Field Survey for Meadows and Roads [1]

Forest: Eldorado National Forest	District: Placerville	County: El Dorado

Observers: E. Lobethun R. Lockwood	Date: Time: 4 Aug 2011

Number and/or name of road or trail: 17E24	UTM: 748678 x 4277840 Between road & pond
Meadow reference number: 17E24-1	

Characteristics of meadow

Is the feature a meadow? X **Yes** ____ **No** *(Describe what the feature actually is)*

Does the location of the meadow on-the-ground match the information in GIS? X Yes ____ No
(If the answer is no, please describe the difference).

Wetness of meadow *(Select the best answer at the time of the survey)*
- X **Very wet** (Standing or flowing surface water present in all or a large portion of feature).
- ____ **Moderately wet** (Surface water in part of feature and/or ground surface wet in most of feature).
- ____ **Slightly wet** (No surface water. Ground surface wet in part of feature).
- ____ **Mostly dry** (No surface water. Ground surface dry in most of feature).
- ____ **Dry** (No surface water. Ground surface dry in entire feature).

Predominate riparian/wetland vegetation:	**Predominant non-riparian/wetland vegetation:**
corn lily, forbs, willow	Lodgepole, fir, elderberry, currant
Abundance and location:	Abundance and location: shooting star

Proximity and characteristics of motorized routes in the meadow

Does the road or trail enter the meadow? ____ Yes Approx. feet or miles _____ X No
(Describe the location of the road or trail with respect to hydrologic features in the meadow.)

Does the road or trail parallel a portion of the meadow (within 100 ft. of the edge of the meadow)? X Yes ____ No
(Describe the distance that the road or trail parallels the meadow, and attach photos.)

Is there evidence of motorized use off of the road or trail and into the meadow? ____ Yes X No
(Describe the evidence, and attach photos.)

Are there stream channel crossings along the road in the meadow? ____ Yes X No
____ Pipes/culverts ____ Bridge ____ Raw crossing

Are there cross drain structures along the road or trail in the meadow? ____ Yes X No ____ Pipes/culverts ____ Rolling dip

[1] Use a separate form for each road or trail.

(July 25, 2011)

Field Survey for Meadows and Roads (page 2)

17E24-1 4 Aug 2011 E. Lubetkin, R. Lockwood

Condition of meadow

Active erosion features (rills, gullies, headcuts) in meadow? X Yes ___ No
(If yes, describe the type, number, size, and location of the erosional features and whether they appear to be related to the road or trail.)
Rill 4" deep @ 100' long leading from road @ edge of meadow

Old, healed erosional features in meadow? ___ Yes X No
(If yes, describe the type, number, size, and location of the erosional features and whether they appear to be related to the road or trail.)

Hummocky surface in portions of the meadow? ___ Yes X No *(If yes, describe location and aerial extent in meadow).*

If the road(s) or trail(s) goes through the meadow, is the road/trail noticeably affecting the movement of water through the meadow?
___ Yes X No (If yes, d*escribe the physical evidence).*

If the road) or trail parallels a portion of the meadow, is the road/trail noticeably affecting the movement of water into or out of the meadow? ___ Yes X No *(If yes, describe the evidence).*

Is a road(s) or trail(s) contributing sediment into the meadow to the extent that it is noticeably affecting the size and/or function of the meadow? ___ Yes X No *(If yes, describe the physical evidence).*

Other land disturbances within the meadow? ___ Yes X No
(If yes to the above, describe types and extent).

Stream flowing through the meadow? ___ Yes X No Large pond in center of meadow

Is stream eroding vertically (i.e. active downcutting)?	___ Yes	___ No
Is stream eroding laterally (i.e. actively widening?)	___ Yes	___ No
Does stream contain an active headcut(s)?	___ Yes	___ No
Does stream contain old (healed) headcut(s)?	___ Yes	___ No

Aquatic species (incidental sightings only – no survey to a specific protocol)

List aquatic species present, numbers of individuals, and life stage
THEL 1 Juvenile Many PSRE tadpoles

Findings with respect to Standard and Guideline (S&G) #100 of the SNFPA

X **Yes.** S&G #100 is being met with regard to this road/trail and meadow.

___ **No.** S&G #100 is NOT being met with regard to this road and meadow.

___ **I.** Inconclusive. Field evidence not sufficient to determine if S&G #100 is being met.

S&G 100: Maintain and restore the hydrologic connectivity of streams, meadows, wetlands, and other special aquatic features by identifying roads and trails that intercept, divert, or disrupt natural surface and subsurface water flow paths. Implement corrective actions where necessary to restore connectivity.

Other Comments
Stand of trees along road buffers sediment to meadow.

Field Survey for Meadows and Roads [1,2]

Forest: Eldorado National Forest	**District:** Amador	**County:**

Observers Steve Markman	**Date:** Sept. 13, 2012 **Time:**

Number and/or name of road or trail 17E24	**UTM** 1.2 miles from intersection of 17E24 and 17E32 10S 0748568 4277721
Meadow reference number 17E24-2	

Characteristics of meadow

Is the feature a meadow? X **Yes** ___ **No** *(Describe what the feature actually is)*

Approximately 500 feet in length; maximum width of 150 feet.

Does the location of the meadow on-the-ground match the information in GIS? ___ Yes X No
(If the answer is no, please describe the difference).

Not shown in GIS.

Wetness of meadow *(Select the best answer at the time of the survey)*

___ **Very wet** (Standing or flowing surface water present in all or a large portion of feature).
___ **Moderately wet** (Surface water in part of feature and/or ground surface wet in most of feature).
X **Slightly wet** (No surface water. Ground surface wet in part of feature).
___ **Mostly dry** (No surface water. Ground surface dry in most of feature).
___ **Dry** (No surface water. Ground surface dry in entire feature).

Predominate riparian/wetland vegetation:	**Predominant non-riparian/wetland vegetation:**
Sedges, willow, corn lily	Lodgepole pine surrounds meadow
Abundance and location: Sedges dominate meadow	Abundance and location: Surrounds meadow

Proximity and characteristics of motorized routes in the meadow

Does the road or trail enter the meadow? ___ Yes Approx. feet or miles _____ X No
(Describe the location of the road or trail with respect to hydrologic features in the meadow.)

Does the road or trail parallel a portion of the meadow (within 100 ft. of the edge of the meadow)? X Yes ___ No
(Describe the distance that the road or trail parallels the meadow, and attach photos.)

Trail 17E24 parallels meadow for 300 feet.

Is there evidence of motorized use off of the road or trail and into the meadow? ___ Yes X No
(Describe the evidence, and attach photos.)

Are there stream channel crossings along the road in the meadow? ___ Yes X No
___ Pipes/culverts ___ Bridge ___ Raw crossing

Are there cross drain structures along the road or trail in the meadow? ___ Yes X No ___ Pipes/culverts
___ Rolling dip

[1] Use a separate survey form for each road or trail and meadow or wetland.
[2] Survey is intended for meadows that are greater than 0.1 acres in size. (July 11, 2012)

Field Survey for Meadows and Roads (page 2)

17E 24 - 2 S. Markman 9-13-12

Condition of meadow

Active erosion features (rills, gullies, headcuts) in meadow? ___ Yes X No
(If yes, describe the type, number, size, and location of the erosional features and whether they appear to be related to the road or trail.)

Old, healed erosional features in meadow? ___ Yes X No
(If yes, describe the type, number, size, and location of the erosional features and whether they appear to be related to the road or trail.)

Hummocky surface in portions of the meadow? ___ Yes X No *(If yes, describe location and aerial extent in meadow).*

If the road(s) or trail(s) goes through the meadow, is the road/trail noticeably affecting the movement of water through the meadow?
___ Yes ___ No (If yes, *describe the physical evidence).*

N/A

If the road) or trail parallels a portion of the meadow, is the road/trail noticeably affecting the movement of water into or out of the meadow? ___ Yes X No *(If yes, describe the evidence).*

Is a road(s) or trail(s) contributing sediment into the meadow to the extent that it is noticeably affecting the size and/or function of the meadow? ___ Yes X No *(If yes, describe the physical evidence).*

Minor amount of sediment from road into meadow - affecting less than 5 percent of meadow.

Other land disturbances within the meadow? ___ Yes ___ No
(If yes to the above, describe types and extent).

Stream flowing through the meadow? ___ Yes X No

Is stream eroding vertically (i.e. active downcutting)?	___ Yes	___ No	N/A No stream.
Is stream eroding laterally (i.e. actively widening?)	___ Yes	___ No	
Does stream contain an active headcut(s)?	___ Yes	___ No	
Does stream contain old (healed) headcut(s)?	___ Yes	___ No	

Aquatic species (incidental sightings only – no survey to a specific protocol)

List aquatic species present, numbers of individuals, and life stage

None observed.

Findings with respect to Standard and Guideline (S&G) #100 of the SNFPA

X **Yes.** S&G #100 is being met with regard to this road/trail and meadow.

___ **No.** S&G #100 is NOT being met with regard to this road and meadow.

___ **I.** Inconclusive. Field evidence not sufficient to determine if S&G #100 is being met.

S&G 100: Maintain and restore the hydrologic connectivity of streams, meadows, wetlands, and other special aquatic features by identifying roads and trails that intercept, divert, or disrupt natural surface and subsurface water flow paths. Implement corrective actions where necessary to restore connectivity.

Other Comments The meadow contain several small ponds - all dry.

Field Survey for Meadows and Roads [1,2]

Forest: Eldorado National Forest	**District:** Amador	**County:**

Observers Ryan Lockwood, Hydrologic Technician Steve Markeman, Hydrologist	**Date:** August 4, 2011 **Time:** Sept. 12, 2012

Number and/or name of road or trail 17E24	**UTM** 10S 748425
Meadow reference number 17E24-3	4277522

Characteristics of meadow

Is the feature a meadow? X **Yes** ___ **No** *(Describe what the feature actually is)*

Does the location of the meadow on-the-ground match the information in GIS? X Yes ___ No
(If the answer is no, please describe the difference).

Wetness of meadow *(Select the best answer at the time of the survey)*
___ **Very wet** (Standing or flowing surface water present in all or a large portion of feature).
X **Moderately wet** (Surface water in part of feature and/or ground surface wet in most of feature).
___ **Slightly wet** (No surface water. Ground surface wet in part of feature).
___ **Mostly dry** (No surface water. Ground surface dry in most of feature).
___ **Dry** (No surface water. Ground surface dry in entire feature).

Predominate riparian/wetland vegetation:	**Predominant non-riparian/wetland vegetation:**
Forbs, corn lily, willow	Fir, lodgepole pine
Abundance and location:	Abundance and location:

Proximity and characteristics of motorized routes in the meadow

Does the road or trail enter the meadow? ___ Yes Approx. feet or miles _____ X No
(Describe the location of the road or trail with respect to hydrologic features in the meadow.)

Does the road or trail parallel a portion of the meadow (within 100 ft. of the edge of the meadow)? X Yes ___ No
(Describe the distance that the road or trail parallels the meadow, and attach photos.)
Road borders meadow for at least 400 ft.

Is there evidence of motorized use off of the road or trail and into the meadow? X Yes ___ No
(Describe the evidence, and attach photos.)

Are there stream channel crossings along the road in the meadow? ___ Yes X No
___ Pipes/culverts ___ Bridge ___ Raw crossing

Are there cross drain structures along the road or trail in the meadow? ___ Yes X No ___ Pipes/culverts
___ Rolling dip

[1] Use a separate survey form for each road or trail and meadow or wetland.
[2] Survey is intended for meadows that are greater than 0.1 acres in size. (July 11, 2012)

E 9-13-12

Field Survey for Meadows and Roads (page 2)

17E24-3 R. Lockwood S. Markman 8-4-11 9-13-12

Condition of meadow

Active erosion features (rills, gullies, headcuts) in meadow? X Yes ___ No
(If yes, describe the type, number, size, and location of the erosional features and whether they appear to be related to the road or trail.)

Several eroding channels in meadow are being exacerbated by runoff from 17E24 and 17E28.

Old, healed erosional features in meadow? X Yes ___ No
(If yes, describe the type, number, size, and location of the erosional features and whether they appear to be related to the road or trail.)

Several old channels, mostly filled in with sediment.

Hummocky surface in portions of the meadow? ___ Yes X No *(If yes, describe location and aerial extent in meadow).*

If the road(s) or trail(s) goes through the meadow, is the road/trail noticeably affecting the movement of water through the meadow?
___ Yes ___ No (If yes, *describe the physical evidence).*
N/A

If the road) or trail parallels a portion of the meadow, is the road/trail noticeably affecting the movement of water into or out of the meadow? X Yes ___ No *(If yes, describe the evidence).*
Runoff from 17E28 and 17E24 has created several eroding channels in the meadow.

Is a road(s) or trail(s) contributing sediment into the meadow to the extent that it is noticeably affecting the size and/or function of the meadow? ___ Yes ___ No *(If yes, describe the physical evidence).*
Erosion of sediment from 17E28 and 17E24 into meadow.

Other land disturbances within the meadow? X Yes ___ No
(If yes to the above, describe types and extent).
Grazing, OHV use

Stream flowing through the meadow? X Yes ___ No

Is stream eroding vertically (i.e. active downcutting)?	X Yes	___ No
Is stream eroding laterally (i.e. actively widening?)	___ Yes	X No
Does stream contain an active headcut(s)?	X Yes	___ No
Does stream contain old (healed) headcut(s)?	___ Yes	X No

Aquatic species (incidental sightings only – no survey to a specific protocol)

List aquatic species present, numbers of individuals, and life stage
THEL 1 Juvenile

Findings with respect to Standard and Guideline (S&G) #100 of the SNFPA

___ **Yes.** S&G #100 is being met with regard to this road/trail and meadow.

X **No.** S&G #100 is NOT being met with regard to this road and meadow.

___ **I.** Inconclusive. Field evidence not sufficient to determine if S&G #100 is being met.

S&G 100: Maintain and restore the hydrologic connectivity of streams, meadows, wetlands, and other special aquatic features by identifying roads and trails that intercept, divert, or disrupt natural surface and subsurface water flow paths. Implement corrective actions where necessary to restore connectivity.

Other Comments
Erosion of sediment from 17E28 directly into the western shore of Mud L.

Field Survey for Meadows and Roads [1,2]

Forest: Eldorado National Forest	**District:** Amador	**County:**

Observers Steve Markman, Hydrologist	**Date:** Sept. 14, 2012 **Time:**

Number and/or name of road or trail 17E24	**UTM** 6.4 miles from start of trail 10 S 0751964 4278346
Meadow reference number 17E24-4	

Characteristics of meadow

Is the feature a meadow? X **Yes** ____ **No** *(Describe what the feature actually is)*

Does the location of the meadow on-the-ground match the information in GIS? ____ Yes X No
(If the answer is no, please describe the difference).
Not shown in GIS.

Wetness of meadow *(Select the best answer at the time of the survey)*
____ **Very wet** (Standing or flowing surface water present in all or a large portion of feature).
____ **Moderately wet** (Surface water in part of feature and/or ground surface wet in most of feature).
____ **Slightly wet** (No surface water. Ground surface wet in part of feature).
X **Mostly dry** (No surface water. Ground surface dry in most of feature).
____ **Dry** (No surface water. Ground surface dry in entire feature).

Predominate riparian/wetland vegetation:
Willow, corn lily, grasses
Abundance and location:
Throughout meadow

Predominant non-riparian/wetland vegetation:
Lodgepole pine in meadow and
Abundance and location: surrounding meadow.

Proximity and characteristics of motorized routes in the meadow

Does the road or trail enter the meadow? X Yes Approx. feet or miles 400 ft. ____ No
(Describe the location of the road or trail with respect to hydrologic features in the meadow.)

Does the road or trail parallel a portion of the meadow (within 100 ft. of the edge of the meadow)? ____ Yes X No
(Describe the distance that the road or trail parallels the meadow, and attach photos.)

Is there evidence of motorized use off of the road or trail and into the meadow? ____ Yes X No
(Describe the evidence, and attach photos.)

Are there stream channel crossings along the road in the meadow? X Yes ____ No
____ Pipes/culverts ____ Bridge X Raw crossing
Two stream crossings.

Are there cross drain structures along the road or trail in the meadow? ____ Yes X No ____ Pipes/culverts
____ Rolling dip

[1] Use a separate survey form for each road or trail and meadow or wetland.
[2] Survey is intended for meadows that are greater than 0.1 acres in size. (July 11, 2012)

Field Survey for Meadows and Roads (page 2)

17E24-4 S. Markman 9-16-12

Condition of meadow

Active erosion features (rills, gullies, headcuts) in meadow? X Yes ___ No
(If yes, describe the type, number, size, and location of the erosional features and whether they appear to be related to the road or trail.)
Small denuded areas in meadow, most likely the result of cattle grazing.

Old, healed erosional features in meadow? ___ Yes X No
(If yes, describe the type, number, size, and location of the erosional features and whether they appear to be related to the road or trail.)

Hummocky surface in portions of the meadow? X Yes ___ No *(If yes, describe location and aerial extent in meadow).*
Slightly hummocky in spots.

If the road(s) or trail(s) goes through the meadow, is the road/trail noticeably affecting the movement of water through the meadow?
X Yes ___ No (If yes, *describe the physical evidence).*
Road is entrenched up to 1 ft. deep into meadow, and draining ground water out of meadow.

If the road) or trail parallels a portion of the meadow, is the road/trail noticeably affecting the movement of water into or out of the meadow? ___ Yes ___ No *(If yes, describe the evidence).*
N/A

Is a road(s) or trail(s) contributing sediment into the meadow to the extent that it is noticeably affecting the size and/or function of the meadow? X Yes ___ No *(If yes, describe the physical evidence).*
Sediment from road into meadow at several locations.

Other land disturbances within the meadow? X Yes ___ No
(If yes to the above, describe types and extent).
Cattle grazing throughout meadow and stream.

Stream flowing through the meadow? ___ Yes ___ No

Is stream eroding vertically (i.e. active downcutting)?	X Yes	___ No	up to 3 feet
Is stream eroding laterally (i.e. actively widening?)	X Yes	___ No	up to 15 feet
Does stream contain an active headcut(s)?	___ Yes	___ No	
Does stream contain old (healed) headcut(s)?	___ Yes	___ No	

Aquatic species (incidental sightings only – no survey to a specific protocol)

List aquatic species present, numbers of individuals, and life stage
None observed.

Findings with respect to Standard and Guideline (S&G) #100 of the SNFPA

___ **Yes.** S&G #100 is being met with regard to this road/trail and meadow.

X **No.** S&G #100 is NOT being met with regard to this road and meadow.

___ **I.** Inconclusive. Field evidence not sufficient to determine if S&G #100 is being met.

S&G 100: Maintain and restore the hydrologic connectivity of streams, meadows, wetlands, and other special aquatic features by identifying roads and trails that intercept, divert, or disrupt natural surface and subsurface water flow paths. Implement corrective actions where necessary to restore connectivity.

Other Comments The one stream through the meadow has excessive vertical and lateral erosion. Cattle grazing is a primary cause, as trampling of streambanks by cows is widely evident. Entire meadow has been heavily grazed and recently.

Field Survey for Meadows and Roads [1,2]

Forest: Eldorado National Forest	**District:** Amador	**County:**

Observers Steve Markman, Hydrologist	**Date:** Sept. 14, 2012 **Time:**

Number and/or name of road or trail 17E24.	**UTM** 6.8 and 6.9 miles from start of road. 10S 0752334 ; 4278178
Meadow reference number 17E24-5	10S 0752526 ; 4278219

Characteristics of meadow

Is the feature a meadow? X **Yes** ___ **No** *(Describe what the feature actually is)*

Two separate small meadows, less than 0.1 miles apart.

Does the location of the meadow on-the-ground match the information in GIS? ___ Yes X No
(If the answer is no, please describe the difference).

Not shown in GIS.

Wetness of meadow *(Select the best answer at the time of the survey)*

___ **Very wet** (Standing or flowing surface water present in all or a large portion of feature).
___ **Moderately wet** (Surface water in part of feature and/or ground surface wet in most of feature).
X **Slightly wet** (No surface water. Ground surface wet in part of feature).
X **Mostly dry** (No surface water. Ground surface dry in most of feature).
___ **Dry** (No surface water. Ground surface dry in entire feature).

Predominate riparian/wetland vegetation:

Willow, corn lily, grasses

Abundance and location:

Throughout meadow.

Predominant non-riparian/wetland vegetation:

Lodgepole pine surrounding meadow.

Abundance and location:

Proximity and characteristics of motorized routes in the meadow

Does the road or trail enter the meadow? X Yes Approx. feet or miles 600 feet ___ No
(Describe the location of the road or trail with respect to hydrologic features in the meadow.)

A total of 600 feet for both meadows.

Does the road or trail parallel a portion of the meadow (within 100 ft. of the edge of the meadow)? ___ Yes X No
(Describe the distance that the road or trail parallels the meadow, and attach photos.)

Is there evidence of motorized use off of the road or trail and into the meadow? X Yes ___ No
(Describe the evidence, and attach photos.)

Are there stream channel crossings along the road in the meadow? X Yes ___ No
___ Pipes/culverts ___ Bridge X Raw crossing

1 stream crossing.

Are there cross drain structures along the road or trail in the meadow? ___ Yes X No ___ Pipes/culverts
___ Rolling dip

[1] Use a separate survey form for each road or trail and meadow or wetland.
[2] Survey is intended for meadows that are greater than 0.1 acres in size. (July 11, 2012)

Field Survey for Meadows and Roads (page 2)

17E24-5 S. Markman 9-16-12

Condition of meadow

Active erosion features (rills, gullies, headcuts) in meadow? X Yes ___ No
(If yes, describe the type, number, size, and location of the erosional features and whether they appear to be related to the road or trail.)

Denuded areas in both meadows.

Old, healed erosional features in meadow? ___ Yes X No
(If yes, describe the type, number, size, and location of the erosional features and whether they appear to be related to the road or trail.)

Hummocky surface in portions of the meadow? ___ Yes X No *(If yes, describe location and aerial extent in meadow).*

If the road(s) or trail(s) goes through the meadow, is the road/trail noticeably affecting the movement of water through the meadow?
X Yes ___ No (If yes, *describe the physical evidence).*
Road cuts through both meadows, intercepts groundwater from the meadow and routes groundwater down the road.

If the road) or trail parallels a portion of the meadow, is the road/trail noticeably affecting the movement of water into or out of the meadow? ___ Yes ___ No *(If yes, describe the evidence).*
N/A

Is a road(s) or trail(s) contributing sediment into the meadow to the extent that it is noticeably affecting the size and/or function of the meadow? X Yes ___ No *(If yes, describe the physical evidence).*
Sediment from road can be traced into both meadows.

Other land disturbances within the meadow? X Yes ___ No
(If yes to the above, describe types and extent). Cattle grazing.

Stream flowing through the meadow? X Yes ___ No

Is stream eroding vertically (i.e. active downcutting)?	___ Yes	X No
Is stream eroding laterally (i.e. actively widening?)	X Yes	___ No
Does stream contain an active headcut(s)?	___ Yes	X No
Does stream contain old (healed) headcut(s)?	___ Yes	X No

Aquatic species (incidental sightings only – no survey to a specific protocol)

List aquatic species present, numbers of individuals, and life stage

None observed.

Findings with respect to Standard and Guideline (S&G) #100 of the SNFPA

___ **Yes.** S&G #100 is being met with regard to this road/trail and meadow.

X **No.** S&G #100 is NOT being met with regard to this road and meadow.

___ **I.** Inconclusive. Field evidence not sufficient to determine if S&G #100 is being met.

S&G 100: Maintain and restore the hydrologic connectivity of streams, meadows, wetlands, and other special aquatic features by identifying roads and trails that intercept, divert, or disrupt natural surface and subsurface water flow paths. Implement corrective actions where necessary to restore connectivity.

Other Comments Both meadows have been recently grazed by cattle.