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## New Wellhead Protection Area Frequently Asked Questions

- **What is a wellhead protection area?**
  - A wellhead protection area is the surface and subsurface land that the City regulates to protect public health by reducing the risks that could lead to the contamination of our water supply. These areas are divided into four different zones based on the amount of time it takes groundwater to reach City wells - 6-month, 1-year, 5-year, and 10-year time-of-travel zones. To help protect our drinking water, the City works with land owners and businesses to reduce pathways for groundwater contamination, monitor water quality, and prohibit certain land uses.
  
- **Why is the City proposing changes to the boundaries of the wellhead protection area?**
  - The Washington Department of Health recommends that public water systems revise wellhead boundaries as conditions change or new information becomes available. Several significant factors have changed since the boundaries were first drawn in 1997 including decommissioning of a production well, acquisition of two new satellite water systems, increased water production to keep up with growing demand, and planning for a new well field in the southwest part of the City. Also, our understanding of local geology and our ability to evaluate groundwater movement within the aquifer has improved significantly over the last twenty years.
  
- **Why are the proposed wellhead area boundaries larger than current boundaries?**
  - First, the updated wellhead area includes a new source of supply in the southwest part of the City that, when complete, could pump upwards of 3.2 million gallons of water into the distribution system each day. This increases the size of the wellhead protection area significantly. Second, to account for the growth in water demand since 1997 as well as future growth, and to be more protective of our drinking water, the proposed wellhead areas at the City's primary wellfields are based on larger annual withdrawals than were used previously. The computer models used to map the current boundaries were based on annual water withdrawals from the early 1990's. Our more recent model is based on the maximum capacity of our primary well fields, or the amount of water we can actually produce.
  - These two changes help explain why the outer extent of the proposed wellhead protection areas are almost twice the size of the existing boundaries; however, this increase is not uniform for all areas. As an example, the proposed wellhead protection area for the Palermo well field is actually smaller than its existing protection area..
  
- **Are these new boundaries more accurate?**
  - Yes. The computer software used to delineate the wellhead boundaries in 1997 is outdated and obsolete. The proposed wellhead protection areas were delineated with more sophisticated software that is able to take into account more detailed information about known conditions

below ground. In the last twenty years, different hydrogeologic studies in the area have revealed new information about characteristics of the aquifer such as how thick it is, how fast ground water moves through it, and in what direction.

- **Do the proposed boundaries provide more protections to public health?**
  - Yes. Because the new boundaries are more accurate we can focus our wellhead protection efforts on regions of the City where groundwater is more likely to flow to our drinking water wells. Additionally, because the boundaries are based on the maximum rate of pumping, we can be assured that our wellhead protection ordinance will help us protect our drinking water into the future, as demand for water increases and the configuration of our water infrastructure changes.
  
- **What land uses are prohibited under the wellhead protection ordinance?**
  - It is important to mention that, based on zoning, certain land uses are allowed in some parts of the City and not others – regardless of these proposed boundary changes. As it turns out, some of the prohibited land uses are not permitted by zoning anyway. For example, the wellhead protection ordinance prohibits automobile wrecking yards within the 6-month and 1-year time of travel zones and, at the same time, City zoning allows wrecking yards as a conditional use only in parts of the City zoned for heavy industry. Only a small section of the City is zoned for heavy industry and does not overlap with the current or proposed wellhead protection area. So, even though the wellhead protection ordinance prohibits automobile wrecking yards within the 6-month and 1-year time of travel zones, the fact that zoning **already** disallows this use in most areas means that the prohibition on automobile wrecking yards does not add new regulatory requirements. The following land uses are prohibited within the wellhead protection area under Tumwater’s wellhead protection ordinance:
    - Within the 6-month and 1-year capture zones
      - Large-scale facilities for containing and feeding livestock
      - Gas stations and commercial fuel storage
      - Dry cleaners with onsite cleaning
      - Facilities that transfer, store, or dispose of hazardous waste
      - Chemical manufacturing
  
    - Within the 6-month, 1-year, 5-year, and 10-year capture zones.
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      - Chemical manufacturing
  
- **Where can I find more information?**
  - See [Chapter 16.26](#) of Tumwater’s municipal code.