
Crescent Valley Biodiversity Management Area (BMA) Stewardship Plan – New Boundary Amendment



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Chapter I – Boundary Expansion

Local Watershed Analysis

The Washington Department of Fish and Wildlife (WDFW) had conducted a wildlife analysis of the Crescent Valley BMA and watershed area¹ as part of the original Crescent Valley Stewardship Plan. It consisted of a detailed analysis of habitat needs by species (including all aspects necessary in the full life-cycle of that species) and factors that stress the species and habitat, as well as recommendations for maintaining the biodiversity of fish and wildlife species within the area. The results of this analysis aligned with the process identified by the Pierce County Biodiversity Alliance to further evaluate the boundaries of the BMA's at a local, rather than county-wide scale. A local review adjusted the boundary to include or exclude a complete, rather than a portion, of a landowner's property and eliminate properties along the bisecting the BMA that have over 50% development.

This work led to the achievement of the following Crescent Valley Stewardship Plan's conservation strategies and short-term action plan:

1. Adjust the Crescent Valley BMA boundary as recommended in Appendix 2, Figure 11, to better represent lands necessary for the long-term persistence of aquatic species, as well as other birds, mammals, amphibians, and reptiles.
 - a. Work with Pierce County Planning and Land Services Department to adopt the Crescent Valley BMA Stewardship Plan and companion amendments to the Crescent Valley BMA boundary as depicted in Appendix 2, Figure 11.
 - b. Integrate the revised Crescent Valley BMA boundary into the Pierce County Comprehensive Plan Open Space Corridors Map.
 - c. Apply the Rural Sensitive Resource zoning to the tax parcels located within the revised Open Space Corridors Map.

Short-Term Actions (1 year)

1. Work with Pierce County Planning and Land Services Department during the year 2009 Comprehensive Plan amendment cycle to:
 - a. Adopt the Crescent Valley BMA Stewardship Plan as a Title 19D document
 - b. Amend the Pierce County Comprehensive Plan Open Space Corridors Map and Biodiversity GIS layer to incorporate the revised Crescent Valley BMA boundary as depicted in Appendix 2, Figure 11.
 - c. Revise the Gig Harbor Peninsula zoning to apply the RSR zoning to tax parcels located within the expanded BMA boundary.

General Description of Adjusted Crescent Valley BMA

The Crescent Valley BMA originally was 800 acres (1.25 square miles) in size and located in the Crescent Valley area of the Gig Harbor Peninsula. This expansion of this BMA within the Crescent Valley Watershed now includes 2,827 acres (4.42 square miles).

¹ Schuett-Hames, J., Jacobson, J., and Tirhi M., 2007, Crescent Valley Biodiversity Management Area Wildlife Analysis: Washington Department of Fish and Wildlife Report, 19 p.

The original Figure 4 indicates the prior BMA boundary in relationship to the lot configurations and adjacent City of Gig Harbor jurisdictional boundary and the revised Figure 4 indicates the current BMA boundary.

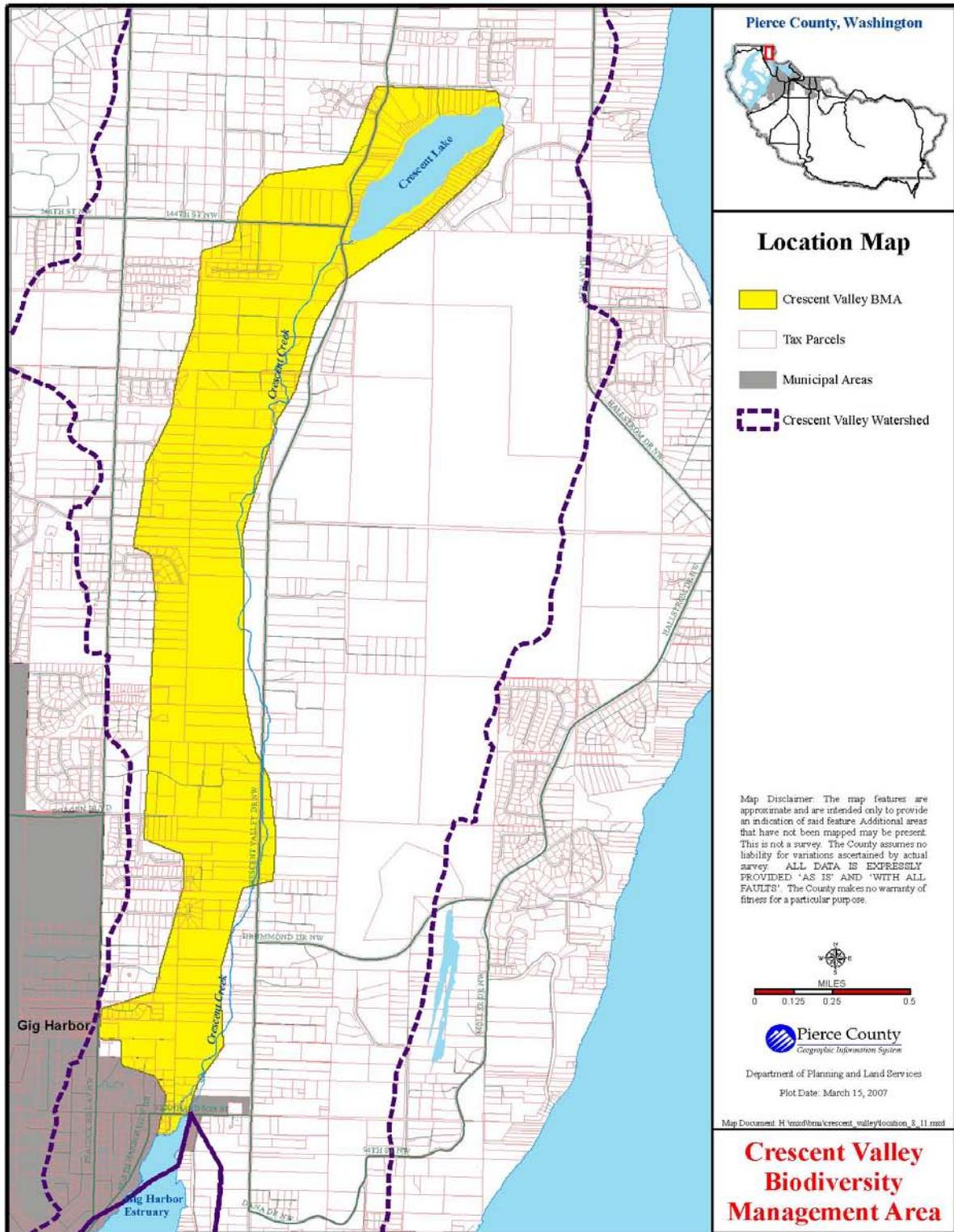


Figure 4. Original Crescent Valley BMA Location Map

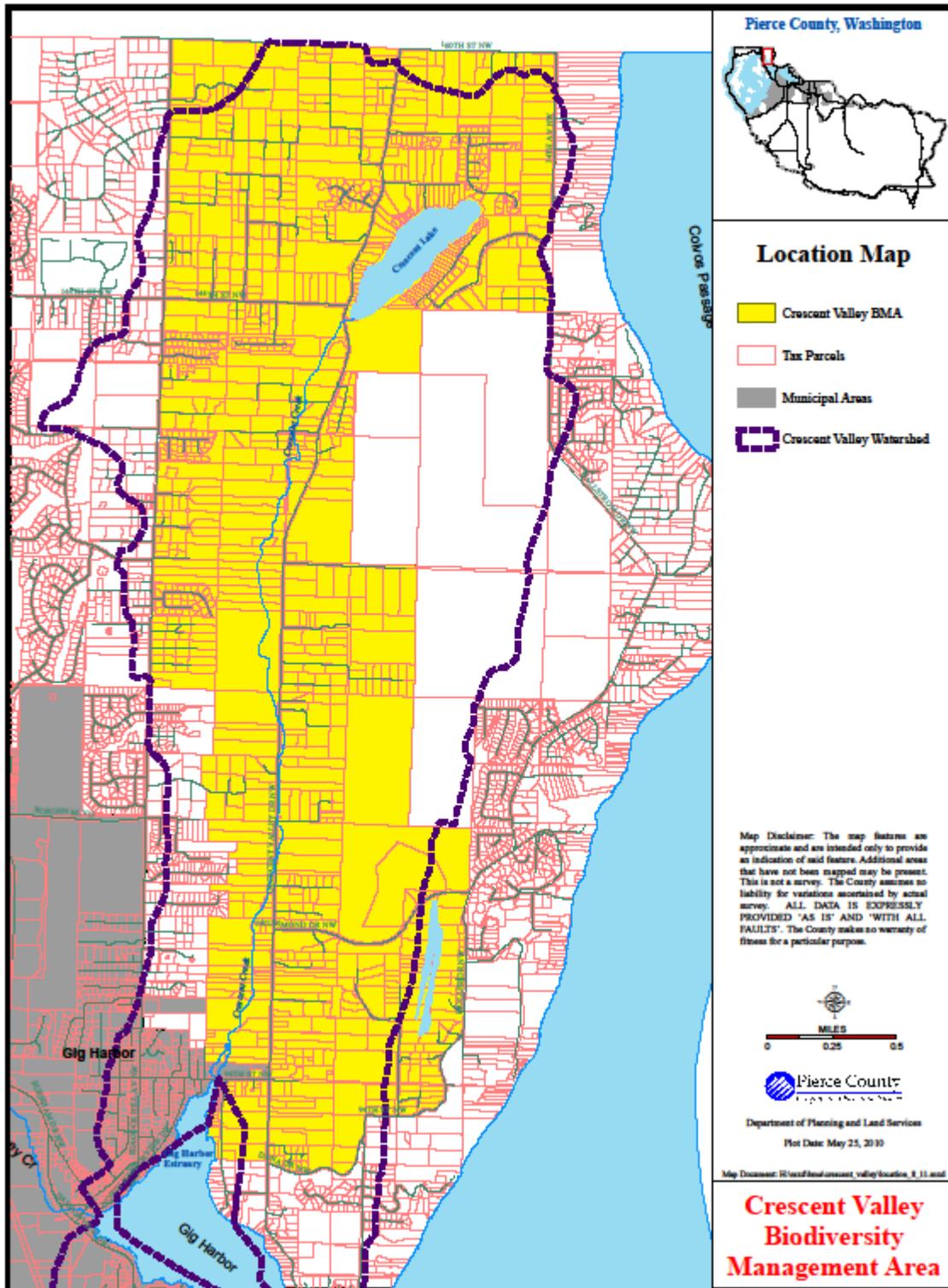


Figure 4. Revised Crescent Valley BMA Location Map

Confirmed Fish and Wildlife Species and Habitats

Crescent Valley residents have continued to submit data to the *NatureMapping* Program's database since the original baseline Bioblitz in 2005. A comparison of species predicted and observed for the past 5-years will be conducted and presented to the Crescent Valley Alliance in a separate report.

The prior Fish and Wildlife Resources Map shows the BMA bisecting Bald eagle nest buffer along Crescent Lake and did not include the shoreline nest buffer in the Gig Harbor estuary (Figure 5 original). The adjusted Fish and Wildlife Resources Map (Figure 5 revised) includes Bald eagle nest and most of the shoreline buffers in the estuary and is closer to the Bald eagle management zones along Colvos Passage.

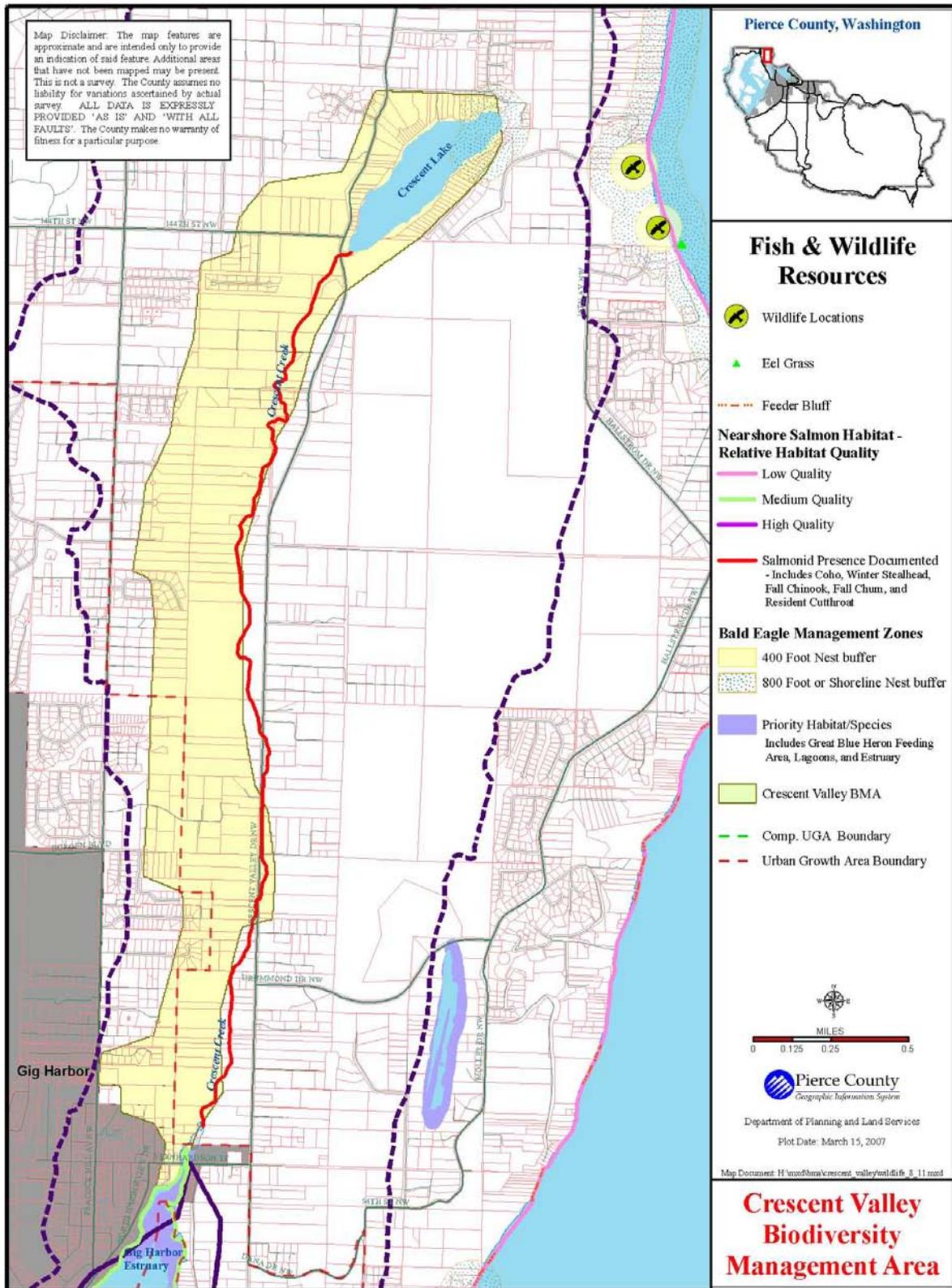


Figure 5. Original Fish and Wildlife Resources Map

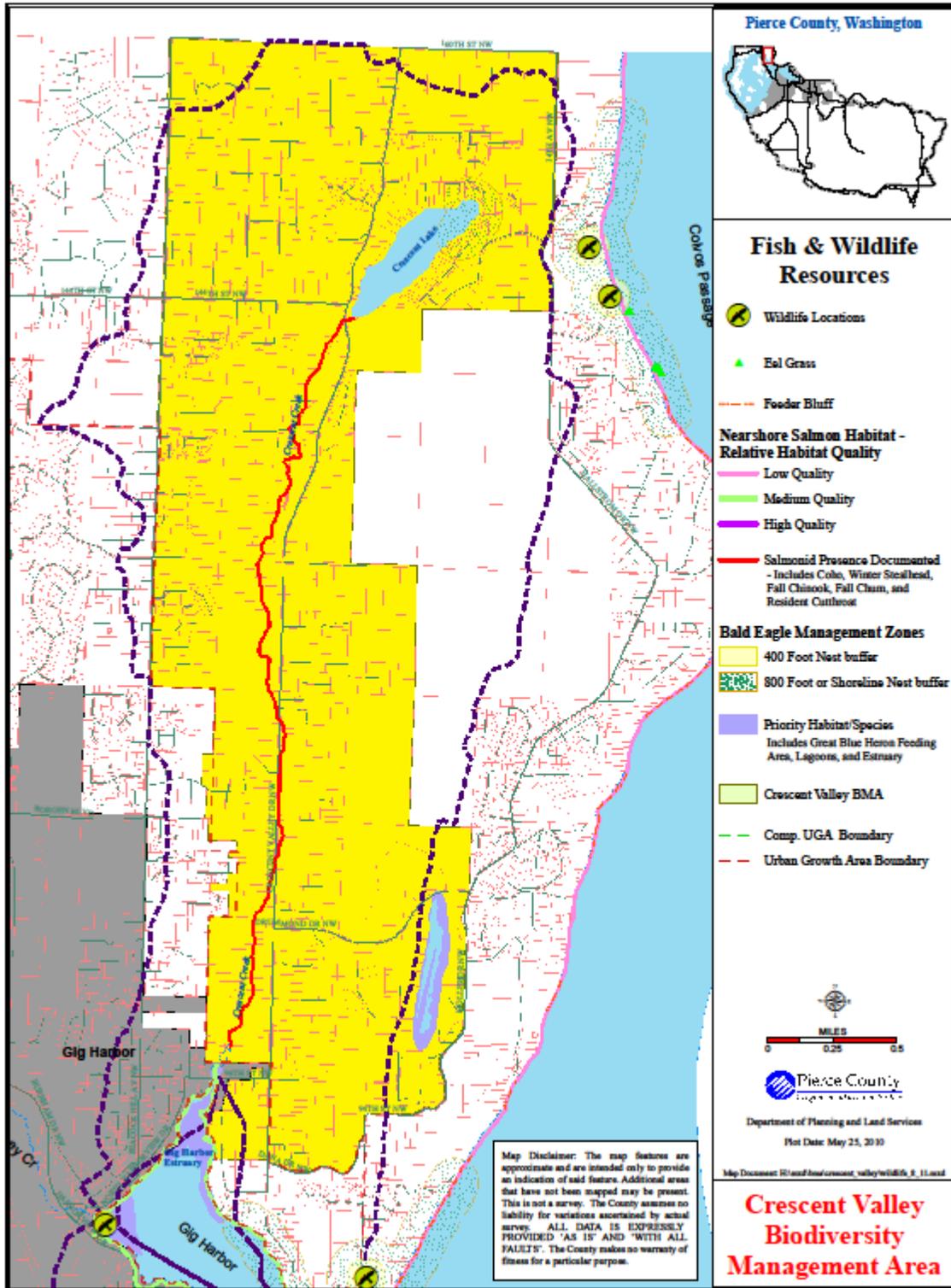


Figure 5. Revised Fish and Wildlife Resources Map

Demographics and Land Use

It has been recognized that land use is the primary driver of habitat loss, introduction of exotic species, environmental degradation, and increased runoff and pollutants. These effects are exacerbated in urbanizing landscapes such as Pierce County, Washington, where changes are both rapid and permanent.

Previous Land Use and Population

Previously there were 1,060 individual properties (tax parcels) located within the Crescent Valley BMA and according to year 2000 census data approximately 864 people lived within this area.

The original Table 5 from the Crescent Valley BMA Stewardship Plan provided a breakdown of existing land use on these parcels by categories such as residential, commercial, industrial, civic, and vacant lands. Land use within this BMA was predominately low density single-family residential (47%) with a few family farms (7%). Approximately ¼ of the BMA (24%) was vacant land. See Figure 7 for Original Existing Land Use Map.

There were nine properties located within or partially within the BMA that are publicly owned by local and state governments. The revised boundaries (Figure 7 revised) now include 15 properties. The City of Gig Harbor properties increased to five properties and all the properties are within the BMA. Pierce County ownership increased from six to nine parcels of land and all are within the expanded boundaries. The State of Washington owns just over an acre of land within the BMA which provides access to Crescent Lake and the entire parcel is now within the BMA. The original and revised Tables 6 provide a breakdown of publicly owned lands within the Crescent Valley BMA.

Current Land Use and Population

Currently there are 1,141 individual properties (tax parcels) located within the adjusted Crescent Valley BMA. The replacing Table 5 shows an increase of 543 residential parcels. Although the amount of vacant land was reduced from 24% to 21%, the amount of parks/open space increased 38 acres. See Figure 5 Current Existing Land Use Map.

Schools and public facilities were not included in the original BMA, but 3 education/schools and 2 public facilities are now included.

TABLE 5 – ORIGINAL LAND USES IN THE CRESCENT VALLEY BMA			
Land Use	Acreage	Total Parcels	% of the BMA
Residential			
Single-Family	381.90	271	47.72%
Duplex	0.74	11	0.09%
Triplex, Fourplex, Multi-Family (5 or more units)	0.00	0	0.00%
Mobile Homes	25.84	19	3.23%
Other Residential	13.08	307	1.64%
Total Residential	421.56	307	52.68%
Commercial	1.01	1	0.13%
Industrial	0.00	0	0.00%
Transportation/Communication /Utility	5.22	8	0.65%
Education (includes schools)	0.00	0	0.00%
Public & Quasi-Public Facility (includes public facilities, churches, and health services)	0.00	0	0.00%
Parks, Open Space, Recreation	6.12	6	0.76%
Natural Resource			
Mineral Extraction	0.00	0	0.00%
Forestry	0.00	0	0.00%
Agriculture	59.60	5	7.45%
Fishing	0.90	9	0.11%
Total Natural Resource	60.50	9	7.56%
Vacant	193.87	111	24.23%
Unknown	34.90	18	4.36%
Other (Water Bodies, Road Right-of-Way, etc.)	77.06	-	9.63%
TOTAL CRESCENT VALLEY BMA AREA	800.24	1060	100%

TABLE 5 - REVISED CURRENT LAND USES IN THE CRESCENT VALLEY BMA			
Land Use	Acreage	Total Parcels	% of the BMA
Residential			
Single-Family	1,445.98	748	51.15%
Duplex	5.03	28	0.18%
Triplex, Fourplex, Multi-Family (5 or more units)	1.95	1	0.07%
Mobile Homes	121.69	56	4.30%
Other Residential	40.90	17	1.45%
Total Residential	1,615.55	850	57.15%
Commercial	7.16	3	0.25%
Industrial	0.00	0	0.00%
Transportation/Communication /Utility	7.61	11	0.27%
Education (includes schools)	12.39	3	0.44%
Public & Quasi-Public Facility (includes public facilities, churches, and health services)	2.45	2	0.09%
Parks, Open Space, Recreation	43.91	9	1.55%
Natural Resource			
Mineral Extraction	0.00	0	0.00%
Forestry	251.39	10	8.89%
Agriculture	80.80	6	2.86%
Fishing	0.00	0	0.00%
Total Natural Resource	332.19	16	11.75%
Vacant	582.00	225	20.59%
Unknown	38.33	22	1.36%
Other (Water Bodies, Road Right-of- Way, etc.)	185.18	-	6.55%
TOTAL CRESCENT VALLEY BMA AREA	2,826.77	1,141	100.00%

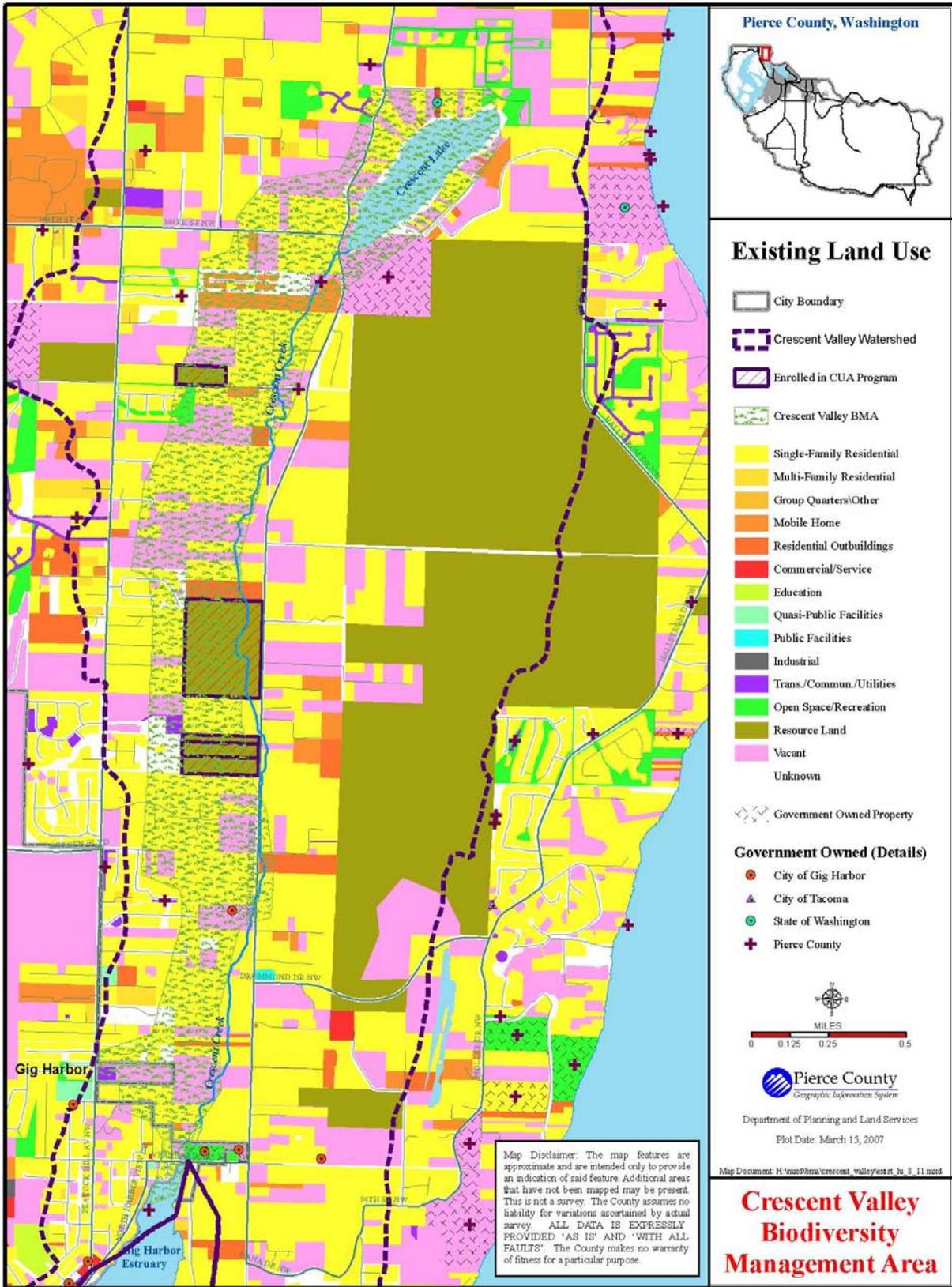


Figure 7. Original Land Use Map

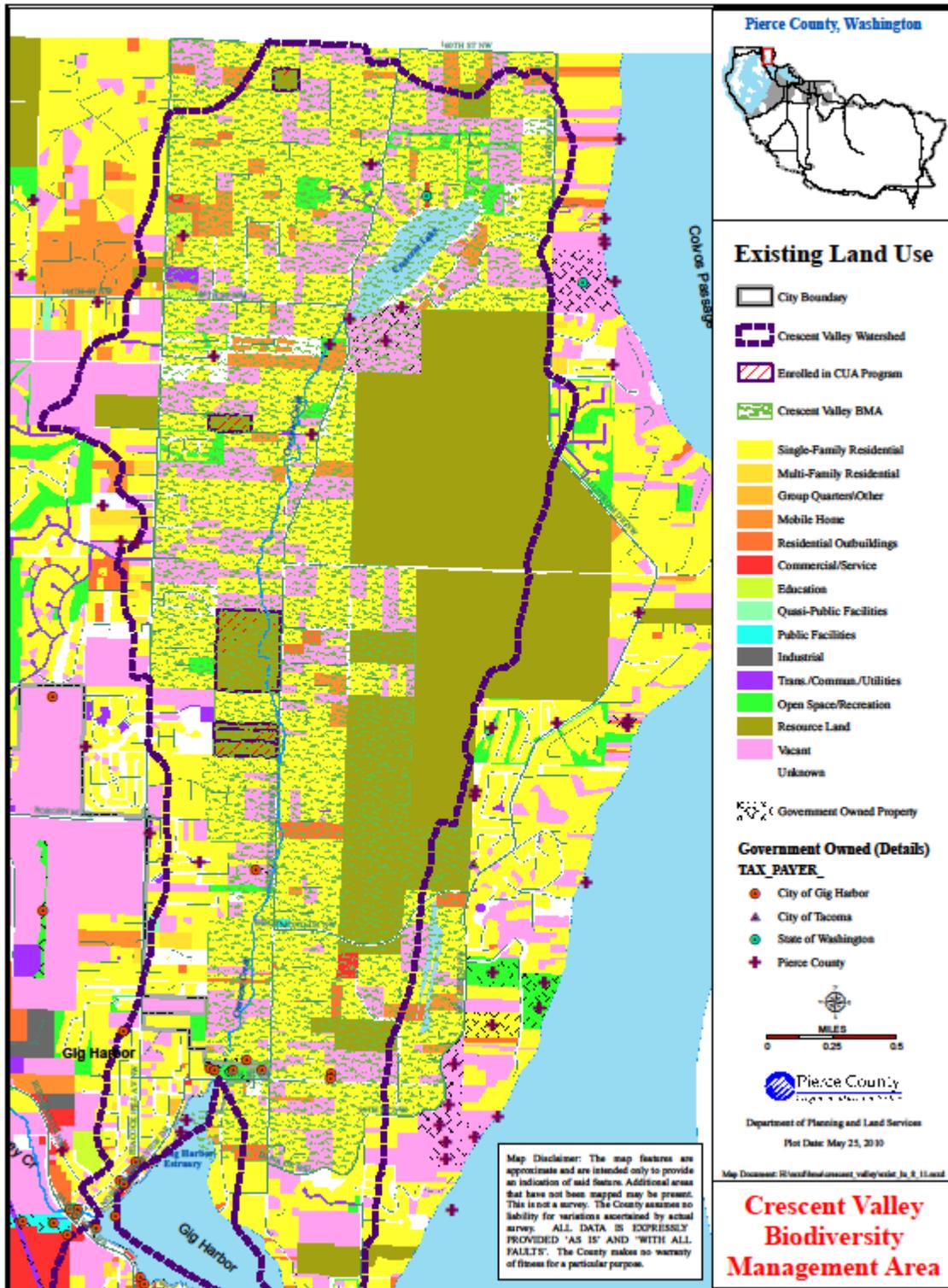


Figure 7. Revised Land Use Map

TABLE 6 – ORIGINAL CRESCENT VALLEY BMA PUBLIC LANDS				
Parcel Number	Total Area		Area Within BMA Only	
	# Parcels	Acres	# Parcels	Acres
<i>Pierce County</i>				
0221052012	1	1.65	1	0.41
0222201013	1	0.16	1	0.16
0222201018	1	43.05	1	10.57
0222204018	1	0.15	1	0.06
3300000010	1	0.86	1	0.67
4001710161	1	2.61	1	2.61
Total Pierce County	6	48.48	6	14.48
<i>City of Gig Harbor</i>				
0222322080	1	3.89	1	3.89
0222323018	1	4.91	1	0.52
Total Gig Harbor	2	8.80	2	4.41
<i>State of Washington</i>				
222163010	1	1.17	1	1.01
Total Washington State	1	1.17	1	1.01
Totals				
	9	58.45	9	19.90

TABLE 6 - REVISED CRESCENT VALLEY BMA PUBLIC LANDS				
Parcel Number	Total Area		Area Within BMA Only	
	# Parcels	Acres	# Parcels	Acres
<i>Pierce County</i>				
0222171038	1	0.55	1	0.55
0222201013	1	0.28	1	0.28
0222201018	1	40.42	1	40.42
3300000010	1	0.89	1	0.89
4001710161	1	2.7	1	2.7
0222325001	1	1.37	1	1.37
0222204018	1	0.15	1	0.15
3947000260	1	0.21	1	0.21
0222173045	1	0.15	1	0.15
Total Pierce County	9	46.72	9	46.72
<i>City of Gig Harbor</i>				
0222322080	1	3.85	1	3.85
0222323031	1	2.33	1	2.33
0222323033	1	1.6	1	1.6
0222324046	1	0.41	1	0.41
0222324050	1	0.17	1	0.17
Total City of Gig Harbor	5	8.36	5	8.36
<i>State of Washington</i>				
0222163010	1	1.23	1	1.23
Total Washington State	1	1.23	1	1.23
Totals	15	56.31	15	56.31

Current Zoning

Over 95% (2,702 acres) of the BMA now falls under Rural Sensitive Resource (RSR) zoning. See Figures 8 Original and Revised Zoning Map. The RSR zone allows for densities of 1 dwelling unit (du) per 10 acres with a bonus density of 2 du/10 acres when 50% of the property is set aside as permanent open space. Lot sizes within the RSR zone must be a minimum of 1 acre in size. The Reserve 5 (Rsv) zoning is intended to be the first locations for expanding the County’s Urban Growth Area (UGA) boundary out into the rural areas. This zone allows for 1 du/5 acres but also requires that lots that are created be no larger than 12,500 square feet in size with up to one residual parcel that may be larger in size. The Rsv acreage was reduced from 86 acres to 2.88 acres with the realignment of the BMA boundary.

The Agricultural Resource Land (ARL) is a resource lands zone that allows densities of 1 du/10 acres with minimum lot sizes of 10 acres. ARL lands increase from .58 acres to 10.7 acres. The original and revised Table 7 provide a breakdown of the zones that apply within the BMA.

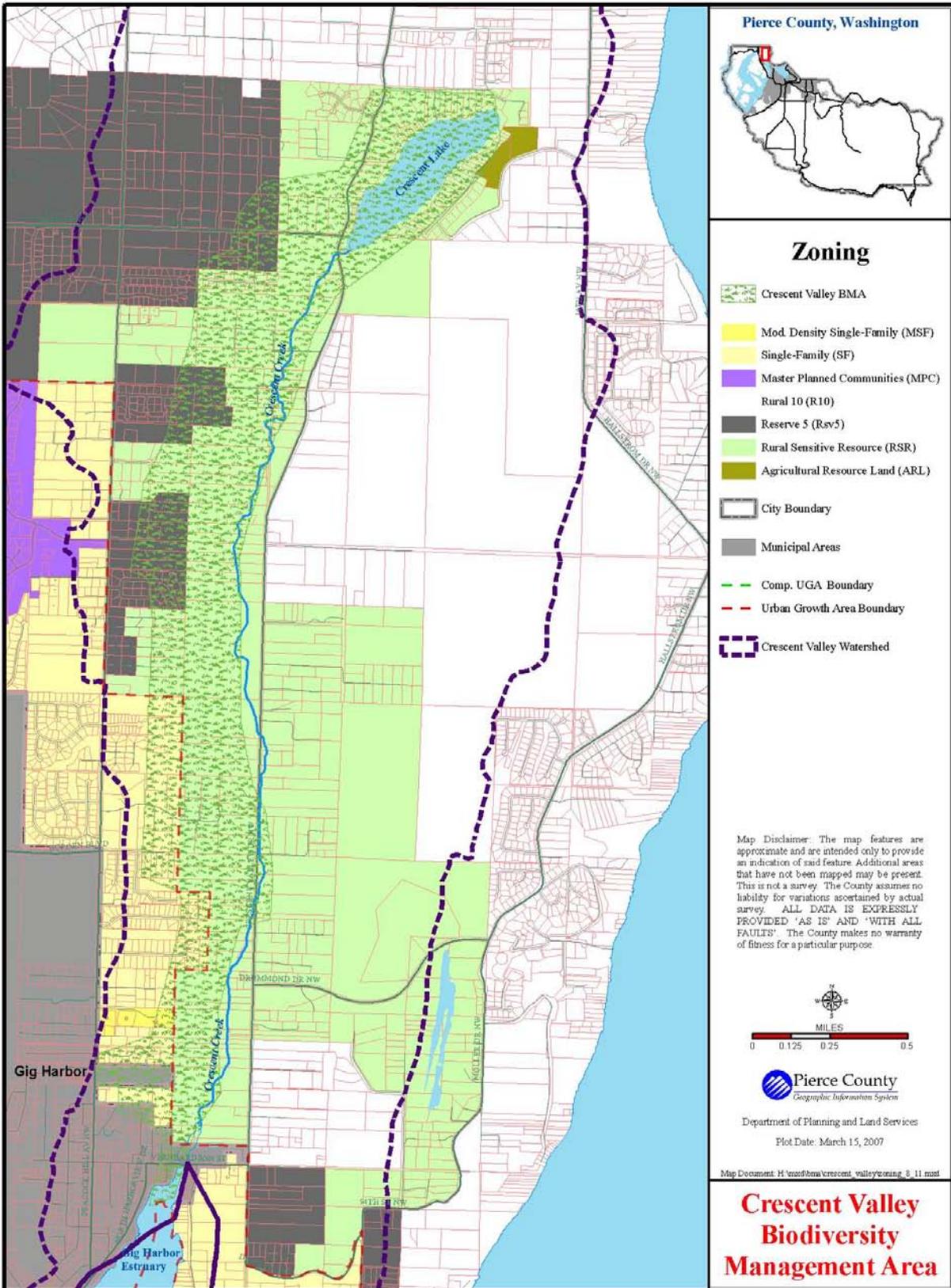


Figure 8. Original Zoning Map

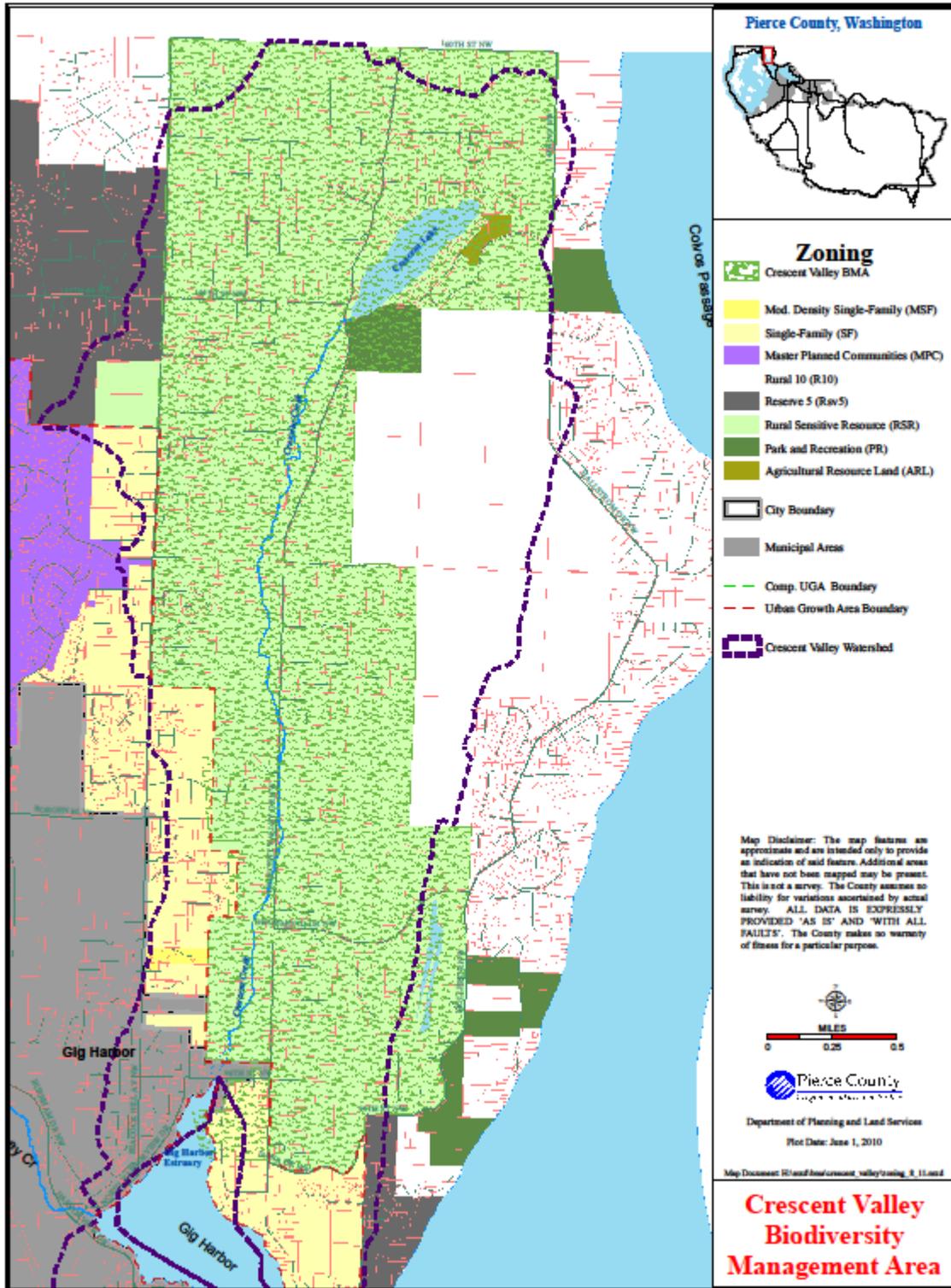


Figure 8. Revised Zoning Map

TABLE 7 - ORIGINAL ZONING CLASSIFICATIONS WITHIN THE CRESCENT VALLEY BIODIVERSITY MANAGEMENT AREA		
Zones	Acreage	Percent of BMA
<i>Urban Zones</i>		
Moderate Density Single-Family	2.36	0.30%
Single-Family	96.05	12.00%
Total Urban	98.41	12.30%
<i>Rural Zones</i>		
Rsv 5	86.11	10.76%
Rural Sensitive Resource	601.32	75.14%
Total Rural	687.43	85.90%
<i>Natural Resource Zones</i>		
Agricultural Resource Land	0.58	0.07%
Total Natural Resource	0.58	0.07%
TOTAL UNINCORPORATED	786.42	98.27%
City of Gig Harbor	13.81	1.73%
TOTAL	800.23	100%

TABLE 7 - REVISED ZONING CLASSIFICATIONS WITHIN THE CRESCENT VALLEY BIODIVERSITY MANAGEMENT AREA		
Zones	Acreage	Percent of BMA
<i>Urban Zones</i>		
Single-Family	54.00	1.91%
Total Urban	54.00	1.91%
<i>Rural Zones</i>		
Rural 10	6.78	0.24%
Reserve 5	2.88	0.10%
Rural Sensitive Resource	2,701.74	95.77%
Park & Recreation	45.08	1.60%
Total Rural	2,756.48	97.71%
<i>Natural Resource Zones</i>		
Agricultural Resource Land	10.70	0.38%
Total Natural Resource	10.70	0.38%
TOTAL	2,821.18	100.00%

Open Space Corridors

Pierce County identifies land areas most desirable for open space purposes (see Figure 10 – Original Open Space Corridors Map). These areas represent the highest priority for lands for conservation including creeks, wetlands, and fish and wildlife habitat areas. The Crescent Valley BMA is included within the County's Open Space Corridor map because of its status as a biodiversity management area and because of Crescent Creek. Identified open space corridor areas are used as the basis for application of the RSR zone (i.e. at least 50% of a parcel must fall within the open space corridor). In addition, extra points under the County's Current Use Assessment and Conservation Futures Programs are awarded to properties located within the open space corridor.

The revised Open Space Corridor Map (Figure 10 Revised) shows all parcels falling within the BMA now included in the Open Space Corridor, thus awarding the additional 543 property owners within the BMA extra points under the County's Current Use Assessment and Conservation Futures Programs.

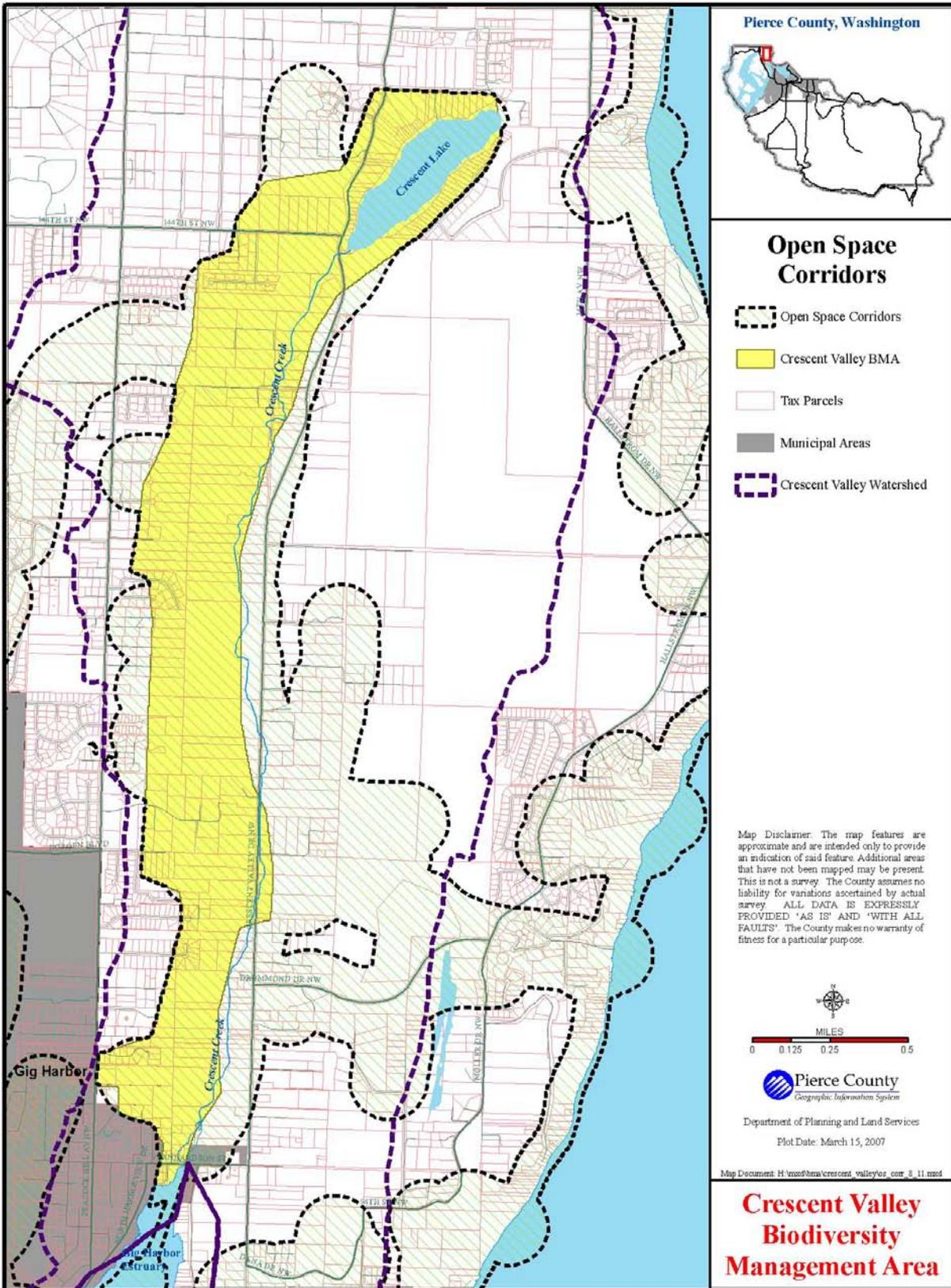


Figure 10. Original Open Space Corridor Map

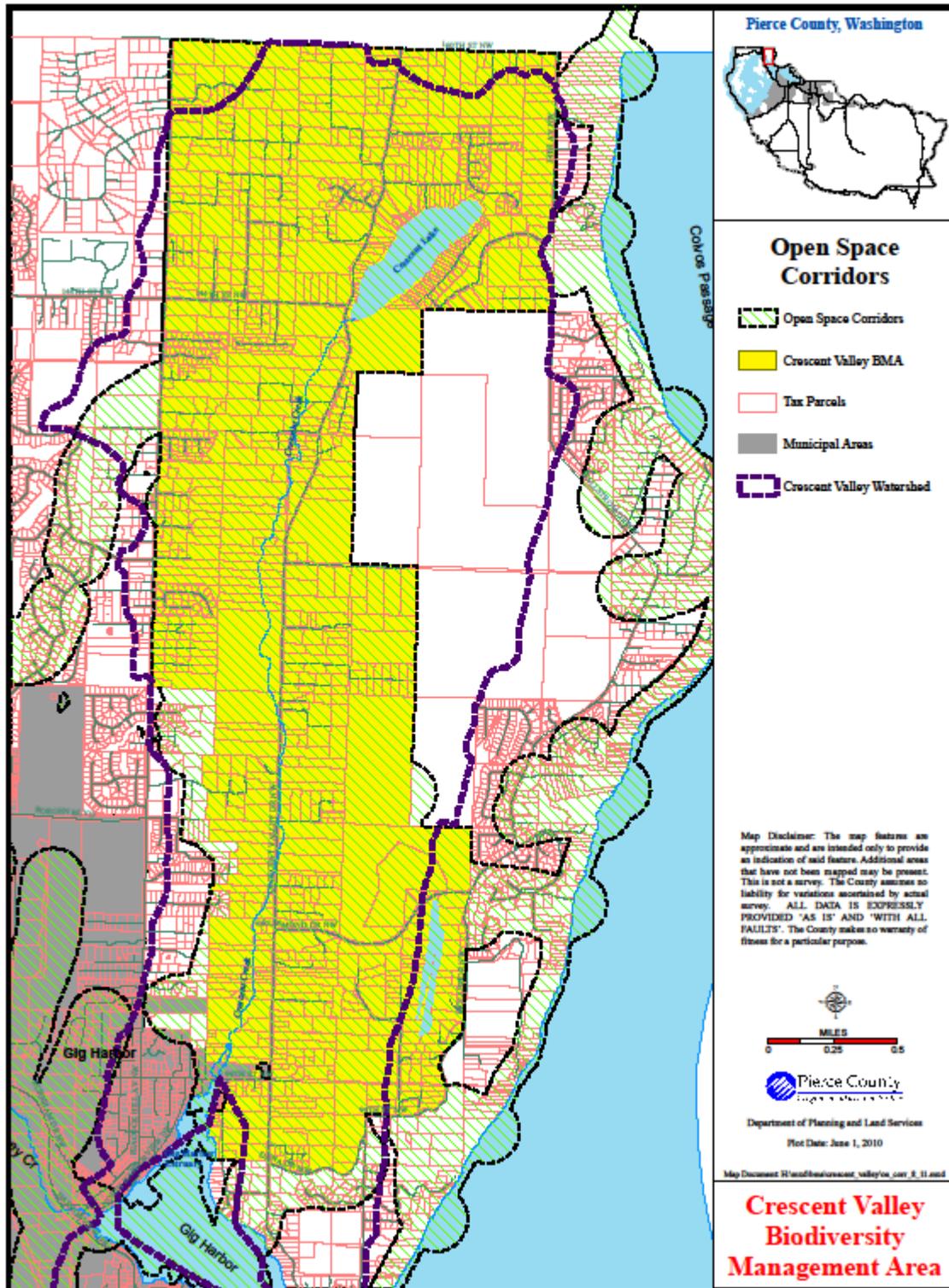


Figure 10. Revised Open Space Corridor Map

Overview of Conservation Targets

In the Crescent Valley BMA several conservation targets were selected to represent the key ecological functions occurring throughout the area. These conservation targets include Crescent Lake; Crescent Creek; wetlands, seeps and springs; Gig Harbor estuary; and conifer/deciduous mixed forest areas. Each of these conservation targets provides the systems that collectively create the rich variety of habitats necessary to foster a high level of biodiversity in that BMA. The expansion of the Crescent Valley BMA will benefit all of the conservation targets. Crescent Lake and Gig Harbor estuary will benefit with the “buffer” of lands now included that have direct and indirect effects on these targets although previously not included in the original BMA. The following conservation targets benefit by increasing their amount of acreage within the BMA.

Wetlands, Seeps and Springs

The Crescent Valley watershed is a complex hydrologic system with wetlands and Crescent Creek in the valley and seeps and springs feeding into this wetland/riparian system from the adjacent hillsides. Figures 13 Original and Revised indicate an increase in wetland areas as identified in the National and County Wetland Inventory, potential wetlands, and hydric soils data layers. The wetland and riparian systems provide a rich habitat for a variety of fish, reptiles, amphibians, mammals and bird species. Certain wildlife species, such as pond breeding amphibians, are very dependent on the hydrology of an area for their life cycle needs. Thus the increase of wetlands within the BMA is a positive step to maintain the amphibian populations.

Forest – Conifer/Deciduous Mixed Forest

The original Crescent Valley BMA contained a patchwork of mixed lowland conifer/deciduous forest, punctuated with wetlands, riparian areas, pasture areas, and areas developed for single family residential uses. Along the adjacent hillsides the forest cover transitions to a predominately conifer forest habitat.

The expansion of the BMA boundary to the west and north contained wetlands, riparian areas, and residential areas. The expansion on the eastern ridge included part of an area containing over 1,000 acres of undeveloped forested land. While not all of the forested parcels were included in the expansion, the forested areas that were included will provide connectivity between the different habitat patches and also serve to maintain hydrologic cycles within the Crescent Valley watershed.

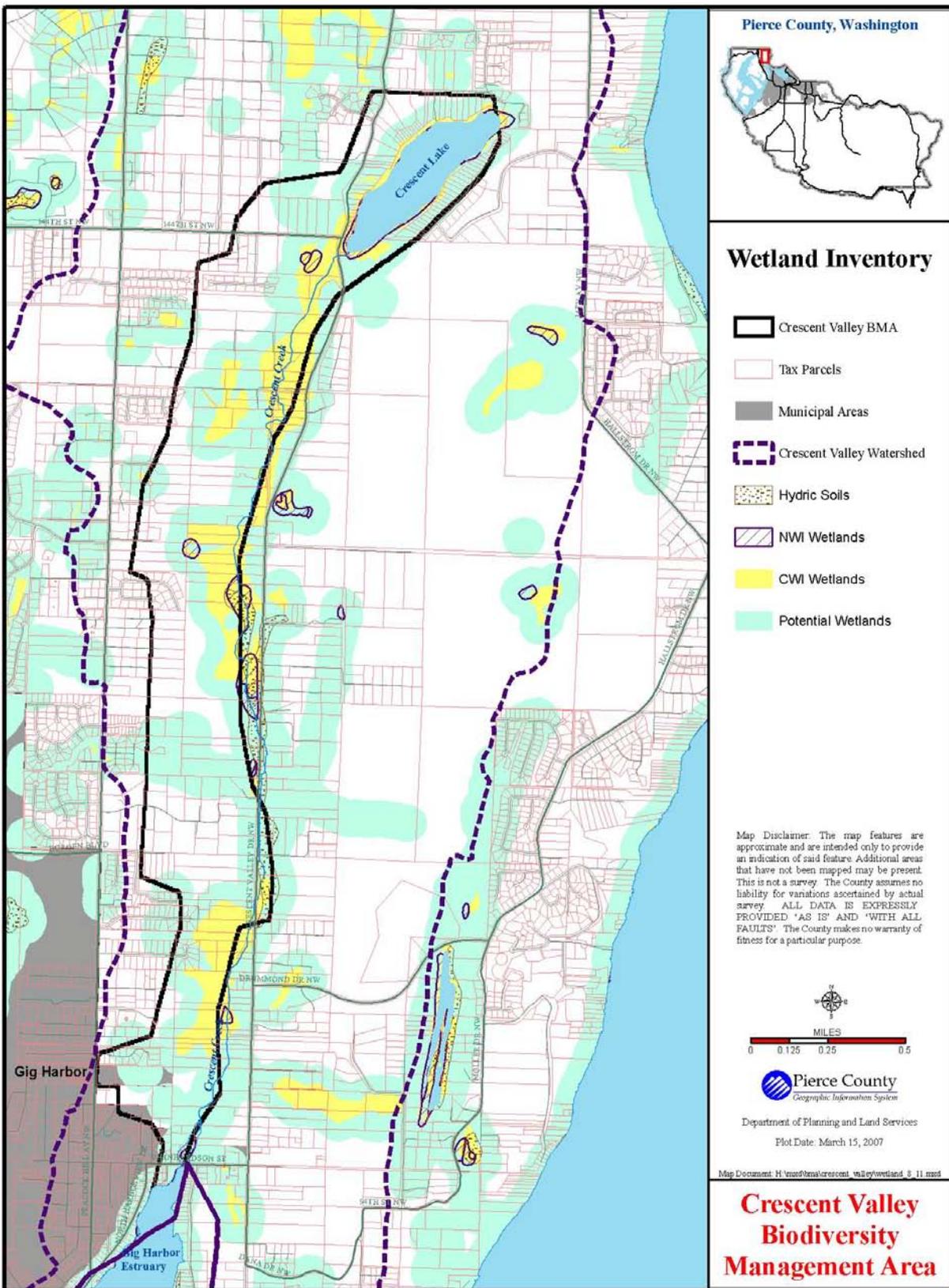


Figure 13. Original Wetland Inventory Map

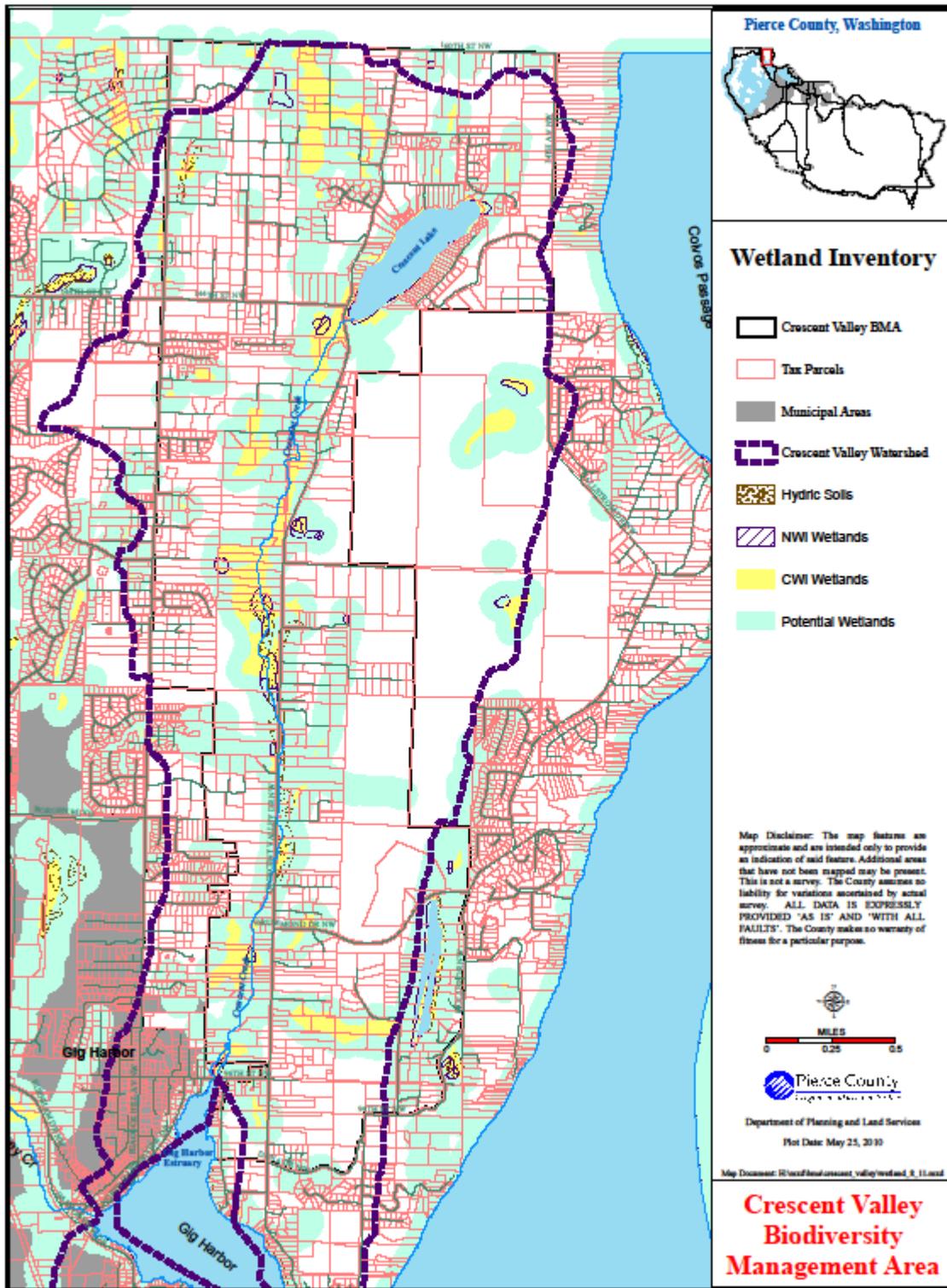


Figure 13. Revised Wetland Inventory Map

Chapter II - Conclusions

Future Directions

Although the revised Crescent Valley BMA (and Crescent Valley Watershed) does not extend to the Puget Sound, the beaches are considered connectors within the Pierce County Biodiversity Network. Therefore, the availability of lowland deciduous, riparian, estuarine and upland coniferous habitats along the Crescent Valley, and the nearshore habitats not only contribute to this BMA's ecological richness, but to the entire Pierce County Biodiversity Network.

The community should continue to monitor fish, wildlife, plant, and nearshore species within and adjacent to the BMA. To date, this has been accomplished through participation in the *NatureMapping* Program and Tahoma Audubon birding events. The inclusion of education and community facilities in the expanded BMA can provide educational and monitoring centers for additional residents of all ages. The participation of other existing partners, such as the Tacoma Nature Center (a *NatureMapping* Training Center), National Wildlife Federation, Harbor WildWatch, Pierce County Conservation District, Key Peninsula/Gig Harbor/Islands Watershed Council, and new partners at the Crescent Valley Alliance's annual picnics should continue to be a gathering of voices and information for the residents.