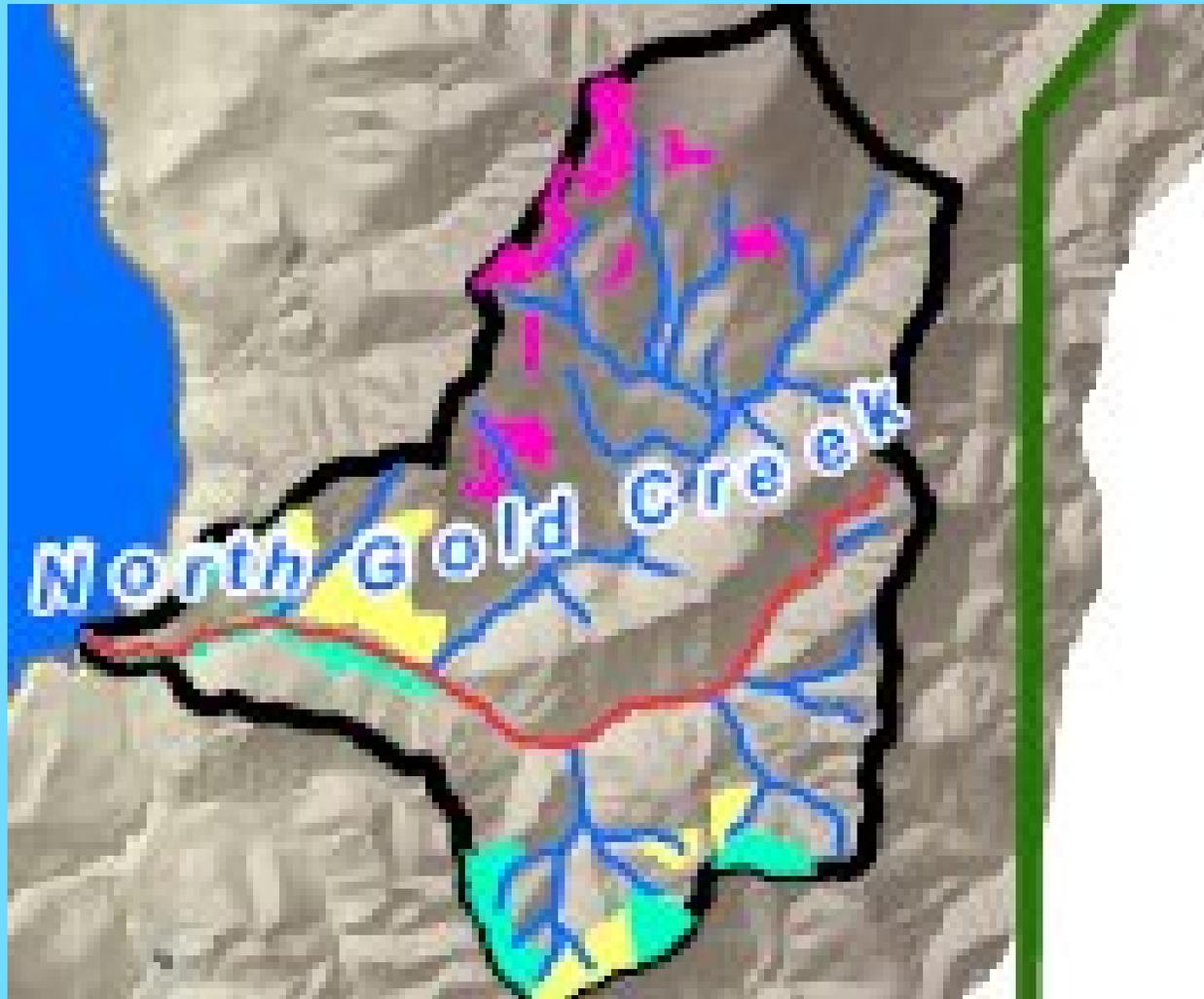


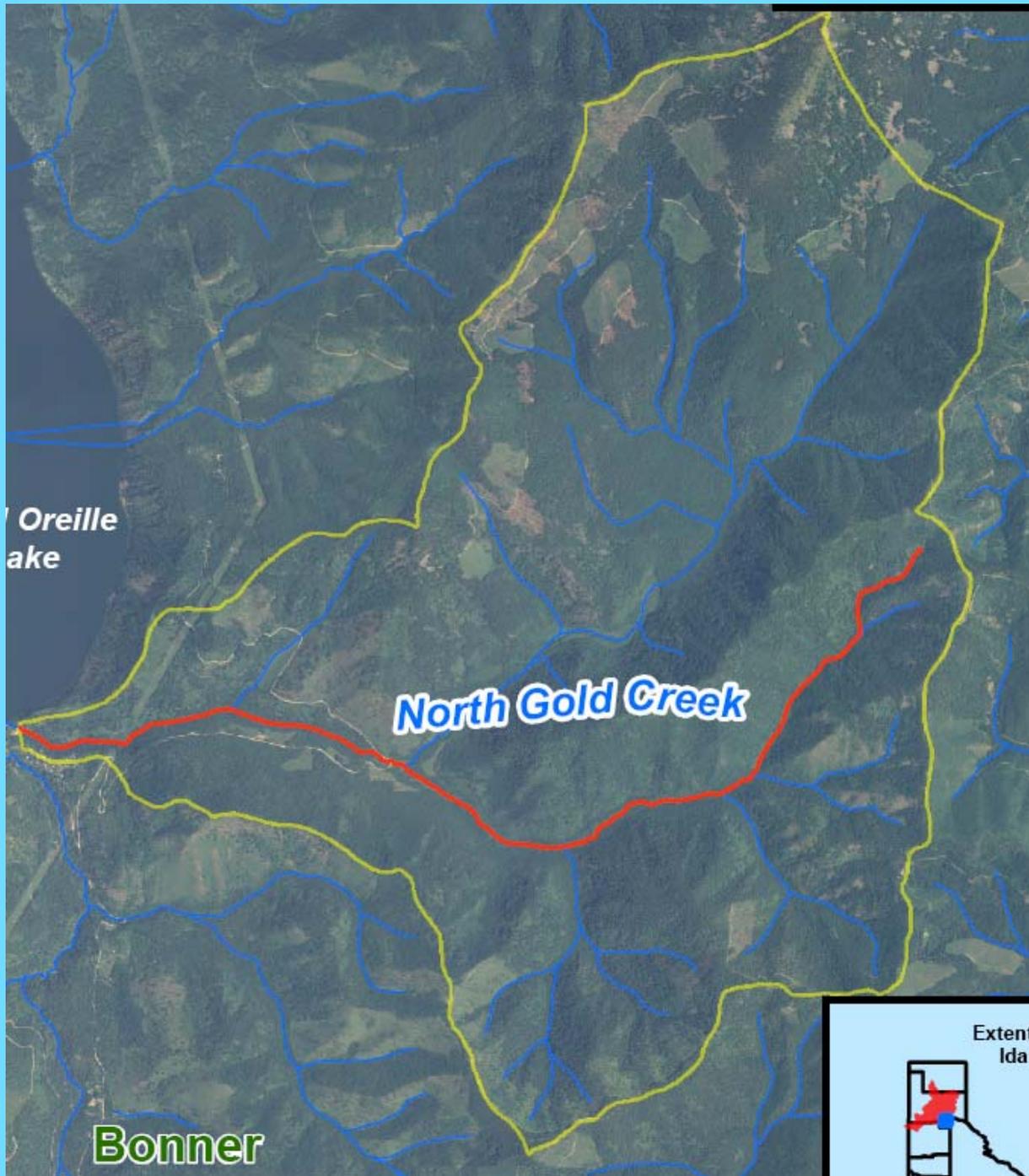
Harvest Activities





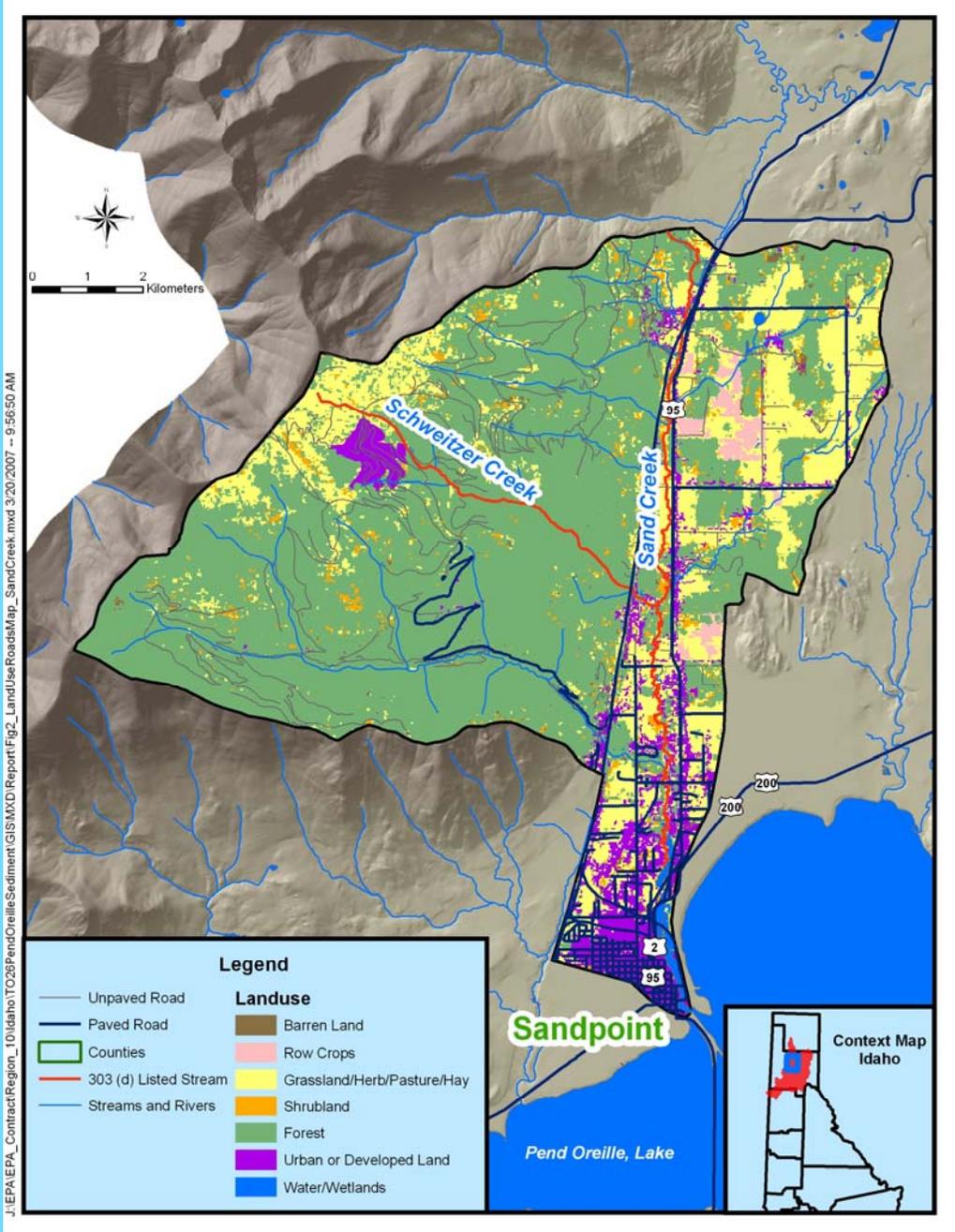
North Gold Creek Harvest

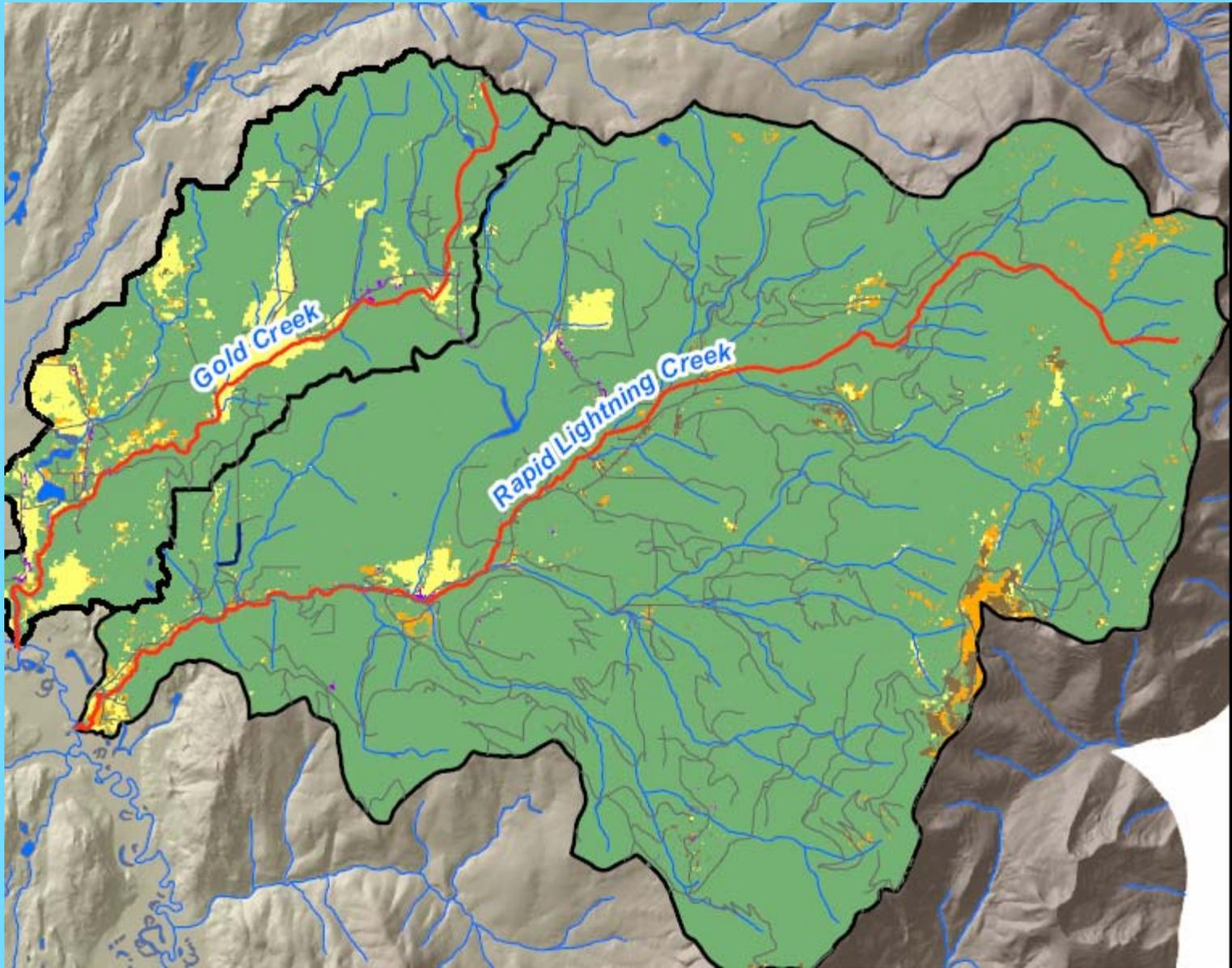




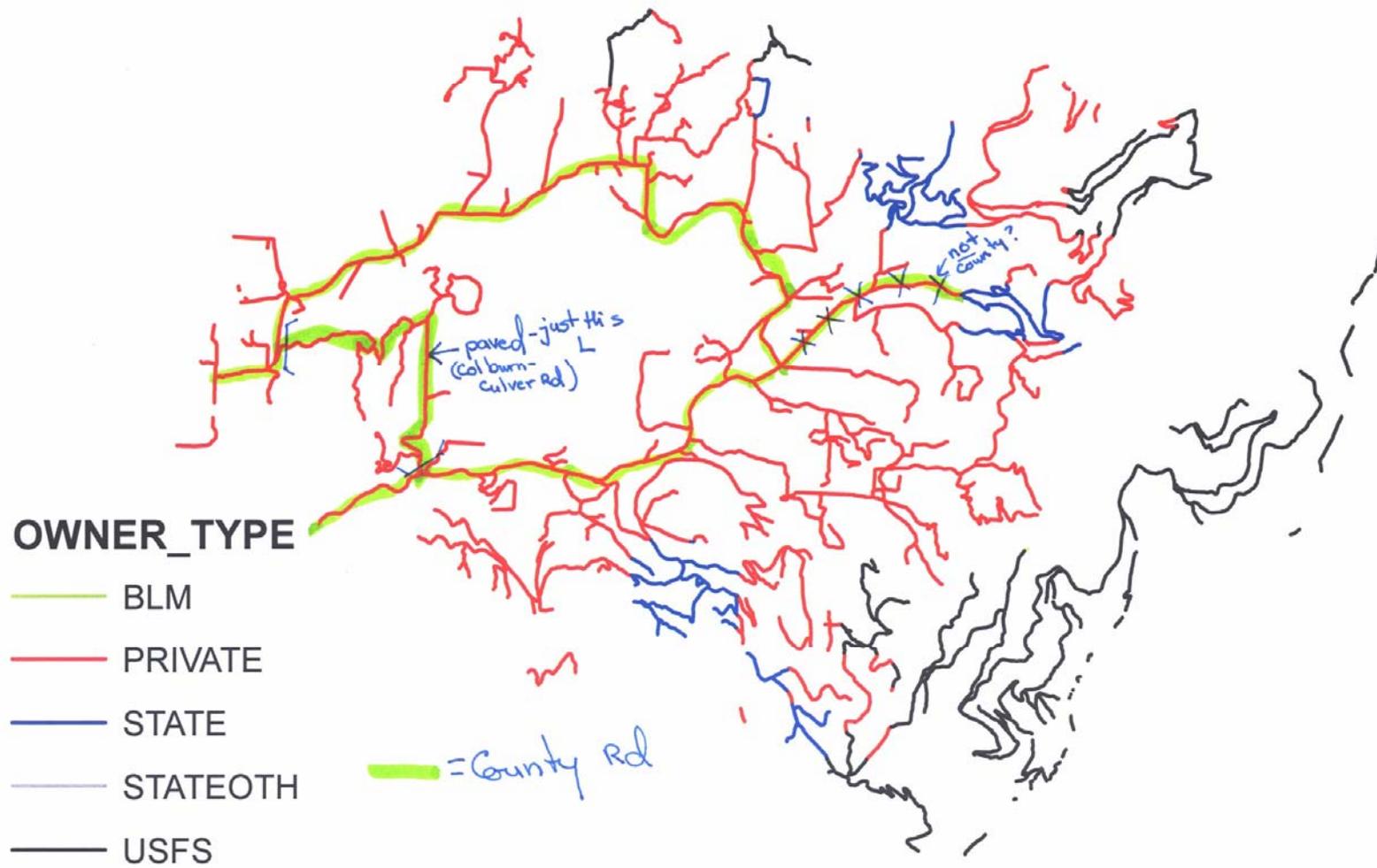
Roads and Ownership

- Paved Roads Assigned ½ sediment delivery of unpaved roads.
- Where paving was unknown, unpaved value was assigned to be conservative
- Changes in Schweitzer/Sand Creek and Rapid Lightning Creek
- Roads that are county owned were assigned to the county, otherwise road ownership was assigned to the adjacent landowner





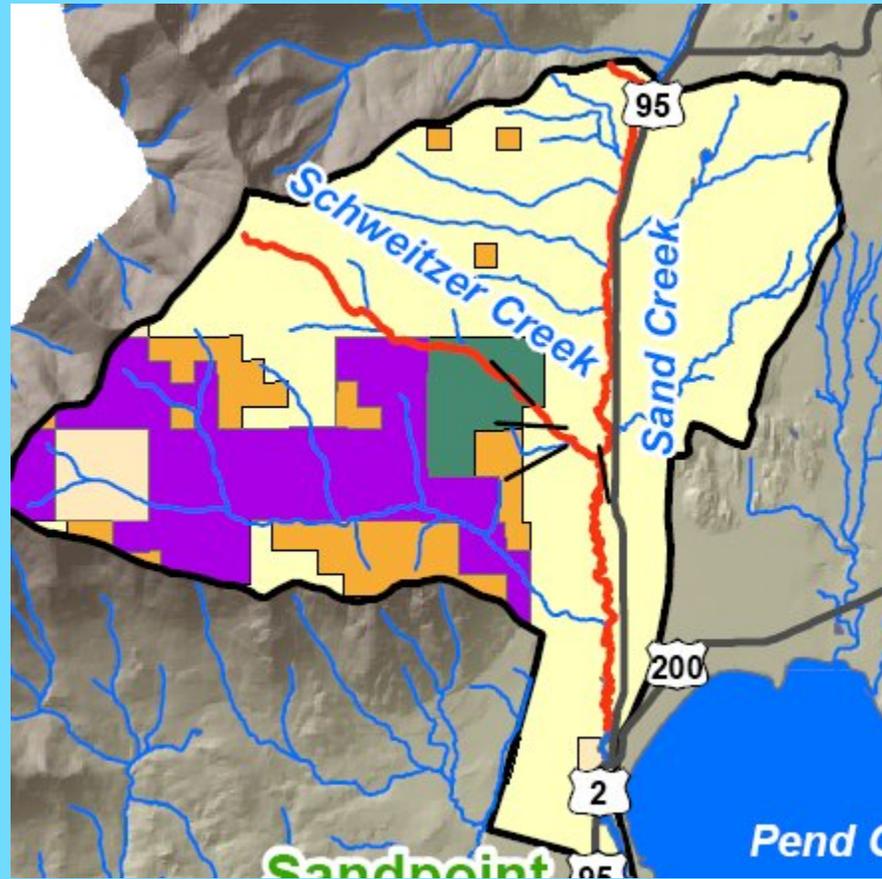
Roads and Road Ownership in Gold and Rapid Lightning



Changes to Pastureland

- More conservative assumptions in pastureland (higher yield coefficient)
- Paved roads assigned delivery $\frac{1}{2}$ of unpaved roads
- With new coefficients for Pastureland, the reference stream (Trestle Creek) is at 41% above background, changing target for all watersheds to 41% above background

Ownership in Sand and Schweitzer Creek Updated



Existing Loads by Land Use

	EXISTING SEDIMENT LOAD ¹ (tons/year)					
		North	Rapid	Sand and	Upper	Lower
	Gold	Gold	Lightning	Schweitzer	Pack	Pack
Land type	Creek	Creek	Creek	Creek	River	River
Forest	151	186	690	377	232	353
Forest - Harvested	0	435	4	0	0	398
Forest - Burned	0	0	0	0	0	0
Cropland	0	0	0	199	0	0
Pastureland	36	3	17	390	270	59
Shrubland	3	1	13	18	177	64
Urban	18	2	9	465	11	12
Unpaved Roads	29	51	96	130	77	87
Paved Roads	0	0	0*	28	0	0
Mass Wasting	0	0	0	0	490	75
Road Encroachment	17	39	112	93	40	51
Streambank Erosion	122	1	51	398	0	0
Total Existing Load	376	718	992	2099	1298	1098

*Will be updated with paving

Summary of Reductions Required

WATERSHED	Watershed Area (acres)	Estimated Existing Load (tons/year)	Target Load at 41% above Background (tons/year)	Required Sediment Load Reduction (tons/year)	Percent Load Reduction Required
Gold Creek	7,749	376	255	120	32%
North Gold Creek	9,496	718	314	405	56%
Rapid Lightning Creek	30,993	992	1,013	0	0%
Sand and Schweitzer Creeks	24,215	2,099	794	1,305	62%
Upper Portion of the Upper Pack River	25,922	1,298	672	771	59%
Lower Portion of the Upper Pack River	22,556	1,098	675	429	39%

Draft Sediment Load Allocations in Gold Creek

OWNER	Existing Load (tons/year)	Required Sediment Load Reduction (tons/year)	Time Frame For Meeting Allocations
Private	339	112	30 Years
County	9	5	30 Years
State	1	0	30 Years
USFS	27	4	30 Years
Total	376	120	

Load Allocations in North Gold Creek

Owner	Existing Load (tons/year)	Required Sediment Load Reduction (tons/year)	Time Frame For Meeting Allocations
Private	3	2	30 Years
USFS	715	403	30 Years
Military	0	0	30 Years
Total	718	405	

Rapid Lightning Creek Allocations

Owner	Area (acres)	Existing Load (tons/year)	Required Sediment Load Reduction (tons/year)	Time Frame For Meeting Allocations
Private	18,555	596	0	30 Years
County	0	24	0	30 Years
State	2,251	71	0	30 Years
USFS	10,066	298	0	30 Years
BLM	121	3	0	30 Years
Total	30,993	992	0	

Draft Sand/Schweitzer Allocations

Owner	Area (acres)	Existing Load (tons/year)	Required Sediment Load Reduction (tons/year)
Private	16,151	1,800	1,213
City	4,377	119	15
County	0	31	23
State - IDL	759	47	25
State - ITD	0	23	17
USFS	931	22	0
BLM	1,998	58	10
Total	24,215	2,099	1,305

Pack River Headwaters to Jeru Creek

Owner	Area (acres)	Existing Load (tons/year)	Required Sediment Load Reduction (tons/year)
Private	505	18	7
State	29	0	0
USFS	25,388	1,279	763
Total	25,922	1,298	771

Pack River (Jeru to Caribou Creek)

Owner	Area (acres)	Existing Load (tons/year)	Required Sediment Load Reduction (tons/year)
Private	6,248	244	68
County	0	9	6
State	106	4	1
USFS	13,154	836	352
BLM	203	6	1
Total	19,711	1,098	429

Next Steps

- Finish review of agricultural delivery
- Revise based on feedback
- Develop allocations to land owners