



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
- Erosion Buffer (Polygon method)
- 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)
- Ň Restricted Migration Area area of CMZ or avulsion zones isolated by bank and floodplain protection features
- Reach Boundaries

Bank Protection and Dikes

•••••• Armor; Rock Riprap

area encompassing 1956-2009 channel, and erosion buffer

- •••• Car Bodies
- Dike ••••• Failing Armor
- AAAAA Pilings
- •••••• Riprap/Car Bodies
- •••••• Riprap/Rootwads

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)	0.5	

Flathead River Channel Migration Zone

Flathead County, Montana



2	Mile
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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 sitespecific 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 reach-averaging approach.

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