

WAC 365-190-100 Critical aquifer recharge areas. (1) Potable water is an essential life sustaining element for people and many other species. Much of Washington's drinking water comes from groundwater. Once groundwater is contaminated it is difficult, costly, and sometimes impossible to clean up. Preventing contamination is necessary to avoid exorbitant costs, hardships, and potential physical harm to people and ecosystems.

(2) The quality and quantity of groundwater in an aquifer is inextricably linked to its recharge area. Where aquifers and their recharge areas have been studied, affected counties and cities should use this information as the basis for classifying and designating these areas. Where no specific studies have been done, counties and cities may use existing soil and surficial geologic information to determine where recharge areas exist. To determine the threat to groundwater quality, existing land use activities and their potential to lead to contamination should be evaluated.

(3) Counties and cities must classify recharge areas for aquifers according to the aquifer vulnerability. Vulnerability is the combined effect of hydrogeological susceptibility to contamination and the contamination loading potential. High vulnerability is indicated by land uses that contribute directly or indirectly to contamination that may degrade groundwater, and hydrogeologic conditions that facilitate degradation. Low vulnerability is indicated by land uses that do not contribute contaminants that will degrade groundwater, and by hydrogeologic conditions that do not facilitate degradation. Hydrological conditions may include those induced by limited recharge of an aquifer. Reduced aquifer recharge from effective impervious surfaces may result in higher concentrations of contaminants than would otherwise occur.

(a) To characterize hydrogeologic susceptibility of the recharge area to contamination, counties and cities may consider the following physical characteristics:

- (i) Depth to groundwater;
- (ii) Aquifer properties such as hydraulic conductivity, gradients, and size;
- (iii) Soil (texture, permeability, and contaminant attenuation properties);
- (iv) Characteristics of the vadose zone including permeability and attenuation properties; and
- (v) Other relevant factors.

(b) The following may be considered to evaluate vulnerability based on the contaminant loading potential:

- (i) General land use;
- (ii) Waste disposal sites;
- (iii) Agriculture activities;
- (iv) Well logs and water quality test results;
- (v) Proximity to marine shorelines; and
- (vi) Other information about the potential for contamination.

(4) A classification strategy for aquifer recharge areas should be to maintain the quality, and if needed, the quantity of the groundwater, with particular attention to recharge areas of high susceptibility.

(a) In recharge areas that are highly vulnerable, studies should be initiated to determine if groundwater contamination has occurred. Classification of these areas should include consideration of the degree to which the aquifer is used as a potable water source, feasibility of protective measures to preclude further degradation, availabil-

ity of treatment measures to maintain potability, and availability of alternative potable water sources.

(b) Examples of areas with a critical recharging effect on aquifers used for potable water may include:

(i) Recharge areas for sole source aquifers designated pursuant to the Federal Safe Drinking Water Act;

(ii) Areas established for special protection pursuant to a groundwater management program, chapters 90.44, 90.48, and 90.54 RCW, and chapters 173-100 and 173-200 WAC;

(iii) Areas designated for wellhead protection pursuant to the Federal Safe Drinking Water Act;

(iv) Areas near marine waters where aquifers may be subject to saltwater intrusion; and

(v) Other areas meeting the definition of "areas with a critical recharging effect on aquifers used for potable water" in these guidelines.

(c) Some aquifers may also have critical recharging effects on streams, lakes, and wetlands that provide critical fish and wildlife habitat. Protecting adequate recharge of these aquifers may provide additional benefits in maintaining fish and wildlife habitat conservation areas.

[Statutory Authority: RCW 36.70A.050 and 36.70A.190. WSR 10-03-085, § 365-190-100, filed 1/19/10, effective 2/19/10.]