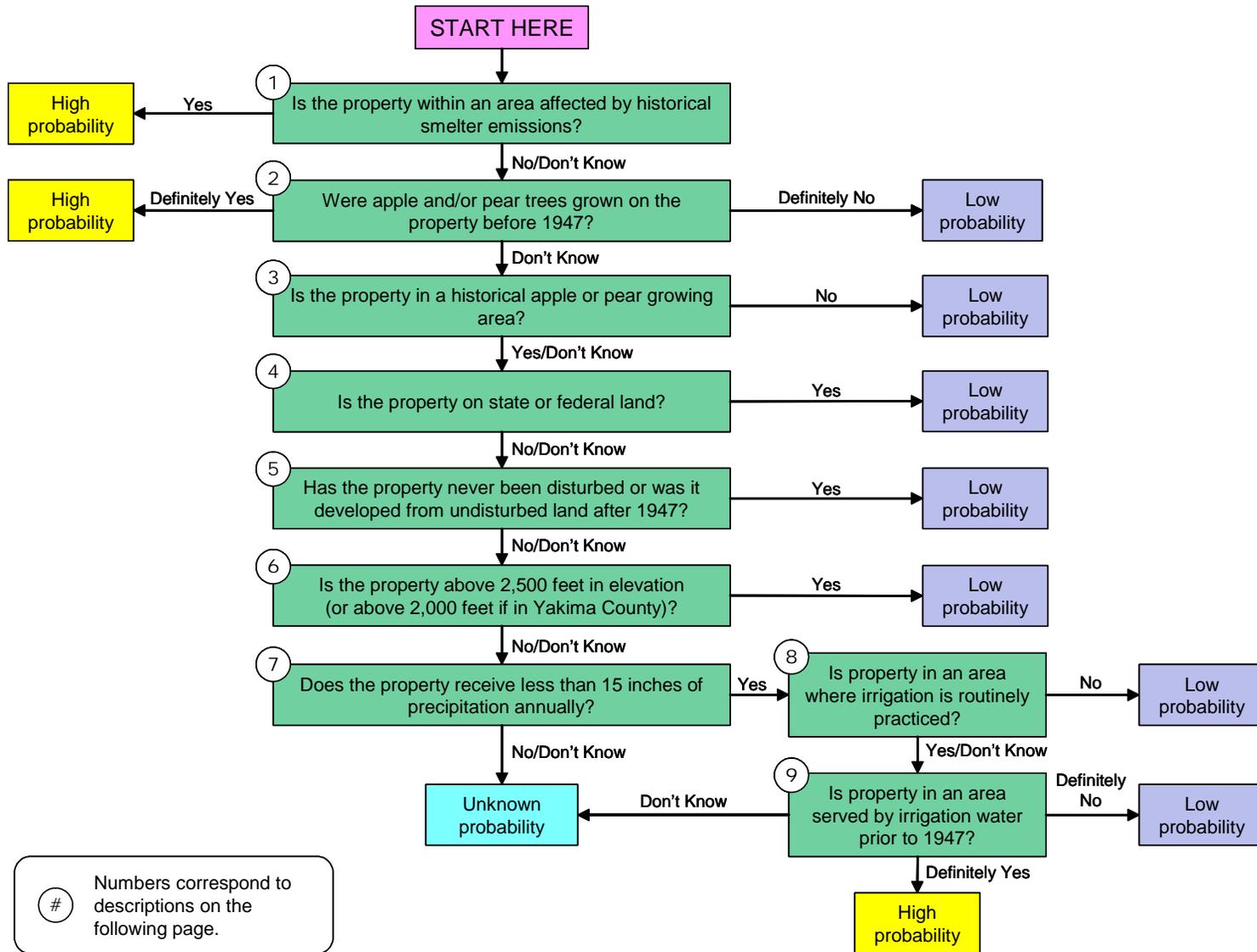


Individual Property Evaluation Flowchart



1 **Is the property within an area affected by historical smelter emissions?** Parts of King, Pierce, Snohomish, and Stevens counties have a high probability of having elevated levels of arsenic and lead in soil based on historical emissions of metal smelters located in Tacoma, Harbor Island, Everett, Northport, and Trail, B.C. See associated smelter plume maps to determine which parts of these counties are affected or potentially affected by historical smelter emissions based on information currently available.

2 **Were apple and/or pear trees grown on the property before 1947?** Lead arsenate was used as a pesticide to control the codling moth from about 1905 to 1947 in Washington State. It was used most heavily on apple and pear trees, but was also applied to other tree fruit crops in smaller quantities. Properties that had apple or pear trees on them during the period when lead arsenate was used (i.e., before 1947) have a high probability of having elevated levels of arsenic and lead in soil, while properties that did not contain apple or pear trees have a low probability. Local planning and zoning departments, former property owners, and/or long-time residents of an area may have information about whether a particular property used to be an apple or pear orchard in the early to mid-1900s. The flowchart continues with additional questions if it is unclear whether apple or pear trees were grown on a property during the period when lead arsenate was used.

3 **Is the property in a historical apple or pear growing area?** Properties within historical apple or pear growing areas in the state—including but not limited to the Yakima valley, the Wenatchee valley, areas near Lake Chelan, areas in Okanogan and Spokane Counties, areas along the Columbia River, and in small commercial or “backyard” orchards in western Washington—are more likely to have contained apple and/or pear trees during the time when lead arsenate was used. If the property is not within a historical apple or pear growing area, the probability that it has elevated levels of arsenic and lead in soil from lead arsenate pesticide use is low. As with the first flowchart question, local planning and zoning departments, former property owners, and/or long-time residents of an area may have information about whether a particular property is within a historical apple or pear growing region.

4 **Is the property on state or federal land?** State and federal land is not likely to have been cultivated with apple or pear trees historically and therefore properties on state or federal land are less likely to be contaminated from lead arsenate pesticide use than are other properties.

5 **Has property never been disturbed or was it developed from undisturbed land after 1947?** Properties that have never been disturbed or that were developed from undisturbed land after 1947 would not have been cultivated with tree fruit crops during the time that lead arsenate pesticide was used, and therefore these properties have a low probability of having elevated levels of lead and arsenic in soil from historical use of lead arsenate. Former property owners, developers, and local officials may have information about the development history of properties.

6 **Is property above 2,500 feet in elevation (or above 2,000 feet if in Yakima County)?** Apple and pear trees tend to be grown in river valleys and other lower elevation areas in Washington. If a property is at a relatively high elevation, it is less likely to have had apple and pear trees grown on it during the early to mid 1900s, when lead arsenate was used as a pesticide, and therefore there is a low probability that elevated levels of arsenic and lead are present from historical lead arsenate use.

7 **Does the property receive less than 15 inches of precipitation annually?** This question is designed to separate the areas of the state that generally need irrigated water to grow apple and pear trees productively from those that do not. Information about average annual rainfall may be obtained from the National Weather Service.

In general, areas receiving more than 15 inches of precipitation annually, such as in much of western Washington, would not have needed to rely on irrigation to grow apple and pear trees; the flow chart ends for these properties with a determination of unknown probability of lead and arsenic contamination from lead arsenate use.

Areas in Washington that receive less than 15 inches of precipitation annually, however, would generally need irrigation to cultivate apple and pear trees productively; these areas are most often in eastern Washington. Information on current and historical irrigation practices, therefore, could help determine the likelihood of lead arsenate pesticide contamination. The flow chart continues for these properties with the following two additional questions about irrigation.

8 **Is the property in an area where irrigation is routinely practiced?** If the property is not located within a general area where irrigation has been routinely practiced, it is not likely to have been irrigated in the past. Since irrigation would have been necessary to grow apple or pear trees on the property because of its low annual precipitation, this implies that there is a low probability that elevated levels of arsenic and lead are present due to lead arsenate use. If, however, the property is in an irrigation area, the flow chart continues with the following question:

9 **Is the property in an area served by irrigation water prior to 1947?** If the property is in an area where irrigation is routinely practiced currently, information on whether the property was served by irrigation water before 1947, when lead arsenate pesticide use ended, can help determine whether there is high or low probability for arsenic and lead soil contamination from this source. Information on whether a property had been served by irrigated water historically may potentially be obtained by contacting local irrigation districts; County or City governments may also have maps or other historical references with this information.

If the property definitely was not served by irrigated water prior to 1947 yet (from question 6) is in an area needing irrigation to cultivate apple and pear trees, it is unlikely that apple and pear trees were grown on the property and therefore there is a low probability that there is lead arsenate contamination present.

If the property, however, was definitely irrigated in this period and (from question 2) is in a historical apple or pear growing area, there is a high probability that lead arsenate contamination is present.