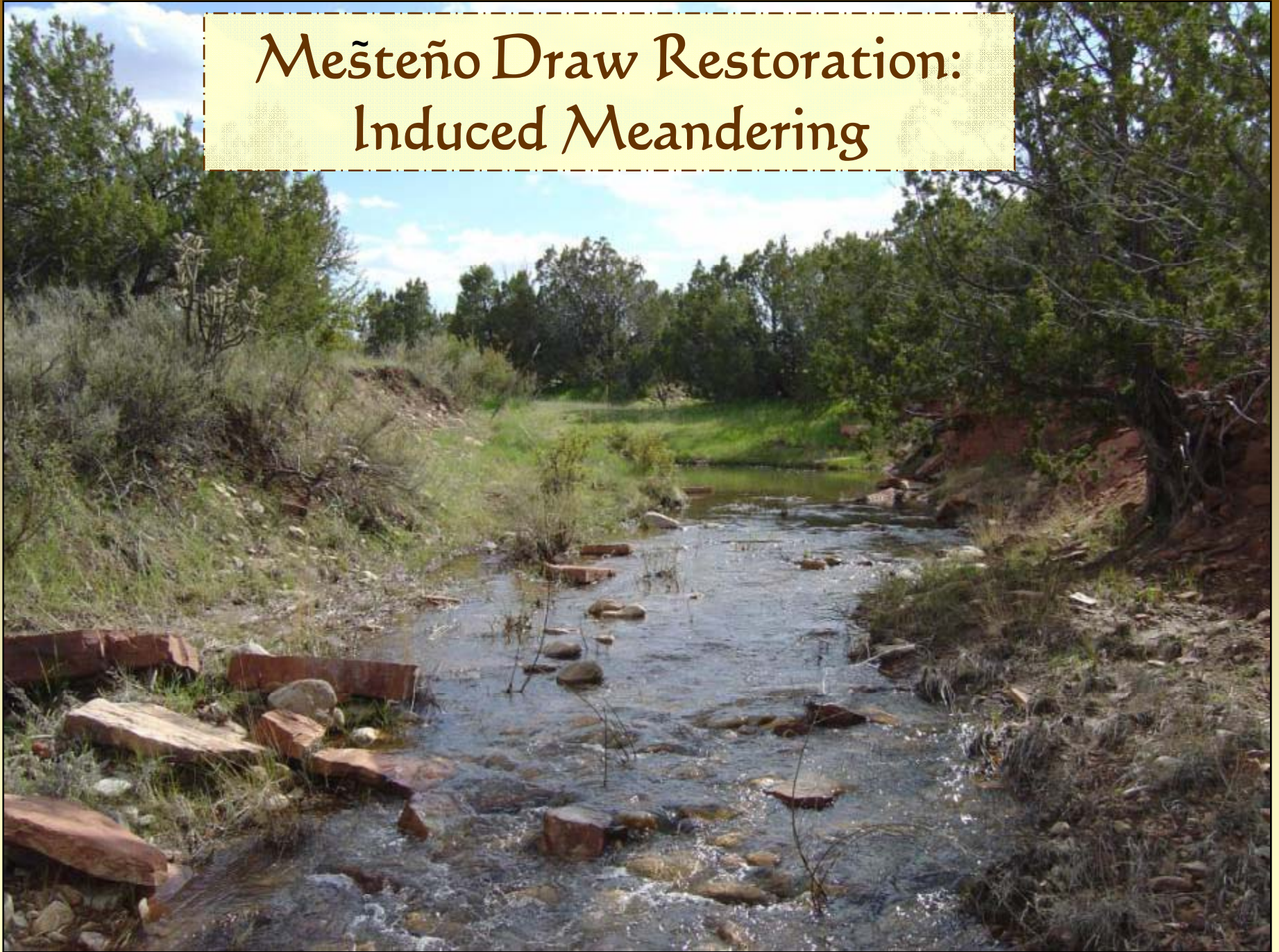


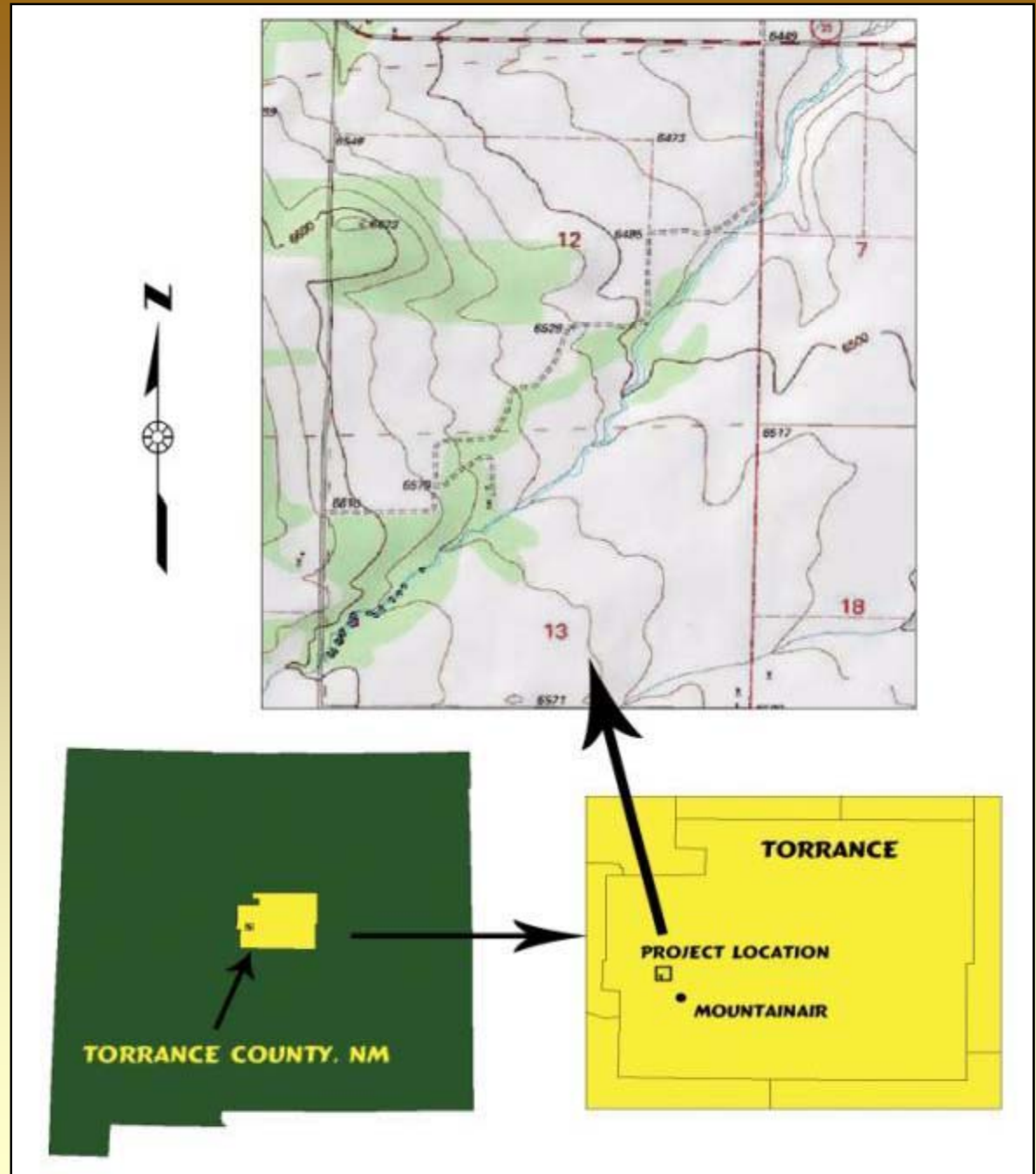
Meșteño Draw Restoration: Induced Meandering



Mesteño Draw is the lower extension of Ox Canyon that rises from a spring in the Manzano Mountains and continues into the closed Estancia Basin.

The project reach is located on private property of the Mesteño Draw Ranch, 7 miles north of Mountainair, NM and is owned by Joan Bybee and Ira Jaffe.

The creek is intermittent with surface flows occurring during spring runoff and summer monsoonal storms.



These are historic agricultural lands with old pinto bean fields and five different homestead sites dotting the landscape. The ranch owners are in the process of rejuvenating the ranch and riparian area with brush removal, managed grazing and induced meandering treatments.

Mesteño Draw once provided continual water to homesteads and was used to irrigate lawns in Mountainair. Due to many factors that include drought, fire suppression, juniper invasion, year-round grazing, and historical manipulations for agricultural and flood protection. The creek has not sustained perennial flow since wet years of the 1980's.





1. Relocation of the creek to enhance farmland irrigation and to protect corrals and barns from flooding.
2. Historic year-long grazing by domestic livestock.
3. Water diverted away from a natural slope wetland (delta fan) and used for irrigation.

LAND IMPACTS



Effects of past management:

1. Straightening of the creek led to down cutting of the channel bed, a drop in the water table upstream from the point of diversion, and side channel erosion.
2. Dehydrated the former slope wetland
3. Concentrated flows causing channelization downstream from point of diversion





Mesteño Draw was divided into three reaches. Decision was made to apply Induced Meandering to the upper reach and defer treatment on the lower two.

Induced Meandering structures to restore a slightly incised Rosgen G channel to its original Rosgen C channel type. Structures were installed during a May 2005 workshop and at later dates with individual volunteer help.

Mesteño Draw Restoration Workshop, May 20-21, 2005



Vane Before

Map Location 01, 02



Vane After



Picket Baffle Before

Map Location 09



Picket Baffle After



Rock Baffle Before

Map Location 12



Rock Baffle After



One Rock Dam Before

Map Location 10

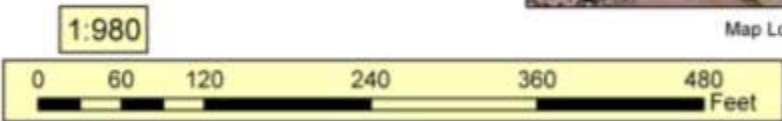


One Rock Dam After



Legend

- Stream
- baffle
- onerock
- headcut ctrl
- vane
- wier



2007



Permanent photo monitoring points have been established along Mesteño Draw. Photos are taken annually in October. In 2007 no measureable rain fell on the ranch and there was only one runoff event from rain that fell upstream in the Manzano Mountains.

2006



October 2005

Vanes # 1 & 2 and Baffle #3

October 2007



Downstream



Upstream

Rock Weir #8

Looking downstream



October 2007

**Drought
Conditions in
2007**



October 2005



May 2005

Plugged cut-off channel to reconnect bankfull discharge with historic floodplain.



May 2005

Downstream



October 2005



October 2007

**Picket
Baffle #9**



May 2005

Upstream



October 2005



October 2007

Picket
Baffle #9

**Boulder Weir built
around existing
willows.**



October 2007



October 2005



May 2005

Joan Bybee and Ira Jaffe
have continued to install
additional structures to
complete this induced
meandering project.