Can the stream or river access it's floodplain?

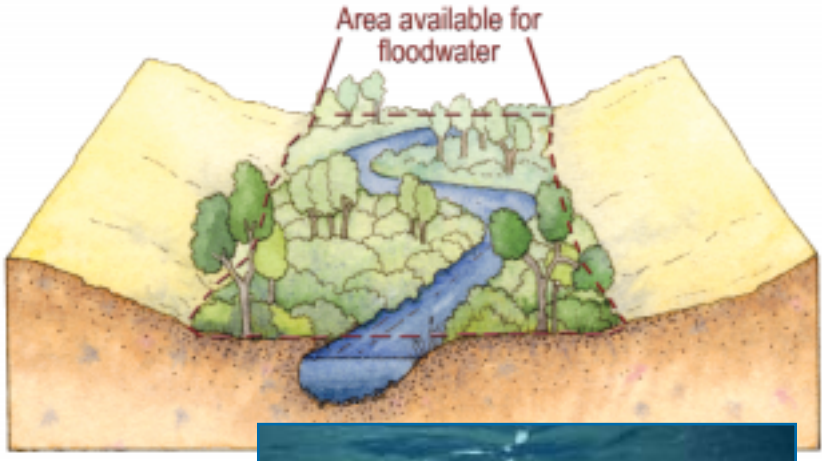
Floodplains, the riparian area that lies beyond the channel, provide a safety valve that allows water in excess of what the channel can hold to escape into a wider area. Floodplains provide temporary storage for high water and an opportunity to slow that water down, reducing energy and allowing sediment to be deposited outside of the channel. Incisement, or downcutting, and constructed features like berms and dykes can limit the ability of streams and rivers to access their floodplains during high water events.

The inability to access a floodplain can result from:

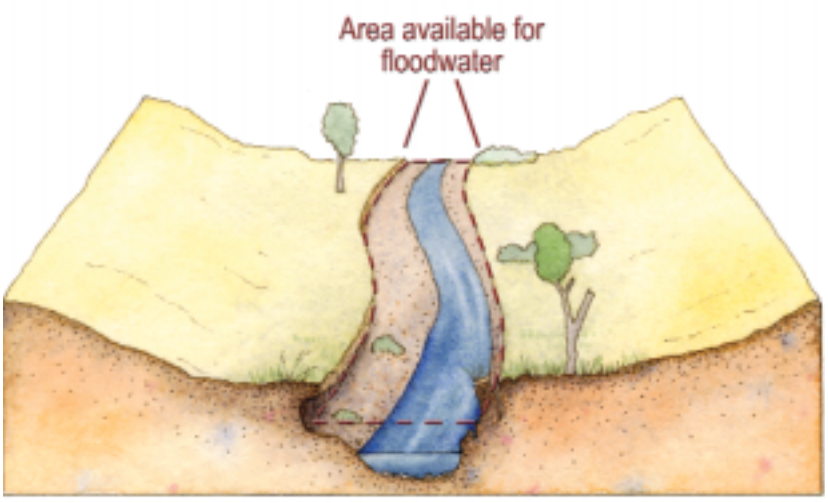
- Watershed scale, cumulative effects of vegetation removal, drainage and roading which affect runoff;
- Local drainage scale changes including vegetation removal, dams, water additions, roading and culvert installations occurring upstream of the reach (and sometimes downstream);
- Reach scale changes including vegetation removal, beaver dam removal, channelization and culverts;
- Natural events including landslides, beaver dam wash-outs and extreme flood events; and,
- Flood and erosion control works.

Incisement of a stream channel and the inability of a river to periodically access its floodplain can result in:

- A lowered water table that affects current vegetation and the potential of the reach for some types of vegetation;
- Increased stream energy with more erosion, sediment, and unstable banks which can persist downstream of the reach and potentially upstream as the stream readjusts;
- Reduced water storage and retention, leading to lower flows or flow ceasing during parts of the year;
- Decreased ability to trap sediment on the floodplain and deal with water quality issues;
- Impairment in the ability of the reach to rebound from natural and human caused impacts; and,
- Decreased productivity, forage, shelter and biodiversity values.



During flooding this river can access a wide floodplain to store water and reduce energy.



Flood water in this incised channel has nowhere to go and all the water and energy are compressed in the channel.