Appendix B

Taylor Hills Floodplain and Wetlands Analysis

This is an evaluation of the proposed land exchange of approximately 151.5 acres of non-Federal land known as Taylor Hills homestead (portions of Sections 13 and 24 T14N, R5E and Sections 18 and 19 T14N, R6E) in the Tenderfoot drainage for approximately 158.8 acres of federal lands (S1/2 Section 30 and NW ¼ Section 32, T14N, R5E) in the South Fork of Tenderfoot drainage for wetland and floodplain effects. This evaluation is required by FSM 2527 and is intended to be an appendix to the environmental assessment of the proposed action.

1. Findings. There is a net gain to the United States of about 5.2 acres of seasonal wetlands and a net loss of approximately 1.7 acres (See table below: 0.8 + 1.2 - 0.3) of steam floodplains from the proposed exchange. No hazards to life or property are known to exist in the wetland or floodplain areas involved. Floodplains are common and wetlands are not uncommon within both watersheds.

2. Methodology. Review of topographic maps at 1:24,000 scale and color aerial photographs at approximately 1:16,000 scale was made. Streams within the appropriate areas were noted and floodplain widths based on peak flows and valley bottom widths assigned to them for the 100-year floodplain. Wet areas were noted directly on the color photographs. Properties were visited in the ground and evaluated in 2004 and 2005.

3. Information search. Based on review of District and Supervisor Office files no previous floodplain mapping was found for the project. Streams on the FS parcels were evaluated according to the Proper Functioning Condition Assessment process (USDI Bureau of Land Management 1998) for the Sheep Creek Range Analysis FEIS (2004) between 1996 and 2002. The unnamed tributary to South Fork Tenderfoot Creek in NW ¼ Section 32, T14N, R5E was found to have a Rosgen channel type of F5b, there was 30 percent cumulative bank instability due to livestock grazing and the reach was determined to be functioning at risk. The reach of Monger Creek on FS lands in SW ¼ Section 30, T14N, R5E has a Rosgen channel type of A4, had 32 percent cumulative bank instability due to livestock grazing and the reach was determined to also be functioning at risk.

4. Hydrologic Evaluation. The unnamed tributary to South Fork Tenderfoot Creek in NW ¼ Section 32 drains approximately 1.4 square miles. The 100 year peak flow of this stream in NW ¼ Section 32 is estimated to be 245 cfs (Omang 1992) which would inundate a floodplain generally 40-50 feet wide based on valley bottom width

   Monger Creek in SW ¼ Section 30 drains approximately 1.7 square miles. The 100 year peak flow of this stream in SW ¼ Section 32 is estimated to be 627 cfs

(Omang 1992) which would inundate a floodplain approximately 50-70 feet wide, again based on valley bottom width.

The unnamed tributaries to Tenderfoot Creek in NE ¼ Section 24, T14N, R5E and NW ¼ Section 19, T 14N, R 6E (Zehntner, Taylor Hills homestead lands) are first order tributaries with drainage areas of less than one mile and are thought to flow year long. These drainages have been impacted by livestock grazing. Channel conditions are fair.

Normal peak flows occur from snowmelt runoff in May or June, while the larger peak flows result from heavy rainfall on streams already swollen from snowmelt.

5. Floodplain Evaluation. The floodplain on the unnamed tributary to South Fork Tenderfoot Creek in NW ¼ Section 32 is estimated to be 50 feet based on peak flows and valley bottom width.

   The 100-year floodplain on Monger Creek in SW ¼ Section 30 is about 60 feet wide based on peak flows and valley bottom width and is well timbered.

   The 100-year floodplain on the first order tributaries to Tenderfoot Creek (Zehntner lands) is estimated to be less than 15 feet wide.

   There are no critical facilities located on land under consideration or downstream of them.

   On-site values are generally those associated with wildlife habitat, recreation and the natural functioning of these watersheds to provide water for domestic livestock, wildlife and irrigation downstream.

   Portions of the drainage areas on the FS parcels have moderate or greater natural erosion rates based on land type ratings. Sediment yields and water turbidity are both fairly high for these drainages. The streams on the FS parcels are not currently supporting fish. The first order streams on the Zehntner parcel are also not thought to be supporting fish.

   There are about 5.2 acres of wetlands on the non-federal lands, in NE ¼ Section 24 and NW ¼ Section 19. The wetlands primarily support wet sedges, forbs willows and alder.

   No wetlands are known on the Forest Service parcels (other than the narrow strips immediately associated with the streams) but they do aid in support of wildlife, including elk and deer.

   The table below shows the amount of wetland acres or stream miles in each parcel of land:

Parcel	Wetland Acres	Feet of Sreams (Acres of Floodplains)
FS lands S1/2 Section 30, T14N, R5E	0	600 feet of Monger Ck (approximately 0.8 acres of floodplains)
FS lands NW ¼ Section 32, T14N, R5E	0	1100 feet of unnamed trib to S. Fk. Tenderfoot Ck (approximately 1.3 acres of floodplains)
Zehntner lands SE ¼ Section 13 and NE ¼ Section 24, T14N, R5E and SW ¼ Section 18 and NW ¼ Section 19, T14N, R6E	Approximately 5.2	1100 feet of unnamed first order tribs to Tenderfoot Ck. (approximately 0.4 acres of floodplains)

From my knowledge and evaluation of this area, the proposed land exchange is consistent with Executive Orders 11988 and 11990 and implementing regulations and Forest Service Manual direction.

/s/ John Hamman

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