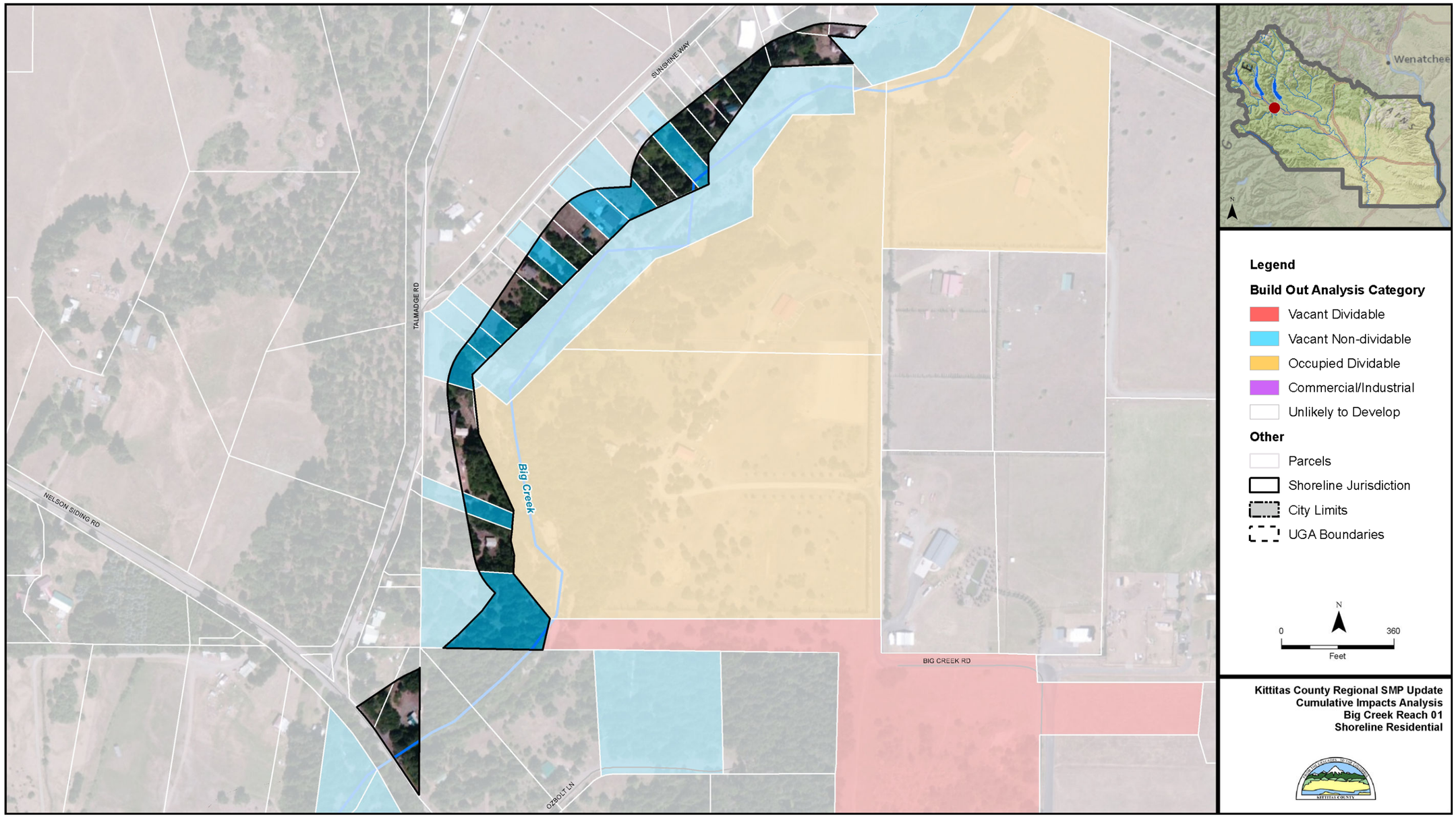
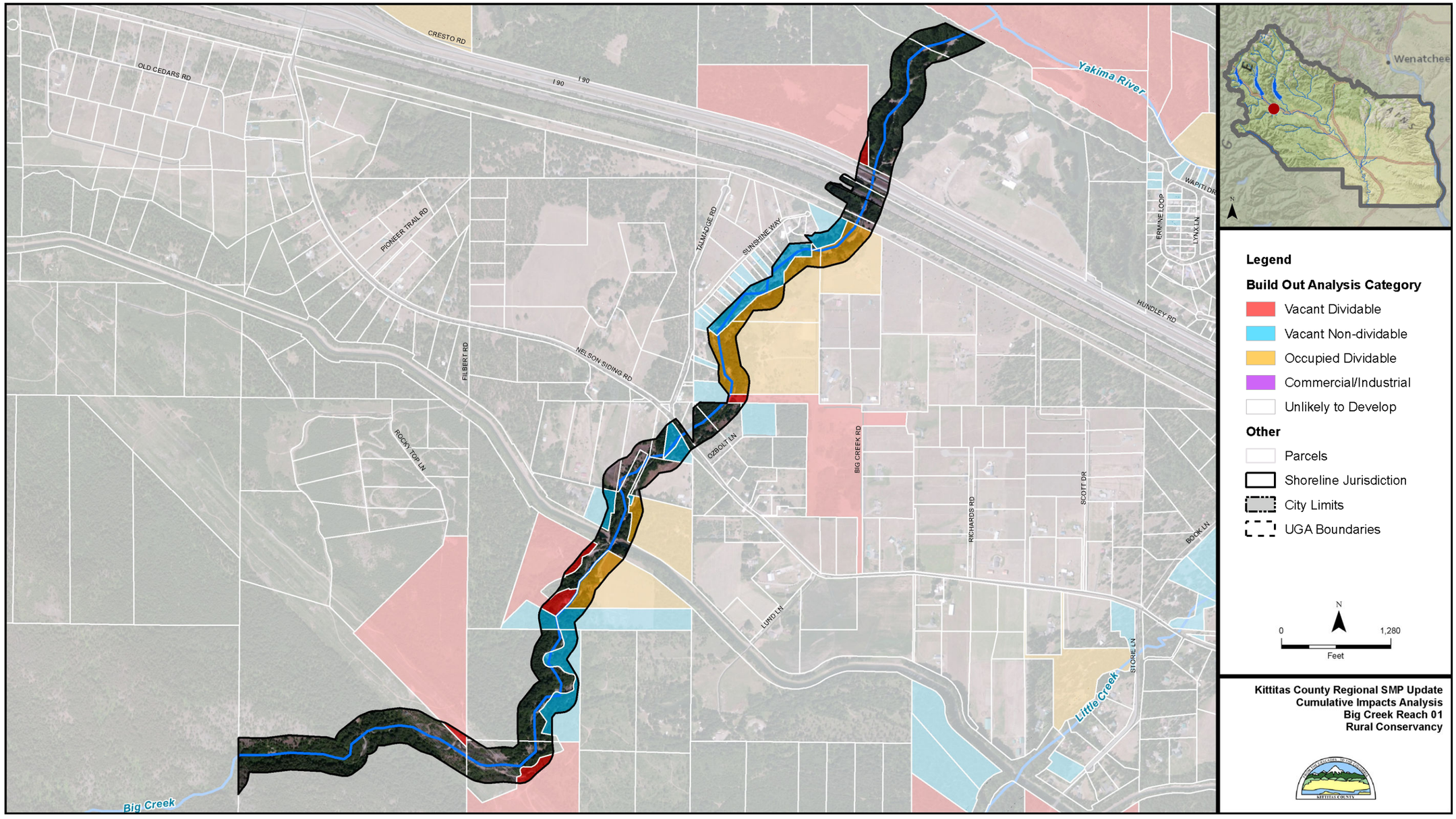
Big Creek – Shoreline Residential SED



Big Creek – Shoreline Residential SED					
Existing Conditions (By ecological function)	**Foreseeable Future Development**	**Potential Risks to Ecological Functions**	**SMP Provisions Addressing Functions at Risk**		**Anticipated Future Performance**
			Protection (Proposed SMP regulations with reference by SMP section number)	**Restoration** (Final Restoration Plan)	
Water Quality The lower portion of Big Creek, below the National Forest boundary, is listed by Ecology (2008) for high water temperatures. A lack of forest cover/stream shading in the lower reach may contribute to high stream temperatures. Excess sediment runoff from adjacent shorelands has also been reported.	According to the build-out analysis, there is potential for approximately 9 new single family residences on existing lots (each approximately 0.5-acre in area) within the Shoreline Residential SED. Additionally, property owners may wish to construct hard armoring in the future to protect structures built within channel migration-prone areas.	Clearing vegetation for home sites within the riparian zone would reduce water shading, and could exacerbate water temperature problems. An increase in impervious surfaces, resulting from new roofs and pavement, could increase sediment and pollutant runoff to the stream. Use of fertilizers and herbicides within new landscaping areas could degrade the water quality of the stream.	Residential development is a permitted use in Shoreline Residential SED. Structural shoreline stabilization requires a conditional use permit (Section 3.10). A 100 foot buffer from the ordinary high water mark is required for all new uses and development. A 15 foot building setback from the buffer is also required (Sections 4.5.B and 5.21).	• Investigate securing water rights to improve stream flows (Sponsor: Washington Water Trust)	No cumulative impacts anticipated due to low potential for development and protective SMP standards.
Habitat Big Creek provides habitat for several salmon species, including spawning habitat for spring Chinook and summer steelhead. Fish habitat limiting factors in the lower reach include low instream flows, altered riparian vegetation, and low levels of large woody debris.	*See above*	Clearing vegetation for home sites within the riparian zone could reduce large woody debris recruitment, stream shading, and wildlife habitat. These impacts are generally more pronounced for development within floodplains. Constructing new shoreline armoring may impact habitat-forming processes within the creek and degrade fish habitat.	Shoreline buffers must be maintained in a predominately well-vegetated condition. Clearing not associated with an allowed use or development is not allowed. (Section 4.5.B). New residential development must not require structural flood hazard reduction measures within the floodway or shoreline stabilization measures during the life of the development/use (Section 5.14.B).	*See above*	No cumulative impacts anticipated due to low potential for development and protective SMP standards.
Hydrology There are several irrigation diversions on the creek and periodic low flow issues. A channel migration zone is identified along the lower portion of the reach, as well as the identified FEMA 100-year floodplain. There is existing residential development within these hazard areas.	*See above*	Construction of new homes and hard armoring within the active channel migration zone could alter stream conditions, as well as increase downstream flood, sedimentation, and erosion patterns. New structures built within the floodplain could also increase downstream flooding problems.	The development must be located landward of the channel migration hazard area or the applicant must submit documentation that demonstrates the parcel is effectively protected or has minimal risk of channel migration (Section 4.2.P).	*See above*	No cumulative impacts anticipated due to low potential for development and protective SMP standards.

Big Creek – Rural Conservancy SED



Big Creek – Rural Conservancy SED					
Existing Conditions (By ecological function)	**Foreseeable Future Development**	**Potential Risks to Ecological Functions**	**SMP Provisions Addressing Functions at Risk**		**Anticipated Future Performance**
			Protection (Proposed SMP regulations with reference by SMP section number)	**Restoration** (Final Restoration Plan)	
Water Quality The lower portion of Big Creek, below the National Forest boundary, is listed by Ecology (2008) for high water temperatures. Excess sediment runoff from adjacent shorelands has also been reported.	According to the build-out analysis, there is potential for 10 new lots/homes created by subdividing existing parcels into 5-acre lots (per current zoning regulations) and an additional approximately 4 homes on existing lots within the Rural Conservancy SED.	Clearing vegetation for home sites within the riparian zone would reduce water shading, and could exacerbate water temperature problems. An increase in impervious surfaces, resulting from new roofs and pavement, could increase sediment and pollutant runoff to the stream. Use of fertilizers and herbicides within new landscaping areas could degrade the water quality of the stream.	Residential development is a permitted use in Rural Conservancy SED. Structural shoreline stabilization requires a conditional use permit (Section 3.10). A 100 foot buffer from the ordinary high water mark is required for all new uses and development. A 15 foot building setback from the buffer is also required (Sections 4.5.B and 5.21).	• Investigate securing water rights to improve stream flows (Sponsor: Washington Water Trust) • Ensure long-term protection of stream corridors via acquisitions, easements, and other agreements with willing landowners (Sponsors: Forterra and others)	No cumulative impacts anticipated due to low potential for development and protective SMP standards.
Habitat Big Creek provides habitat for several salmon species, including spawning habitat for spring Chinook and summer steelhead. Fish habitat limiting factors include low instream flows, altered riparian vegetation along the lower reach, and low levels of large woody debris. The upper portion of the creek is generally well-forested.	*See above*	Clearing vegetation for home sites within the riparian zone could reduce large woody debris recruitment, stream shading, and wildlife habitat. These impacts are generally more pronounced for development within floodplains.	Shoreline buffers must be maintained in a predominately well-vegetated condition. Clearing not associated with an allowed use or development is not allowed. (Section 4.5.B). New residential development, including lot creation, must not require structural flood hazard reduction measures within the floodway or shoreline stabilization measures during the life of the development/use (Section 5.14.B). Development and uses within the Rural Conservancy SED should be situated to avoid or minimize impacts to native vegetation communities (Section 4.5.C)	*See above*	No cumulative impacts anticipated due to low potential for development and protective SMP standards.

Hydrology There are several irrigation diversions on the creek and associated, periodic low flow issues. A channel migration zone is identified along the lower portion of the reach, as well as the identified FEMA 100-year floodplain. There is existing residential development within these hazard areas.	*See above*	Construction of new homes and other structures within the active channel migration zone could alter stream condition and fish habitat, as well as increase flood, sedimentation, and erosion patterns. New structures built within the floodplain could increase flooding problems within the reach.	The development must be located landward of the channel migration hazard area or the applicant must submit documentation that demonstrates the parcel is effectively protected or has minimal risk of channel migration (Section 4.2.P). Subdivisions must have lots that contain at least one site, including access and utility locations that is suitable for use or development and is not located entirely within a floodway or channel migration zone. The new lots must adhere to the standard shoreline buffer without buffer averaging or reduction (Section 4.2.C). New uses must not reduce the effective flood storage volume within frequently flooded areas. Compensatory storage must be provided if grading, fill or other activity will occur within a frequently flooded area (Sections 4.2.R and 4.2.T).	*See above*	No cumulative impacts anticipated due to low potential for development and protective SMP standards.