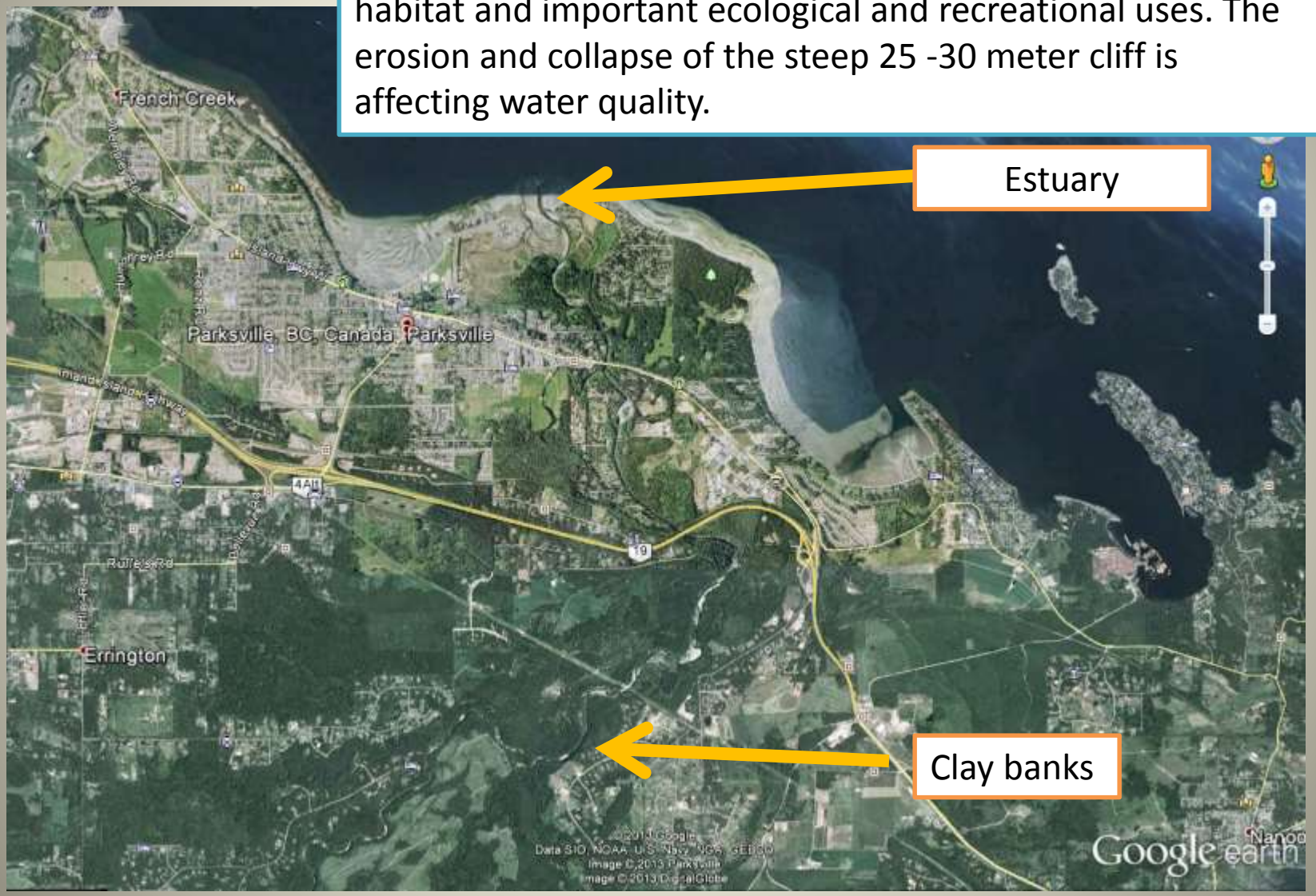
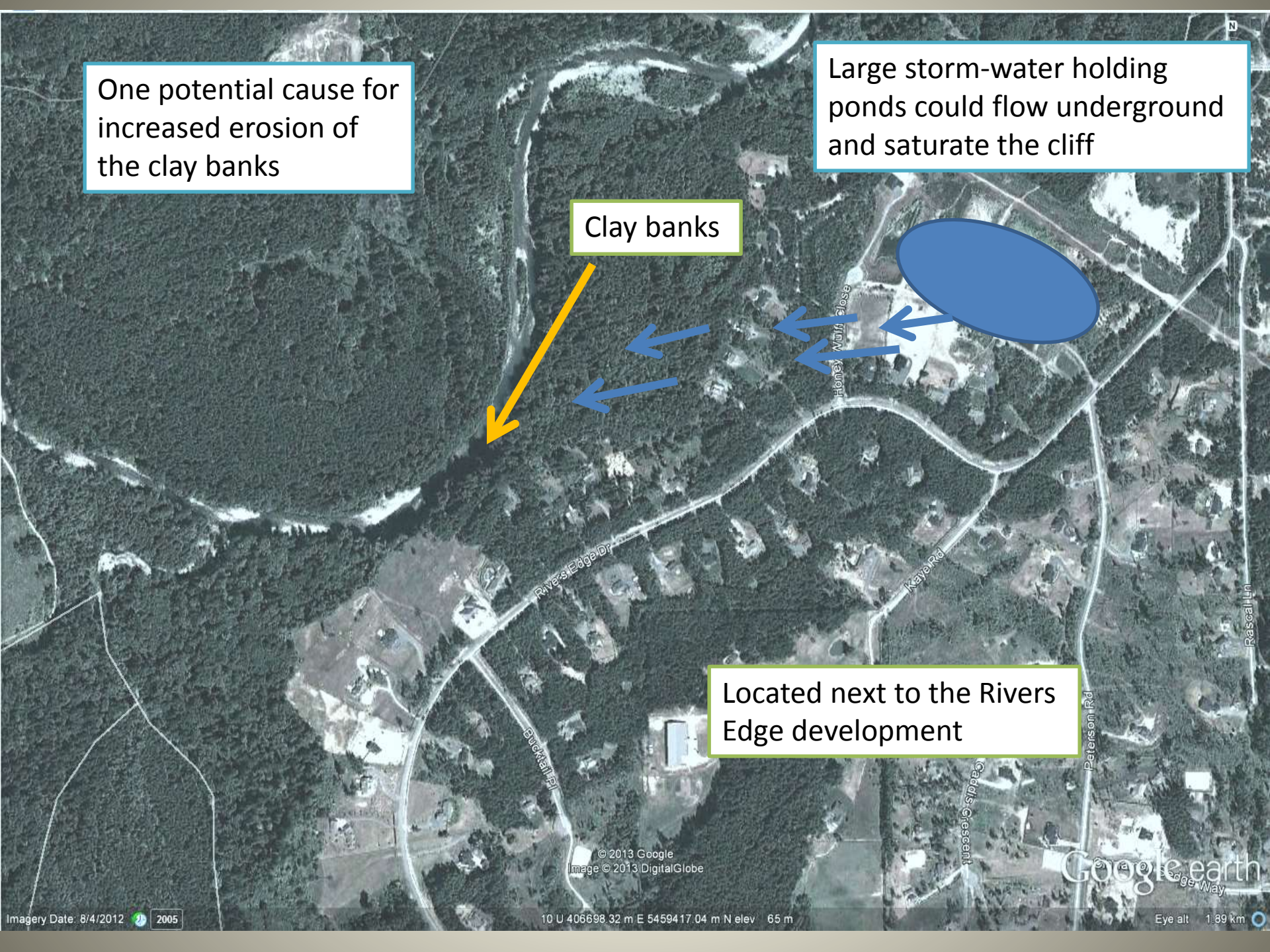

The Clay Banks on the Englishman River
The significance of erosion, the likely causes, effects and a possible remediation method

The ‘Clay Banks’ are located about 8 kilometers south of the estuary on the Englishman River. Upstream of the existing, and proposed future drinking water intakes, critical fish habitat and important ecological and recreational uses. The erosion and collapse of the steep 25 -30 meter cliff is affecting water quality.

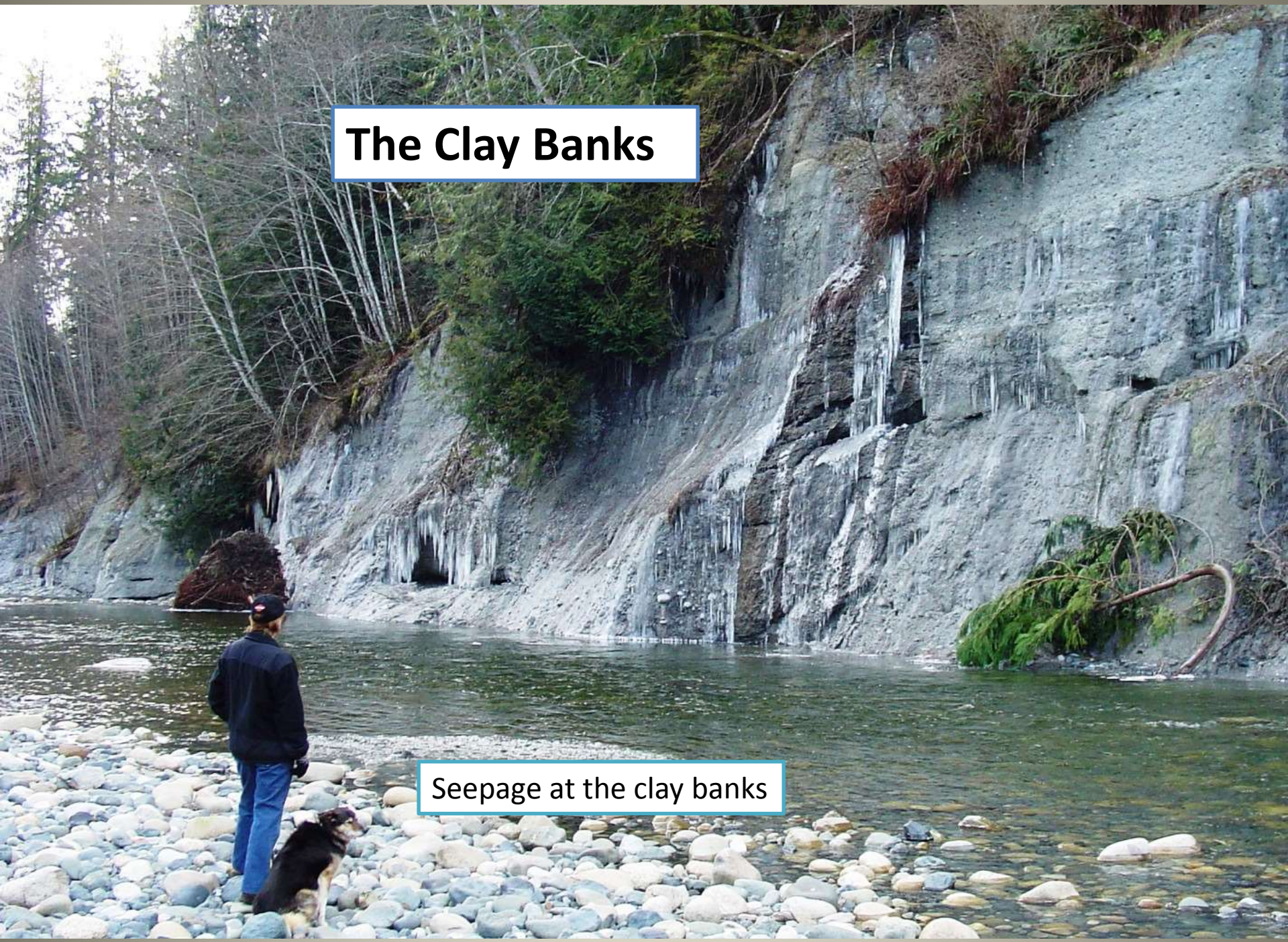


A catastrophic collapse of the clay banks could cause significant problems by temporally damming the river and possibly creating a flash flood.


One potential cause for increased erosion of the clay banks
Large storm-water holding ponds could flow underground and saturate the cliff
Clay banks
Located next to the Rivers Edge development
River's Edge Dr
Kaye Rd
Honey Muff Close
Buckram Pl
Geddis Crescent
Peterson Rd
Rascal Ln
© 2013 Google
Image © 2013 DigitalGlobe
Google earth
Imagery Date: 8/4/2012
2005
10 U 406698.32 m E 5459417.04 m N elev 65 m
Eye alt 1.89 km


Holding ponds


Clay Banks
Holding ponds


The Clay Banks
Seepage at the clay banks


Another possible cause of the cliff base erosion.
Several cabled ‘Large Woody Debris’ diversions were installed on the west side of the river upstream of the clay banks.


Heaver water flows are forced over to the East bank


Eroding bank
A build up of sediments and boulders has also pushed the storm flow water to the east bank


Bank collapse partially blocking river

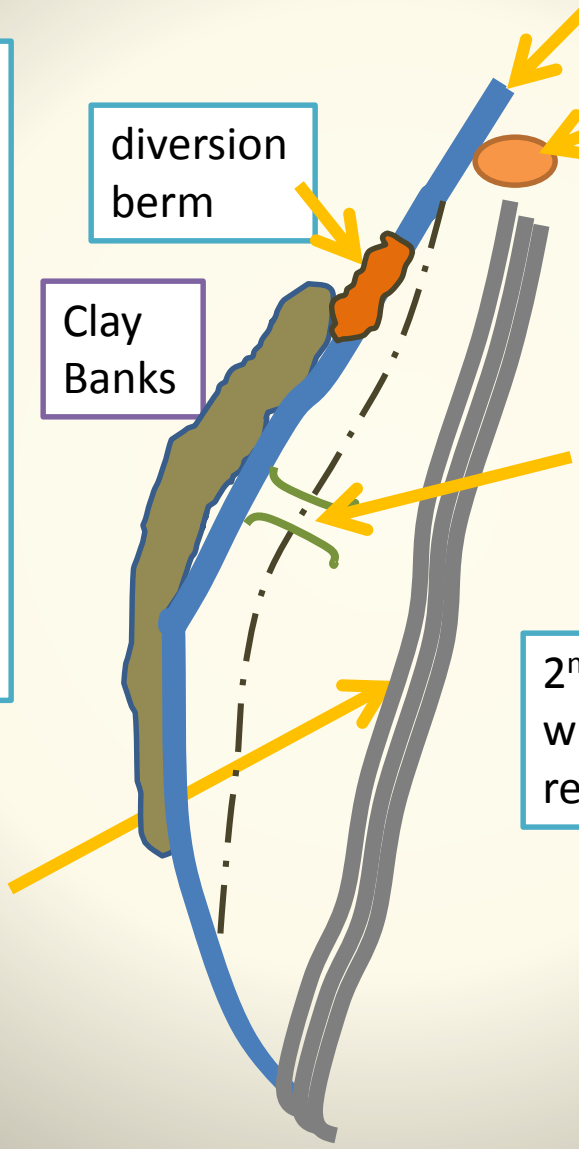

Sediment build-up


River flow


Bank collapse

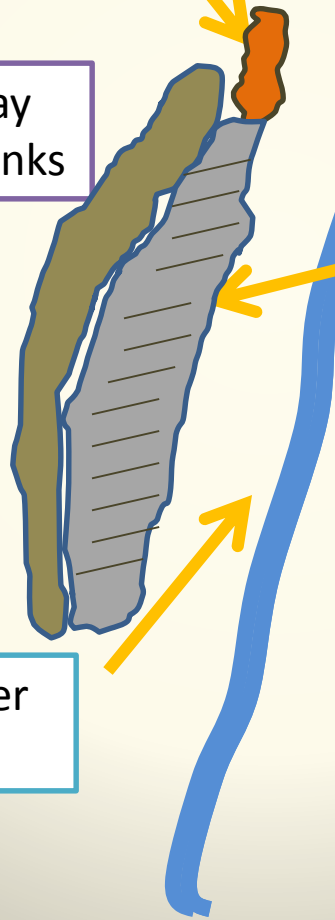
Potential solution

Using a large excavator and a 5-6 yard loader a new deep river channel could be created 50 -60 meters away from the clay bank. The project should be completed within one week during a low flow period in summer. The cost should not exceed $ 30,000



Potential solution

Using a large excavator and a 5-6 yard loader a new deep river channel could be created 50 -60 meters away from the clay bank. The project should be completed within one week during a low flow period in summer. The cost should not exceed $ 30,000



Diversion berm of heavy logs and boulders

Clay Banks

New river channel

New deep river channel

The last piece removed allowing the river to flow into the new channel

Filled area in old channel protecting and stabilizing the foot of the clay bank

Vegetation could be relocated to the filled area and to stabilize the new channel

Concept by Trevor Wicks
Trentec Innovations
October 2013

Concept by Trevor Wicks
Trentec Innovations
October 2013

New channel 50 meters from the old channel