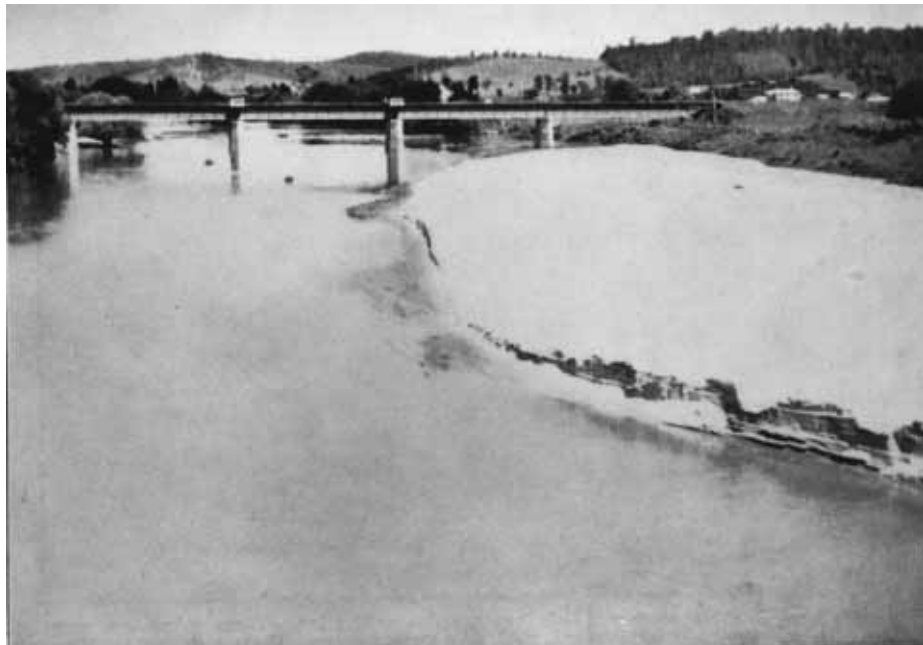


Siltation and secondary effects of erosion

The direct loss of production due to the loss of soil is only part of our annual erosion bill. The secondary effects of erosion cause losses as great or greater. These include:

- (1) *Adverse Effect on other Land* - Rich areas of river flat are often smothered with barren clay or sand from the scouring of the subsoil of other land above. Choking of streams with debris may cause flooding or a breakaway of the stream, with consequent erosion.
- (2) *Adverse Effect on Communications* - Bridges often are undermined or their approaches scoured away; or their capacity is so reduced by siltation that they can no longer safely carry the floodwater of the streams. Roads are sometimes blocked by landslides or the debris from sudden scours, or they may be undermined by gullyng.
- (3) *Adverse Effect on Water Supply* - Storages, from small dams to important reservoirs, are silted up and rendered useless. (It is, of course, recognised that practically al reservoirs on streams will ultimately fill with silt; but the longer this can be delayed, the greater the return from the money expended on them.) Natural waterholes along streams are filled, leaving them dry in summer. Water channels are blocked by sand drift, causing an annual expenditure of many thousands of pounds for clearing them.
- (4) *Other Ill Effects* - Fencing may be destroyed and buildings threatened by landslides, gullyng, or stream erosion. Pollution of streams and filling of waterholes have adverse effect on fisheries. The scenic value of an area is often greatly depreciated by scours and soil washing. A still more important matter is the silting up of costly drainage systems.



43. Siltation. Huge deposits in Tambo River, at Bruthen. A low level bridge has been completely covered over by this silt which is scoured from the hillsides by sheet erosion, gullies, &c., further up the stream.



44. Siltation. Valuable Tambo flats at Bruthen being destroyed by deposit of raw sand. Sunflower crop, soil not now good enough for maize.'



45. Siltation. Raw sand brought down by Tambo creeping over Bruthen flats and severely lessening their productiveness.



46. Bridge over Eaglehawk Creek on main Traralgon - Maffra road, near Glengarry. This has been so choked with debris from the scour shown in No. 26 that nearly all its capacity is gone, and the water in floodtime flow deep over the roadway, damaging it and holding up traffic.



47. Bridge over Creighton's Creek, a mile or two below the Hume Highway. The creek is here so choked with sand from the Strathbogie ranges that in even small floods the water flows over the land, damaging roads and property.



48. Siltation. Mokepilly Creek in Grampians, showing a bridge on the Stawell-Hall's Gap tramway, where 10 to 12 feet of silt have been deposited.



49. Railway bridge over Avon at Stratford. This has been lengthened by about 600 feet since 1886, and further extension will be necessary if further scour occurs.



50. Below the main road bridge over Eaglehawk Creek at Glengarry (see Nos. 26 and 46). Barren subsoil has covered many acres of this holding.



51. South of Rainbow, sand which has drifted from paddock in foreground has rendered road impassable.



52. Parish of Bitchigal, in the Mallee. Wind erosion here has been so severe that one channel has had to be abandoned and a new one constructed.



53. Main channel near Welpeup filled to the banks with drift sand from adjacent fallow.



54. Scooping out channel shown in previous picture. Near Walpeup



55. Parish of Kattyong - channel nearly filled with sand drift, only a few weeks after it had been cleaned out for use.



56. Hughes' Creek, near Avenel, showing huge beds of sand brought down from scours in the granitic Strathbogie Ranges. The waterholes along the creek have all been filled and are now useless. Not scouring cliff in background.



57. The Mitta River, near Tallangatta. When the Hume Reservoir is full, the stored water backs up the river, causing the sandbanks to form. When the level of the water in the reservoir falls, the stream speeds up again and washes the sand further into the reservoir. Note the clean edge of the sandbank where part has been washed away, contrasted with the greyer surface still covered with silt. In this way the Hume storage is steadily being filled.



58. Flats on Sandy Creek where it enters the Hume Reservoir, near Tallangatta. This area is covered by the waters of the reservoir when it is full, and heavy siltation is taking place, extending each year further into the reservoir basin.



59. Siltation alongside Hume Highway, near Euroa, resulting from sheet erosion and small gulying on undulating land between the Highway and the Strathbogie Ranges. The old fence has been wrecked and a new one erected.



60. Bullock Creek. A tributary of the Bunyip River. Extensive forest fires, during February 1932, left mountain slopes open to the torrential rain of November and December 1931. The rapidity of the unretarded run-off carried vast quantities of surface soil to choke stream beds at lower levels and eventually drainage channels in the Koo-wee-rup area where serious losses have already occurred through flooding.