

TECHNICAL MEMORANDUM



Date: May 5, 2016
To: Keith Higman, Interim Planning Director
From: Sarah Sandstrom, Clover Muters, and Dan Nickel, The Watershed Company
Project Number: 130420
Project Name: Island County Fish and Wildlife Habitat Conservation Areas

Subject: Natural Area Preserve Buffer Best Available Science Review

Background

The existing Island County Fish and Wildlife Habitat Conservation Areas (FWHCA) regulations designate Natural Area Preserves (NAPs) as FWHCAs, subject to the protections of the County's critical areas ordinance (CAO). Under the current regulations no additional buffers are specified or established for NAPs, as these areas were assumed to encompass the land required for species preservation. This memo is intended to provide best available science (BAS) related to the need for buffers to protect fish and wildlife at NAPs in Island County.

Existing Conditions and Protections

The only NAP in Island County is the Admiralty Inlet NAP, known locally as the Naas Preserve. The NAP is jointly owned by the Washington Department of Natural Resources (WDNR), which owns a conservation easement, and the Whidbey Camano Land Trust, which owns and manages the NAP. The NAP is bounded to the west by Admiralty Inlet, to the north by private residential and agricultural uses, to the east by Engle Road, and to the south by the Seattle Pacific University Camp Casey Conference Center (Figure 1). In 2013, the Whidbey Camano Land Trust expanded the NAP to the south through a 46-acre land acquisition from Seattle Pacific University. Current boundaries of the NAP are shown in Figure 1.

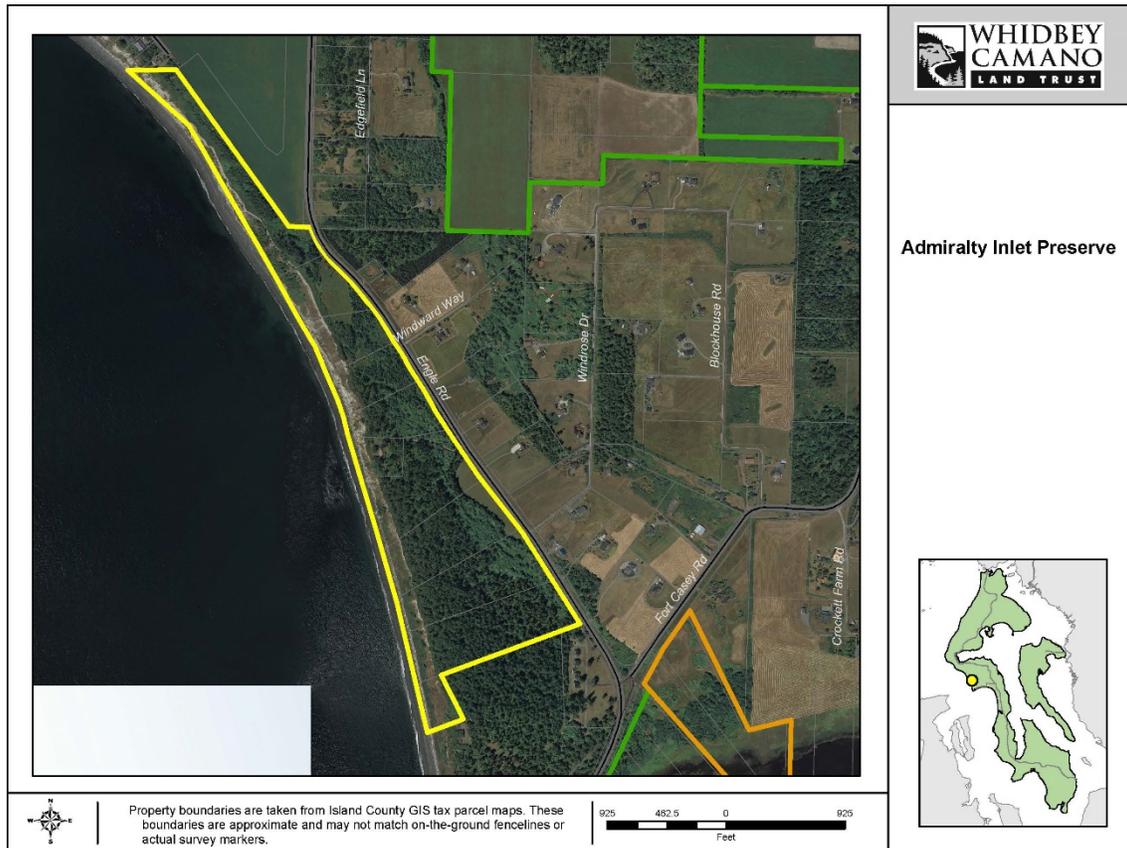


Figure 1. Map showing boundaries of Natural Area Preserve in yellow (from Whidbey Camano Land Trust)

Based on a 2010 recommendation by WDNR for the expansion of the original NAP, the current NAP site was developed to protect and restore habitat for two populations of golden paintbrush and to protect a rare forest community (WDNR 2010). The primary conservation feature of the Admiralty Inlet NAP is a rare prairie plant, golden paintbrush (*Castilleja levisecta*), a federally threatened plant species (U.S. Fish and Wildlife Service 2007) located on approximately eight acres of prairie. The NAP is situated between populations of golden paintbrush at Fort Casey and Ebey's Landing, and "enhancing the population [of golden paintbrush] within the proposed Admiralty Inlet NAP expansion area may be beneficial for these nearby populations by providing a potential source of material for seed dispersal and perhaps even for exchange of genetic material through pollination" (WDNR 2010).

In addition to the golden paintbrush habitat, the NAP includes 36 acres of a rare forest community of Douglas fir, western hemlock, oceanspray, and swordfern. The forest community

is described by Chappell (2006), and is documented in seven locations in Washington State. Chappell (2006) notes that blow down from windstorms is particularly significant occurrence on Whidbey Island given the locations exposed to the prevailing southwest winds. WDNR (2010) also notes that due to the site's close proximity to the Strait of Juan de Fuca, wind-thrown trees create a "pit-and-mound" microtopography of the forest floor, as well as canopy openings for new growth. The forest community within the NAP is described as old-growth forest. The oldest Douglas fir trees are up to 250 years old, with smaller trees between 140-145 years old (WDNR 2010). Chappell (2006) suggests that stands that have not been previously harvested should be considered for conservation status.

Priority Habitats and Species (PHS) data from the Washington Department of Fish and Wildlife (WDFW) also show the presence of a single bald eagles nest (documented in 2006) within the NAP, and eBird records include sightings of common loon, great blue heron, marbled murrelet, and osprey. The cliffs, also documented by WDFW as a Priority Habitat, may be suitable for peregrine falcon nesting, and the species has been reported there on several occasions by eBird users (TWC and Parametrix 2014).

Boundaries for NAPs are established to protect specific natural features, as well as the surrounding area to the extent that a buffer is deemed necessary. However, boundaries are also influenced by the availability of land from willing sellers. In the case of the Admiralty Inlet NAP, all of the remaining contiguous natural habitat was included, with the exception of the southern extent of the rare forest community, which falls within the Camp Casey parcel, owned by Seattle Pacific University. The 2010 WDNR recommendation included the entirety of the old-growth forest, but Seattle Pacific University ended up retaining approximately nine acres of the forest community within the Camp Casey parcel outside of the NAP.

Management Strategies

Regulatory buffers are common management tools to protect sensitive features from adjacent development. Buffers surrounding terrestrial habitats are typically determined by the need to protect particular habitat features, for example, areas supporting breeding, dispersal, or foraging of sensitive species. The Final Best Available Science and Existing Conditions Report for the County's FHWCA's update (TWC and Parametrix 2014) includes an extensive discussion of the role of corridors and buffers in the management of terrestrial habitats, as well as the effects of roads and development in fragmenting habitat corridors. Given the effect of roads and development in limiting buffer functions, where roads or existing development interrupt buffer functions, these areas and any areas beyond the interrupting features are commonly excluded from regulatory buffers.

In the case of the Admiralty Inlet NAP, the NAP was designated to protect the forest community and the prairie supporting the threatened golden paintbrush plant that occur within the boundaries. The majority of the NAP is surrounded by existing roads and development, which truncate the potential for functioning buffers. However, the forest community extends uninterrupted outside of the NAP to the south on the Camp Casey property. The forested area on the Camp Casey parcel likely provides buffer functions for the forest community within the NAP, and given the exposed location of the NAP to southwest winds, these functions include limiting blowdown risk to trees within the NAP (Knutson and Naef 1997). Knutson and Naef (1997) identify 100 feet as generally sufficient to protect habitats from blowdown risk. Alternatively, Kelsey and West (2001) note that wind velocities remain elevated up to 600 feet into a buffer, and that wider buffers up to that distance that allow for selective thinning may be appropriate for areas subject to blowdown.

Based upon a review of the NAP property and its environs, the existing Island County NAP does not require additional buffering to the north or east, where existing development, ongoing agricultural uses, and roads truncate buffer functions. Where the rare forest community extends south beyond the boundaries of the NAP onto the Camp Casey property, buffer management provisions are warranted to ensure that the forest community within the NAP is adequately protected from edge effects, in particular blowdown susceptibility.

If other NAPs are established in the future, buffers should be considered based on site specific conditions and the functions and values intended to be protected by the NAP. Buffers should reflect the nature of the existing species, sensitively of the habitat and type and intensity of activity proposed to be conducted nearby.

References

- Chappell, C.B. 2006. Upland plant associations of the Puget Trough ecoregion, Washington. Washington Department of Natural Resources, Natural Heritage Program, Olympia, WA.
- Kelsey, K.A. and S.D. West. 1998. Riparian wildlife. P. 235-258 *In* River Ecology and Management. Naiman, R.J. and R.E. Bilby (eds.). Springer-Verlag, New York.
- Knutson, K., and V. Naef. 1997. Management Recommendations for Washington's Priority Habitats, Riparian.
- The Watershed Company (TWC) and Parametrix. January 31, 2014. Best Available Science and Existing Conditions Report for Island County's Fish and Wildlife Habitat Conservation

Areas. Prepared for the Island County Planning and Community Development Department, Coupeville, WA.

Washington Department of Natural Resources (WDNR). 2010. Washington Natural Heritage Program Natural Area Preserve Recommendation- Proposed Expansion of the Admiralty Inlet NAP. Presented to the Natural Heritage Advisory Council, June 9, 2010.

U.S. Fish and Wildlife Service. 2007. Golden paintbrush (*Castilleja levisecta*) 5-year review summary and evaluation.