Cornet Bay
Estuary Work Plan

Prepared For:
Island County Marine Resources Committee

Prepared By:
Prepared by:
Terrafilia Environmental

For:
Island County Marine Resources Committee

April 2009

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OVERVIEW

Cornet Bay is at the northern end of Whidbey Island, just southeast of Deception Pass. Cornet Bay's position directly in the path for salmon between the Skagit River delta and the open ocean creates valuable habitat for migrating juvenile salmonids. According to the WRIA 6 Salmon Recovery Plan, it is a key shoreline location in Geographic Area 1. The Salmon Recovery Plan shows that this area, along the shortest path to the open ocean from both forks of the Skagit River, is heavily used by six of the twenty-two independent Puget Sound Chinook salmon populations.

With its protected location adjacent to the strong currents flowing through Deception Pass, Cornet Bay functions as a pocket estuary, providing a sanctuary for salmon and forage fish which find food and refuge in the bay's sand, gravel, mud and eelgrass habitats. Forage fish, primarily surf smelt, sand lance and Pacific herring, are major prey for salmon, birds and other marine life. Maintaining quality habitat for juvenile salmonids and forage fish in this location contributes to the ecological health of the region and the potential for salmon recovery. Some areas of the Cornet Bay shoreline function essentially un-altered, allowing the accretion of beach sediment for forage fish spawning and the growth of eelgrass and kelp beds. But sections of the bay's shoreline habitat have been altered by aged, creosote-laden overwater structures and bulkheads.

In 2007, Island County Marine Resources Committee (MRC), in cooperation with Washington State Parks, began Phase I of a Cornet Bay Estuary Nearshore Restoration Project. The restoration area encompasses the nearshore of state park property to the north and south of the public boat ramps, extending to the end of park property just north of the private Deception Pass Marina (Figure 1). A feasibility assessment and restoration design is currently underway. It will (1) identify and assess the characteristics of habitat and the effects of past human actions on the current conditions of Cornet Bay; (2) identify recommended restoration actions needed to protect the physical and biological processes that create and maintain the overall landscape and its biotic communities while maintaining the current uses of Deception Pass State Park's Cornet Bay facility; and (3) complete a 30% restoration design.

Restoration objectives are to:

1. Re-establish forage fish spawning habitat, including riparian conditions, to improve sand lance and surf smelt populations.
2. Re-enable nearshore sediment-transport processes and restore sunlight penetration for intertidal eelgrass bed habitats.
3. Restore feeder bluff sediment access to coastal geologic erosional processes and shoreline accretion.
4. Reduce polycyclic aromatic hydrocarbons (PAHs), creosoted debris and bulkheads from nearshore.

5. Publicize restoration solutions; educate island residents and visitors and conduct outreach activities in concert with WA Parks' Community Involvement Plan and guidelines.
6. Establish accurate monitoring database of post-restoration impacts on nearshore habitats and processes.

As funding is acquired, Phase 2 will implement restoration projects designed in Phase 1.

Figure 1. Potential locations and extents of nearshore restoration target areas on the shoreline in Deception Pass State Park's Cornet Bay recreation area.

INTRODUCTION

Cornet Bay receives input from seven drainage basins (Figure 2) and has approximately 2.7 miles of shoreline[1]. Much of the landscape (green below) is a forested state park. The MRC's current restoration project addresses the section of state park shoreline where the naturally-functioning nearshore environment has been most compromised.

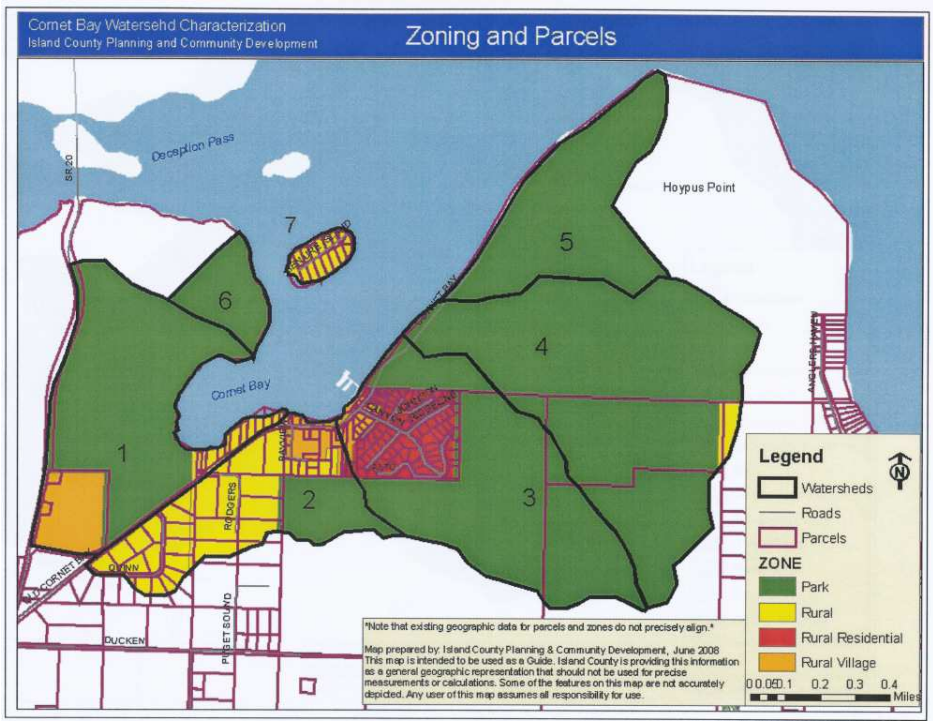


Figure 2. Cornet Bay watersheds and zoning.

Funding from the Island County Salmon Recovery Program for capital project development allowed the MRC to evaluate the remaining Cornet Bay shoreline for preservation or restoration potential. This project examined the Cornet Bay shoreline *not included* in the current restoration area and not already under the protection of Washington State Parks, primarily privately owned shoreline parcels. With this grant, Island County MRC has advanced the capacity for planning, protection and restoration of nearshore habitat and physical processes in the Cornet Bay estuary.

The MRC used the capacity assistance for two tasks:
(1) Seek further funding for the current restoration project. Four grant applications were submitted for funding for Phase 2 (on-the-ground restoration in sections 1-5, figure 1). Two of these were successful.

[1] *Cornet Bay Watershed Characterization*, Island County Planning and Community Development, June 2008

(2) Implement a reach assessment, launching an evaluation and planning process for the protection and restoration of the entire Cornet Bay estuary. Results of Task 2 are the content of this report.

This assessment aimed to:

I. Identify all shoreline landowners on Cornet Bay, including Ben Ure Island.

II. Develop criteria for ecological assessment of shoreline parcels to help determine where future efforts for habitat protection and restoration in Cornet Bay might be most beneficial and feasible.

III. Evaluate privately-owned shoreline parcels using this criteria.

IV. Establish a Work Plan identifying opportunities for preservation of landscape connectivity, protection of high quality habitat, and restoration of degraded habitat and interrupted shoreline accretion processes in Cornet Bay estuary.

SHORELINE ASSESSMENT

SHORELINE PARCEL OWNERSHIP

Information was derived from Island County's Parcel Data Base (http://www.islandcounty.net/default.htm) and from Island County Zoning/Parcel Maps.

Aside from the State Park property adjoining Cornet Bay public boat launch, there are 21 discrete shoreline parcels on the bay and 18 on Ben Ure Island (Table, Appendix 1)[2]. Two separate tideland parcels are also indicated (owner codes B and K1). Table columns contain the following information for each parcel:

A. Map No
B. Parcel No
C. Account No
D. Acres
E. Shore type
F. Estimated length of shoreline
G. Location
H. Owner Code
I. Owner
J-M. Address
N. Assessed value (most recent in online database)
O. Structures (Yes or No)
P. Legal Description
Q. Notes

Shore type (Column E) – sand, mud, rock or armored – was extrapolated from aerial photographs (Department of Ecology 2006 Oblique Aerials, Nos. 060629_05502-05519). Shoreline length for each parcel (Column F) was estimated using Google Earth Ruler on the Island County Parcel layer. A letter was assigned to each unique landowner as an Owner Code (Column H), with a number attached if more than one parcel is registered under the same owner (e.g., A1, A3 and A15 are all owned by Washington State Parks, C1, C2 and C3 are titled to the same private landowner). These codes, rather than owners' names, are the identification used when ranking and discussing the parcels. Further explanatory notes are found in the Notes column (Q) and attached to various worksheet cells in the electronic Excel file using the Comment feature.

[2] This table is provided electronically but not fully reproduced in the printed version because it takes up several pages, and any information that pertains to this analysis is repeated in Appendices 5a and 6a.

CRITERIA FOR ECOLOGICAL ASSESSMENT

The protocol used for ranking parcels according to ecological criteria (Appendix 2) was adapted from one developed by Keystone Ecological for the Whidbey Camano Land Trust. They used it for general planning purposes to look at salmon conservation priorites for nearshore and drainage basins in several areas (e.g., Triangle Cove, Cultus Bay, and others).

Cornet Bay shoreline segments were evaluated by examining the Department of Ecology 2006 Oblique Aerials (Appendix 3), with corresponding parcel boundaries inferred from the Island County Parcels GIS layer projected on Google Earth (Appendix 4). The criteria and scoring is explained in Appendix 2. For each item, a parcel could receive full points, half points or no points. Each parcel was scored on the following criteria:

A. Nearshore Ecosystem Processes (50 points)
    1. Sediment erosion and transport (30)
    2. Tidal connectivity (10)
    3. Freshwater hydrology (10)

B. Nearshore Habitat Functions (50 points)
    1. Food production for juvenile salmon (20)
    2. Food production for adult salmon (10)
    3. Shelter for juvenile salmon (20)

C. Landscape Context
    1. Connectivity with already protected habitats (10)
    2. WRIA 6 Salmon Recovery Geographic Area (10)
    3. Estimated length of shoreline (10)
    4. Size of parcel, or size of combined adjacent parcels owned by single owner (10)

Scores for ecosystem processes and habitat functions (sections A and B) were summed to create a parcel score. Scores for landscape context (section C) are for information purposes only.

EVALUATION OF SHORELINE PARCELS

Results of Ecological Ranking

Parcel scores were tallied in spreadsheets. The sum scores were plotted on a corresponding map created for the MRC by Keystone Ecological.

Appendices 5 and 6 show ranking scores for each parcel (Appendices 5a and 6a), with corresponding maps (Appendices 5b and 6b). Because of uncertainty on the best answer for criteria A.3 and B.3 for certain parcels, as explained below, two versions were created, original (A.3=5, B.3=10; Appendix 5) and alternate (A.3=0, B.3=0; Appendix 6). Table cells in which alternate scores differ from original scores are highlighted in light gray (Appendix 6a).

Criteria A.3 pertains to freshwater hydrology (maximum 10 points). Parcels F-M are armored and N1-N3 are adjacent to the raised profile of Cornet Bay Road, so none of these have the "naturally functioning freshwater inputs" required for a full score. If "freshwater inputs to the nearshore occur onsite, but have been altered," then A.3=5 (original version), which might be an appropriate score for F-N3. But if the bulkheads on parcels F-M, and the road dike with culverts above the N1-N3 shoreline "significantly alter" freshwater inputs, then A.3=0 (alternate version).

Criteria B.3 concerns shelter for juvenile salmon (maximum 20 points) as indicated by lower salinity habitats and kelp or eelgrass beds. Parcels N1-N3 are identified as "tidal emergent wetland" in the Washington Coastal Atlas and contain two small pocket lagoons, so these almost certainly provide lower salinity refuge (B.3=20). Half points are given for parcels "adjacent to lower salinity habitats or continuous kelp and/or adjacent to eelgrass beds." A 2003 survey (Figure 3) found eelgrass directly under Deception Pass Marina, so parcels N4-N5 are adjacent to eelgrass beds (B.3=10). Ben Ure parcels are adjacent to eelgrass or kelp beds (B.3=10). Parcels adjacent to lower salinity refuge are also scored 10. We don't have data on whether Cornet Bay has lower salinity that waters outside the sheltered bay. For the original score, it was assumed that inner Cornet Bay is lower salinity, so all shoreline parcels were scored 10 for "adjacent to lower salinity habitats." For the alternate score lower salinity was not assumed, and parcels not adjacent to eelgrass or kelp were scored 0.

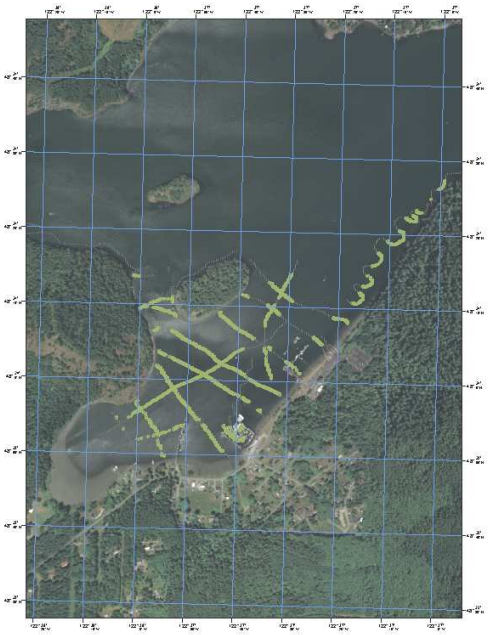


Figure 3. Eelgrass (green lines) mapped along transects in Cornet Bay in 2003.

Notes on Ranking Results

The ranking process is designed as a guide for general planning purposes, not a definitive assessment. Conclusions should be confirmed in the field before planning specific future actions.

Appendix 6 is used for discussion because the alternate scoring provides more useful visual distinctions when mapped (Appendix 6b). The highest possible sum score for sections A+B is 100. (Section C is not used in ranking.) Cornet Bay parcel scores ranged from 10 to 65. For mapping these fell into categories 5-25 (purple), 30-45 (aqua), and 50-65 (green), parcels with ecological scores in the highest category. Most of the green area on the map is already under state park management (parcel A1, and parcels A5-15) and ranks high because it has forested upland with natural shoreline.

Ben Ure Island ranks high because the eelgrass and kelp beds surrounding the island provide high quality habitat, and there is minimal development on the island. Thirteen parcels have no listed structures: T2, A6-A12, V2, W, and A13-A15. Eleven of the State Parks' parcels, A5-A15, are zoned Forest Protection. With the exception of the two west end parcels and an open space on U, little clearing is evident in the aerial photographs.

On the bay shoreline, five parcels, C1, C2, C3, D and E1 ranked 40-45 (aqua) because judging by the 2006 aerial photos, the backshore and upland along parcels C-E1 appear to be fairly well vegetated with trees and shrubs. A cautionary note is that the aerial photographs are three years old, and some conditions may have changed. As example, the state park manager reports that parcels C1 and C2 were recently cleared of trees for development. If so, this might reduce scores for criteria A.2 (tidal connectivity) and A.3 (freshwater inputs). Parcel E1 appears undeveloped. These five private parcels currently retain higher ecological value than the next eight parcels to the east (lavender), because parcels F through L are armored, and E2, G, I and M have overwater structures. This is the most heavily modified shoreline outside of the marina and the park's boat launch area.

Three undeveloped parcels (N1-N3)[3] with 1,000 feet of shoreline remain between the County dock (M) and Deception Pass Marina (N4-N5). At high tide along this stretch of shoreline there is only a small upland buffer between the water and Cornet Bay Road, and during high winter tides water and drift logs surmount the road. These three privately owned parcels, owned by Deception Pass Marina, stand out from this prioritization process as of greatest interest for protection and/or restoration. Parcels N1, N2 and N3 may have significant habitat value or potential, though they would be affected by Cornet Bay Road in the backshore, the cutoff of sediment upstream in the drift cell, and any pollution and disturbance effects from boat traffic at both private marina and public park.

[3] The five parcel descriptions for N1-N5 do not correspond exactly with boundary lines on the county maps that seem to delineate seven distinct parcels from N1 through N5 (Appendix 4). Possibly some original parcels were later combined. In any case, all are titled to a single owner, Deception Pass Marina.

WORK PLAN

When deciding future actions to enhance the Cornet Bay estuary, the *Cornet Bay Watershed Characterization* (June 2008), which focused on upland development and water runoff, should be studied in conjunction with this shoreline assessment.

Consideration should be given to the most effective approach to protecting and increasing the health of Cornet Bay. Should the priority be protecting and restoring shoreline parcels or reducing pollution impact from all land in the seven Cornet Bay drainage basins, shoreline *and* upland. If property acquisition is considered, determine whether the most ecologically important parcels still in private ownership are along the shore or in the upland.

The inner bay consists of shallow water and deep mud. The inward extent of eelgrass is likely determined by shallowness rather than by activities on the shoreline, as eelgrass cannot survive where exposed to extremes of heat or cold. Before pursuing nearshore restoration actions inward of the County dock, the current or potential habitat values that this shallow inner bay might provide salmon and forage fish need to be determined. If the existing armoring and overwater structures are having little negative ecological effect, then improvements would not bring significant habitat benefit.

The Washington Coastal Atlas shows an inner part of the shore, near the Retreat Center, as salt marsh. If there is salt marsh here, consider whether there are potential steps that might increase its extent or habitat function.

Currently the sandy-gravel sediment required for forage fish spawning beaches does not continue west along the southern shoreline of Cornet Bay past Deception Pass Marina. If the access to the Parks' Maintenance and Repairs Dock is re-built to allow sediment flow, more sandy sediment will be carried along the shoreline, but how far into the bay is unknown.

SHORELINE PROPERTIES

Ben Ure Island

Ben Ure appears to pose little threat to the ecological health of the bay and is likely to remain in its current condition. Washington State Parks owns 13 of the 18 parcels. Their long-term goal is to acquire the entire island to protect the Deception Pass view shed. Those parcels still under private ownership are minimally developed. There is small likelihood of new development and little that currently obstructs natural processes on this shoreline. Eelgrass and kelp beds, important habitat for salmon, surround the island. Ecologically it would be best if this 12.5 acre island remains as is, with no further development.

Bay Shoreline

1. Undeveloped Parcels

Online County records show seven parcels without structures: C1, C2, E1, N1, N2, N3, and N5. N5 is incorporated into Deception Pass Marina and fully developed. C1 and C2 are reported to have been cleared recently for development, leaving four parcels of interest, E1, N1, N2, and N3. These undeveloped lots might be considered for acquisition, protection or restoration. Here are some thoughts on parcels N1-N3, owned by Deception Pass Marina:

- Discuss with the marina owners their intentions for the properties. Determine whether they are receptive to research being conducted there to learn the area is currently used by juvenile salmon or forage fish and whether it offers any restoration potential. If it is concluded that restoration activities in this area would benefit salmon and/or forage fish, see if they would be willing to consider an easement, partnership, or acquisition by a public entity for protection and restoration.
- It has been reported that Deception Pass Marina cannot afford the high cost required to re-dredge their channel. If this cost is due to the disruption of eelgrass beds, investigate whether a mitigation strategy involving habitat restoration on parcels N1-N3 might offset the negative impact to eelgrass by increasing nearby habitat value for forage fish and/or salmon.
- If riparian shrubs or trees would grow along this stretch and would enhance nearshore habitat value, explore a program to increase riparian vegetation.
- Spartina has been a problem in the intertidal area along N1-N3. The Island County Noxious Weeds Program knows of the site and tries to treat it annually, but it is difficult and dangerous because of the deep mud. Continue to pursue eradication of this invasive grass.

2. Overwater Structures

Parcel M is owned by Island County and includes an over water pier and floating dock. Examine whether these are disrupting the long-shore flow of sediment, and if so, what modifications might allow re-establishment of natural physical processes.

Three private parcels west of M – E2, G and I – have attached over-water structures, all including one or more buildings. Evaluate the effect of these structures upon natural physical functions. If not already required by the County's Shoreline Master Plan, any permits for rebuilding could encourage replacement with structures better designed to allow sediment flow. Most of these structures are likely over water too shallow to accommodate the growth of eelgrass.

3. Shoreline Armoring

Parcels F-L are armored with bulkheads. Possibly these could be removed, or replaced with softshore armoring.

4. Creosote Pollution

Deception Pass Marina contains creosoted bulkheads and pilings. Preferably these would be replaced with non-toxic structures. The following excerpt from a Department of Ecology[4] report indicates that creosote is leaching into the bay. Note the final sentence:

> In 1989, a fuel release from an underground storage tank at Cornet Bay Marina on Whidbey Island contaminated the groundwater. In 2005, groundwater, surface water, and sediment samples were collected onsite to determine if petroleum contaminants were currently migrating into the adjacent intertidal areas. Samples were analyzed for petroleum products including TPH-Gx, TPH-Dx, BTEX, and PAHs.
>
> Groundwater continues to be contaminated in two of the monitoring wells, with levels of gasoline, diesel, and benzene exceeding Model Toxics Control Act Method A cleanup levels for groundwater.
>
> No significant petroleum contamination was found in the two streams bracketing the site to the north and south.
>
> … PAHs were detected at all sediment sampling locations. PAH levels were low in the surrounding intertidal area, but exceeded the sediment management standards criteria at all sampling sites along the bulkhead. PAHs exceeded the cleanup screening levels at four of the six stations adjacent to the bulkhead, and the sediment quality standards were exceeded for multiple PAHs at all six stations.
>
> The extent to which the spilled petroleum has contributed to the PAH levels observed in Cornet Bay Marina sediments is uncertain. **Hydrocarbon ID analysis suggests that the PAHs in the sediments are due to the creosote treated bulkhead**.

[4] *Screening Survey for Petroleum Contamination at Cornet Bay Marina (Island County)*, Washington State Department of Ecology, September 2005; Publication No. 05-03-033.

WHOLE WATERSHED AND WATER QUALITY

Reducing pollution from stormwater runoff might be a high priority for protecting Cornet Bay's habitat quality. As noted in the Watershed Characterization (WC), potential sources of non-point pollution include runoff from herbicides and pesticides used in yard care, road runoff containing metals or petroleum products, construction runoff, and failing septic systems. Of the seven drainage basins feeding Cornet Bay (Fig. 2), basins 4-7 are mostly forested and under park ownership. Basins 1-3 are the most developed. Pollutant problems primarily showed up in basins 2 and 3.

Water quality studies conducted by Herrera Environmental Consultants in 1994 reported high copper, phosphorus and fecal coliform levels. They took samples during three storm events and one day without prior rain. "[Herrera] hypothesized that fecal coliform came from horse manure on trails in the forest or leaking septic systems…, and attributed higher phosphorus to failing septic systems. Copper was presumed to come from sources such as algaecides, boat paint, motor vehicles, corrosion of pipes or metal alloys "(WC, p. 19).

For the Watershed Characterization, Island County sampled water quality at six pour points. Samples were collected five times between May 1 and June 17, 2008. There was one small storm event. Fecal coliform levels were above state requirements for secondary contact waters at four pour points, 1a (parcel A1), 2a (parcel N1), 3a (parcel N5) and 4a (state park boat launch). Location 2a was consistently high, the others were high during a storm event June 3, 2008. Levels higher than the Island County average were recorded for nitrate (drainage basin 3) and phosphorus (basins 2 and 3). Copper levels were below the lab's detection limit.

The more developed watersheds, 2 and 3 (Fig. 2), were tested for six herbicides. The lab found Dicamba, an ingredient used in weed and brush control and often found in weed and feed lawn care products. They also detected caffeine, cholesterol and oxybenzone, compounds likely from human waste which may indicate leaking septic system(s) (WC, p. 23). These results suggest pollution may be entering the bay from poor yard practices and failing septic systems.

Although most of State Park parcel A1 is undeveloped, there are several buildings with significant use at the Retreat Center. The highest fecal coliform levels documented in the WC were in runoff from this area during a storm event in June 2008 (WC, p. 21). If this is a regular occurrence, it might be worth discerning the source – septic failure? pet waste? – and eliminating the problem.

The Watershed Characterization concluded (pp. 25-26):

> "Potential impact to the bay could be reduced by campaigns encouraging implementation of Best Management Practices (BMPs) during construction and recommending Low Impact Development (LID), improving and enforcing proper stormwater management controls and additional focus on maintenance of stormwater conveyences and catch basins. Non-point pollution from current and future residential development could be reduced and prevented by education and technical assistance on topics such as "salmon-friendly" yard care practices, pet waste reduction, and proper maintenance of septic systems.
>
> Additional improvements to the quality of water entering Cornet Bay could be gained through further source-identification work. Watershed 3 should be the first priority in campaigns targeted at proper use of herbicides. Although only a slight amount of herbicide was detected in this watershed over the course of 2 days, the problem is likely to be greater in the summer months due to the amount of lawn and residential landscaping in this watershed.
>
> In order to reduce the amount of fecal coliform entering the bay, further study of water quality and potential pollution sources in Watersheds 1 through 4 may be merited. All watersheds had high fecal coliform geomeans, with especially high levels present during the June 3rd storm event. Given the laboratory's detection of human-related organic compounds in the water, Watershed 3 may be prioritized in campaigns to find and repair leaking septic systems. The consistently high levels of fecal coliform in Watershed 2 as well as slight detection of caffeine also would justify work to find and repair any leaking septic systems in this basin. In the watersheds on Park land with just one high fecal value each, additional sampling may be recommended before trying to identify a source. Overall, any future source-identification efforts should be customized based on a project's goals and priorities.

For a better idea of contaminants in stormwater runoff, the WC recommended more sampling over a longer period and during different seasons when more seasonal residents are present, yard care products more heavily used, and there are significant storm events. As the WC sample sites would not have captured runoff from developed *shoreline* parcels with the exception of site 1a (parcel A1, the Retreat Center), testing and source ID should be considered for shoreline parcels as well.

A program of education and community involvement to reduce stormwater pollution could be beneficial. Such a program, working with residents to improve land use

practices on developed shoreline and upland properties, should encourage best practices for activities including the following:

- BMPs during construction
- LID for all future development
- Septic system care and maintenance
- Lawn care and maintenance
- Car washing
- Boat care and maintenance
- Boat washing
- Pet waste disposal
- Reducing impervious surfaces
- Encourage riparian vegetation
- Native plants and rain gardens

Accomplishments of this capacity project are summarized in Appendix 7. Future steps to protect and restore the ecological health and habitat value of the Cornet Bay estuary can build upon the foundation of the Watershed Characterization and the Shoreline Assessment as the Work Plan continues to be refined.

Cornet Bay Shoreline Parcel Ownership. See electronic files for complete cell content and explanatory notes.

Map No	Parcel	Acct No	Acres	Shore	Est. length (ft)	Location	OwnerCode	Owner	Address	City	State	Zip	Assessed	Structures	Legal	Notes
264&269	R13426-1	43795	232	rock		550 Cornet B	A1	State of W	PO Box 4265	Olympi	WA	98504	$13,191,208	Y	1 - GL 1,	Undevelope
279	R13436-4	4034		mud		R-10 CHS Tid	B	State of W	PO Box 4265	Olympi	WA	98501	$7,650	na	R-10 CHS TIDES IN	
279	S6365-00-	230663	0.49	mud	72	388 Cornet B	C1	Anthony M	388 Cornet B	OAK H	WA	98277	$106,270	N	CHARLESWORTH L	
279	S6365-00-	230672	0.49	mud	72	394 Cornet B	C2	Anthony M	388 Cornet B	OAK H	WA	98277	$118,206	N	CHARLESWORTH L	
279	S6365-00-	230681	0.87	mud	172	388 Cornet B	C3	Anthony M	388 Cornet B	OAK H	WA	98277	$470,994	Y	CHARLESWORTH L	
279	S6365-00-	230690	0.6	mud	220	374 Cornet B	D	Banner Ba	3005 112th A	Bellevu	WA	98004	$396,277	Y	CHARLESWORTH L	
279	S6365-00-	230707	0.5	mud	100	356 Cornet B	E1	Edwin C R	356 Cornet B	OAK H	WA	98277	$107,283	N	CHARLE	Undevelope
279	R13436-4	45007	1.37	mud	190	356 Cornet B	E2	Edwin C R	356 Cornet B	OAK H	WA	98277	$229,587	Y	21 - GL2: Dock and b	
279	R13436-4	45052	0.92	armored/	126	346 Cornet B	F	Georgene I	346 Cornet B	OAK H	WA	98277	$196,397	Y	20 - IN GL2: BG ML 1	
279	R13436-4	45098	0.92	armored/	117	338 Cornet B	G	Vern L Ter	2767 Holly Bl	Gig Ha	WA	98335	$371,044	Y	22 -IN GL2 BG ML @	
279	R13436-4	744760	0.88	armored/	125	330 Cornet B	H	Jean P & M	11333 39th A	Seattle	WA	98125	$513,660	Y	IN GL2: WLY 125' OI	
279	R13436-4	712839	0.49	armored/	130	318 Cornet B	I	John J Linc	PO Box 6000	Seattle	WA	98160	$252,387	Y	Dock and shed over t	
279	R13436-4	45141	0.2	armored/	100		J	David McN	4568 48th St	San Die	CA	92115	$84,626	Y	19 - GL2 BG PT ON	
279	R13436-4	45212		mud		R-1 CHS Tide	K1	John E Lar	4060 S Del M	Anacor	WA	98221	$200	na	R-1 CHS TIDES IN F	
279	R13436-4	45150	0.25	armored/	76		K2	Diana D D	4060 S Del M	Anacor	WA	98221	$191,397	Y	27 - GL2 INCL ADJ T	
279	R13436-4	45169	0.25	armored/	75	300 Cornet B	L	W D Brine	300 Cornet B	OAK H	WA	98277	$261,691	Y	17 - IN GLS 1 & 2: B	
279	R13436-4	45178	0.16	sand	50	296 Cornet B	M	Island Cou	PO Box 5000	Coupev	WA	98239	$71,448	Dock	Island County public	
279	R13436-4	45123	0.3	sand	130		N1	Deception	200 Cornet B	OAK H	WA	98277	$1,280	N	57 - IN GL1 TGW AD	
279	R13436-4	45105	0.23	sand	102		N2	Deception	200 Cornet B	OAK H	WA	98277	$1,100	N	55 - IN GL1 TGW AD	
279	R13436-4	45187	1.66	sand	767	5191 Cornet	N3	Deception	200 Cornet B	OAK H	WA	98277	$7,000	N	59 - IN GL1:BG SW	
279	R13436-5	45249	0.25	armored	200	5191 Cornet	N4	Deception	200 Cornet B	OAK H	WA	98277	$341,977	Y	58 - IN GL1:BG MC	
279	R13436-5	45276	0.41	armored	130		N5	Deception	200 Cornet B	OAK H	WA	98277	$20,428	N	54 - IN GL1:BG MC	
265	R13425-1	43786	149.3	armored	4700	160 Cornet B	A3	State of W	PO Box 4265	Olympi	WA	98501	$4,096,751		1 - GL 1, 2, 3, 4 & SE	
Ben Ure Island Parcels																
264	S6125-00-	190723		sand		Ben Ure Is	A4	State of W	PO Box 4265	Olympi	WA	98504	$134,060	Y	BEN URE LOT 1 LY	
264	S6125-00-	190732		rock		Ben Ure Is	T1	Tuyet Shac	316 SE Pion	Oak Ha	WA	98277	$156,123	Y	BEN URE	Incl. boat d
264	S6125-00-	190741		rock		Ben Ure Is	T2	Tuyet Shac	316 SE Pion	Oak Ha	WA	98277	$70,641	N	BEN URE LOT 2 LY	
264	S6125-00-	190750		sand		Ben Ure Is	U	Ben Ure Is	5027 19th Av	Seattle	WA	98105	$130,541	Y	BEN URE LOT 2 LY	
264	S6125-00-	190769		rock		Ben Ure Is	A5	State of W	PO Box 4265	Olympi	WA	98504	$177,971	Y	BEN URE	Forest Prot
264	S6125-00-	190778		sand		Ben Ure Is	A6	State of W	PO Box 4265	Olympi	WA	98504	$69,540	N	BEN URE	Forest Prot
264	S6125-00-	190787		rock		Ben Ure Is	A7	State of W	PO Box 4265	Olympi	WA	98504	$70,641	N	BEN URE	Forest Prot
264	S6125-00-	190796		sand		Ben Ure Is	A8	State of W	PO Box 4265	Olympi	WA	98504	$70,641	N	SEP DEN	Forest Prot
264	S6125-00-	190803		rock		Ben Ure Is	A9	State of W	PO Box 4265	Olympi	WA	98504	$70,641	N	BEN URE	Forest Prot
264	S6125-00-	190812		sand		Ben Ure Is	A10	State of W	PO Box 4265	Olympi	WA	98504	$69,381	N	SEP DEN	Forest Prot
264	S6125-00-	534880		rock		Ben Ure Is	A11	State of W	PO Box 4265	Olympi	WA	98504	$70,080	N	BEN URE	Forest Prot
264	S6125-00-	534871		sand		Ben Ure Is	A12	State of W	PO Box 4265	Olympi	WA	98504	$60,641	N	BEN URE	Forest Prot
264	S6125-00-	190830		rock		Ben Ure Is	V1	Paul D Mc	8414 5th Ave	Seattle	WA	98115	$92,905	Y	BEN URE LOT 7 LY	
264	S6125-00-	190849		rock		Ben Ure Is	V2	Paul D Mc	8414 5th Ave	Seattle	WA	98115	$18,350	N	BEN URE PT LOT 7	
264	S6125-00-	190858		sand/rock		Ben Ure Is	A13	State of W	PO Box 4265	Olympi	WA	98504	$70,631	N	BEN URE	Forest Prot
264	S6125-00-	190867		rock		Ben Ure Is	W	Michael Wi	5027 19th Av	Seattle	WA	98105	$58,789	N	BEN URE PT LOT 8	
264	S6125-00-	190876		rock		Ben Ure Is	A14	State of W	PO Box 4265	Olympi	WA	98504	$48,710	N	BEN URE	Forest Prot
264	S6125-00-	190885		rock		Ben Ure Is	A15	State of W	PO Box 4265	Olympi	WA	98504	$66,327	N	BEN URE	Forest Prot

Ecological and Landscape Prioritization Criteria – Cornet Bay Nearshore Parcels

	Nearshore Parcels	Max. Points	Notes
A	***Nearshore Ecosystem Processes (50 max)***		
A.1	*Sediment Erosion and Transport (30 max) [GIS: NEP_Sed]*		
	There are no human caused sediment transport interruptions between the parcel and the updrift sediment source; and the parcel has no known alterations on the beach or nearshore upland area that could impact sediment processes	Full points - 30	
	Parcel is downdrift from an interruption to sediment transport but does not contain structures along the shoreline; and/or there are alterations on the parcel in the nearshore upland area that may have impacts to sediment processes	Half points - 15	Go back to divergence zone for drift cell (Hoypus Pt). Interrupting structure(s) *anywhere* downdrift from sediment source have impact -- domino effect
	Parcels with structures/features on the beach that interrupt naturally occurring nearshore sediment processes	No points - 0	
A.2	*Tidal Connectivity (10 max) [GIS: NEP_Tidal]*		(main armoring measure)
	Parcel has naturally functioning tidal exchange (no obstructions due to human alterations to shoreline components (sub-tidal, intertidal, berm, backshore, stream)	Full points - 10	
	Tidal exchange to one or more shoreline components is obstructed by human alterations; but some regular tidal exchange exists between the backshore and marine environment	Half points - 5	Anything that interrupts tidal surge's natural erosion and habitat formation processes
	Tidal exchange is obstructed by human alterations and there is limited or no tidal exchange between backshore habitats and the marine environment	No points - 0	
A.3	*Freshwater Hydrology (10 max) [GIS: NEP_FH]*		Doesn't matter how much fresh water
	Freshwater inputs to nearshore are naturally functioning	Full points - 10	i.e., if can't see tightline in photo
	Freshwater inputs to nearshore occur onsite, but have been altered (timing and or location)	Half points - 5	Incl. bulkhead (prevents beach seepage)
	Freshwater inputs to nearshore are significantly altered due to shoreline structures or stormwater drainage structures	No points - 0	
B	***Nearshore Habitat Functions (50 max)***		
B.1	*Food Production for Juvenile Salmon (20 max) [GIS: NHF_JFood]*		
	Parcel includes one or more of the following habitats: mudflat, fish accessible coastal lagoon, salt marsh, or coastal stream outlet	Full points - 20	
	Parcel contains shoreline adjacent to mudflat, coastal lagoon, or salt marsh habitat; and/or Marine riparian vegetation and upland forest covers at least 60% of parcel (minimum parcel size = 5 acres)	Half points - 10	Literally adjacent. e.g., if don't own tidelands
	All other nearshore parcels	No points - 0	
B.2	*Food Production for Adult Salmon (10 max) [GIS: NHF_AFood]*		
	Parcel includes sand and gravel beach with documented sand lance spawning site(s) and/or tidelands mapped as herring spawning sites	Full points - 10	
	Parcel includes sand and gravel beaches and/or is adjacent to eelgrass beds; but there is no documented sand lance or herring spawning activity at the site	Half points - 5	Adjacent = within 100-200 feet
	All other nearshore parcels	No points - 0	
B.3	*Shelter for Juvenile Salmon (20 max) [GIS: NHF_Shltr]*		
	Parcel includes habitat that provides lower salinity refuge	Full points - 20	E.g., pocket estuary, lagoon, coastal wetland: evaluate how often fish could get into the area
	Parcel is adjacent to lower salinity habitats or continuous kelp and/or adjacent to eelgrass beds	Half points - 10	From 2006 DOE photos and DNR kelp data layer
	All other nearshore parcels	No points – 0	

Adapted from criteria developed by Keystone Ecological; PO Box 1165; Yelm, WA 98597
for Whidbey Camano Land Trust

This section is just for information, not used in prioritization scoring for the ecological mapping.

C	Landscape Context		Notes
C.1	*Connectivity with Already Protected Habitats (10 max)*	*[GIS: connect]*	
	Parcel already protected or adjacent to conservation lands (=> 5 acres in size)	Full points - 10	Score State Park at 90 so it will stand out, b/c already protected
	Adjacent to conservation lands (=>1 acre and < 5 acres in size)	Half points - 5	
	Adjacent to conservation lands < 1 acres or parcel not adjacent to conservation lands	No points - 0	
C.2	*WRIA 6 Salmon Recovery Geographic Area (10 max)*	*[GIS: GeoArea]*	
	Geographic Area 1	Full points - 10	
	Geographic Area 2	Half points - 5	
	Geographic Area 3	No points - 0	
C.3	*Estimated length of shoreline or stream channel (10 max)*	*[GIS: Length]*	
	=>1.320 feet (quarter mile)	Full points - 10	
	>250 feet and <1.320 feet	Half points - 5	
	<250 feet	No points - 0	
C4	*Size of parcel (or size of combined adjacent parcels owned by single owner)*	*[GIS: Size]*	
	=>10 acres	Full points	
	=>5 acres and <10 acres	Half points	
	<5 acres	No points	

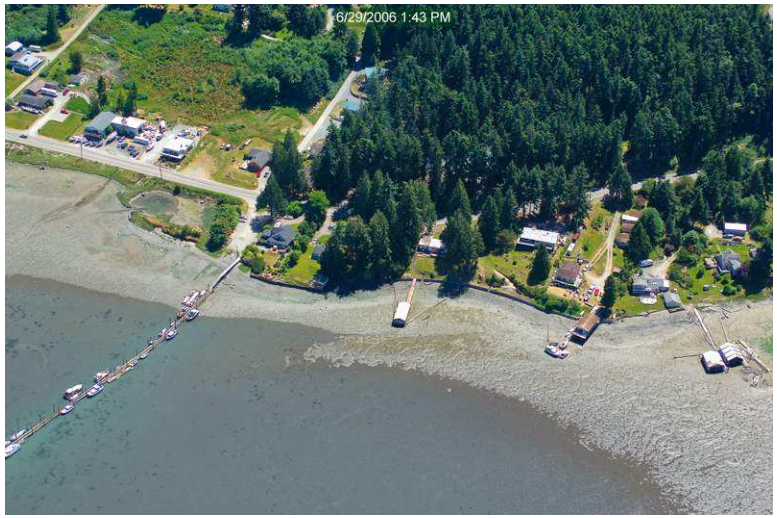
Department of Ecology 2006 Oblique Aerials of Cornet Bay & Ben Ure Island, 29 June 2006 – numbers 05502-05519.

#05519. Long shot of Cornet Bay from north; Ben Ure in fore left, Goose Rock fore right, Deception Pass Marina center rear.

#05502. Deception Pass State Park public use area: parking, boat ramps, public T-pier, and Maintenance Dock.

#05503. Deception Pass Marina (private parcels N4-N5)

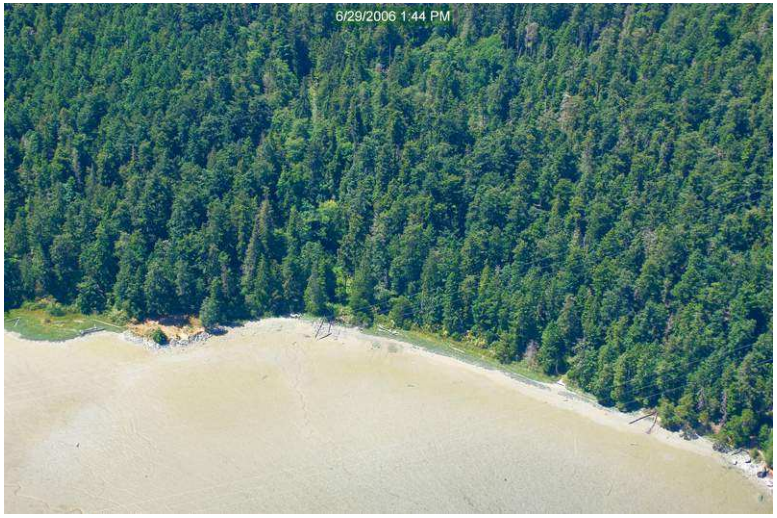
#05504. Parcels N3-N1, with county dock to right.



#05505. Parcels N1-E2.

#05506. Parcels I-C1.

#05509. Deception Pass State Park – Retreat Center on parcel A1.

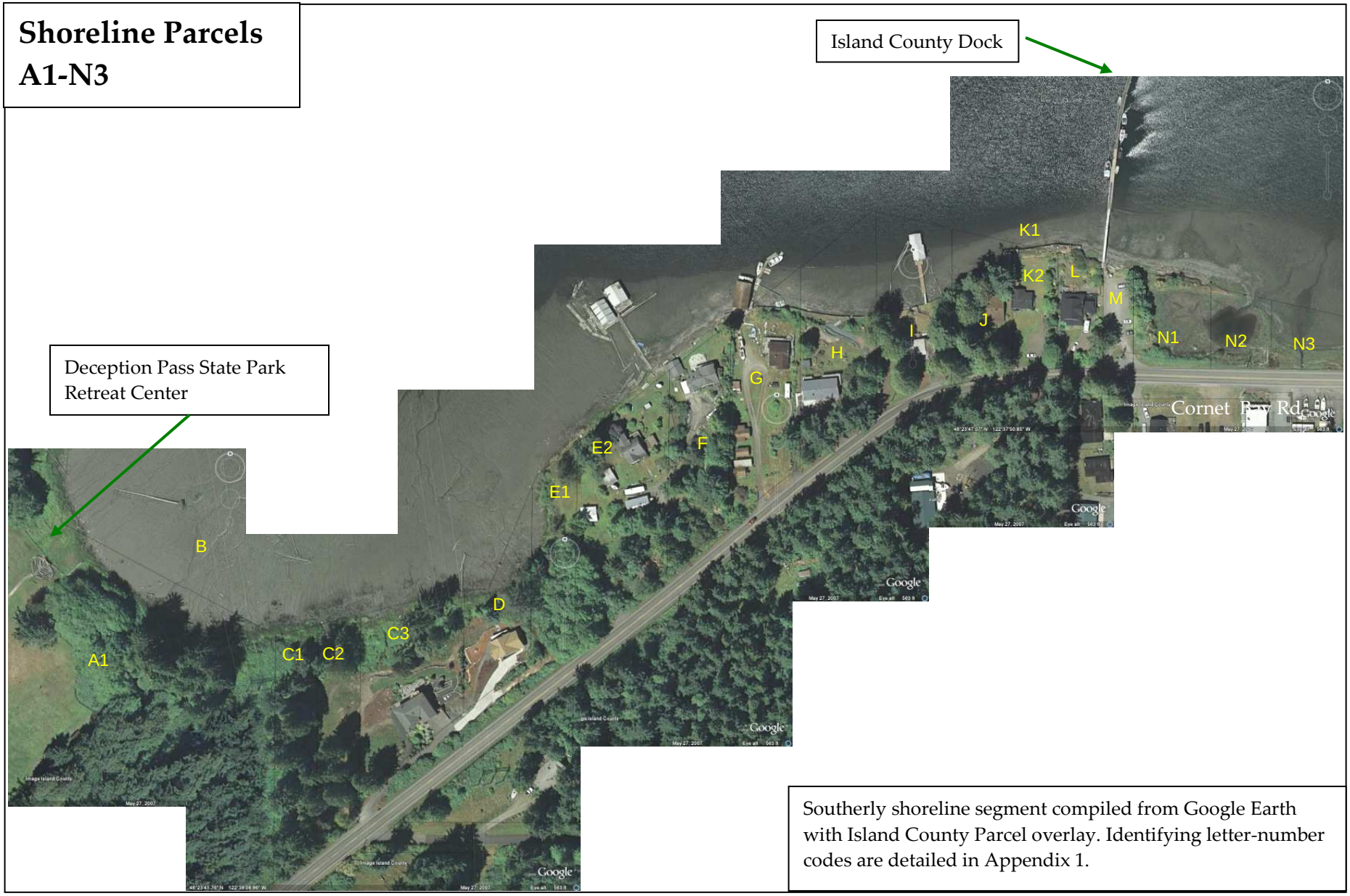


#05510. Parcel A1 continued – northwest shore of Cornet Bay.

#05511-13. A1 continued, northwest shore of Cornet Bay, lower part of Goose Rock in Deception Pass State Park.

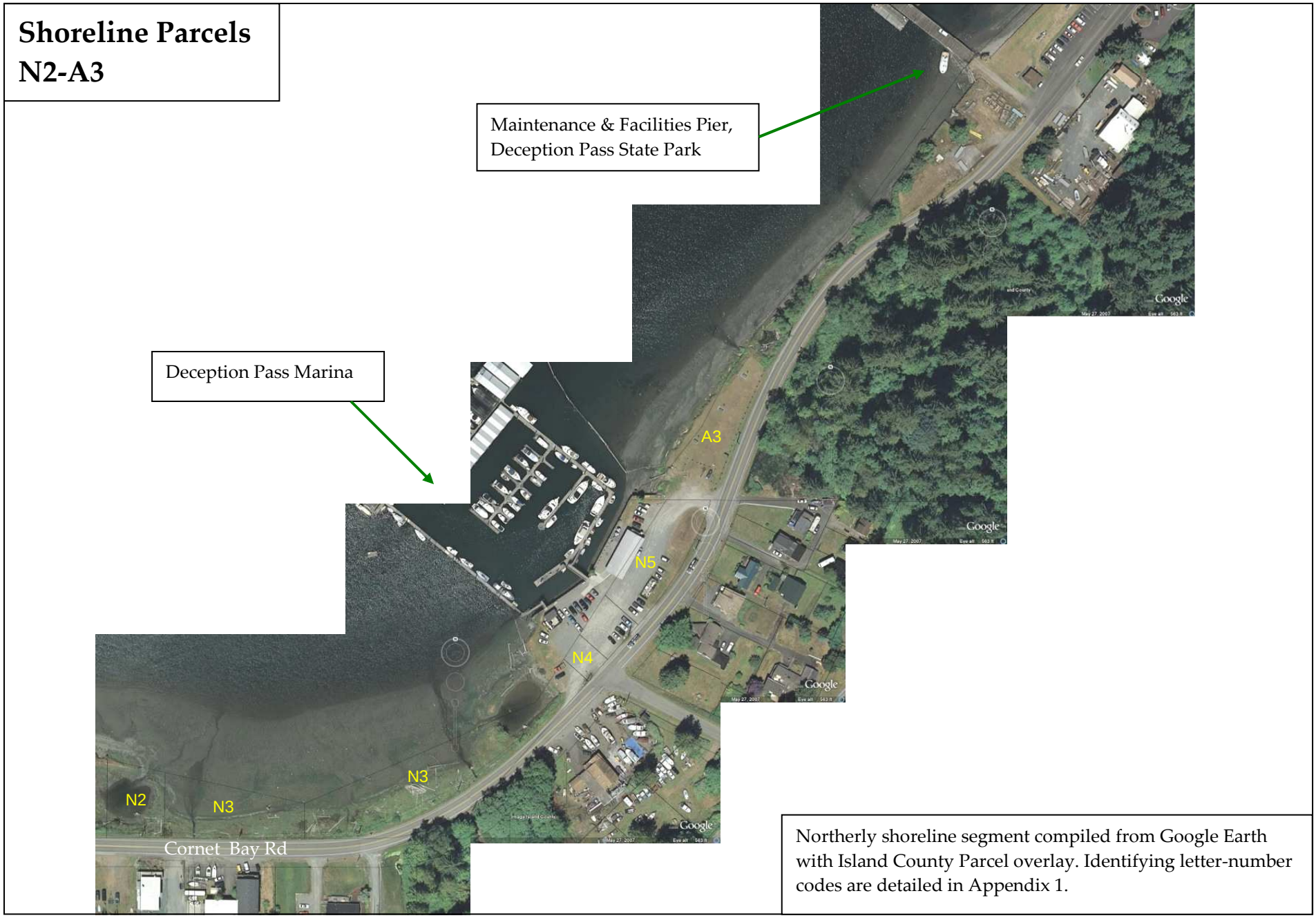
#05507. Ben Ure Island from the west

#05516. Ben Ure Island from the east



Southerly shoreline segment compiled from Google Earth with Island County Parcel overlay. Identifying letter-number codes are detailed in Appendix 1.

Appendix 4. Parcels mapped on Google Earth.



Appendix 4. Parcels mapped on Google Earth.

Ben Ure parcels compiled from Google Earth with Island County Parcel overlay. Identifying letter-number codes are detailed in Appendix 1.

Appendix 4. Parcels mapped on Google Earth.

Ecological & Landscape Scoring for CB Nearshore Parcels						A. Ecosystem Processes			B. Habitat Functions (50)				C. Landscape Contexts				
Parcel	Acct No	Acres	Shore	Est. length (ft)	OwnerCode	A.1 (30)	A.2 (10)	A.3 (10)	B.1 (20)	B.2 (10)	B.3 (20)	A+B TOTAL	C.1 (10)	C.2 (10)	C.3 (10)	C.4 (10)	CTOTAL
R13426	43795	232.00	rock		A1	30	10	10	10	0	10	**70**	90	10	10	10	*120*
R13436	4034	R-10 CH	mud		B												
S6365-	230663	0.49	mud	72	C1	15	10	10	10	0	10	**55**	10	10	0	0	*20*
S6365-	230672	0.49	mud	72	C2	15	10	10	10	0	10	**55**	10	10	0	0	*20*
S6365-	230681	0.87	mud	172	C3	15	10	10	10	0	10	**55**	0	10	0	0	*10*
S6365-	230690	0.60	mud	220	D	15	10	10	10	0	10	**55**	0	10	0	0	*10*
S6365-	230707	0.50	mud	100	E1	15	10	10	10	0	10	**55**	0	10	0	0	*10*
R13436	45007	1.37	mud	190	E2	0	10	10	20	0	10	**50**	0	10	0	0	*10*
R13436	45052	0.92	armored/sand	126	F	0	0	5	20	5	10	**40**	0	10	0	0	*10*
R13436	45098	0.92	armored/sand	117	G	0	0	5	20	5	10	**40**	0	10	0	0	*10*
R13436	744760	0.88	armored/sand	125	H	0	0	5	20	5	10	**40**	0	10	0	0	*10*
R13436	712839	0.49	armored/sand	130	I	0	0	5	20	5	10	**40**	0	10	0	0	*10*
R13436	45141	0.20	armored/sand	100	J	0	0	5	10	5	10	**30**	0	10	0	0	*10*
R13436	45212	R-1 CHS	mud		K1												
R13436	45150	0.25	armored/sand	76	K2	0	0	5	20	5	10	**40**	0	10	0	0	*10*
R13436	45169	0.25	armored/sand	75	L	0	0	5	20	5	10	**40**	0	10	0	0	*10*
R13436	45178	0.16	sand	50	M	0	0	5	20	5	10	**40**	0	10	0	0	*10*
R13436	45123	0.30	sand	130	N1	15	5	5	20	5	20	**70**	0	10	0	0	*10*
R13436	45105	0.23	sand	102	N2	15	5	5	20	5	20	**70**	0	10	0	0	*10*
R13436	45187	1.66	sand	767	N3	15	5	5	20	5	20	**70**	0	10	5	0	*15*
R13436	45249	0.25	armored	200	N4	0	0	0	0	0	10	**10**	0	10	0	0	*10*
R13436	45276	0.41	armored	130	N5	0	0	0	0	0	10	**10**	10	10	0	0	*20*
R13425	43786	149.25	armored	4700	A3	No prioritization because parcel already conserved state park, restoration under way, & subsections differ											
Ben Ure Island																	*0*
S6125-	190723		sand		A4	15	5	5	0	5	10	**40**	90	10	0	0	*100*
S6125-	190732		rock		T1	15	5	10	0	0	10	**40**	0	10	0	0	*10*
S6125-	190741		rock		T2	15	10	10	0	0	10	**45**	0	10	0	0	*10*
S6125-	190750		sand		U	30	10	10	0	5	10	**65**	0	10	0	0	*10*
S6125-	190769		rock		A5	30	10	10	0	0	10	**60**	90	10	0	0	*100*
S6125-	190778		sand		A6	30	10	10	0	5	10	**65**	90	10	0	0	*100*
S6125-	190787		rock		A7	30	10	10	0	0	10	**60**	90	10	0	0	*100*
S6125-	190796		sand		A8	30	10	10	0	5	10	**65**	90	10	0	0	*100*
S6125-	190803		rock		A9	30	10	10	0	0	10	**60**	90	10	0	0	*100*
S6125-	190812		sand		A10	30	10	10	0	5	10	**65**	90	10	0	0	*100*
S6125-	534880		rock		A11	30	10	10	0	0	10	**60**	90	10	0	0	*100*
S6125-	534871		sand		A12	30	10	10	0	5	10	**65**	90	10	0	0	*100*
S6125-	190830		rock		V1	30	10	10	0	0	10	**60**	0	10	0	0	*10*
S6125-	190849		rock		V2	30	10	10	0	0	10	**60**	0	10	0	0	*10*
S6125-	190858		sand/rock		A13	30	10	10	0	0	10	**60**	90	10	0	0	*100*
S6125-	190867		rock		W	30	10	10	0	0	10	**60**	0	10	0	0	*10*
S6125-	190876		rock		A14	30	10	10	0	0	10	**60**	90	10	0	0	*100*
S6125-	190885		rock		A15	30	10	10	0	0	10	**60**	90	10	0	0	*100*

Column Notes

A. Pale yellow highlight means parcel includes ownership of adjacent tidelands

B. Orange indicates parcels that are armored and/or have dock/building over tideland

C. Acreage taken from Island County Property Tax Data Base

D. Shore identified from aerial photos as sand, mud, rock or armored. Lavender indicates "parcels" that are tidelands only

E. Shoreline length in feet as estimated using Google Earth ruler on Island County GIS parcel layer (beta version)

F. Each parcel received an Owner Code Letter used to identify that parcel on the map. If one owner owns more than one parcel, each one has a number attached, e.g., C1, C2 and C3 are all under same owner. Colored blocks in this column applied to these parcels visually show these distinctions.

G. A1-30 means this criteria worth 30 points max. If road profile functions as interrupting sediment transport, N1-N3 would score 0.

H. A2-10

I. A3-10: Hard to judge whether to score parcels with bulkheads 5 or 0. In gray-shaded cells, 5 was used in the Original version, 0 in Alternate version.

J. B1-20: Parcels that own adjacent tidelands that are mudflats were scored 20

K. B2-10: 5s for sandy beach

L. B3-20: for gray-shaded cells, in original version inner bay parcels assumed to be adjacent to lower salinity (B3=5), but in alternate version lower salinity not assumed (B3=0)

M. Sum of A+B = score used for mapping

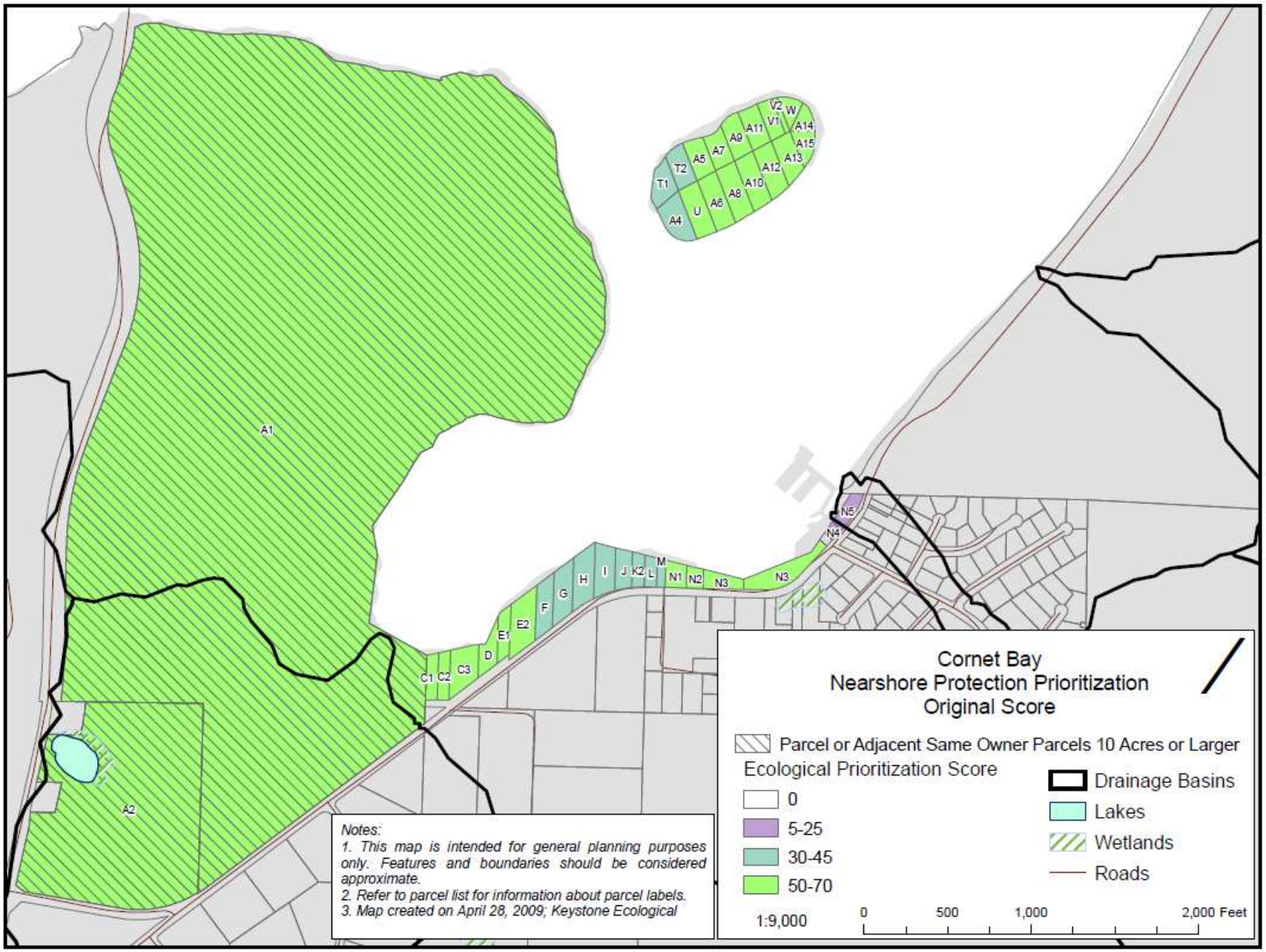
N. C1-10: 90 used for state park parcels to make them clearly stand out

O. C2-10: All are in Geographic Area 1

P. C3-10: If shoreline frontage of parcels under single owner were combined, C1-C3 would rank 5, E1+E2 would rank 5, and N1-N5 would rank 10

Q. C4-10

R. Sum of C, for information purposes only; not used for prioritizing



Appendix 5b. Prioritization Mapping – Original Score

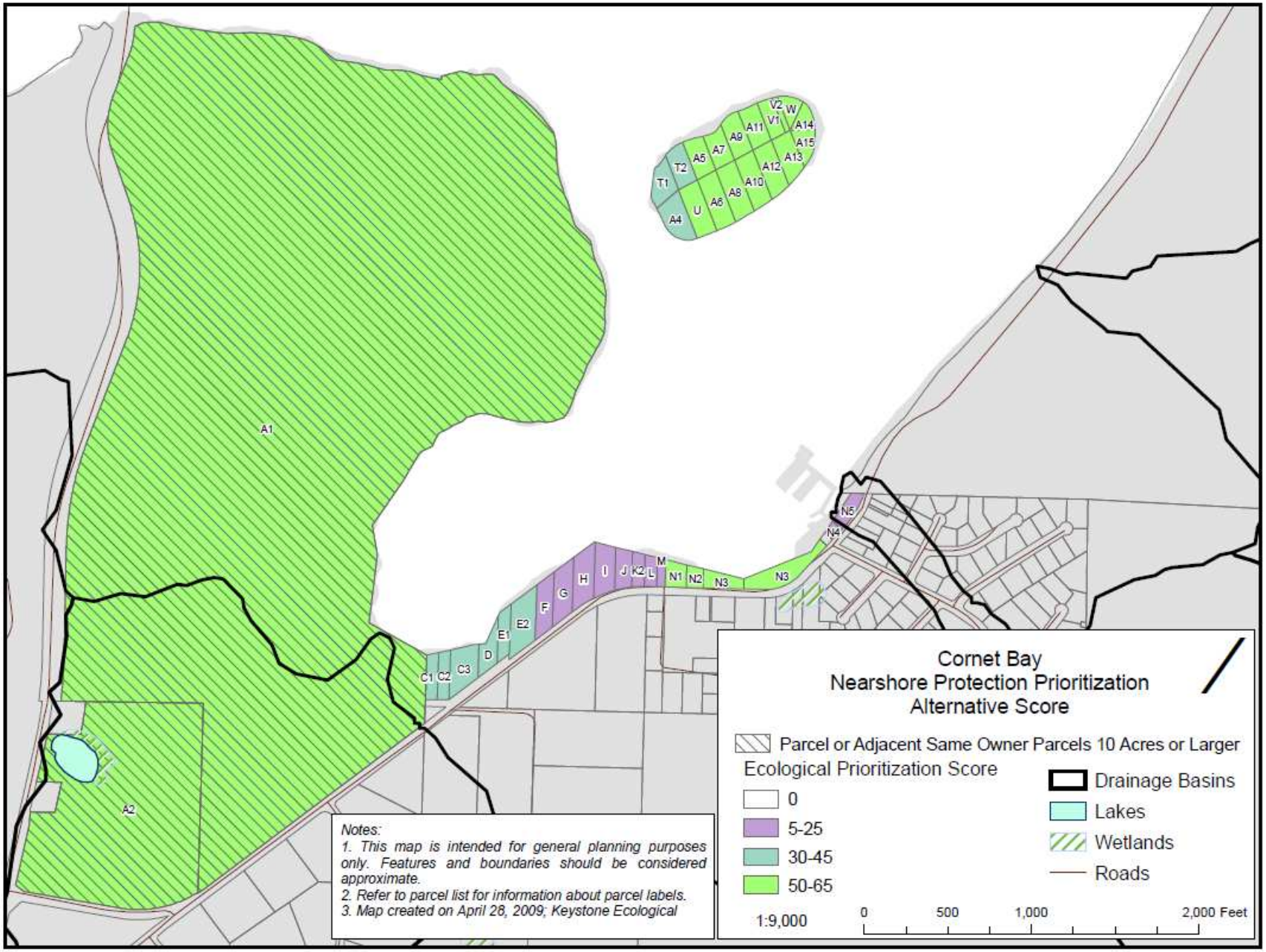
Ecological & Landscape Prioritization for CB Nearshore Parcels						A. Ecosystem Processes			B. Habitat Functions (50)				C. Landscape Contexts				
Parcel	Acct No	Acres	Shore	Est.length(ft)	OwnerCode	A.1 (30)	A.2 (10)	A.3 (10)	B.1 (20)	B.2 (10)	B.3 (20)	A+B TOTAL	C.1 (10)	C.2 (10)	C.3 (10)	C.4 (10)	CTOTAL
R13426	43795	232.00	rock		A1	30	10	10	10	0	0	**60**	90	10	10	10	*120*
R13436	4034	R-10 C	mud		B												
S6365-	230663	0.49	mud	72	C1	15	10	10	10	0	0	**45**	10	10	0	0	*20*
S6365-	230672	0.49	mud	72	C2	15	10	10	10	0	0	**45**	10	10	0	0	*20*
S6365-	230681	0.87	mud	172	C3	15	10	10	10	0	0	**45**	0	10	0	0	*10*
S6365-	230690	0.60	mud	220	D	15	10	10	10	0	0	**45**	0	10	0	0	*10*
S6365-	230707	0.50	mud	100	E1	15	10	10	10	0	0	**45**	0	10	0	0	*10*
R13436	45007	1.37	mud	190	E2	0	10	10	20	0	0	**40**	0	10	0	0	*10*
R13436	45052	0.92	armored/sand	126	F	0	0	0	20	5	0	**25**	0	10	0	0	*10*
R13436	45098	0.92	armored/sand	117	G	0	0	0	20	5	0	**25**	0	10	0	0	*10*
R13436	744760	0.88	armored/sand	125	H	0	0	0	20	5	0	**25**	0	10	0	0	*10*
R13436	712839	0.49	armored/sand	130	I	0	0	0	20	5	0	**25**	0	10	0	0	*10*
R13436	45141	0.20	armored/sand	100	J	0	0	0	10	5	0	**15**	0	10	0	0	*10*
R13436	45212	R-1 CH	mud		K1												
R13436	45150	0.25	armored/sand	76	K2	0	0	0	20	5	0	**25**	0	10	0	0	*10*
R13436	45169	0.25	armored/sand	75	L	0	0	0	20	5	0	**25**	0	10	0	0	*10*
R13436	45178	0.16	sand	50	M	0	0	0	20	5	0	**25**	0	10	0	0	*10*
R13436	45123	0.30	sand	130	N1	15	5	0	20	5	20	**65**	0	10	0	0	*10*
R13436	45105	0.23	sand	102	N2	15	5	0	20	5	20	**65**	0	10	0	0	*10*
R13436	45187	1.66	sand	767	N3	15	5	0	20	5	20	**65**	0	10	5	0	*15*
R13436	45249	0.25	armored	200	N4	0	0	0	0	0	10	**10**	0	10	0	0	*10*
R13436	45276	0.41	armored	130	N5	0	0	0	0	0	10	**10**	10	10	0	0	*20*
R13425	43786	149.3	armored	4700	A3	No prioritization because parcel already conserved, restoration under way, & subsections differ											
Ben Ure Island																	*0*
S6125-	190723		sand		A4	15	5	5	0	5	10	**40**	90	10	0	0	*100*
S6125-	190732		rock		T1	15	5	10	0	0	10	**40**	0	10	0	0	*10*
S6125-	190741		rock		T2	15	10	10	0	0	10	**45**	0	10	0	0	*10*
S6125-	190750		sand		U	30	10	10	0	5	10	**65**	0	10	0	0	*10*
S6125-	190769		rock		A5	30	10	10	0	0	10	**60**	90	10	0	0	*100*
S6125-	190778		sand		A6	30	10	10	0	5	10	**65**	90	10	0	0	*100*
S6125-	190787		rock		A7	30	10	10	0	0	10	**60**	90	10	0	0	*100*
S6125-	190796		sand		A8	30	10	10	0	5	10	**65**	90	10	0	0	*100*
S6125-	190803		rock		A9	30	10	10	0	0	10	**60**	90	10	0	0	*100*
S6125-	190812		sand		A10	30	10	10	0	5	10	**65**	90	10	0	0	*100*
S6125-	534880		rock		A11	30	10	10	0	0	10	**60**	90	10	0	0	*100*
S6125-	534871		sand		A12	30	10	10	0	5	10	**65**	90	10	0	0	*100*
S6125-	190830		rock		V1	30	10	10	0	0	10	**60**	0	10	0	0	*10*
S6125-	190849		rock		V2	30	10	10	0	0	10	**60**	0	10	0	0	*10*
S6125-	190858		sand/rock		A13	30	10	10	0	0	10	**60**	90	10	0	0	*100*
S6125-	190867		rock		W	30	10	10	0	0	10	**60**	0	10	0	0	*10*
S6125-	190876		rock		A14	30	10	10	0	0	10	**60**	90	10	0	0	*100*
S6125-	190885		rock		A15	30	10	10	0	0	10	**60**	90	10	0	0	*100*

Note: This is the alternate scoring that results if (a) armoring or road makes CriteriaA3=0, and (b) inner bay is not lower salinity, thus many CriteriaB3=0. Changed cells highlighted gray.

Appendix 6a. Parcel Ranking – Alternate Score

Column Notes

A. Pale yellow highlight means parcel includes ownership of adjacent tidelands
B. Orange indicates parcels that are armored and/or have dock/building over tideland
C. Acreage taken from Island County Property Tax Data Base
D. Shore identified from aerial photos as sand, mud, rock or armored. Lavender indicates "parcels" that are tidelands only
E. Shoreline length in feet as estimated using Google Earth ruler on Island County GIS parcel layer (beta version)
F. Each parcel received an Owner Code Letter used to identify that parcel on the map. If one owner owns more than one parcel, each one has a number attache
e.g., C1, C2 and C3 are all under same owner. Colored blocks in this column applied to these parcels visually show these distinctions.
G. A1-30 means this criteria worth 30 points max. If road profile functions as interrupting sediment transport, N1-N3 would score 0.
H. A2-10
I. A3-10: Hard to judge whether to score parcels with bulkheads 5 or 0. In gray-shaded cells, 5 was used in the Original version, 0 in Alternate version.
J. B1-20: Parcels that own adjacent tidelands that are mudflats were scored 20
K. B2-10: 5s for sandy beach
L. B3-20: for gray-shaded cells, in original version inner bay parcels assumed to be adjacent to lower salinity (B3=5), but in alternate version lower salinity not assumed (B3=0)
M. Sum of A+B = score used for mapping
N. C1-10: 90 used for state park parcels to make them clearly stand out
O. C2-10: All are in Geographic Area 1
P. C3-10: If shoreline frontage of parcels under single owner were combined, C1-C3 would rank 5, E1+E2 would rank 5, and N1-N5 would rank 10
Q. C4-10
R. Sum of C, for information purposes only; not used for prioritizing


A1
A2
T1
T2
U
A4
A5
A6
A7
A8
A9
A10
A11
A12
A13
A14
A15
V1
V2
W
C1
C2
C3
D
E1
E2
F
G
H
I
J
K2
L
M
N1
N2
N3
N4
N5
Cornet Bay
Nearshore Protection Prioritization
Alternative Score
Parcel or Adjacent Same Owner Parcels 10 Acres or Larger
Ecological Prioritization Score
0
5-25
30-45
50-65
Drainage Basins
Lakes
Wetlands
Roads
1:9,000
0
500
1,000
2,000 Feet
Notes:
1. This map is intended for general planning purposes only. Features and boundaries should be considered approximate.
2. Refer to parcel list for information about parcel labels.
3. Map created on April 28, 2009; Keystone Ecological

PROJECT SUMMARY

As noted in the Scope of Work for the Cornet Bay Capacity Grant, Task 2, this reach assessment was intended as the launch of an evaluation and planning process for future Cornet Bay habitat protection and restoration. The goal was to begin to identify subsequent steps to pursue.

Task 2 deliverables were listed as:

a. Work Plan identifying Cornet Bay estuary[5] opportunities for preservation of landscape connectivity, protection of high quality habitat, and restoration of degraded habitat and interrupted shoreline accretion processes.
b. List of Cornet Bay shoreline landowners.
c. Ranked list of privately owned shoreline properties identifying potential for protection/acquisition/restoration.
d. For high-ranking properties, a list of owners contacted to solicit interest in purchase options (conservation easement or direct acquisition), and potential funding sources for acquisition.

The bulk of this project was the Shoreline Assessment. Shoreline landowners were identified (Appendix 1) and parcel descriptions cross-referenced to the county's parcel map layer in Google Earth (Appendix. 4). Criteria were developed for comparing shoreline segments for ecosystem processes and habitat functions (Appendix 2). Using aerial photographs (Appendix 3) and these criteria, privately owned shoreline properties were ranked for ecological value and potential for protection/acquisition/restoration (Appendices 5 and 6).

The Shoreline Assessment and the Watershed Characterization (June 2008) formed the basis of the submitted Work Plan, identifying opportunities for protection of high quality habitat, restoration of degraded habitat and interrupted shoreline processes, and reduction of pollutants. The Work Plan is intended as a foundation for further planning.

Property owner contact information was collected (Appendix 1), but no owners were contacted. This Work Plan and the Watershed Characterization should first be studied and intentions for future action prioritized before approaching landowners.

Potential funding sources will be determined by the future action planned. As example, projects to restore shoreline function, to acquire parcels for protection, or to reduce pollution carried by stormwater runoff are each likely to qualify for different funding sources.

[5] This pertains to areas of Cornet Bay outside of the nearshore section of Deception Pass State Park already covered by the MRC's Phase 1 feasibility assessment and design.