

Chuckanut Community Forest: Values of Complete Protection

Prepared by:

John McLaughlin
Department of Environmental Sciences
Huxley College of the Environment
Western Washington University

The Chuckanut Community Forest, protected in its entirety, provides outstanding ecological, educational, and societal values. The entire property must be protected for three general reasons, corresponding to these values. First, it should be protected for its exceptional ecological value that far exceeds financial or infrastructural benefits that could be gained by developing any part of it. Second, it should be protected for the educational opportunities it provides, where Bellingham's youth and adults can learn much about their home and their role in it using the most effective means possible: through direct experience. Third, it should be protected as a legacy to future generations, to stand and grow as a natural cathedral commemorating the vision, work, and sacrifice of an engaged citizenry.

Ecological value

The full extent of ecological values provided by Chuckanut Community Forest has not been determined, which presents educational opportunities as described below. At minimum, the property provides ecological values at both local and regional scales.

At a local scale, the site contains a network of wetlands. Most of these wetlands are high in quality, providing important ecological functions including habitat for wetland biota, water storage to buffer storm events, slow release of clean and cold water to maintain summer streamflow in salmon-bearing creeks. These mature forested wetlands are very rare in Bellingham and rare enough in Washington to warrant special protection in Department of Ecology regulations (Hruby 2006). Many of these wetland functions would be compromised if some part of the property was developed, resulting in loss of adjacent forest, disturbance of soil, shifts in surface and subsurface hydrology, and contaminant runoff from impervious surfaces. Chuckanut Community Forest contains diverse plant species and species associations, corresponding to a wide variety of local habitats. Developing part of the property would eliminate some of these local habitats and associated plants and fungi, thereby diminishing ecological value of the area. Development also would fragment the forest and create edges with conditions hostile to many of the area's sensitive species. The forest also stabilizes soils on steep slopes that would become prone to landslides and debris flows under most development scenarios. The forest and wetlands provide habitat for diverse animal species. These wildlife include species requiring both terrestrial forest and wetland habitats in close proximity, which are declining locally and regionally as one or both kinds of habitats are lost. Even if wetlands on the property were "protected" by buffers, development of adjacent forest on the property would reduce or eliminate the capacity of the area to support these species. The forest contains an abundance of large snags unusual for an urban forest, which provide essential habitat structures for many wildlife. Consequently, Chuckanut Community Forest supports many species that are rare or absent in other parts of

Bellingham. Many of those snags, snag-dependent species, and their associated ecological functions would be lost under most development scenarios, because snags generally are perceived as hazards and removed.

An intact Chuckanut Community Forest is critical to maintaining the Bellingham's ecological integrity. The forest and wetlands on the site are high in quality, but their greatest ecological and conservation value may be their strategic landscape position. Ann Eissinger recognized this value in her 1995 report (page 63):

“The most significant feature of [the Chuckanut] watershed is its habitat connectivity and significant linkages with protected public lands.”

The property functions as links between extensive public lands to the south (Arroyo Park, Larrabee State Park, State Forest Trust lands) and parks and undeveloped greenways to the north and east (Fairhaven Park, Lower Padden Marsh, Connelly Creek Natural Area, Sehome Hill Arboretum). Developing this site would break those links, fragmenting natural areas in south Bellingham. Habitat loss and fragmentation are known to threaten most species at risk of extinction. Impacting or removing forest and wetland habitats causes fragmentation that can reduce a landscape below a threshold in habitat connectivity, resulting in regional extinctions of sensitive species. In particular, destruction of forest or wetland habitats in Chuckanut Community Forest could lead to extinctions of sensitive wildlife in Connelly Creek Natural Area, Sehome Arboretum, and other public lands in the region. These concerns are acute for wetlands, whose biota are particularly vulnerable to fragmentation. The strategic location of the property in the network of natural areas in south Bellingham increase its value markedly beyond that determined by any site-specific assessment. For organisms with limited dispersal ability, the site may function as a “keystone habitat” whose loss would cause regional connectivity to collapse.

The regional ecological value of a place like Chuckanut Community Forest can be measured with “metapopulation potential,” which is defined as the capacity of a landscape to support a network of populations. If Chuckanut Community Forest were developed, the metapopulation potential of the south Bellingham region would drop by 70%, or down to 30% of its current value. (Analysis by John McLaughlin, May 2005, using methods described in Hanski and Ovaskainen. 2000.)

If only part of property was sold and developed, much of this regional value still would be lost. The extent of this loss would depend of the spatial position and extent of any such development, but it would be substantial under most plausible development scenarios due to ecological barriers imposed by the development between the undeveloped portion of the property and surrounding natural areas.

Educational value

Chuckanut Community Forest holds great potential to enrich the educational environment of local schools and adult learning programs in diverse ways. The property and adjacent public lands are a field laboratory of exceptional value to environmental science and could become one for several additional scientific disciplines. It could serve as an

outdoor classroom for environmental education. It is within a short walk from Larrabee Elementary and Fairhaven Middle School, and it is less than 2 km (1 ¼ miles) from Happy Valley Elementary, Sehome High School, and WWU. The rich history and community connection to the property make it a valuable study system for planning and environmental policy, journalism, environmental economics, and geography.

Efforts to increase ecological literacy are most effective when they are conducted in natural settings, which exist at Chuckanut Community Forest in wide variety, high quality, and close proximity. Curricula on wetlands could choose among 14 examples on the property. Studies of water, streams, and watersheds could begin at pristine sources in Chuckanut Community Forest, and follow the hydrologic route down to salt water in Chuckanut Bay or Padden Creek estuary. The proximity of diverse environments at Chuckanut Community Forest offers unusual opportunities to develop comparative or integrative curricula that blend study of different systems, habitats, and species. Learning science in their own “backyards” at Chuckanut Community Forest would help young students realize that science surrounds them everywhere, not just in their classrooms. This perceptual leap is the most important step toward developing scientific literacy.

Some might observe that Bellingham already is endowed with abundant public open space, and object to protecting all or part of Chuckanut Community Forest. For several reasons, educational opportunities available at Chuckanut Community Forest are disproportionately valuable, and warrant special investment. First, the area contains diverse environmental elements in close proximity, including: mature forests containing both typical and unusual tree species and species associations, wetlands of diverse sizes and structures, creeks connecting to salmonid-bearing streams, and diverse topographic conditions from steep ridges to low basins. This diversity within short walking distance provides rich learning opportunities within tight pedagogical time constraints. Second, proximity of the property to several schools and WWU render it easily accessible to many students for field study. Third, Chuckanut Community Forest is one of few places in Bellingham where a careful observer can trace natural history back at least 1000 years without special equipment or chemical analysis. For that opportunity alone, the educational value of the property is exceptional.

Societal value

Many people value demonstrated the value of Chuckanut Community Forest through their strong support spanning three decades. People have worked to protect this place they love despite long odds and greater financial, legal, and political forces mounted against them. The current undeveloped status of Chuckanut Community Forest is a testament to their efforts, financial contributions, vigilance, and dedication to the community. Selling even part of it for development incompatible with its natural values would be an affront to the work of so many people, and more generally, to the idea of civic engagement. Selling part of the property would breed cynicism, conveying a message that civic engagement is futile because political maneuvers trump public will. In this context, the vitality of our local democracy is linked to protecting the entirety of Chuckanut Community Forest.

References

- Eissinger A. 1995. City of Bellingham Wildlife and Habitat Assessment: An Inventory of Existing Conditions and Background Information and Wildlife Habitat Plan. Nahkeeta Northwest Wildlife Services, Bow, WA.
- Hanski H, Ovaskainen O. 2000. The metapopulation capacity of a fragmented landscape. *Nature* 404:755-758.
- Hruby T. 2006. Washington State Wetland Rating System for Western Washington, Revised. Ecology Publication # 04-06-025. Washington State Department of Ecology, Olympia, WA. [online] <http://www.ecy.wa.gov/pubs/040625.pdf>

Comments Regarding
The Mission of the Chuckanut Community Forest Park District
and
Potential terms for an interlocal agreement with the City of Bellingham

The primary mission of the CCFPD should be to secure protection of the entirety of the Chuckanut Community Forest as public open space in perpetuity, with boundaries as delineated in its enabling ballot initiative. Complementary to this primary purpose should be to work with the City of Bellingham to implement measures to achieve conservation, restoration, and management of the CCF to maintain or enhance its ecological, educational, aesthetic, and recreational values. Where those values are in conflict, priority should be given to the kinds of values in the order stated above.

Clearly, the interlocal agreement with the City of Bellingham should stipulate that loan repayment must be contingent upon protection of the entire CCF as public open space.

To support your work in developing additional terms for an interlocal agreement, I suggest the following components be included in plans for conservation, restoration, and management of the CCF.

- 1 Develop and implement a plan for conservation and restoration, including the following.
 - 1.1 Ecologically sensitive areas where visitation should be discouraged.
 - 1.2 Trails and structures that should be closed or removed to reduce recreational impacts.
 - 1.3 Trails that should be re-routed or modified (e.g., by installing boardwalks) to reduce impacts.
 - 1.4 Areas needing restoration from prior impacts (e.g., wetland drainage ditches in western extension of wetland JJ).
 - 1.5 Barriers that may be needed to prevent new or continuing impacts.
 - 1.6 Reintroduce beavers to wetland JJ, enhancing conservation values of the wetland by raising its water level, increasing summer base flows into Chuckanut Creek, and restoring its suitability as spawning and rearing habitat for sea-run cutthroat trout.
 - 1.7 Invasive species management plan.

2 Outline and distribute educational and interpretive features and opportunities, including the following.

- 2.1 Features and opportunities for the general public
- 2.2 Features and opportunities for pre-school children, teachers, and parents
- 2.3 Features and opportunities for K-12 students and teachers
- 2.4 Features and opportunities for college-level students and instructors
- 2.5 Opportunities to combine education, restoration, and other forms of service-learning
- 2.6 Recognition of the broad and sustained community effort that protected the CCF, and needs for continuing stewardship

3 Develop and implement a plan to address and coordinate recreational interests, including the following.

- 3.1 Hiking and nature viewing
- 3.2 Running: informal runners, school team training, and organized races
- 3.3 Mountain biking
- 3.4 Equestrian uses
- 3.5 Access opportunities for disabled visitors
- 3.6 Strategies to bar or discourage motorized vehicles (excepting electric wheelchairs?)
- 3.7 Links to access points (trailheads, Interurban trail, parking)
- 3.8 Links to other components of the COB trail/park/open space system
- 3.9 Strategies to separate educational or interpretive uses from intensive recreational uses, where needed or appropriate.