

Presented to Regulatory Committee 10/3/11

Decision:

That

1. *Council staff investigate all sediment runoff incidents with the agreed enforcement triggers in (3) below, and recommend actions to the Council's Enforcement Decisions Group; and*
2. *Council work together with the City and District Councils, community groups and farmers to produce guidelines for Otago on sediment control measures for agricultural, subdivision and in-stream work activities.*
3. *The triggers for enforcement action process be:*
 - a) *Conspicuous change in colour or visual clarity; or*
 - b) *Significant potential or actual adverse effects on aquatic environment or aesthetics of the waterway; and*
 - c) *Circumstances were reasonably amenable to control, mitigation and avoidance.*

REPORT

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Prepared For: Regulatory Committee

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Subject: Sediment runoff enforcement

1. Précis

In the past Council has received several complaints on sediments or suspended solids in waterways. Sediments cause discolouration and adverse effects on fish and water users in general. Sediments can also be deposited on beds of waterways and could affect the bed biota. The main causes of sediment runoff are poor practices of earth works associated with farming and subdivisions and poor in-stream work practices. To date Council has taken legal action on subdivision and in-stream work sediment runoff. No legal action has been taken against farm sediment runoff. The report recommends taking stringent enforcement actions against all sediment incidents, including farm sediment runoff. It also recommends an increase in the Council's educative approach on earthworks associated with subdivisions, farms and in-stream works in collaboration with the district and city councils within the region.

2. Background

Sediments in water can cause discolouration and increase turbidity. High sediment levels in water can cause fish gill irritation, smothering of aquatic organisms, reduce sunlight penetration to beneficial aquatic plant species, clog filters, cause damage to water pumps, render water unsuitable for human and stock consumption, and affect aesthetics of waterways. The recent Environmental Science Committee Paper "Patterns of Water Quality in the

Pomahaka Catchment” clearly identified sedimentation causing serious detriment to in-stream values. Most of the sediment runoffs occur following heavy rainfalls from earthworks on farms, subdivisions and roads. Some occur from poor in-stream works such as weed or tree removals from river or lake beds, and alluvial extraction.

There have been several complaints in the past associated with high sediment levels in water or sediment runoff. Despite the issue of sediment runoff being historical, only a few enforcement actions have been taken against persons causing sediment runoff. No enforcement actions have been taken against sediment runoffs from agricultural activities to date. This paper recognises the sediment runoff issue and provides a way forward.

2.1. Subdivisions and Roothing

Subdivisions’ new roading works require stripping existing ground cover, cuts, fills, drainage and landscaping which will result in substantial amounts of earth work. Any such work has to be planned and implemented carefully. Poor practices disregard planning which results in full stripping of the ground cover rather than stage by stage, no provision for sediment runoff collection and detention ponds or other sediment control measures, no consideration of potential high intensity rainfall, and lack of or no vegetated margin between waterways and earthworks. Several regional and district councils have produced guidelines for subdivisions earth works, hence there is no shortage of useful information on sediment control measures.

Generally district councils which grant subdivision consents require good sediment control measures. Where enforcement has been lacking, this has resulted in ongoing poor practices by earth work contractors. Where sediment control measures are enforced (e.g. Auckland), contractors’ awareness of sediment runoff and controls is high and their practices are very good.

In the past Council had received and attended to many complaints related to sediment runoff from subdivision earth works (e.g. Figure 1). Council staff have been issuing warnings to

Figure 1 – Poor subdivision earth works management



contractors or owners of the subdivisions. Last year Council filed a prosecution against the contractors and the owner of a subdivision for excessive sediment runoff which resulted in a successful prosecution with a total fine of \$56,000. Council staff have been in discussions with Dunedin City Council staff to clarify roles under the Resource Management Act and strengthen earth work consent conditions and enforcement, including collaborative work to produce a best practice publication. Similar discussions should be held with the remaining district councils in the region. It is also recommended that Council produce useful guidelines on sediment control measures for subdivisions in association with the district and city councils within the region. Any future sediment runoff from urban or rural subdivisions will be viewed seriously and Environmental Services staff will be required to investigate and recommend actions in all subdivision runoff cases to the Council's Enforcement Decision Group (EDG) which comprises Compliance Manager, Director Resource Management, and Chief Executive.

2.2. In-stream works

Damming, diversion, gravel or alluvial removal, weed removal, placing or constructing or removal of structures on bed, drilling and any other bed disturbances can also cause sediment runoff. Again there have been good guidelines provided by several regional councils to adopt best practices to minimise or avoid sediment runoff. Several past complaints have been lodged and attended to by Council staff (e.g. Figure 2). Several incidents resulted in infringement notices being served. It is recommended that Council improve its stringent stance on sediment runoff resulting from in-stream works and produce useful guidelines on best practices to minimise or avoid sediment runoff from in stream works.

Figure 2 – Poor management of in-stream work



2.3. Land disturbance from agricultural activities

There have been past complaints on sediment runoff resulting from agricultural activities (e.g. Figures 3 & 4). Large amounts of sediment can be carried by runoff water when paddocks are ploughed up, there is intensive winter grazing (Figure 5), or standoff pads are located close to waterways. The adverse effects of such activities can be highly accentuated if such activities

occur in rolling or steep hilly areas. Large amounts of valuable top soil can be lost from such activities. Again useful information exists on good practices to minimise sediment runoff from such activities. Council staff should be viewing both urban and rural sediment runoff. Therefore it is recommended Council staff investigate and recommend actions on all sediment runoff resulting from agricultural activities to the Council HDG. It is also recommended Council produce useful guidelines on sediment control practices associated with agricultural activities.

Figures 3 – Sediment runoff from a farm in the Catlins River catchment



Figure 4 – Heavy sediments in Catlins River as a result of farm runoffs



Figure 5 – Poor winter grazing practices



3. Guidance for enforcement officers

Any guidance provided to staff to trigger enforcement of a sediment runoff should be simple and consistent without involving complex water analysis or other processes. It is however, acknowledged that the information collection on sediment runoff breaches has to be robust enough to undertake enforcement activities successfully. This may require sampling for suspended solids upstream and downstream of the discharge and of the discharge itself, water clarity test, photos and estimate of the plume length. Such information is required in prosecution cases to prove adverse effects on the environment.

The following site situations should be considered as triggers for enforcement action process:

- (a) Conspicuous change in colour or visual clarity; or
- (b) Poor earthwork, land use or in-stream work practices; or
- (c) Significant potential or actual adverse effects on aquatic environment/or aesthetics of the waterway.

4. Recommendations

That

- a) Council staff investigate all sediment runoff incidents with enforcement triggers identified in Section 3 of this report and recommend actions to the Council's Enforcement Decisions Group; and
- b) Council work together with the City and District Councils, community groups and farmers to produce guidelines for Otago on sediment control measures for agricultural, subdivision and in-stream work activities.

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