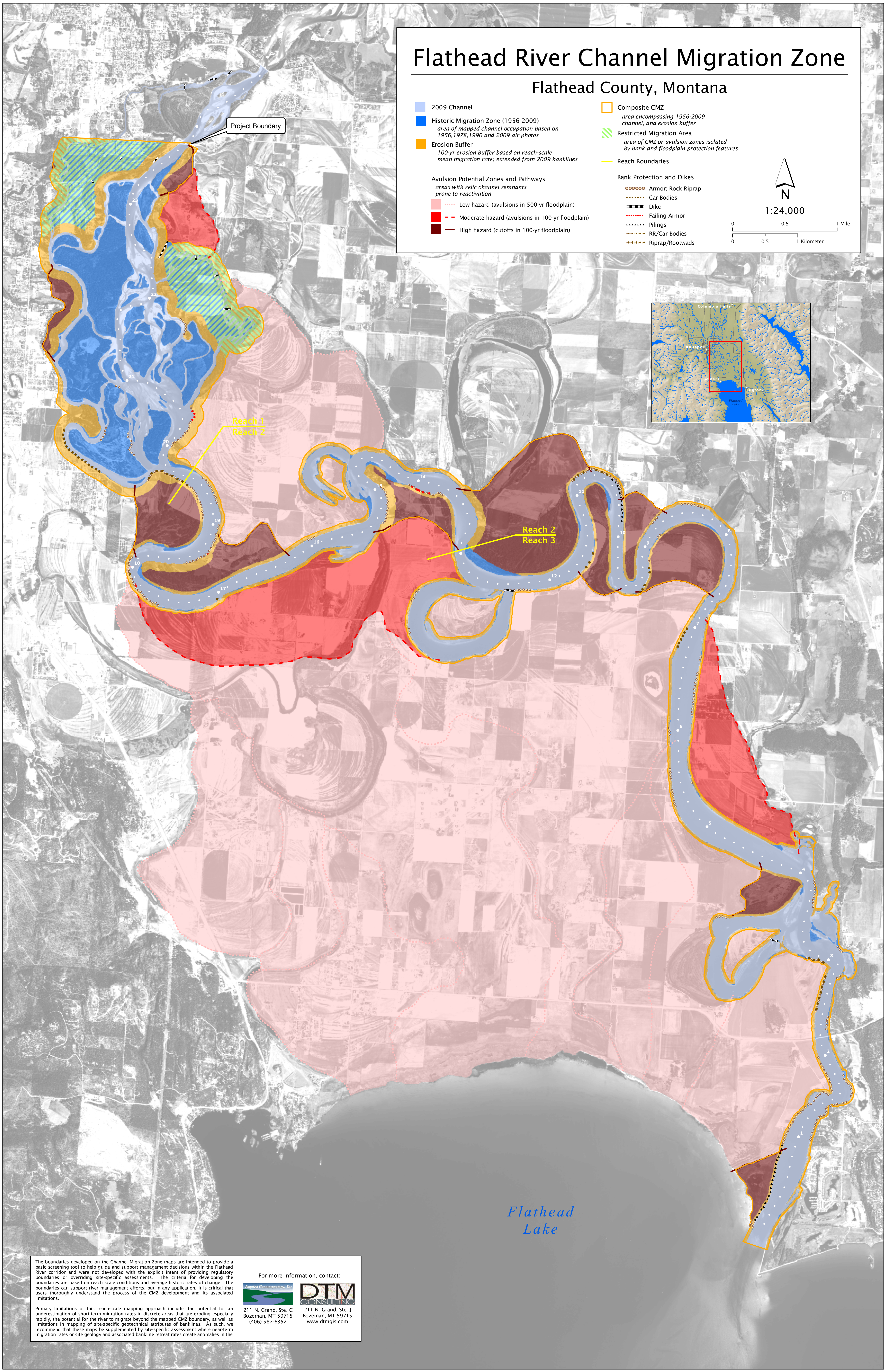
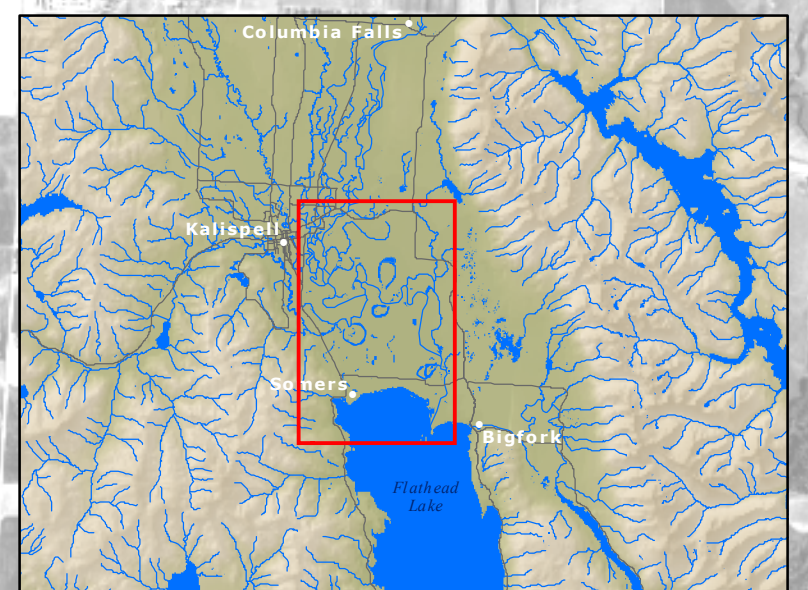
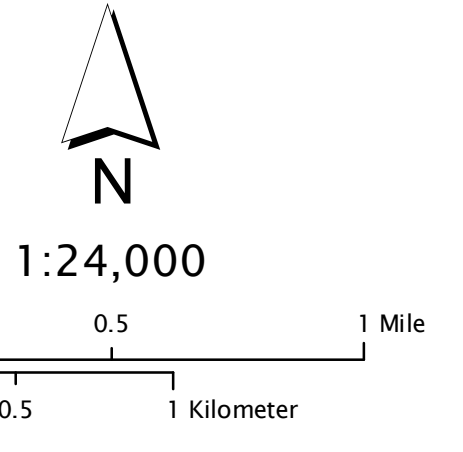


# Flathead River Channel Migration Zone

Flathead County, Montana

- 2009 Channel
  - Historic Migration Zone (1956-2009)  
*area of mapped channel occupation based on 1956, 1978, 1990 and 2009 air photos*
  - Erosion Buffer  
*100-yr erosion buffer based on reach-scale mean migration rate; extended from 2009 banklines*
  - Composite CMZ  
*area encompassing 1956-2009 channel, and erosion buffer*
  - Restricted Migration Area  
*area of CMZ or avulsion zones isolated by bank and floodplain protection features*
  - Reach Boundaries
- Avulsion Potential Zones and Pathways**  
*areas with relic channel remnants prone to reactivation*
- Low hazard (avulsions in 500-yr floodplain)
  - Moderate hazard (avulsions in 100-yr floodplain)
  - High hazard (cutoffs in 100-yr floodplain)
- Bank Protection and Dikes**
- Armor, Rock Riprap
  - Car Bodies
  - Dike
  - Falling Armor
  - Piling
  - RR/Car Bodies
  - Riprap/Rootwads



Project Boundary

Reach 1  
Reach 2


Reach 2  
Reach 3

Flathead  
Lake


The boundaries developed on the Channel Migration Zone maps are intended to provide a basic screening tool to help guide and support management decisions within the Flathead River corridor and were not developed with the explicit intent of providing regulatory boundaries or overriding site-specific assessments. The criteria for developing the boundaries are based on reach scale conditions and average historic rates of change. The boundaries can support river management efforts, but in any application, it is critical that users thoroughly understand the process of the CMZ development and its associated limitations.

Primary limitations of this reach-scale mapping approach include: the potential for an underestimation of short-term migration rates in discrete areas that are eroding especially rapidly, the potential for the river to migrate beyond the mapped CMZ boundary, as well as limitations in mapping of site-specific geotechnical attributes of banklines. As such, we recommend that these maps be supplemented by site-specific assessment where near-term migration rates or site geology and associated bankline retreat rates create anomalies in the

For more information, contact:



211 N. Grand, Ste. C  
Bozeman, MT 59715  
(406) 587-6352



211 N. Grand, Ste. J  
Bozeman, MT 59715  
www.dtmgis.com