

**WAC 220-660-180 Sand and gravel removal.** The requirements of this section do not apply to suction dredging for mineral prospecting covered in WAC 220-660-300, or to diver-operated dredging for aquatic plant control covered in WAC 220-660-290.

(1) **Description:** Sand and gravel deposited by river processes is used as construction aggregate for roads and highways (base material and asphalt), pipelines (bedding), septic systems (drain rock in leach fields), and concrete (aggregate mix) for highways and buildings. In some areas, people remove aggregate mainly from river deposits, either from pits in river flood plains and terraces, or by removing gravel directly from riverbeds with heavy equipment.

(2) **Fish life concerns:** Removing sand and gravel from the active channel bed may affect sediment movement if it disrupts the sediment balance in the river. This disruption may cause channel adjustments that extend considerable distances beyond the excavation site. Removing instream sand and gravel changes the channel shape and bed elevation and may involve extensive clearing of vegetation, flow diversion, sediment stockpiling, and excavating deep pits. Removing sand and gravel can also produce a local sediment shortage that can reduce spawning potential and success in gravel-starved stream reaches. Disturbance or loss of gravel can create significant channel head cutting upstream from the project. Trenches or pits in the bed can trap fish. Other effects of removing instream gravel include a reduction of large woody material that is important as cover for fish, and short-term loss of insects and stream bugs that are food for fish.

(3) **Sand and gravel removal design:**

(a) Limit sand and gravel removal to exposed bars. Sand and gravel removal must not result in lowering the average channel cross-section profile either in the work area or downstream of it.

(b) The department requires a quantitative site assessment to document habitat changes. This includes preproject and post-project channel cross-section surveys for commercial sand and gravel removal projects. As a provision of a multiyear HPA, the department may require surveys to be conducted each fall. The surveys must reference cross-sections vertically to a permanent benchmark and horizontally to a permanent baseline. The cross-sections must be surveyed perpendicular to the high flow channel every one hundred feet through the work area and at cross-sections upstream and downstream at adjacent channel riffles. The HPA application submitted to the department must include the preproject survey information. A person must submit the post-project survey to the department within ninety days after removal of sand and gravel is finished or the expiration date of the HPA, whichever occurs first.

(4) **Sand and gravel removal construction:**

(a) The department must establish an excavation line, which is then identified in the HPA.

(b) The permittee must place boundary markers to identify the excavation zone. The department must approve the location of the boundary markers before a person starts to remove sand and gravel.

(c) Excavation must start at the excavation line and proceed toward the bank or the center of the bar, perpendicular to the alignment of the watercourse.

(d) Do not remove bed material from the waterward side of the excavation line.

(e) Do not place or operate equipment within the wetted perimeter of the watercourse.

(f) Remove sand and gravel within the excavation zone from a point starting at the excavation line and progressing upward toward the bank or the center of the bar on a minimum two percent gradient. The department may require a survey of the excavation zone upon completion of the sand and gravel removal operation to ensure the operation maintained a two percent gradient and that no depressions remain. When required, the permittee must pay for the survey.

(g) At the end of each workday, the excavation zone must not contain pits, potholes, or depressions that may trap fish because of fluctuating water levels.

(h) Limit stockpiling of material waterward of the OHWL, after the initial bed disturbance, to protect fish life. If the department has approved stockpiling waterward of the OHWL, completely remove the material before fish start spawning in the area or stream flow starts increasing. The department will determine timing restrictions for each site individually. If the water level rises and makes contact with stockpiles, further operation of equipment or removal of the stockpiles may not proceed unless the department authorizes the work.

(i) Leave the upstream end of the sand and gravel bar undisturbed to maintain watercourse stability waterward of the OHWL.

(j) Retain large woody material waterward of the OHWL. Large wood within the excavation zone must be repositioned within the watercourse. Other debris must be disposed of so it will not reenter the watercourse.

(k) Sand and gravel washing or crushing operations must take place above the limits of anticipated floodwater.

[Statutory Authority: RCW 77.04.012, 77.04.020, and 77.12.047. WSR 15-02-029 (Order 14-353), § 220-660-180, filed 12/30/14, effective 7/1/15.]