

Distinct Watershed Segments

- **Distinct Watershed Segments (#):** The distribution of the distinct watershed segments are identified for each basin type within the watershed using aerial imagery, such as NAIP or Google Earth, combined with 1:24,000 scale topographic maps. Distinct watershed segments consist of relatively homogenous geological materials, valley morphometric characteristics, landforms, and riparian vegetation, and thus contain similar types of stream reaches. The parameters used to identify distinct watershed segments along the axial drainage network within a watershed include the type of valley fill (e.g., colluvium, alluvium, bedrock), existence of a well-defined and integrated channel (i.e., channelized vs. unchannelized reaches), depth of incision, channel pattern (i.e., meandering, braided, anabranching), presence of stable beaver dams, number and size of side-valley alluvial fans, occurrence of meadow complexes, vegetation types, and valley width and gradient. Aerial photos illustrating the geomorphic features of distinct watershed segments in different basin types are in figs. A.4.1, A.4.2, and A.4.3. The distinct watershed segments represent the dominant stream reach types and are used to select potential stream reaches in the higher, mid and lower elevational zones within the watersheds for field analyses. They are also used to identify potential meadows for field analyses in those watersheds where they occur.
- **Watershed Length/Length of Each Basin Type within the Watershed (m):** The length of the watershed can be obtained using the ruler tool in Google Earth, the distance measure tool in Google Maps, or the measure tool in ArcGIS. The length of the watershed includes the distance from the first appearance of a well-defined stream channel in the upper watershed to where the stream flows out of the canyon and onto the alluvial fan in the lower watershed.
- **Length of Each Watershed Segment (m):** The lengths of the distinct watershed segments can be obtained using the ruler tool in Google Earth, the distance measure tool in Google Maps, or the measure tool in ArcGIS.
- **Percentage of Each Watershed Segment (%):** The percentage of each distinct watershed segment within the watershed is calculated by dividing the length of the distinct watershed segment by the length of the watershed. Similarly, the percentage of each distinct watershed segment within a basin type is calculated by dividing the length of the distinct watershed segment by the length of the basin type.

Figure A.4.1—Aerial photographs illustrating the geomorphic features of the elevational zones within Kingston Canyon in central Nevada. (a) Higher elevations in Kingston Canyon are strongly influenced by side-valley alluvial fans and are categorized as Type B basins. A variety of different valley morphologic conditions exist and connectivity is moderate. In this elevational zone, logical sample sites include a representative stream reach in the incised, connected valley, the meadow complex in the incised valley, and depending on assessment objectives, the meadow complex with standing water. (b) The mid elevation in Kingston Canyon is also a Type B basin and it has significant human influence. In this zone logical sample sites are a representative stream reach in the incised alluvial valley and the meadow complexes. The meadow complex with altered hydrology due to the dam and reservoir may have altered ecological integrity. (c) In contrast to the high- and mid-portions of the watershed, the lower part of Kingston Canyon is a Type A₁ basin located in a narrow, bedrock-controlled valley and characterized largely by an incised alluvial channel. The lower basin is highly connected. Sampling one representative stream reach is sufficient for the lower elevation portion of the watershed. Images obtained from Google Earth on December 2, 2020.

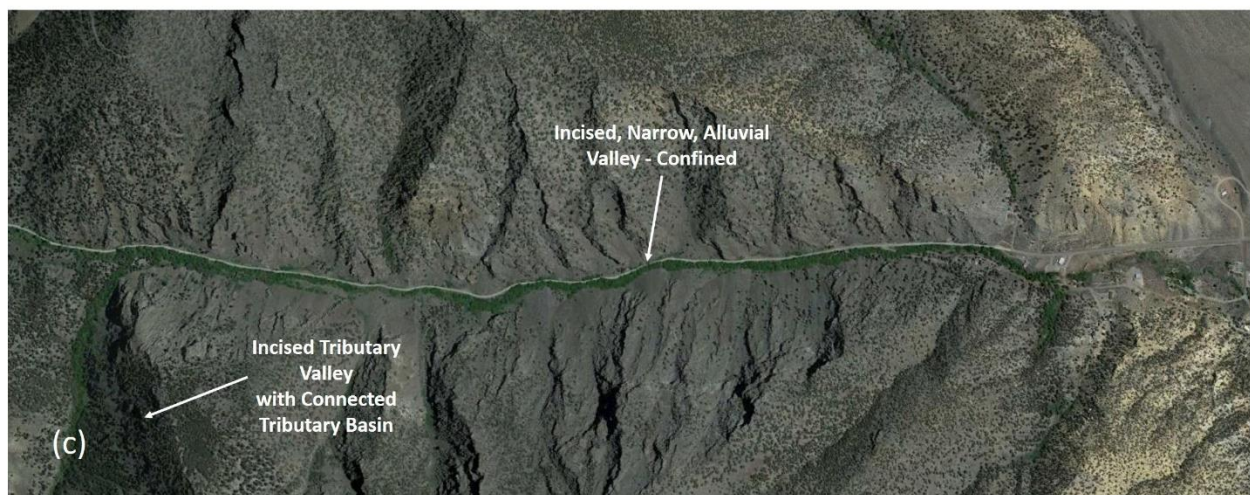
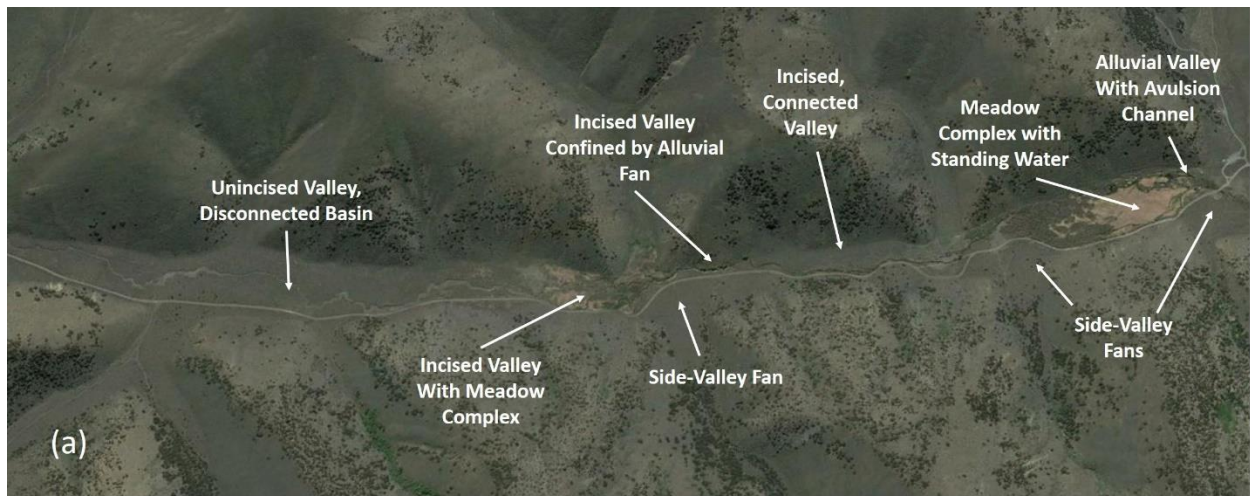


Figure A.4.2—Aerial photographs illustrating the geomorphic features in Indian Valley, Nevada. (a) Indian Valley is a Type C basin characterized by low-gradient, wide, alluvial valleys and incised side-valley fans that have been truncated. (b) A gully system is developing within the valley through migration of headcuts. Indian Valley is an area of conservation concern because it supports a population of Columbia spotted frog, which was a candidate species for listing under the Endangered Species Act from 1993-2015. Logical sample sites within Indian Valley include the unincised valley with meadow complexes, the gully system, and representative reaches in the deeply incised alluvial valley with an inset floodplain and the incised valley with an inset flood plain. Images obtained from Google Earth on December 2, 2020.

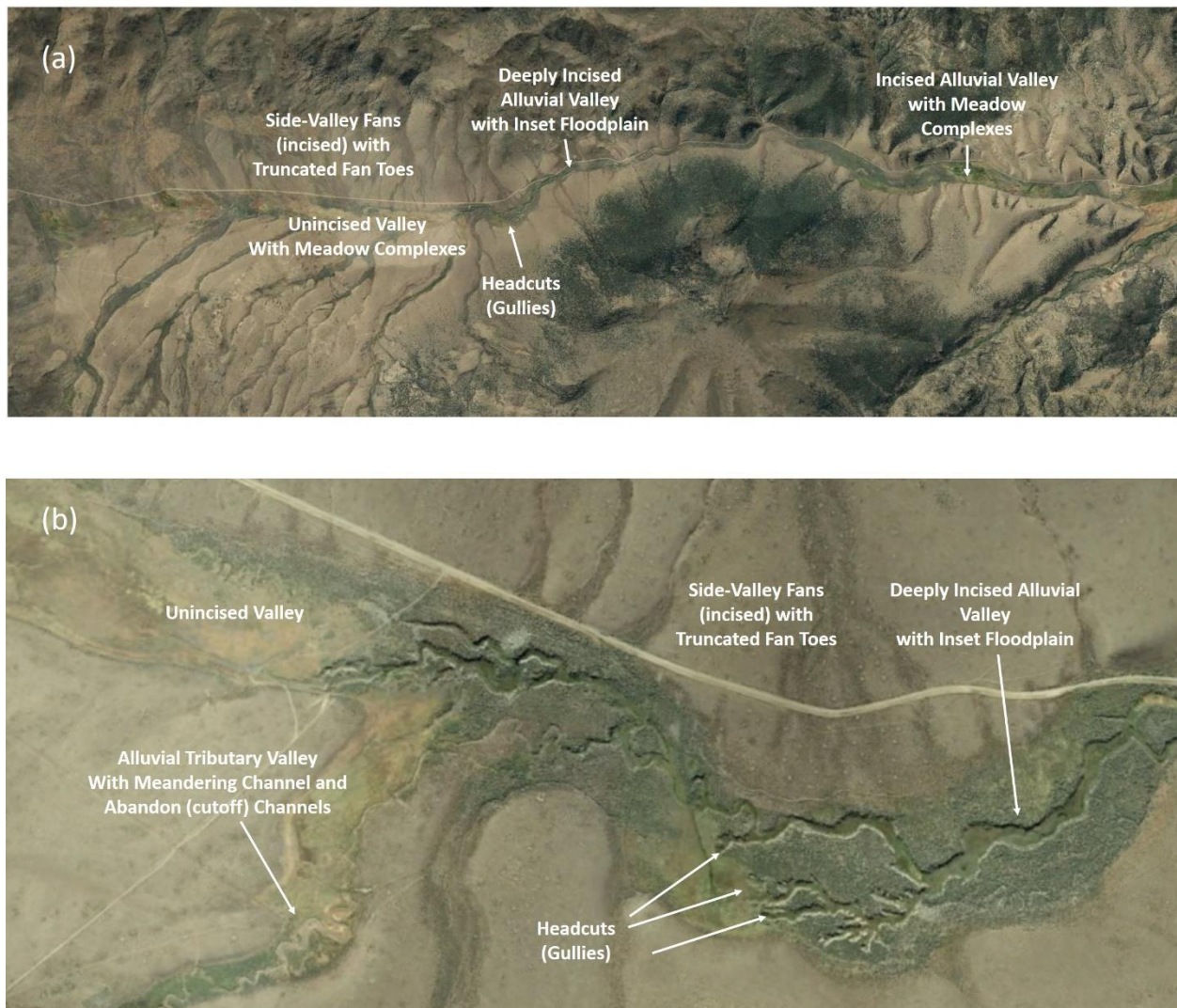


Fig. A.4.3—Aerial photographs illustrating the geomorphic features in McCoy Creek, Nevada. McCoy Creek is a Type A₁ basin characterized by steep slopes and a relatively narrow valley floor. The channel is characterized by coarse sediment and woody debris and there is evidence of channel avulsion. Geomorphic characteristics are relatively consistent throughout this small watershed, and sample locations are selected at high, mid, and low elevations within the watershed. Image obtained from Google Earth on December 2, 2020.

