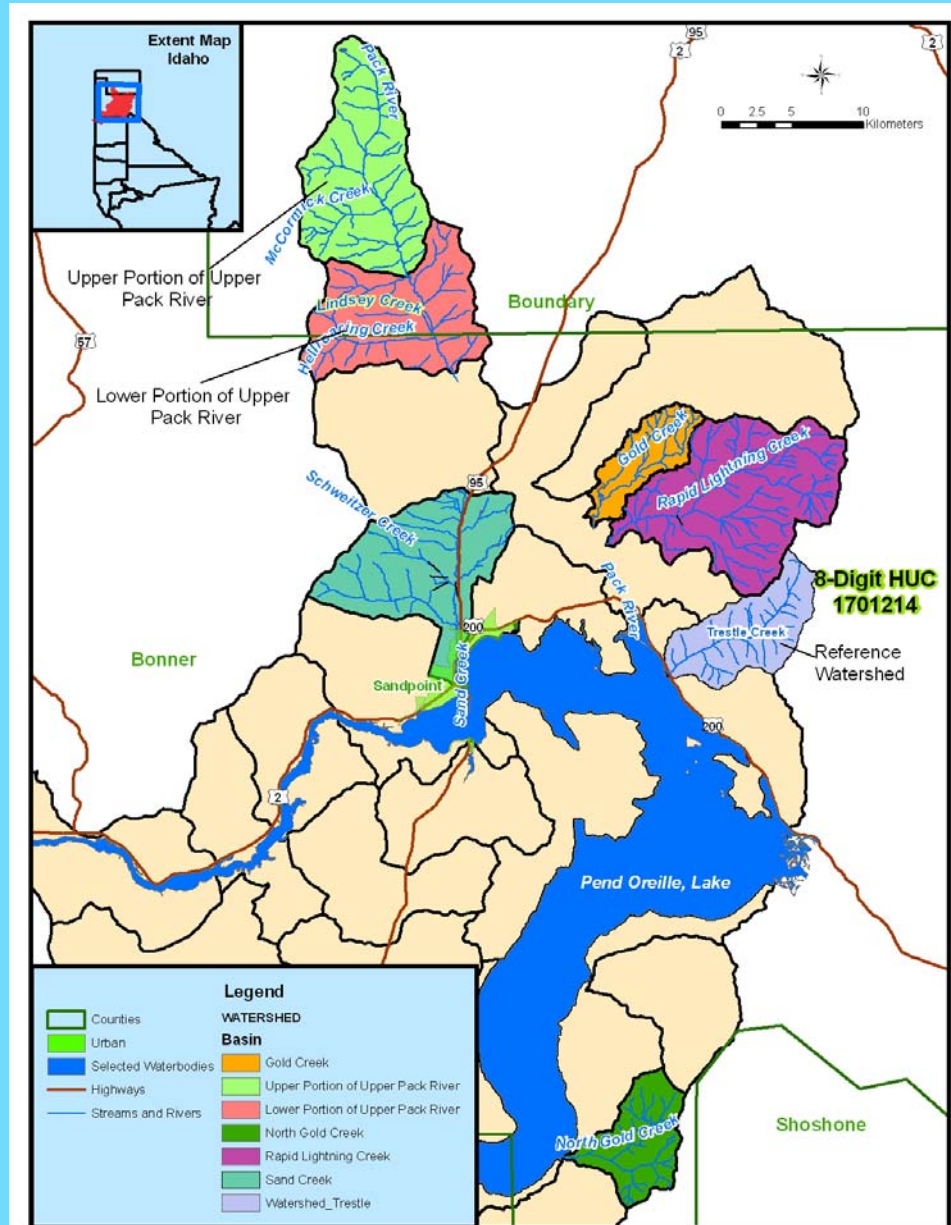


Pend Oreille Tributary Working Group Sediment Discussion

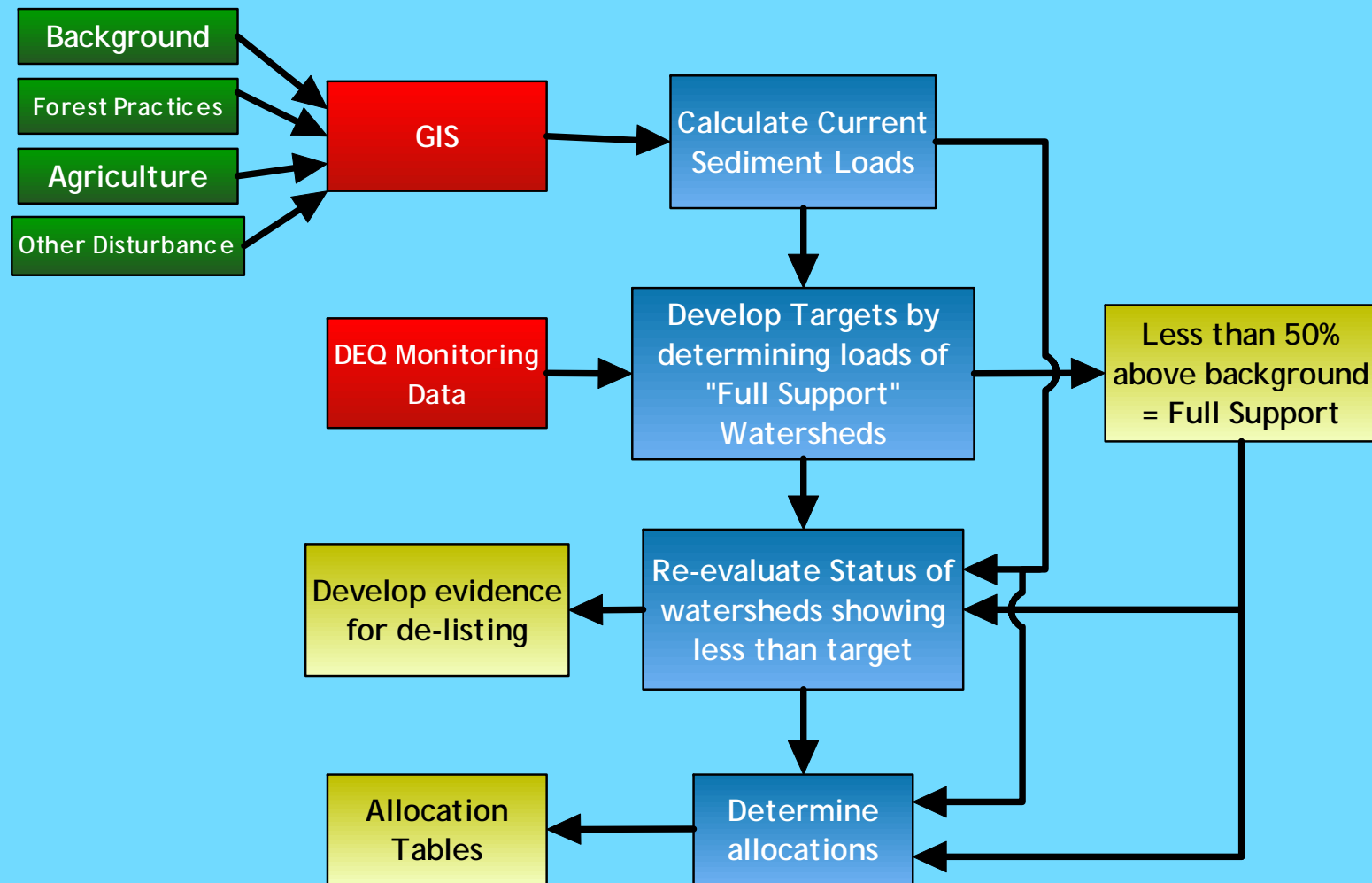
March 20, 2007



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

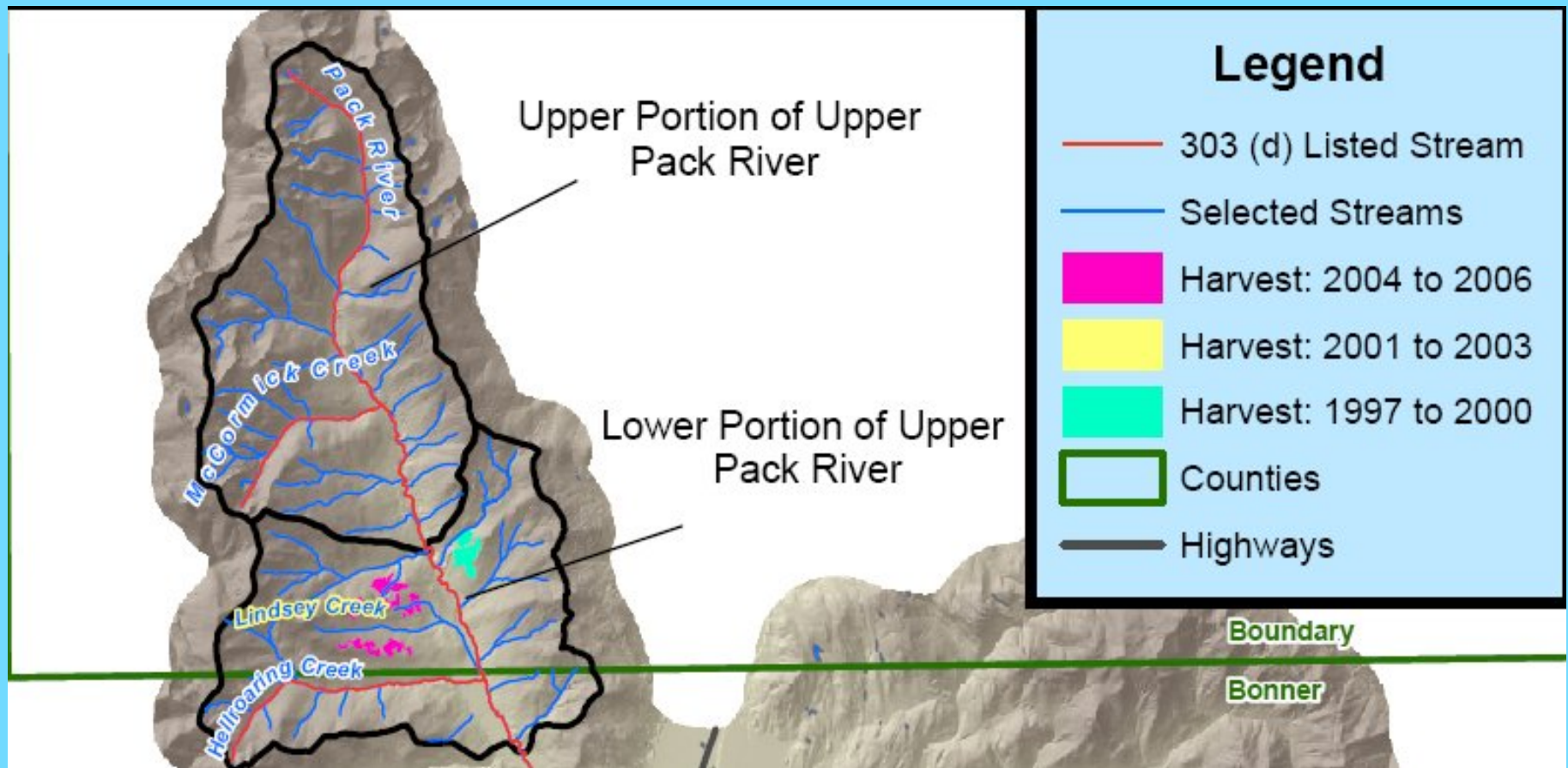


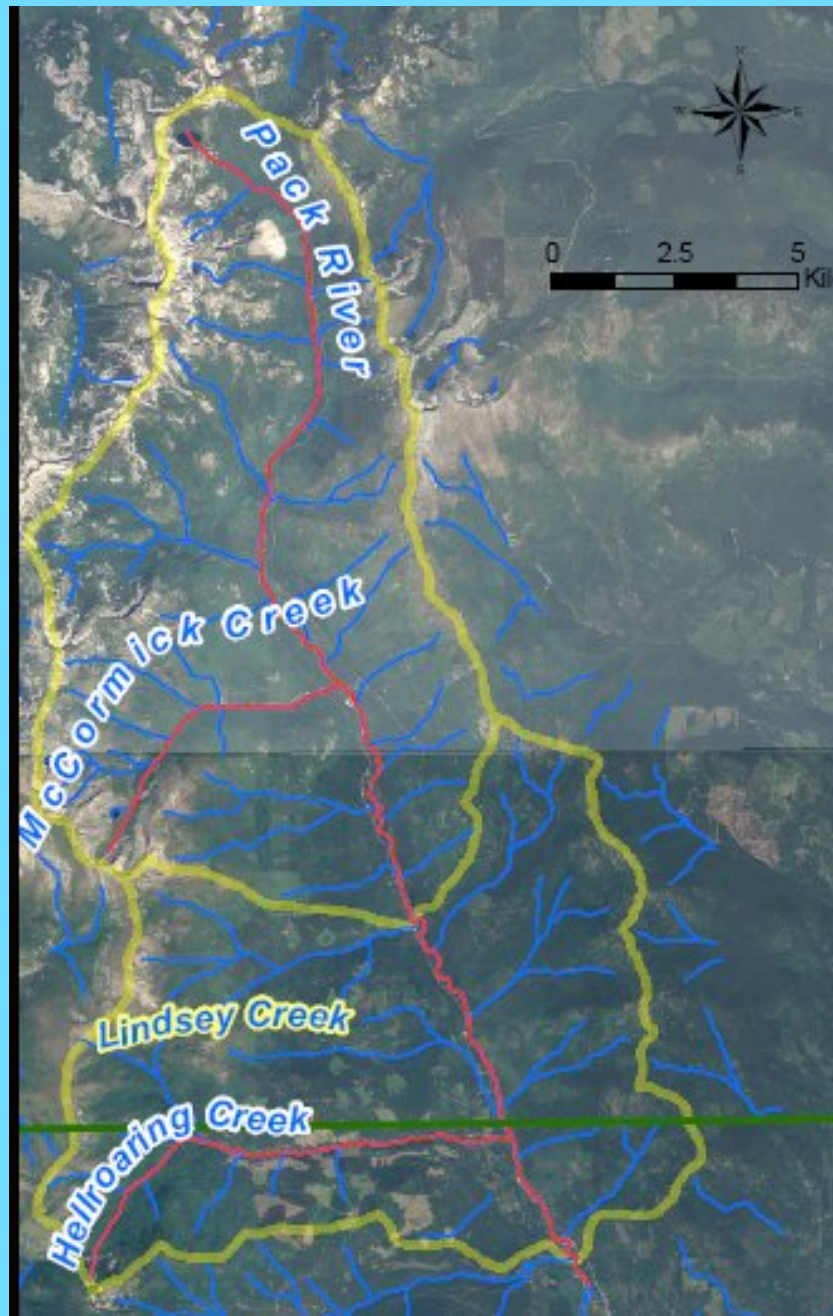
WAG Questions

- 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

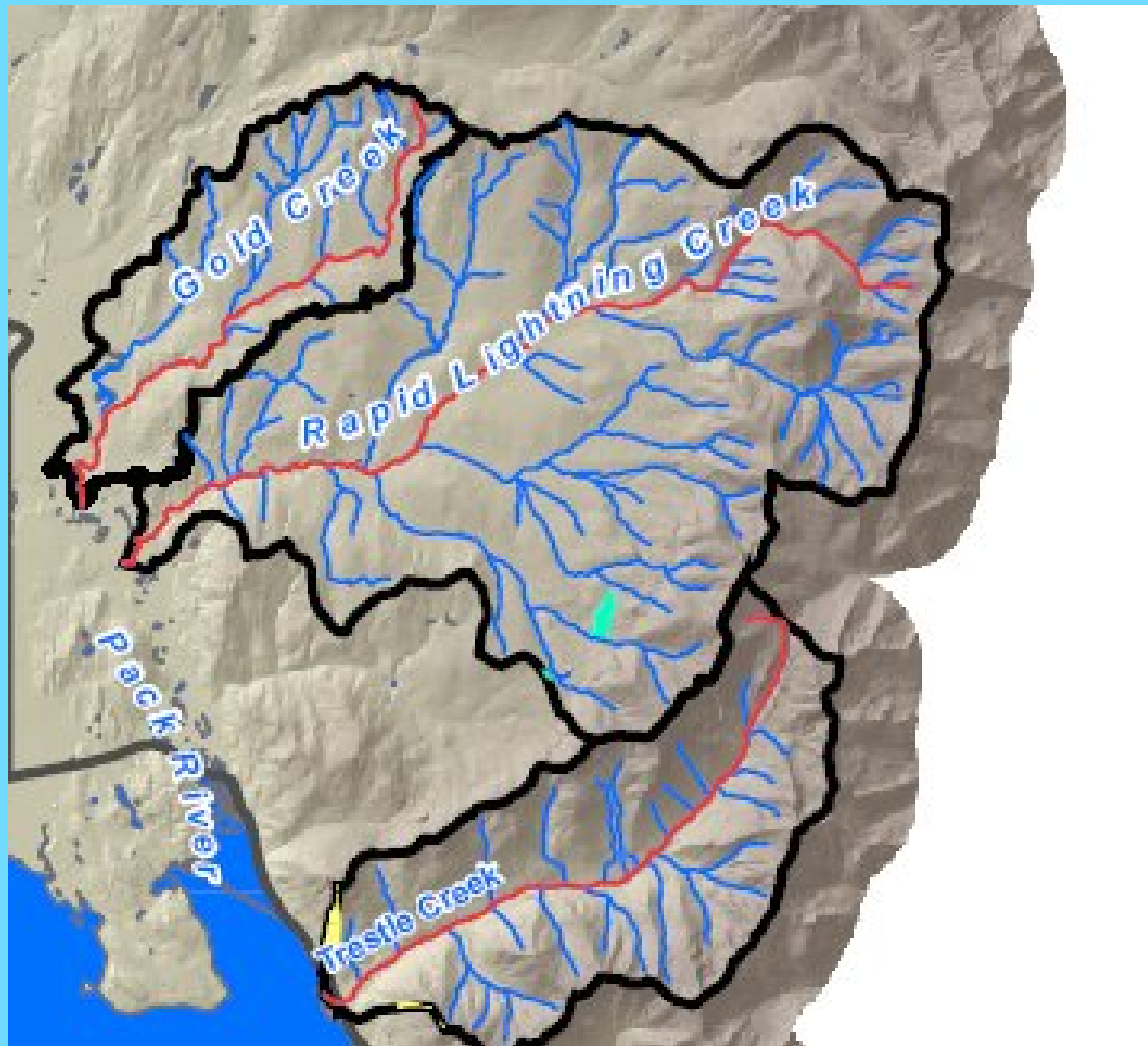


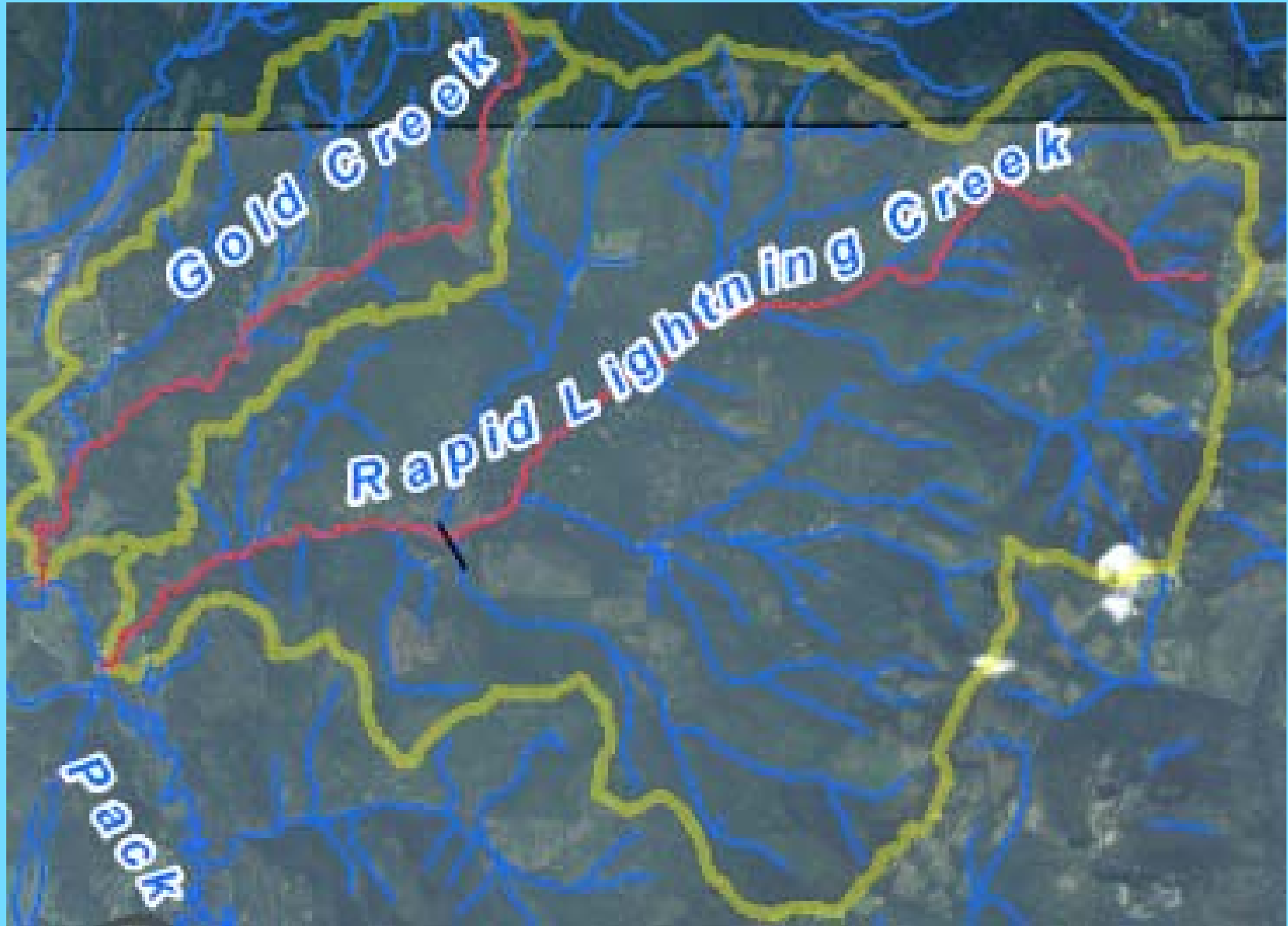
Harvest Activities



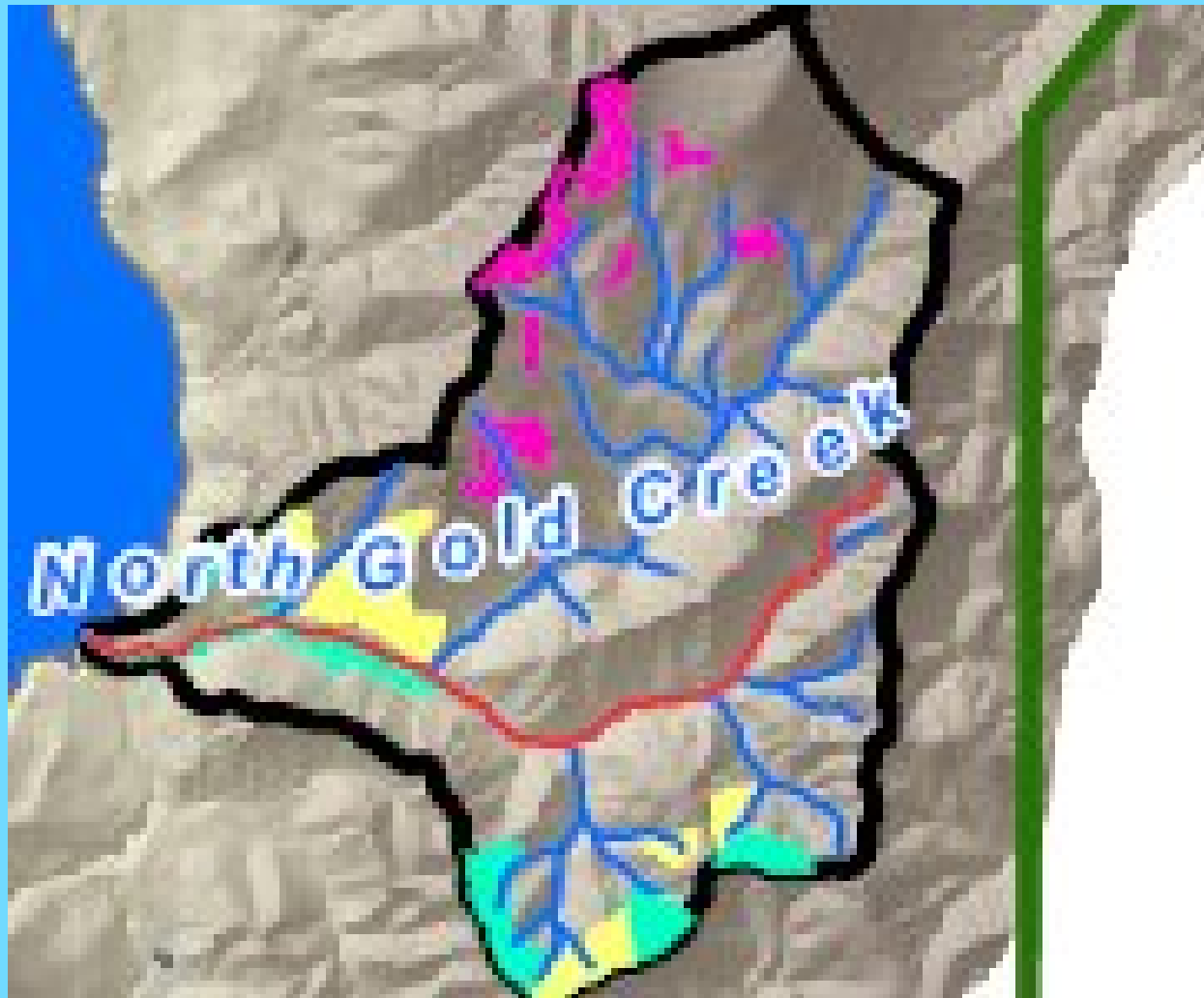


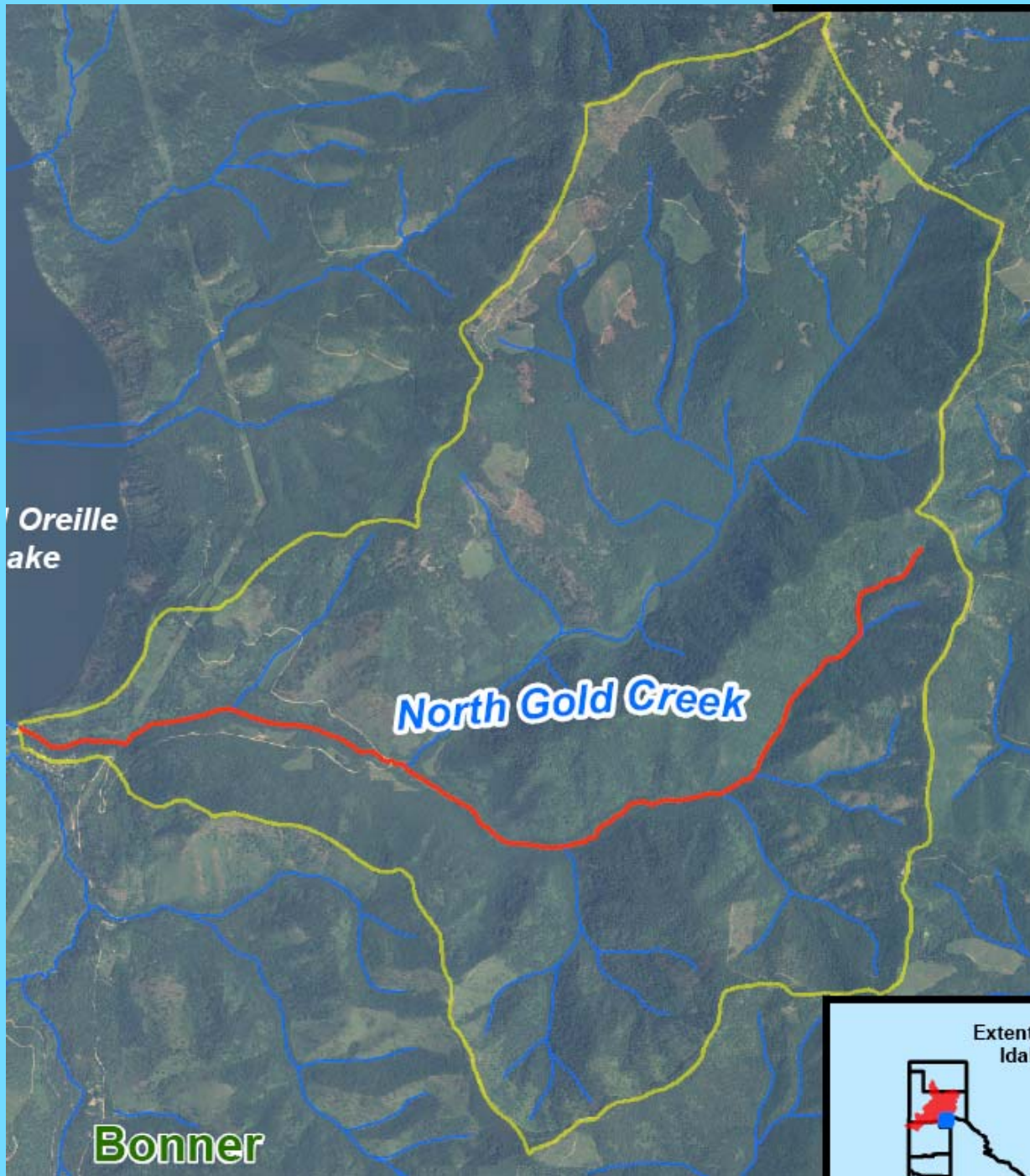
Harvest Activities





North Gold Creek Harvest

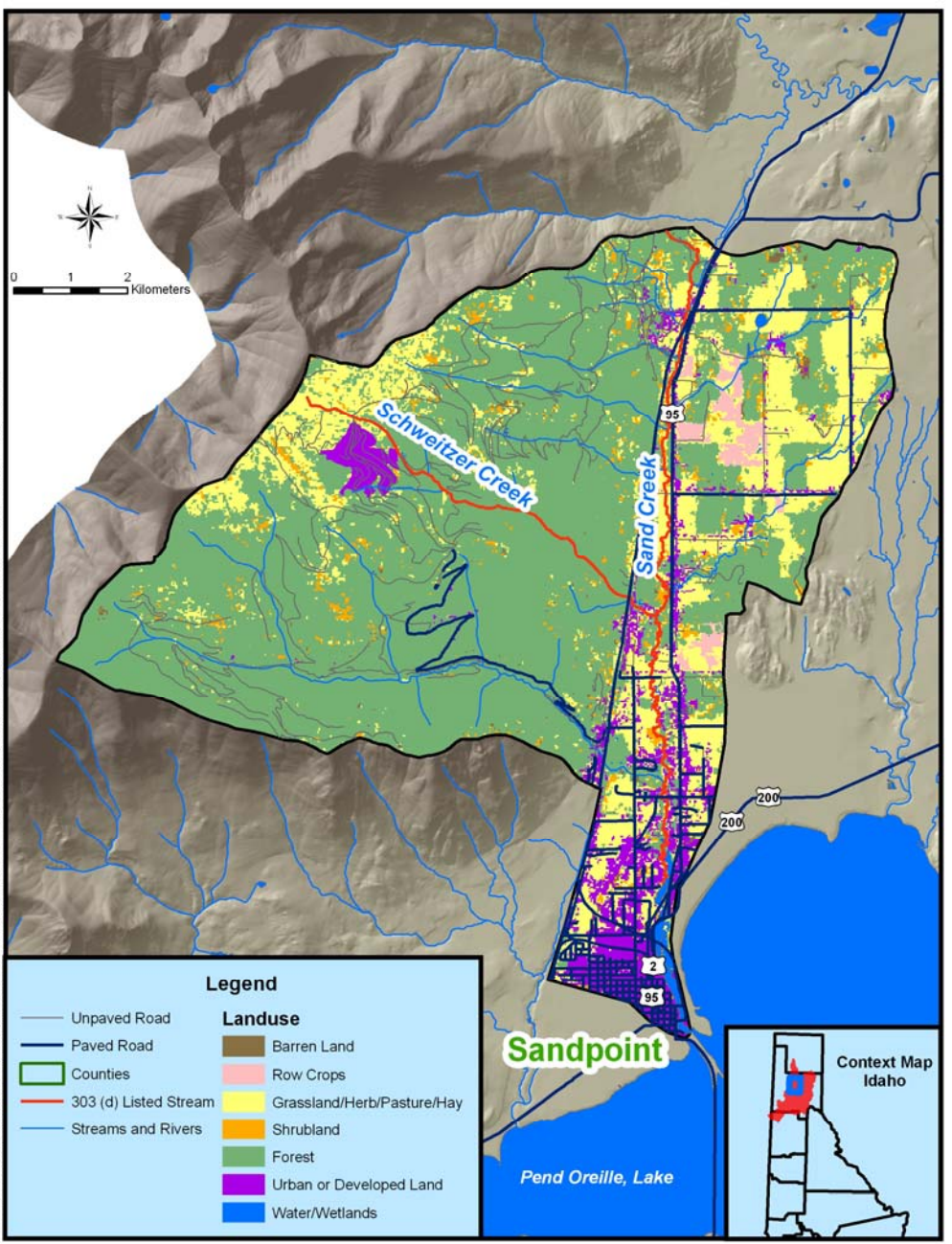


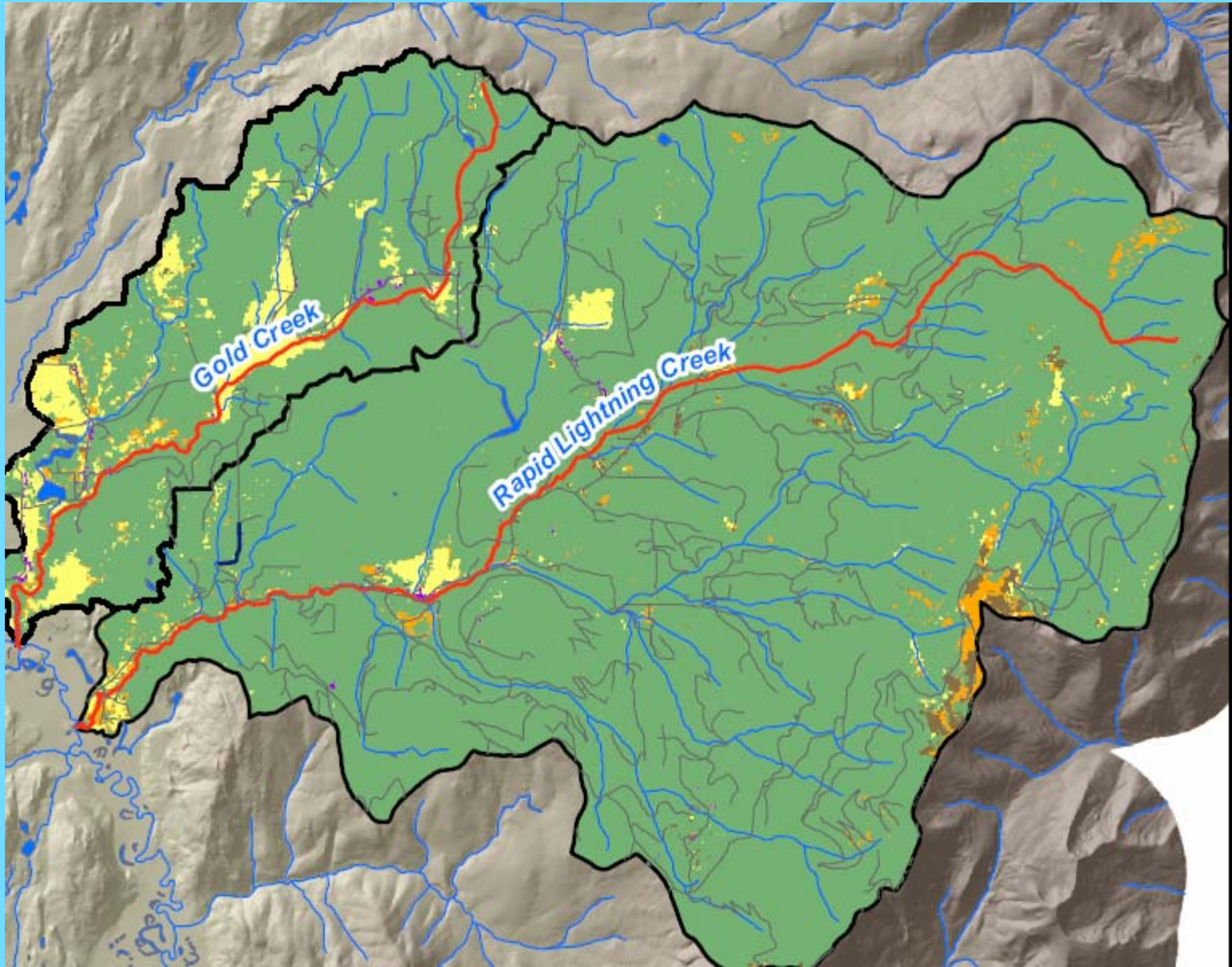


Roads and Ownership

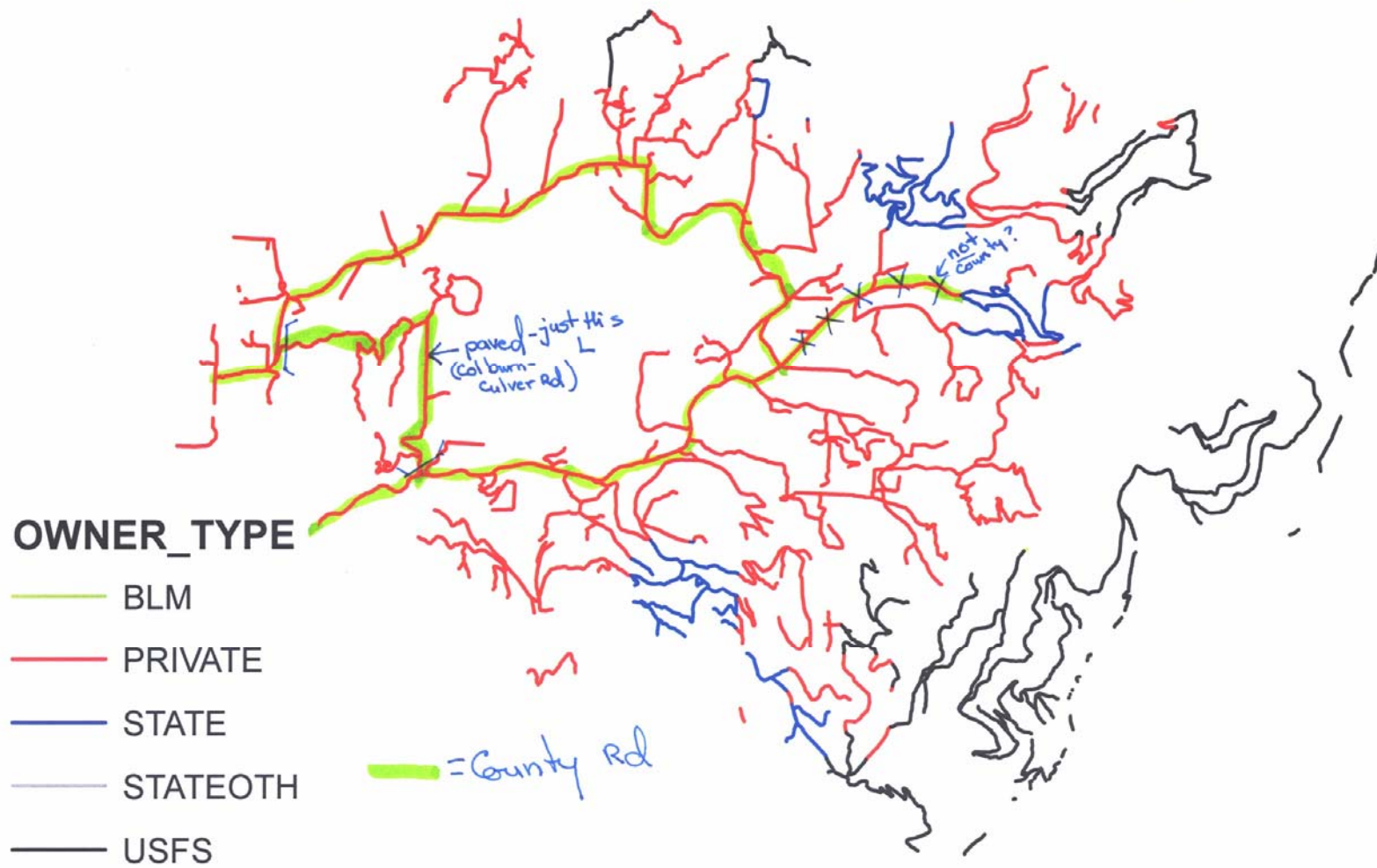
- Paved Roads Assigned ½ sediment delivery of unpaved roads.
- Where paving was unknown, unpaved value was assigned to be conservative
- Changes in Schweitzer/Sand Creek and Rapid Lightning Creek
- Roads that are county owned were assigned to the county, otherwise road ownership was assigned to the adjacent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

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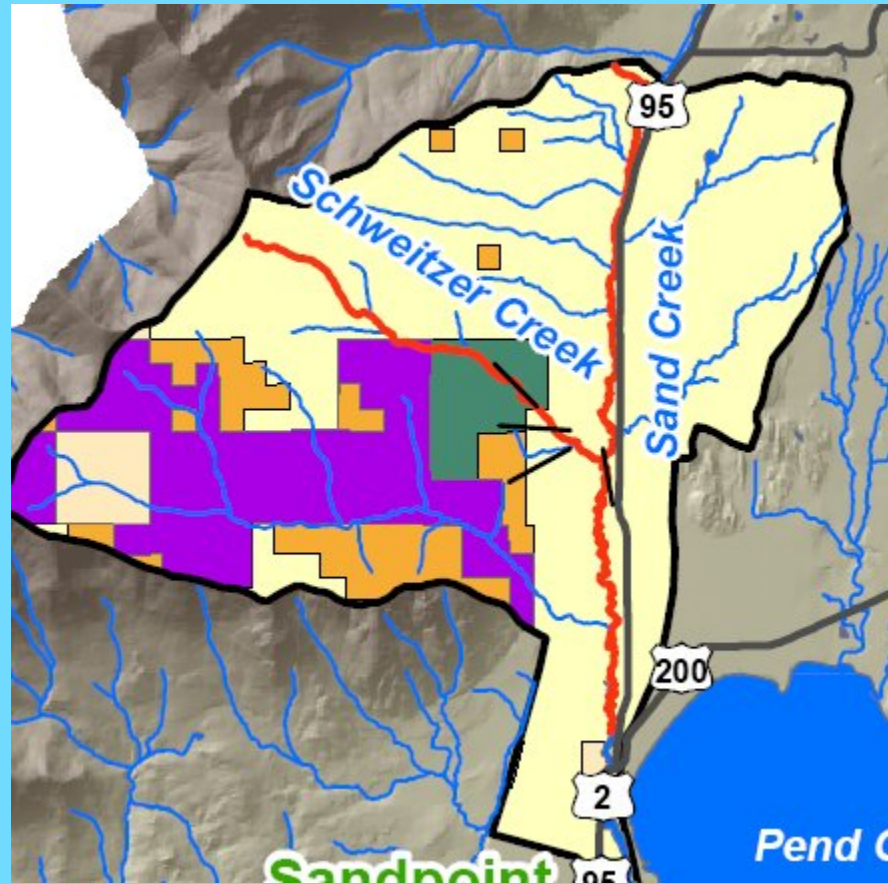
Roads and Road Ownership in Gold and Rapid Lightning



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