

**Appendix D**  
**Best Management Practices for Existing and**  
**Potential Water-source**



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**Definition:** Water-source developments include the access road, turn around, and drafting area.

**Items To Consider When Implementing Best Management Practices:**

1. Water quality protection measures for water sources in environmental documents.
  - Address buffer area for water-source development in the erosion control plan.
  - Address size of development (amount of bare soil with reduced infiltration capability).
  - Consider hydrologic connectivity and spill prevention.
  - Identify mitigation measures to reduce erosion and sediment.
2. Limits or guidelines established for water use/withdrawal  
National Marine Fisheries Service (NMFS) Water Drafting Specifications (NMFS Southwest Region 2001). (For illustration purposes only; consult local jurisdiction guidelines.)
  - Pumping rate shall not exceed 350 gallons per minute.
  - The pumping rate shall not exceed 10 percent of the stream flow. Restricting drafting to 10 percent of the stream flow provides adequate downstream flow to support fish, aquatic insects, amphibians, and other biota. Ten percent of flow may be estimated by pump operators.
  - Consult long range management plan for drafting requirements for resource protection (may identify a cubic feet per second limit).
  - The effect of single or multiple pumping operations at the same location shall not result in obvious draw-down of either upstream or downstream pools (NMFS 2001).
  - Restrict operations to daylight-only prevents the use of light that will attract fish to the drafting pool (NMFS 2001).

Other considerations for drafting

- Evaluate capacity and recharge of lake/pond/reservoir and potential impacts to habitat with drafting and draw-down impacts.
3. Facility constructed and maintained to minimize or prevent erosion.
    - Facility location.
    - Access road slope.
    - Access road length.
    - Development size (bare exposed soil).
    - Facility and stream hydrologic connectivity.
  4. Source is designed and constructed such that damage from storm flows is minimized.
    - Location of facility (proximity to stream).
    - Position of drafting pond (within the streambed, floodplain).
    - Stream-channel type.
    - Stream reach and watershed condition.
    - Site longevity and maintenance requirements.
  5. Streambank alteration and excavation is minimum to provide water source
    - Method of drafting at site may dictate amount of excavation or alteration.
    - Activity within streambed (excavation or moving rocks and boulders to create a drafting pool).
    - Stream-channel type.
    - Height of vertical lift from water surface to vehicle loading area.

The water-source suitability form is used to determine existing suitability of water sources as well as locations of potential new water sources. Inventory of existing water sources allows a district or forest to determine which water-source developments are maintained or upgraded to meet BMP 2-1 “Water-source Development Consistent with Water Quality Protection.”

Water-source developments are aimed toward the construction of a limited number of durable, long-term water sources rather than the construction of a succession of hasty, expedient, development that are rapidly abandoned. Permanently designed sources, such as small piped diversions to offsite storage tanks or ponds will result in the lowest, long-term effects (2000, USDA Forest Service Pacific Southwest Region).

