North County Watch

Looking Out Today For Tomorrow

Email to: Secretary of the Board, Susan Baker
sbaker@co.slo.ca.us

December 11, 2008

Board of Supervisors
County of San Luis Obispo
San Luis Obispo, CA 93408

Re: Item C-7 Viborg Appeal – Additional Information

Dear Chairman Patterson and Supervisors:

Please find below excerpts from NMFS National Gravel Extraction Policy, August 1996:

The potential effects of gravel extraction activities on stream morphology, riparian habitat, and anadromous fishes and their habitats are summarized as follows:
1. Extraction of bed material in excess of natural replenishment by upstream transport causes bed degradation.

2. Gravel extraction increases suspended sediment, sediment transport, water turbidity and gravel siltation

3. Bed degradation changes the morphology of the channel

4. Gravel bar skimming significantly impacts aquatic habitat.

5. Operation of heavy equipment in the channel bed can directly destroy spawning habitat, and produce increased turbidity and suspended sediment downstream

6. Stockpiles and overburden left in the floodplain can alter channel hydraulics during high flows.

7. Removal or disturbance of instream roughness elements during gravel extraction activities negatively affects both quality and quantity of anadromous fish habitat.

8. Destruction of the riparian zone during gravel extraction operations can have multiple deleterious effects on anadromous fish habitat.

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Gravel extraction activities can damage the riparian zone in several ways:

a. If the floodplain aquifer discharges into the stream, groundwater levels can be lowered because of channel degradation. Lowering the water table can destroy riparian vegetation (Collins and Dunne, 1990).

b. Long-term loss of riparian vegetation can occur when gravel is removed to depths that result in permanent flooding or ponded water. Also, loss of vegetation occurs when gravel removal results in a significant shift of the river channel that subsequently causes annual or frequent flooding into the disturbed site (Joyce, 1980).

c. Heavy equipment, processing plants and gravel stockpiles at or near the extraction site can destroy riparian vegetation (Joyce, 1980; Kondolf, 1994a; OWRRI, 1995). Heavy equipment also causes soil compaction, thereby increasing erosion by reducing soil infiltration and causing overland flow. In addition, roads, road building, road dirt and dust, and temporary bridges can also impact the riparian zone.

d. Removal of large woody debris from the riparian zone during gravel extraction activities negatively affects the plant community (Weigand, 1991; OWRRI, 1995). Large woody debris is important in protecting and enhancing recovering vegetation in streamside areas (Franklin et al., 1995; OWRRI, 1995).

e. Rapid bed degradation may induce bank collapse and erosion by increasing the heights of banks (Collins and Dunne, 1990; Kondolf, 1994a).

f. Portions of incised or undercut banks may be removed during gravel extraction, resulting in reduced vegetative bank cover, causing reduced shading and increased water temperatures (Moulton, 1980).

g. Banks may be scraped to remove "overburden" to reach the gravel below. This may result in destabilized banks and increased sediment inputs (Moulton, 1980).

h. The reduction in size or height of bars can cause adjacent banks to erode more rapidly or to stabilize, depending on how much gravel is removed, the distribution of removal, and on the geometry of the particular bed (Collins and Dunne, 1990).

NMFS National Gravel Extraction Policy 7

Respectfully,

Susan Harvey

Attachment: Electronic copy of NMFS National Gravel Extraction Policy, August 1996

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