

Conservation Plan Update

Adopted April 24, 2018



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Executive Summary

The Bainbridge Island Land Trust (BILT) is a non-profit land trust that serves the people and wildlife of Bainbridge Island, Washington. Over the last 29 years, BILT has protected and helped restore some of the most special places on Bainbridge Island, including forestlands, wetlands, shorelines, streams and riparian corridors, agricultural lands, recreational lands and trails, open spaces, and scenic vistas. BILT protects natural and working lands with high conservation values largely through land acquisition and conservation easements. Since its inception in 1989, BILT has worked cooperatively with willing landowners, other conservation organizations, and governmental/tribal entities to help preserve more than 1330 acres on Bainbridge Island, with over 1000 of those acres being open to the public.

The 2018 Conservation Plan Update is designed to build upon, not replace the 2012 BILT Conservation Plan, and refine our strategic initiatives for protection and restoration endeavors. In the 2012 plan, BILT recognized that the supply of conservation lands and habitats on Bainbridge Island was diminishing due to the continued press of development and land use patterns. In 2018, these concerns remain and are heighted due to population growth in the Puget Sound area and on Bainbridge Island. With a sense of urgency and the need to focus our efforts, the 2012 Plan identified two priority ecological systems worthy of our increased attention and action. As BILT worked to update our conservation priorities for now and the future, these priorities remain our focus:

Wildlife Networks: Systems of large ecologically functioning habitat blocks and wildlife connectors that support sustainable populations of diverse and abundant wildlife species and provide opportunities for wildlife to move between large habitat blocks. These areas contain valuable critical habitats, including forests, wetlands, streams, and riparian areas. These networks also provide watershed protection and can provide public access, when compatible with conservation objectives, via well planned trails and other amenities. Much work during the 2018 Conservation Plan Update went towards the examination of existing data to help define these Networks and habitat connectors.

Shorelines: Dynamic habitat systems that contain highly valuable critical habitats, including tidelands, estuaries, lagoons, nearshore, marine riparian and adjoining upland areas, important to a high diversity of aquatic and terrestrial species. Shorelines can provide public access, when compatible with conservation objectives, via well planned trails and other amenities. We recognize the Island's 58 miles of shoreline are integral to the larger Puget Sound ecosystem which gives added significance and importance to our shoreline conservation and restoration efforts.

Some significant events have occurred since 2012 which inform BILT's 2018 Conservation Plan update.

Since adoption of the 2012 Conservation Plan, Bainbridge Island Land Trust has successfully completed or is currently engaged in completing a number of strategic protection and restoration efforts which demonstrate our commitment towards implementation of the plan:

- We've acquired, through fee ownership and conservation easements, land within the midsection of the Island, in an effort to secure and connect large blocks of habitats in the core area of Bainbridge Island.
- We've expanded protected lands in the Gazzam Lake Nature Preserve by acquiring interest in 14 acres adjacent to the Preserve and engaging actively in discussions with surrounding property owners.
- We completed the largest shoreline restoration project on private property in Puget Sound by removing shoreline armor and restoring riparian and intertidal function with the Powel Shoreline Restoration Project. We also have acquired the Agate Passage Preserve – the largest undeveloped shoreline and tideland parcels on Bainbridge Island.
- BILT has become a member of the Washington Association of Land Trust's Shoreline Collaboration with a focus on protecting and restoring more shorelines. This has led to being engaged with a number of shoreline landowners.
- The 2012 Plan identified the unique realization that the amount of open space being set aside through development permits was equal to the amount of acres being protected by the actions of the BILT (or our partners), but "open space" lands rarely provide ecological function (i.e. storm water retention ponds rather than cared for conservation lands). With the inevitable development taking place, BILT has reached out to developers to identify lands where conservation opportunities can go hand in hand with well planned development. The BILT/Quitslund/Jefferson Fine Home Builders project, where over 19 acres will become BILT conservation lands while 8 acres are developed for housing illustrates progress on this front and has helped shape this model of conservation for the future.

The economies of Bainbridge Island and the Puget Sound area have rebounded significantly since the recession of 2007, placing increased urgency on protection efforts. In 2012, Bainbridge Island's population was 23,090 and based on 2017 data from the Puget Sound Regional Council has grown to 23,950 (a 4% change). Approximately 531* new residential structures have been permitted on Bainbridge Island since 2012 (according to the City of Bainbridge Island * October and December 2017 data missing). According to the City of Bainbridge Island Comprehensive Plan 2017 "Navigate Bainbridge," by the year 2036, the Island's population is projected to each 28,660. The median price of a home on Bainbridge Island in 2012 was \$663,214 while at the end of 2017 the median price was \$836,000. It is estimated that 1,000 people a week move into the Salish Sea geographic area.

Another significant event that has occurred is increased awareness of the natural resource attributes of Bainbridge Island and the functions they provide to the community not only for habitat, but also water resource protection, storm water control, carbon sequestration, and contributing to a healthy and vibrant community. This awareness has been built from a number of efforts that have taken place since the BILT 2012 Conservation Plan, involving public processes, such as the City of Bainbridge Island Comprehensive Plan update in 2016, field assessment and data collection, such as Wild Fish Conservancy's stream mapping work in 2014/2015, and priority evaluation processes such as West Sound Watershed Nearshore Integration Study 2016.

Recognizing the depth and breadth of information and datasets generated since our 2012 plan was developed (See Appendix B for a list of data and the Reference Section for studies, and prioritization processes) BILT has chosen to update their conservation plan to integrate this information, increasing our knowledge and focus to protect ecological values, in concert with other organizational priorities.

The 2018 Conservation Plan Update does not substitute our 2012 plan, but builds upon it and provides more tools and information for our consideration as we continue protection and restoration efforts. The update also addresses to-do's or tasks identified in the 2012 plan. This phase of the update includes the following activities:

- Recognize the work that has taken place since 2012 (including studies that have been performed and the plans that have been completed) and integrate, rather than duplicate, priority actions identified through these efforts into our thinking and knowledge base. These efforts, plans and resources are identified in the Resources Section of the plan.
- Collect the latest generation of data and science available related to the natural resources of Bainbridge Island, Kitsap County and Puget Sound, with a focus on data connected to supporting natural systems, aquatic and terrestrial species, water resources, and priority habitats.
 Appendix B identifies the data sources collected for this update. These attributes include not only natural resources but also infrastructure such as culverts blocking fish passage in streams and shoreline modifications, thus helping to identify potential restoration actions (see Maps 6 and 9C).
- Develop a technique to identify Wildlife Networks on the island and connections between them. Much work has been done in the past, and continues, to evaluate our shorelands and their importance in supporting Chinook salmon, forage fish, and more but creating a methodology to identify attributes important to protect in the interior of the island was necessary. See the Conservation Values Index discussion on page 27 which explains the methodology used to identify a potential system of connectors.
- Create a Conservation Values Index in order to visualize with maps and underlying data where priority habitats and natural resources connect with each other on the Island, providing an opportunity to identify regional priorities for our work. For instance, protection efforts have progressed over the years in the mid-core section of the Island from Battle Point Spit, through the Hilltop/Grand Forest complex and, BILT's Wildlife Corridor to Murden Cove. Applying this strategy to other areas of the island will help identify areas where conservation easements, acquisitions, or restoration projects might achieve ecological goals, generate partnerships, excite the community around a conservation strategy, and focus fundraising efforts. Additionally, this information can be used for BILT's day to day interactions with landowners, providing easy access to the types of conservation values properties host. See Appendix B for the Conservation Values Index and page 27 for the narrative.

Community Conservation Survey. This on-line survey was created and made available to anyone who wanted to complete it between January 2018 to April 2018. 502 respondents provided their thoughts, spending over 140 hours collectively to provide insights and ideas to BILT. Generally the feedback from BILT's Community Conservation Survey is consistent with other community visioning exercises like 2017 City of Bainbridge Island Comprehensive Plan "Navigate Bainbridge" where residents express support for protection of vulnerable/threatened resources, natural resources that provide many community functions and values (water resource protection, trails, etc.). The Community Conservation Survey takers also conveyed an understanding of the need to create Wildlife Networks, and they supported this concept. See Appendix D for the print out of the survey results and more discussion.

The Conservation Plan Update is divided into a number of key sections.

- The opening sections lay out the mission and vision of BILT and review BILT's history and current snapshot of conservation efforts to date and underway.
- The next section describes the status and trends of development and various habitat and landscape types on Bainbridge Island.
- The Plan then talks about the Conservation Values Index, and how it can be used to create a Conservation *Priority* Index which can focus attention to key regional areas on the Island for protection work, inform landowner outreach endeavors, pursuit of funding options, and much more.
- A number of Maps and Appendices support the narrative and are attached at the end of the document.

Updates to the Conservation Plan will continue through 2018. These update efforts will include:

- Utilization of the Conservation Values Index (CVI): Through the remainder of the year, BILT will
 use the CVI on a day to day basis to help provide information about lands and natural resource
 values attached to these lands. This use will help identify potential geographic focus areas, and
 also lead to the integration of other community values, such as proximity to neighborhood
 centers, public access and scenic values
- **Correct and update data:** While the large majority of the datasets BILT has used with this update are very new and reflect existing conditions, there are some which require additional work. Specifically the Shoreline Impact data from the 2008 Bainbridge Island Nearshore Assessment needs to be updated to reflect restoration efforts that have taken place on the shoreline in addition to shoreline which has been impacted or armored since 2008.
- Stakeholder Outreach/Community Conversation: With a conservation values index being created, what is the feedback about this index and our methodology and what else should we be considering? Reaching out to both traditional partners (natural resource professionals and

entities, partners in conservation work) and non-traditional land trust partners (health care professionals, interfaith community members, business/professional organizations, developers, real estate agents, etc.) will take place using a moderator. This important step will assist with the interpretation/crosswalk that will need to occur between natural resource values and community values.

- Integration of Climate Change. There has been much work performed by others, including the City of Bainbridge Island Climate Adaptation Assessment of 2017, UW Climate Change Study and other regional efforts to help inform protection, and likely restoration, endeavors resilient to climate change.
- **Further refinement of Action Plan/Regional Priorities**. By performing the above tasks, BILT's goal will be, by the end of 2018, to have an integrated plan with a refined CVI, expanded stakeholder feedback and climate change data in order to guide work over the next 10 years.

Mission & Vision

BAINBRIDGE ISLAND LAND TRUST MISSION STATEMENT:

To preserve and steward the diverse natural environment of Bainbridge Island for the benefit of all.

VISION STATEMENT:

Bainbridge Island Land Trust (BILT) envisions a future:

- In which the rural character and scenic beauty of our island endure and enrich the lives of all
- Where the island's natural systems sustain the interconnected life that inhabits this special place in Puget Sound
- Where our level and pattern of development conserve important natural resources for future generations
- Where biologically diverse communities of native plants flourish in a natural landscape, and wildlife has enough contiguous natural habitat to roam and thrive
- Where public natural areas and trails form an extensive, interconnected system which is well cared for and valued by the community
- Where the well-being of the community is supported by natural areas and trails
- Where working farms remain strong and valued contributors to our economy and way of life
- Where water is pure and plentiful
- Where, with all of this, Bainbridge Island remains a wonderful place to live, work, and play for generations to come

Acknowledgements

Principal Researchers and Contributors

Gina King – Conservation Project Lead, Bainbridge Island Land Trust Katie Bentley, Adam Berman, Trevor Williamson – UW GIS Certification Course Participants Brenda Padgham – Conservation Director, Bainbridge Island Land Trust

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BILT is a 501(c)(3) Washington state private, nonprofit corporation. It is a qualified conservation organization under IRS Code Section 170(h).

As a member of the national <u>Land Trust Alliance (LTA)</u>, BILT is an accredited Land Trust the LTA's Standards and Practices which guide land trusts to operate ethically and legally.

Currently, the Land Trust has close to 1000 member households.

Acknowledgments: At their November 2017 board meeting, the Board of Bainbridge Island Land Trust (BILT) agreed to update their 2012 Conservation Plan in order to retrieve up to date information to guide future actions, create a Conservation Values Index, and to be eligible for applying to Washington Wildlife and Recreation Program grants. The update is intended, despite a level of organizational success over the past nearly three decades, to provide additional tools and information that help provide strategic focus for the organization's future work and deployment of resources. This Plan was adopted April 28, 2018.

A history of BILT and its work

For more than 29 years, Bainbridge Island Land Trust (BILT) has worked to protect and steward vulnerable forestlands, wetlands, shoreline, stream and riparian corridors, agricultural lands, and scenic vistas on Bainbridge Island. Of the Island's 17,394 acres, more than 1330 acres have been permanently protected due to BILT's efforts. The organization has been integral in changing the "conservation lands" map of the Island over the decades from a few parcels of land, to larger networks of conserved lands. The change of protected lands on the Island is illustrated in Map 4.

Of the lands we have protected, more than 1000 acres are open to the public and host some of the most intact contiguous natural habitat parcels and the most beautiful non-motorized trails in the region. BILT currently holds 47 conservation easements (42 private and 5 public) on over 763.30 acres and we own over 101 acres of land outright. All BILT held conservation easements have been donated. Another 484 acres have been preserved on the Island through acquisition with Land Trust assistance, and most of those acres are open to the public. We have done this through support from landowners, our members, fundraising in our community, acquiring grants from public and private funding sources, and building a network of community and regional partners. The lands we protect through conservation easements and those we own become our obligation to steward – forever.

Stewardship is a growing part of BILT's work. Each property acquired, whether by fee or conservation easement, receives focused attention to maintain or improve conservation values. On conservation easement properties, stewardship work ranges from active interaction with private landowners to managing invasive plants, to cost share programs, volunteer work parties, or applying for grants to help support large scale restoration efforts such as the Powel Shoreline Restoration project. On lands we own, a management plan is developed to guide maintenance or restoration efforts. BILT has identified projects that range from invasive weed removal to culvert fish passage improvement projects on property owned by BILT.

Bainbridge Island Land Trust is fortunate to work on an Island where there is strong community support for conservation and land protection. This support has been indicated by the number of people who are members of our organization (over 800 families) and the contribution of over 2300 hours annually in service to BILT. There is a strong history of support for natural areas and open space. The voters of the Island created two significant public funding sources used to protect open space and park lands: the City of Bainbridge Island (COBI) Open Space Bond in 2001 and the Bainbridge Island Metropolitan Park and Recreation District (BIMPRD) expansion of the levy lid in 2008. The two local funding sources matched with state and federal grants, contributions from area partners, plus significant BILT private fund raising endeavors have resulted in the success of land protection to date.

In 2017 BILT embarked on its largest multi-year capital campaign ever which has a multi-property acquisition goal. The campaign focuses on properties that hopefully will expand the Habitat Network in the Gazzam Lake Nature Preserve (in the Island's largest undisturbed forest core) to over 550 acres of contiguous preserved lands, acquiring highly valued properties such as the Cougar Creek Preserve which

provides a critical link to building new Habitat Networks (and was identified using the Conservation Values Index developed in the 2018 Conservation Plan Update), and valuable undeveloped shoreline properties. Launching this campaign is reliant not only on the financial support of Islanders and others, but is also reliant on the good will and cooperation of landowners who have a desire to protect the special qualities of their property by working with BILT.

In the mid-section of our island, we have been mindful of building a network of conservation properties. That concentrated effort has resulted in the protection of over 200 acres of habitat and open space, illustrating the benefits of implementing a plan that focuses on a specific geographic area or conservation system priority. It is that same kind of concentrated effort – more from an ecosystem based approach rather than a parcel by parcel approach - that BILT intends to apply to the resources we have identified as priorities in this plan (and in the work of others).

Other important actions BILT has performed will help shape future preservation and stewardship work:

- We completed the largest shoreline restoration project on private property in Puget Sound by
 removing shoreline armor and restoring riparian and intertidal function with the Powel
 Shoreline Restoration Project. This action sets the stage for BILT involvement and engagement
 with shoreline landowners to improve the condition of this critical habitat. We also have
 acquired the Agate Passage Preserve the largest undeveloped shoreline and tideland parcels
 on Bainbridge Island to protect tidelands, feeder bluffs and intact riparian habitat.
- BILT has become a member of the Washington Association of Land Trust's Shoreline Collaboration with a focus on increased protections and restoration of Puget Sound shorelines. This has led to increased interaction with policymakers and a number of shoreline landowners.
- The 2012 Plan identified the unique realization that the amount of open space being set aside through development permits was equal to the amount of acres being protected by the actions of the BILT (or our partners), but "open space" lands as permitted rarely provide ecological functions and are more likely to be storm water retention ponds or other structures rather than conservation lands. With inevitable development taking place, BILT has reached out to developers to identify lands where conservation opportunities can go hand in hand with well planned development. The BILT/Quitslund/Jefferson Fine Home Builders project, where over 19 acres will become BILT conservation lands while 8 acres are developed for housing, illustrates progress on this front and has helped shape this model of conservation for the future.
- Helping to collect data such as stream type data through the support of Wild Fish Conservancy has helped us be better informed about our natural resources.
- The Springbrook Creek Watershed Assessment and Feasibility project led by BILT takes a watershed scale approach to landowner outreach, land preservation and restoration actions.

Status & Trends of Landscapes on Bainbridge Island

How has land use changed and what might the future look like?

The land use status¹ of properties on Bainbridge Island were analyzed for the 22-year period ranging from June 1996² to March 2018. Each land use status was assigned one of four broad categories:

- Undeveloped & Unprotected
 - Includes many land use types including active farms and forest lands without some type of protection in place. Because some of these lands are working resource lands; some of these properties may include some level of development such as a residence or barn/shed;
 - This is the primary category where opportunities with a high level of conservation gain can be made;
 - This is a category where restoration opportunities may provide valuable long-term conservation gains;.
- Some Level of Development
 - The level of development ranges from very low density to commercial/industrial;
 - There still may be good conservation opportunities among properties with lowerdensities of development in this category;
 - This is a category where restoration opportunities may provide valuable long-term conservation gains;
- Some Level of Protection
 - The level of protection ranges from permanent (e.g. conservation easement) to lessthan-permanent (e.g. unrestricted park land, current use (open space) tax status, perhaps a subdivision's open space tract). A detailed parcel-specific review is necessary to determine the exact nature and durability of the protections affecting each property;
 - This category includes all park lands and private reserves (i.e. IslandWood, Bloedel);
 - This category includes properties that have some development if they also have some type of protection in place (e.g. open space farm land, parks with recreation facilities);
 - This category does not include properties affected by regulatory protections (e.g. critical areas & buffers or required open space required by subdivision if the lands are not functioning as open space (i.e. storm water retention ponds);
 - This is the category where opportunities may exist to upgrade protections for strategically important resource lands from a less-than-permanent to permanent status;
 - Ongoing stewardship (maintenance, restoration/enhancement) of properties in this category may be necessary to maintain and improve conservation values;
- N/A or Unknown

¹ Land use status codes are defined and managed by the Kitsap County Assessor's Office. BILT reviewed these codes, made modifications as necessary, and categorized them for our analysis.

² June 1996 was the earliest GIS tax parcel data readily available from the City of Bainbridge Island. Older GIS data may be available from the Kitsap County Assessor's Office. Non-GIS analysis of older data could be derived from paper-based records or digital tabular data from the Kitsap County Assessor's Office, if available and resources exist to conduct the analysis. March 2018 data was the closest data available.

What are some of the important trends over the last 22 years?

Figure 1: Highlighted here are some of the more significant trends that have occurred over the past 22 years (1996-2018) between the categories of land use BILT has assigned.



Note: Does not include tidelands.

Figure 2: Annualized Change in Property Status Island-Wide (1996-2018). Average annual change in

acres over a historic 22 year period. Does not include tidelands



Island-Wide Status (Acres)								
			Dec		Sep	Mar		
Status	Jun 1996	Jan 2001	2005	Apr 2010	2014	2018		
Some Level of Development	8,224	8,957	9,652	9,857	9,754	9,817		
Undeveloped & Unprotected	5,824	4,749	3,596	3,176	2,994	2,926		
Some Level of Protection	2,134	2,533	2,934	3,186	3,478	3,475		
N/A, Unknown & Right-of-Way	1,213	1,156	1,212	1,175	1,169	1,176		
Total Upland Acreage	17,394	17,394	17,394	17,394	17,394	17,394		

Figure 3: Island-Wide Property Status Change (all tables do not include tidelands)

Island-Wide Status (% of Total Acres)

	Actual					
Status	1996	2001	2005	2010	2014	2018
Some Level of Development	47%	51%	55%	57%	56%	56%
Undeveloped & Unprotected	33%	27%	21%	18%	17%	17%
Some Level of Protection	12%	15%	17%	18%	20%	20%
N/A, Unknown & Right-of-Way	7%	7%	7%	7%	7%	7%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Note: Doesn't include tidelands.

Island-Wide Status (Acres)			
		Sep	Mar
Status	Jun 1996	2014	2018
Some Level of Development	8,224	9,754	9,817
Undeveloped & Unprotected	5,824	2,994	2,926
Some Level of Protection	2,134	3,478	3,475
N/A, Unknown & Right-of-Way	1,213	1,169	1,176
Total Upland Acreage	17,394	17,394	17,394

How much time is left before all the "Undeveloped and Unprotected" land may be gone?

In 2012, BILT calculated a simple linear projection based on the average rate of change over the past 15 years was used to estimate future changes in property status. That projection was updated in 2014 (see below Figure 4). The projection takes our experience over the years and carries it forward for the next 12 years.³ Accordingly, this projection estimates that the inventory of "Undeveloped & Unprotected" land may be exhausted by 2030, either having received "Some Level of Protection" or having been converted to "Some Level of Development." This horizon is an approximation, market forces and community support will significantly affect the pace of both conservation and development. However, this information points to the relevant task of identifying specific areas of focus in order to achieve protection for the 2018 Conservation Plan update but the 2014 projection provides relevant guidance in addition to population and development records for Bainbridge Island and Puget Sound.

The economies of Bainbridge Island and the Puget Sound area have rebounded significantly since the recession of 2007, placing increased urgency on protection efforts. In 2012, Bainbridge Island's population was 23,090 and based on 2017 data from the Puget Sound Regional Council (PSRC) has grown to 23,950 (a 4% change). Approximately 531* new residential structures have been permitted on Bainbridge Island since 2012 (*City of Bainbridge Island * October and December 2017 data missing*). According to the City of Bainbridge Island Comprehensive Plan 2017 "Navigate Bainbridge," by the year 2036, the Island's population is projected to each 28,660. The Puget Sound experienced a 25% population boom in 2015 and is estimated to be growing by 1,000 people a week. Areas like Kirkland, WA have experienced up to 74% growth in population between 2016 and 2017 according to PSRC. With Bainbridge Island a mere 35-minute pleasant ferry ride away from Seattle, the likely pressures of increased housing and population is projected to continue.

The median price of a home on Bainbridge Island in 2012 was \$663,214 while at the end of 2017 the median price was \$836,000. The median home price in Seattle in March of 2018 was \$819,500. Given the rural lifestyle of Bainbridge Island, access to good schools, natural areas and recreational opportunities, the attractiveness of Bainbridge Island will continue to grow. In our 2018 Community Conservation Survey, one of the primary reasons survey takers indicated they choose to live on Bainbridge Island was its attractive open spaces (See Appendix D).

Island-wide population and development history and projections provide BILT a strong indication of the rate of protection that needs to occur to keep pace with development. This information provides guidance for BILT to be open to pursing protection/development partnerships similar to the Quitslund Family Farm/Jefferson Fine Home Building and Land Trust project. Under this transaction, Jefferson Fine Home Builders purchased lands from the Quitslund Family - a multi-generation family with an interest in

³ While any model will not precisely predict the future, this projection is informed by the historic record and provides us with a working target, which can be improved through periodic comparisons of the prediction to actual changes over time. All models are based on assumptions, and this model uses the average rate of change derived from 19 years (June 1996 - April 2014) of historic data.

both land preservation and achieving financial return on their land holdings - with the intent that a portion of the land would be donated to BILT, while another much smaller portion would be developed for housing (at less than the density allowed under current zoning). This ensures the BILT portion of the land will be stewarded and cared for (and hopefully improved over time through the removal of fish passage barriers on Dripping Water Creek and invasive plant removal).



Figure 4: Island-Wide Property Status Change & Projection

Notes: Does not include rights-of-way or tidelands. May not add to 100% due to rounding. Linear projection based on historic 15-year average.

Changes in Acreage of Undeveloped & Unprotected Properties by Size Class (1996-2018)

The number of undeveloped and unprotected acres on the island has diminished significantly on the island since 1996. Of the Island's 17,394 acres, 2,925 remain undeveloped and unprotected. Only 35 parcels over 10 acres in size remain in this classification. This diminishing resource brings heightened focus to BILT's protection strategies as protection of undeveloped and unprotected properties is a key strategy to achieving conservation, watershed protection, habitat connectivity and community open space priorities.

Large blocks of strategically located land, interconnected with other protected properties, can act as the anchors of the Wildlife Networks illustrated in Figure 6. Large-sized undeveloped properties support a number of ecological processes better than smaller sized properties. Staff and financial resources needed to steward large properties owned by a single landowner, in the case of a conservation easement, are typically less than stewarding a number of small conservation easements owned by separate landowners. For these reasons, it is important to evaluate property size and future stewardship obligations in connection with acquired properties and easements.

	Figure 5. Changes in acrea	ge and number of Undev	veloped and Unprotecte	d parcels by size class.
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DataTable: Changes in	Acreage of Undevelope	d & Unpro	tected Pro	perties by	Size Class	(1996-2018)	
Source: Parcel (ShoreCl	ip) Data						
BILT_Protected_Status	Undeveloped & Unpro	tected 耳					
Sum of BILT_Acres	Column Labels	-					
Row Labels]	Jun 1996	Jan 2001	Dec 2005	Apr 2010	Sep 2014	Mar 2018
<=1		686	588	467	443	419	389
1 < x <= 2		601	471	398	379	380	357
2 < x <= 5		1,658	1,359	1,086	949	901	895
5 < x <= 10		857	841	555	498	466	509
10 < x <= 25		1,472	579	513	517	513	493
25 < x <=50		385	319	217	147	72	39
50 < x <= 100		64	365	233	116	116	116
> 100		101	228	127	127	127	127
Grand Total		5,824	4,749	3,596	3,176	2,994	2,925
DataTable: Changes in	Number of Undevelope	ed & Unpro	tected Pro	perties by	Size Class	(1996-2018)
Source: Parcel (ShoreCl	ip) Data						
BILT_Protected_Status	Undeveloped & Unpro	otected 王					
Count of BILT_ID	Column Labels	-					
Row Labels		Jun 1996	Jan 2001	Dec 2005	Apr 2010	Sep 2014	Mar 2018
<=1		1558	1400	1042	974	931	870
1 < x <= 2		457	360	306	292	295	279
2 < x <= 5		529	429	350	311	293	292
5 < x <= 10		125	120	82	72	67	74
10 < x <= 25		80	38	35	34	33	31
25 < x <=50		12	9	6	4	2	1
50 < x <= 100		1	6	4	2	2	2
> 100		1	2	1	1	1	1
Grand Total		2763	2364	1826	1690	1624	1,550

Specific Natural Resource Types Status and Analysis

Understanding the condition of Bainbridge Island natural resources was the focus of the 2018 BILT Conservation Plan Update. Significant work took place in collecting natural resource information that has been updated or improved over the past years. These resources were then folded in to create Conservation Values Index to help identify natural resource rich areas on Bainbridge Island reflecting a weighted value of importance.

Appendix B summarizes the data resources collected to better guide our understanding of the natural resources of the Island. Outreach to local experts in various resources helped to directly inform our understanding of the Island's resources and to help direct our efforts to find the documents and GIS data that are currently available.

The Resources and Reference Section of the plan identifies the existing plans assessing resources and prioritizing conservation, habitat protection, and restoration efforts that were used in the development of the Conservation Values Index. These plans range from the very large scale efforts of the Puget Sound Partnership Action Agenda of 2016 (currently being updated), to the City of Bainbridge Comprehensive Plan adopted in 2017.

Shorelines – Map 8

Bainbridge Island contains 53 miles of shoreline. All of Bainbridge Island is classified as critical habitat for threatened Puget Sound populations of Chinook and Puget Sound rockfish.

Shorelines that have not been modified contain highly valuable critical habitats (e.g. riparian forest, tidelands, pocket estuaries, eelgrass, etc.) and contribute significantly to shoreline ecological processes (e.g. feeder bluffs, alongshore transport, water quality, etc.). Advanced ecosystem health analysis indicates that the Island's shoreline is at significant risk of not being able to maintain properly functioning conditions unless protection measures continue, and restoration efforts are pursued.

Map 8 illustrates only 3.1% of the Islands 53 miles of shoreline is categorized as "no-impact", according to City of Bainbridge Island Nearshore Assessment performed in 2008. This dataset has not been updated since 2008 (except for edits performed by BILT to recognize the removal of 1500 linear feet of armor at the Powel Shoreline Restoration project site) and requires attention to capture both positive gains that have taken place, such as shoreline restoration, or negative impacts that have taken place as a result of shoreline modification and development.

In 2016, BILT participated in the West Sound Watersheds Nearshore Integration Analysis, which looked closely at important nearshore processes such as feeder bluffs, undeveloped land, intersection with stream and estuarine areas, and many other factors. The result of this work was a prioritization of protection and restoration actions within the Kitsap Peninsula area, including Bainbridge Island. This guidance as to highest priority restoration and protection actions was integrated into the Conservation Values Index developed in this plan update.

Very few opportunities exist for protection efforts along undeveloped or unmodified shoreline, but the Conservation Value Index identifies these areas.

The majority of the future opportunities along the shoreline will be working on properties with "Some Level of Development" to protect and restore/enhance critical habitats and components of shoreline ecological processes that are essential for maintaining shoreline habitats into the future. Due to the high level of modification along the shoreline, this work will require significant resources, coordinated strategies and partnerships with other organizations and agencies, and decades of effort.

The Reference Section and Appendix B identify the many plans and data sources utilized in this planning effort. New data on eelgrass populations (important in supporting many populations of forage fish), forage fish utilization, and the integration of priority drift cells and reaches have become available since previous planning efforts and have been integrated here.

Wildlife Networks and Forest Cores

Wildlife Networks are an integral component of implementing BILT's conservation priorities. The systematic linking of large functioning habitats with perhaps smaller strategically located lands (connectors) will likely result in more acres being identified as needing to be protected, and include areas of focus, or regional priorities. Key inland wildlife habitats on the Island are streams, riparian (streamside) areas, wetlands, and forests. Trees are very abundant on the Island, covering 70% of Bainbridge Island or 12,233 acres according to the latest data available from 2015, and are obvious while traveling around most of the Island and in aerial photos (Maps 2 and 7). However, roads and a semi-rural development pattern across most of the Island has caused fragmentation of forest habitats. Thus there can be a misperception that high-quality habitat is secure, when in truth the abundance and diversity of wildlife species will be diminished if an interconnected network of interior forest habitats, streams, and wetlands are not maintained.

The tools developed as part of this update are an important step for BILT's development of a system for an improved Island-landscape-wide understanding of conservation values.

Streams – Map 5

Bainbridge Island's small streams support a number of native fishes. The Wildlife Fish Conservancy (WFC), with assistance of BILT, conducted an intensive water typing assessment project on the Island in 2014-2015, resulting in substantial changes in stream typing as well as a wealth of information on fish passage barriers on the Island. The length of stream classified as fish-bearing increased from around 9 stream miles to nearly 40 stream miles through these efforts, increasing the protective regulatory buffer. In 2017 COBI personnel worked to combine WFC's data with new LIDAR (high-precision surface relief data) to further improve accuracy of stream locations.

In addition to collecting better information about stream resources, the WFC survey, as well as Washington Department of Fish and Wildlife culvert inventories performed in 2016, identified fish passage barriers, helping identify where restoration opportunities exist, perhaps in hand with protection

opportunities (Map 6). For instance, Map 9C illustrates where there are high conservation values in the Blakely Harbor area (as exhibited through the use of the Conservation Values Index) but a number of fish passage barriers are impeding stream resources from providing full ecological functions.

Agricultural Lands

Continued work with Friends of The Farms (FOTF), a local non-profit dedicated to protecting and growing working landscapes on Bainbridge Island is an organizational priority for BILT. The two organizations signed a Memorandum of Agreement to work collectively together to identify projects where conservation and working landscapes can exist together.

A Farmland Prioritization Plan for Bainbridge Island was developed for Friends of the Farms in 2013 and continued work to identify the next priorities for working landscape protection is planned for the future. The 2018 BILT Conservation Plan did not dive deep into working landscapes analysis as we believe this discussion is best reserved for a collective effort between FOTF and BILT.

Wetlands – See Map 5.

In 2017 the City of Bainbridge Island worked to digitize wetland delineations and fold those into their GIS Wetlands layer. As a result of this work, and on the ground work by BILT, the wetlands data for the island is more accurate. This, along with potential development in wetland areas, has resulted in a net loss of wetland area since the 2012 plan.

Wetlands, a unique habitat for plant and animal species and a valuable system that contribute to clean water and healthy watersheds, make up a valuable habitat type within a mosaic of habitats protected as part of Wildlife Network. While current regulatory protections exist, a number of wetlands have been altered, compromised or removed.

Recreational Trails

Recreational trails are a public use resource of importance on Bainbridge Island. Trails provide the opportunity for the public to enjoy some of the most beautiful places on Bainbridge Island. In recent years, trail inventories have been completed and trail networks have begun to be pieced together.

The 2018 Conservation Plan Update and the Conservation Values Index does not tie in proximity to trails or the ability for a property or area to support trails. An analysis of this resource (existing trails, growth of trails) was not possible during this phase of planning. Future phases of BILT conservation planning effort will include consultation with existing trail plans and partners to examine ways to optimize trail development with conservation values and identify where compatible (with BILT priorities) trail development could occur, as well as the examination of status and trends of trails.

BILT has employed the use of camera traps to help study the use of trails by humans, and effects of trails on wildlife. Generally, the diversity of species utilizing habitat where trails exist is less than in areas where habitat is intact. Additionally, the times of day animals use undeveloped lands is 24 hours a day, versus restricted hours of use where there are trails. Locating trails to not bisect habitat functions (such as bird nesting areas), can provide access to humans while protecting conservation resources. Taking a closer look at proximity of trails to protected spaces, and management recommendations needed to guide some areas as protected preserves without trails, will be pursued as part of implementing use of the Conservation Values Index.

Leaders in trail efforts on the Island have been the Bainbridge Island Metro Park and Recreation District, the Bainbridge Island Parks Foundation, and the City of Bainbridge Island. Each of these organizations:

- Supports their own committee specifically focused on this topic;
- Has prepared their own comprehensive plan for recreational trails and other non-motorized facilities;
- Acquires property or easements; and
- Builds recreational trails and other non-motorized facilities.

Scenic Vistas

This resource has not been defined and there is no inventory. Therefore, no analysis was possible. Status and trends are unknown. We recognize Highway 305, which bisects the Island, as a State scenic byway that provides those traveling with a visually pleasing, tree lined transportation route. Additionally, we realize there are key scenic views from the ferry to the Island as well as along local roadways.

Plan Update Development and Prioritization

The Conservation Plan was developed through a process that included the following steps:

- Review of the existing BILT Five-Year Strategic Plan (2016-2020) (see Appendix E);
- Review of prior BILT actions;
- Review of local and regional comprehensive plans as well as conservation and restoration plans (see Resources and References);
- Review and integration of available resource inventories and assessments;
- Historic analysis of land use to evaluate general trends and risks; and
- Creation of the Conservation Values Index
- Internal BILT presentations, discussions, and review; and
- Conducting a Community Conservation Survey (see Appendix D).

How were priorities identified?

The priorities in this Conservation Plan must be read in concert with BILT's 5 year Strategic Plan (see Appendix E), understanding the history of the organization, looking closely and the condition of natural resources on the island, and examining partnerships and community values.

The Strategic Plan outlines our organization's commitment to steward and grow the Island's magnificent natural environment, including the utilization of innovative methods to identify, prioritize and complete new conservation projects (Strategy A). The development of a Conservation Values Index is a way BILT is moving forward to meet the goals of Strategy A.

Additionally, this Conservation Plan provides the framework for helping guide BILT's efforts to achieve its mission and vision. There are no criteria more critical in defining action steps, designing new projects, and allocating resources than the conservation priorities that BILT selects.

Geographic Information System (GIS) work began in ESRI ArcGIS with research into available local and regional planning efforts for assessing and managing inland and shoreline resources and current available natural resources and land management geographic data. The amount of information developed or obtained since the last data updates in 2014 was extensive (Appendix B). This included revised mapping of some very important resources. For instance, in 2017 the City of Bainbridge Island undertook an effort to revise a badly outdated wetlands layer, incorporating all of the delineations that had taken place since 2008. Likewise, The Wildlife Fish Conservancy conducted an intensive water typing assessment project on the Island in 2014-2015, resulting in substantial changes in stream typing as well as a wealth of information on fish passage barriers on the Island. The length of stream classified as fishbearing increased from around 9 stream miles to nearly 40 stream miles through these efforts. In 2017 COBI personnel worked to combine WFC's data with new LIDAR (high-precision surface relief data) to further improve accuracy of stream locations. All of the updated information have been compiled into maps allowing for rapid evaluation of parcel values, by displaying where high-value resources such as wetlands and Critical Aquifer Recharge Areas occur.

The analyses also extended beyond previously available information by utilizing new tools to model current distribution of interior forest core areas and connections between these core areas. Although Bainbridge Island did perform a Wildlife Corridor Network mapping in 2000 (Self 2000), these corridors were not protected in any way and habitat alteration has rendered many of these ineffective. Also, new mapping software tools for use with ArcGIS have come available since that time, allowing for mapping of habitat cores and connections based on species' biological needs and behaviors. These new tools were used to model forest habitats in particular, because stream and wetland habitat networks are already incorporated through inclusion of these naturally interconnected habitats and their buffers.

Forest Habitat Networks Modeling – Figure 6

We began by modeling interior forest habitats utilizing Gnarly Landscape Utilities Resistance and Habitat Calculator tools (McRae et al. 2013). This software was developed in support of the Washington Wildlife Habitat Connectivity Working Group's efforts to model statewide habitats and connections for multiple species (WHCWG 2010). This software assigned a habitat value and a "resistance" value to each land cover type. Resistance in this context refers to the difficulty a species would have in traversing an area (e.g. an amphibian would be reluctant to cross an open, dry area). It then uses a moving window analysis to find large blocks of contiguous habitat forming habitat core areas.

We used northern flying squirrels as our focal species, as this is a species known to occur on the Island that requires forested habitat and is reluctant to travel across openings or roads. It is therefore a good species to represent the intact, interconnected forest habitats that many species depend upon. Parameters used to model the core habitat areas were based loosely on those used by the WHCWG in their state-wide efforts, but tailored to fit our data and the much smaller landscape area (reducing the minimum core area size from a scale appropriate for statewide analysis to about 6 acres for the Island). A 1m-resolution mapping of Bainbridge Island land cover (derived from LIDAR in 2015) was used as our primary input. The forest cover data lacked information on tree size or density, so it was not possible to select only those areas with high canopy closure favored by flying squirrels. However, if we are planning for the long-term, areas currently in forests that may be a bit small or open for flying squirrels are highly likely to develop into suitable habitat if left undisturbed. We then set the tool to use a 500m² moving window (vs the 1000 m² for the statewide analysis), such that it would select a window areas as a habitat area if it was 80% habitat, amass all of the contiguous habitat areas, then drop out those encompassing less than 6 acres. The result was a map of areas on the Island that provide good contiguous blocks of forest with relatively few road divisions or openings (Figure 6).

Connectors

The next step was to utilize the ArcMap 10.5.1 Map Connector tool to find connections between these core areas for a species reluctant to cross developed areas. This process uses the resistance layer, with resistance by cover type again beginning with the values used by the WHCWG in the statewide analysis, but tailoring to local data. Thus trees were set to be very easy to traverse through, then in increasing order of resistance: shrubs and trees over buildings or roads; low ground cover or buildings; bare ground

or water; roads; and beach and shoreline areas. These parameters were set such that the Island's sole highway would be very difficult to cross, followed by secondary arterials, then smaller roads.

Because the Map Connector tool would not run on all cores over the island-wide resistance layer at once, clusters of core areas were selected and the tool was used to find least-cost-paths between them. Least-cost-paths calculate the difficulty of crossing from one place to another in terms of movement cost. That is, crossing over 1m of forest is a 1m cost for a flying squirrel, but crossing over 1m of a residential road would be a 100m cost. This is a method for modeling how a habitat-sensitive animal actually moves across a landscape to avoid unsuitable habitats. The process was repeated to find 62 connective paths between the 33 forest core areas. These paths were buffered to 100' on each side to form preliminary 200'-wide corridors, to be evaluated individually to ensure these do not encompass roads and other unsuitable areas. Together, the cores and connections form a reasonable draft Island-wide forest Wildlife Network, which combine with the naturally interconnecting stream and wetlands networks to add an invaluable landscape perspective to evaluation of most valuable areas for conservation.

Figure 6 below illustrates the Island-wide forest core and connector network island while Figure 7 illustrates how the connectors are formed along least cost paths between the habitat core areas in a particular area of the Island. The pink lines are connectors, with a darker background indicating better habitat (trees) and lighter shades where openings, buildings, and impervious surfaces are more resistant to animal movement. BILT does not intend to define narrow lines of "connectivity" but instead build broader and larger areas surrounding the connectors to support the connector function.





Figure 7. Modeled Forest Habitat Network Detail.



Conservation Values Index – Table 1 and Map Series 9 and Map 10

Evaluation of the relative conservation value of a parcel or an area is a very complicated process. Visual inspection of maps showing all known (and mappable) conservation values is helpful, but with so many types of resource values mapped, how does one weigh the value of one parcel against another? The idea behind the Conservation Value Index (CVI) is to divide the island into a very fine grid, and assign each grid cell points based on each of the resource values that fall within it. Then the points for each of these resource layers can be added to give a cumulative score for each cell. A place with a high concentration of resources, such as wetlands, streams, rare species' nests, and adjacent to an already-protected area, will show as a cluster of cells with high scores. For a parcel, the cell values could be summed across the area, or an average could be used to compare the value of one vs. another.

The value assigned to each resource was generally scaled from 1-4, with 4 representing the highest value in that category. For instance, riparian areas were scored so that those around streams that flow only seasonally and do not bear fish were given a 1, and values ranged up to 4 for year-round fish-bearing streams. In the case of land cover, areas with buildings, pavement, etc. received a -1, so that points would actually be deducted from the total to reflect poor habitat conditions. But the maximum number of points a cell would receive from each layer is usually 4, and the maximum possible score is therefore about 4 multiplied times the number of layers.



Figure 8. Basic sum analysis (from Joseph K. Berry, InnovativeGIS, GeoWorld, July 2004, pg. 20-21)

 Table 1. Conservation Value Index - Descriptions and scores assigned to resource values

Wate	r Features
Score	Value
	Riparian (streamside) areas
4	Riparian buffer: F fish-bearing stream buffer (200')
3	Riparian buffer: Np non-fish-bearing perennial stream buffer (100')
2	Riparian buffer: Ns stream connected to F or Np buffer (75')
1	Riparian buffer: Ns stream not connected to F or Np buffer (50')
	Fish Critical Habitat
4	Critical habitat (200' buffer)
	Salmon spawning
4	Spawning reach
	Fish occurrence
4	Known occurrence of coho, steelhead, cutthroat, or other fish of concern
	Wetlands
4	Wetland Category I or II
3	Wetland Category III, IV, or unknown
	Wetland buffer
4	Wetland Buffer
	Critical Aquifer Recharge Areas (CARAs)
4	CARA1 (Highest value and vulnerability)
3	CARA2, Vashon aquifer
2	CARA2, other
Uplan	d Habitats
Score	Value
	Land cover: upland types + emergent vegetation
4	Trees, shrubs (also macroalgae and intertidal bare)
3	Emergent veg, water
2	Tree over building or road
1	Groundcover
0	Bare ground
-4	Impervious surface, road, or building
	Forest habitat network: core area
4	Large interior forest (>100 ac.) patch
3	Med interior forest (<100 ac.) patch
	Forest habitat network: connections
4	Falls in a connective corridor
	Rare bird spp nest sites
4	Within 330' of bald eagle, great blue heron, osprey, pileated woodpecker, or purple martin nest sites

	Priority birding area
4	Priority bird area (tbd by local birders)
	Adjacency: Some Level of Protection parcels >=4 ac.
4	50-ft buffer of undeveloped protected parcels
3	1,000- ft buffer of undeveloped protected parcels

	Adjacency: Undeveloped, protected or unprotected >= 4 ac					
4	50-ft buffer of undeveloped unprotected parcels					
3	1,000- ft buffer of undeveloped unprotected parcels					
	Parcel Size					
4	>= 25 ac					
3	10 - <25 ac					
2	5 - <10 ac					
1	2 - <5 ac					
	Parcel Protection/Development status					
4	Undeveloped/Unprotected					
3	Not permanently protected (identification in progress)					
Shc	prelines					
	Priority Feeder Bluff					
4	Protect or Restore Priority 1					
3	Protect or Restore Priority 2					
2	2 Protect or RestorePriority 3					
	NISP Priority Drift Cells					
4	Priority protect and/or restore					
	NISP Priority Drift Reaches					
4	Priority protect and/or restore					
	Shoreline vegetation: Eelgrass					
4	Eelgrass survey areas: eelgrass present					
	Shoreline vegetation: Land cover data					
4	Macroalgae or Intertidal Bare (in Land Cover, above)					
	Forage fish and shellfish habitat					
4	Smelt spawning area					
4	Sandlance spawning area					
4	Herring spawning area					
4	Shellfish breeding area					
	Priority Habitats and Species Marine Wetland Habitats					
4	Waterfowl concentration areas, coastal salt marshes, PHS lagoons and estuaries					
	COBI Aquatic Conservancy					
4	Aquatic Conservancy					
	COBI Shoreline Designation					

4	Aquatic conservancy, Island Conservancy, Natural
3	Shoreline Residential Conservancy
0	Shoreline Residential
-1	Urban
	Nearshore Prioritization Parcel
4	Tier 1
3	Tier 2
2	Tier 3

Furthermore, the tallying of total conservation value can be conducted as a *weighted* sum, because not all resource values may be prioritized as highly as others. Some values are more important based on the Land Trust's mission, values expressed by the Island public, and biological significance. The way relative value of parcels is considered may also change depending on specific objectives, such as competing for a grant aimed at improving salmonid habitat. A weighted sum allows for some layers to contribute less to the overall scoring. The weighting can be adjusted and sums recalculated to make these adjustments at any time. The initial runs of the model are on unweighted sums, meaning that every layer was given equal weighting. The areas emphasized will change as appropriate weightings are applied.

There are additional factors to consider in prioritizing efforts that have to do with issues such as development risk, existing regulatory protections. These factors will also be mapped and rated to the extent possible, and combining these with the Conservation Values Index will improve conservation prioritization.

Conclusions

While this Conservation Plan will guide the Bainbridge Island Land Trust in fulfilling its conservation goals, and provide new tools to achieve these goals, this plan does not make decisions for the Land Trust or any of its partner organizations. Each new Bainbridge Island Land Trust project and program inspired by this Conservation Plan will be subject to approval by the board of directors and the principles of sound governance.

The CVI will be used day to day for evaluating projects. Wildlife Networks and Shorelines continue to be primary focus area for BILT. However, using the CVI and natural resource data, and integrating other community values, the development of Regional Priorities is the next step.

The table below (adopted from Table three of the 2012 Conservation Plan) still guides priority work on the Island.

Resource	Summary Evaluation and Prioritization Considerations	Proposed Priority
Resource Wildlife Networks	 Summary Evaluation and Prioritization Considerations Wildlife Networks are systems of large ecologically functioning habitat blocks and are connected via strategically identified areas using the modeling contained in the 2018 Conservation Plan and the Conservation Values Index in order to support sustainable populations of diverse and abundant wildlife species and provide opportunities for wildlife to move between large habitat blocks. Provides watershed protection and at times, public access via well planned trails; Many resource types (forests, wetlands, streams, riparian areas) work together to provide high ecological values. A combination of all these resources types within a network increases the conservation values of the network; Without a large amount of conservation (and perhaps some restoration actions), there is moderate-to-high risk that large portions of important wildlife networks will go unprotected, become significantly impacted and be unable to provide 	Primary
	portions of important wildlife networks will go unprotected, become significantly impacted and be unable to provide properly functioning conditions at a landscape-scale;	
	 Opportunities exist for partnerships with a number of resource agencies and organizations to work together to identify key priority systems worthy of protection. The leveraging of resources is an important component of future 	
	potential campaigns or areas of focused work.	

Table	1: BILT	Priorities	for Protecti	ng Bainbridge	Island Resources
Table	T. DILI	1 Hornes	IOI I I OLCCL	ing Dambinage	isiana nesources

The following has the ecosystem f	abitat types will be considered to the extent which they optimize function of an identified Habitat Network (isolated resources	
outside of an id		
	 PROPERITIES WITH STREAMS and ASSOCIATED RIPARIAN AREAS Stream and riparian habitats, that support both aquatic and terrestrial species, are important supporting factors in selecting priority geographical areas, especially for completing wildlife networks. Critical Habitat for one Federally-listed Threatened species (Puget Sound steelhead) has been designated on two Bainbridge Island streams and 3 additional Threatened species (coho, chinook, and chum) are associated with fishbearing streams on Bainbridge Island; Using information available regarding ecosystem health; the most actionable includes fish passage barriers; however, additional ecosystem evaluations are necessary to understand ecosystem conditions such as the Springbrook Creek Watershed Feasibility and Assessment; 	First
	 PROPERTIES WITH WETLANDS Wetlands are a unique habitat for plant and animal species, and contribute to clean water and healthy watersheds; Wetland and riparian habitats will be an important supporting factor in selecting priority geographical areas, especially for completing wildlife networks; While current regulatory protections exist, a number of wetlands have been altered, compromised or removed; 	Second
	 PROPERTIES WITH FORESTS Highly abundant, forests cover 70.3% of Bainbridge Island; Forest habitat will be an important supporting factor in selecting priority regional geographical areas and preparing project plans, especially for completing wildlife networks. 	Third

Shorelines	 Because we are an Island, surrounded by the waters of Puget Sound, our shorelines and associated uplands is a habitat system that defines the geographical area we serve; Shorelines are dynamic habitat systems that contain highly valuable critical habitats, including tidelands, estuaries, lagoons, nearshore, marine riparian and adjoining upland areas, important to a high diversity of aquatic and terrestrial species; Undeveloped shorelines are scarce; Updated inventories of shoreline conditions are needed; 8 threatened and endangered species and 1 species of concern are associated with the shorelines of Bainbridge Island; 	Primary

 Comprehensive ecosystem analyses (Williams, et al. 2003)
indicate that the charaline is mederately imported and at visit
indicate that the shoreline is moderately impacted and at risk
of not being able to maintain properly functioning conditions;
this analysis can be used to identify priority geographical
areas as well as model the ecological benefits from
undertaking restoration actions and the ecological impacts
from development on a landscape-basis;
 Without some additional conservation actions and a large
number of restoration actions, there may be a moderate-to-
high risk that large portions of the shoreline ecosystem could
become significantly impacted and unable to maintain
properly functioning conditions at a landscape-scale;
 Shoreline habitat will be a primary factor in selecting priority
geographical areas and preparing project plans, including
wildlife networks since a significant percent of terrestrial
species have important associations with shoreline habitats.

Recreation	 20% of Bainbridge Island acres have some level of protection 	Secondary
	and these acres include parks (active and passive), trails and	
(Passive Open	open space;	
Space, Trails,	 BILT has assisted in significant passive open space acquisitions 	
Public	by teaming up with numerous island entities;	
Shoreline	 Future parkland and open space additions that focus on 	
٨	adding to existing properties to expand preservation and	
ALLESS	recreation provide leverage to past efforts;	
	 Trail corridors can provide access to open space and connect 	
	neighborhoods and parks. Careful development of trail	
	corridors also can help retain conservation values. When	
	appropriate, park and open space expansion can overlap with	
	wildlife network systems;	
	 Evaluation and assessment of existing trail and shoreline 	
	access network needed and is identified in the previous	
	section. A number of community groups exist that work on	
	trails, providing momentum for further development of trail	
	connections including the Sound to Olympics Greenway trail.	

Agricultural	 Agricultural soils cover 90.3% of Bainbridge Island; 	Support
Lands	 No baseline regulatory protections exist; 	Partner-Led
	 BILT and Friends of the Farms are in the initial stages of 	Projects
	developing a framework for agricultural easements that may	
	help guide future expansion of this tool for protection of	
	working landscapes.	
	 Opportunities exist with partnering organizations to identify 	
	priority properties for agricultural land protection. Further	
	analysis will be necessary to identify the best agricultural	
	lands to protect;	
	 Many agricultural soils exist in areas with forest resources 	

	and other habitat types. Conservation of some areas for active agricultural use may result is the conversion of habitat to agricultural use. This shift in land use requires careful consideration;	
Scenic Vistas	 No information was available for this resource to evaluate; Lacking an inventory, this resource cannot be used as a supporting factor to select priority geographical areas; Scenic vistas might be identified during the process of preparing project plans and could then be used as a factor in final property selections. 	Tertiary

Next Steps and Implementation

Updates to the Conservation Plan will continue through 2018. These update efforts will include:

- Utilization of the Conservation Values Index (CVI): Through the remainder of the year, BILT will use the CVI on a day to day basis to help provide information about lands and natural resource values attached to these lands. This use will help identify potential geographic focus areas, and also lead to the integration of other community values, such as proximity to neighborhood centers, public access and scenic values. Indicators of development risk (such as regulatory restrictions, zoning, available infrastructure, etc.) will also be factored in to modeling for improved prioritization.
- **Correct and update data:** While the large majority of the datasets BILT has used with this update are very new and reflect existing conditions, there are some which require additional work. Specifically the Shoreline Impact data from the 2008 Bainbridge Island Nearshore Assessment needs to be updated to reflect restoration efforts that have taken place on the shoreline in addition to shoreline which has been impacted or armored since 2008.
- Stakeholder Outreach/Community Conversation: With a conservation values index being created, what is the feedback about this index and our methodology and what else should we be considering? Reaching out to both traditional partners (natural resource professionals and entities, partners in conservation work) and non-traditional land trust partners (health care professionals, interfaith community members, business/professional organizations, developers, real estate agents, etc.) will take place using a moderator. This important step will assist with the interpretation/crosswalk that will need to occur between natural resource values and community values.
- Integration of Climate Change. There has been much work performed by others, including the City of Bainbridge Island Climate Adaptation Assessment of 2017, UW Climate Change Study and other regional efforts to help inform protection, and likely restoration, endeavors resilient to climate change.

• **Further refinement of Action Plan/Regional Priorities**. By performing the above tasks, BILT's goal will be, by the end of 2018, to have an integrated plan with a refined CVI, expanded stakeholder feedback and climate change data in order to guide work over the next 10 years.

Conservation Tools

A number of conservation tools are necessary to implement a successful conservation plan within a given period of time. Below are the tools actively used today and the identification of tools that could be pursued in the future to assist with conservation efforts.

Tool	How The Tool Can Be Applied
Conservation Values Index	Day to day in regards to examining natural resource data aligned with specific parcels and identification of Regional Priorities in the development of larger Habitat Networks.
Conservation easements, including resource lands, agricultural lands, and trails	Primary tool for permanent protection. Includes both donated and purchased easements. To date, BILT has not purchased a conservation easement.
Acquisition	Use where significant threat of conversion to high priority ranked property exists and where conservation easements are not a viable option.
Land Swaps/ Land Sales	Trading/Selling/Swapping a non-conservation property or partner property for a priority conservation property.
Mitigation	Land can be protected as part of a mitigation need.
Development of a Revolving Fund	Through BILT's Legacy Program, develop a fund available for strategic property purchases, including acquisitions for the purpose of resale with conservation easement protections added.
Current use tax assessment	Low cost tool for medium-to-high priority ranked properties. Typically not permanent (see Leadership section)
Restoration	In a highly developed landscape like BI, restoration could be an important tool to achieve long-term goals and vision
Leadership on public policy that supports conservation projects	 Transfer of Development Rights (TDR) Public Support of Open Space Purchases (such as bond, excise tax on property sales, levy lid lifts) Updates to land protection regulations:

	 Comprehensive Plan/SMP, Zoning, Critical Areas, Shorelines Capital projects (COBI, WSDOT, Utilities) Storm water utility Current use tax assessment program Could be improved for more urban use, joint/adjacent designations for small parcels, shoreline riparian areas
Leveraging	Area partners and their endeavors can be linked
	with the endeavors of BILL.

Potential Partners

Growing and maintaining partnerships with a number of organizations and entities have led to many past successes of the Bainbridge Island Land Trust, and partnerships will continue to be important as we work to achieve our strategic conservation goals. Our partners provide support in a number of important ways, including fundraising, strategic support, scientific expertise and/or technical support in specific natural resource focus areas. Others provide education and outreach capacity and support.

Partnering Organization Entity	Partnering Area
Local	
Friends of the Farm	Farm preservation and agricultural land
	management
Bainbridge Island Metropolitan Park and	Recreational lands and trails, including acquisitions
Recreation District	
City of Bainbridge Island	Connecting resource protection with public policy,
	such as shoreline protection and restoration,
	critical areas
	Non-motorized Transportation Advisory Committee
	Past supporter (and financial leader) for open
	space bond initiatives
	Fee owner of agricultural lands acquired through
	Open Space Bond
	Has jurisdiction over culvert improvement projects
	Water monitoring
	Assistance with Springbrook Creek Feasibility
	project
Suquamish Tribe	Scientific and technical expertise in fisheries,
	timber, wildlife and cultural resources
	Past financial supporter of some acquisition and
	restoration projects
Bainbridge Island Watershed Council	Watershed planning, assistance with watershed
	assessments such as Springbrook Creek

West Sound Watersheds Council (Salmon Recovery	Connecting resource protection with public policy
Lead Entity for WRIA 15)	and funding
Association of Bainbridge Communities	Public advocacy
Bainbridge Island Weed Warriors	Public involvement in improving natural
	landscapes
IslandWood	Environmental education (primary and adult) and
	technical/scientific expertise
West Sound Wildlife Shelter	Species abundance and diversity and linkages with
	wildlife resources
Bloedel Reserve	Open space preservation and community
	outreach/education
Puget Sound Restoration Fund	Community involvement in shellfish issues,
	commercial shellfish interests
Natural Landscapes Project	Local backyard wildlife habitat development
COBI Non-Motorized Transportation Advisory	Networking with local, regional and state non-
Committee	motorized endeavors to connect existing
	trails/recreation lands with future endeavors
	(water and land trails)
Sustainable Bainbridge	Community outreach and partnership development
	in local ag, energy, etc.
Bainbridge Parks Foundation	Trails and public space supporter
Kitsap – Puget Sound Region	
Washington Sea Grant	Science technical assistance, citizen science,
	baseline data collection for sites, monitoring of
	restoration projects such as the Powel Shoreline
	Restoration Project.
WSU Beach Watchers	Citizen Science, baseline date collection, and
	monitoring of restoration sites.
Trust for Public Lands	Real Estate technical expertise, regional scale
	priorities

West Central Local Integrating Organization	Implementor of local stormwater, salmon and
	shellfish priorities – supported the Puget Sound
	Partnership Action Agenda
Kitsap County	Kitsap County Noxious Weed Board
	North Kitsap String of Pearls Plan – water and land
	trail
Kitsap County Conservation District	Technical assistance, farm planning
North Kitsap Trails Association	Advocacy and planning for regional land and water
	trail system
Puget Sound Partnership	Regional policy guidance, financial
Puget Sound Shoreline Collaborative	Puget Sound land trusts cohort, data collection and
	sharing, strategic outreach, working to achieve
	protection and restoration goals
Kitsap Audubon Society	Technical expertise, citizen science
People for Puget Sound	Technical expertise partnership leveraging in
	Puget Sound
	Fuger Sound
Sound to Olympics Greenway Trail	Regional non-motorized plan that involves BI
Washington Water Trails	Regional water trail development and community
	outreach
State	
Washington Association of Land Trusts/Land Trust	Professional organization, training, funding,
Alliance	advocacy, information sharing
Washington State Department of Transportation	Highway 305 is a scenic highway, they have
	jurisdiction over priority culvert improvement
	projects
Washington Department of Natural Resources	Tidelands, water of the state jurisdiction.
	regulatory
Washington Department of Fish and Wildlife	Technical assistance, science, regulatory
Washington Department of Ecology	Technical assistance (Puget Sound Characterization
	Model), watershed health, funding, regulatory
Washington Recreation and Conservation Office	lechnical assistance, public involvement, funding

Glossary of Terms and Acronyms

BILT	Bainbridge Island Land Trust
СОВІ	City of Bainbridge Island
Conversion	The development of land from a relatively natural condition to a built condition that significantly or completely eliminates the natural or community resources.
GIS	Geographical Information System, which is cartographic (map) and spatial analysis computer software. BILT used the ArcGIS Desktop software made by ESRI, Inc.
Shorelands	For this analysis, shorelands are the area parallel to the shoreline extending 200 feet landward from the ordinary high water mark. Shorelands do not include tidelands or bedlands.
Some Level of P	Protection: The level of protection ranges in nature from permanent (e.g. conservation easement) to less-than-permanent (e.g. unrestricted park land, current use (open space) tax status, perhaps a subdivision's open space tract). A detailed parcel-specific review is necessary to determine the exact nature and durability of the protections affecting each property. This category includes all park lands and private reserves (i.e. IslandWood, Bloedel) and properties that have some development if they also have some type of protection in place (e.g. open space farm land, parks with recreation facilities). This category does not include properties affected by regulatory protections (e.g. critical areas & buffers).

Some level of Development: The level of development ranges from very low density to commercial/industrial.

Undeveloped and Unprotected: Includes many land use types including active farms and forest lands without some type of protection in place. Because some of these lands are working resource lands, some of these properties may include a limited level of development such as a small residence or barn/shed.

WFC: Wild Fish Conservancy

WDFW: Washington Department of Fish and Wildlife

References (*indicates new information and data since 2012 Conservation Plan*)

- Aspect Consulting, LLC, 2016, Bainbridge Island Groundwater Model: Aquifer System Carrying Capacity Assessment (Task 3 Scenario), City of Bainbridge Island, March 25, 2016.
- Bainbridge Island Land Trust. 2008. Shoreline Parcel Analysis and Priority Action Areas.
- Bainbridge Island Metropolitan Park and Recreation District. March 12, 2009. Comprehensive Park, Recreation & Open Space Plan (2008-2014). https://biparks.org/planning-documents/#comp-plan
- City of Bainbridge Island. 2016 Comprehensive Plan Update. http://www.ci.bainbridgeisl.wa.us/615/Navigate-Bainbridge-Comprehensive-Plan-U
- City of Bainbridge Island. 2006. Community Forest Management Plan. https://www.bainbridgewa.gov/DocumentCenter/View/8087/2006-Community-Forestry-Plan-PDF
- City of Bainbridge Island. 2010. Bainbridge Island Current and Historic Coastal Geomorphic/Feeder Bluff Mapping. Prepared by Coastal Geologic Services, Bellingham, WA.
- City of Bainbridge Island. May 2007. Mayor's 2025 Growth Advisory Committee Final Report. http://www.bainbridgewa.gov/DocumentCenter/View/5483

City of Bainbridge Island. October 2008. Bainbridge Island Open Space Study.

City of Bainbridge Island 2014 Shoreline Master Plan Update restoration and conservation plan.

City of Bainbridge Island Wetlands Inventory/GIS Data Update, 2017

Haring, D. 2000. Salmonid habitat limiting factors: Water Resources Inventory Area (WRIA) 15 (East)Final Report. Washington State Conservation Commission: Olympia, Washington.

Mid Puget Sound Fisheries Enhancement Group. 2008. Bainbridge Island Fish Passage Study.

- McRae, B.H., A.J. Shirk, and J.T. Platt. 2013. Gnarly Landscape Utilities: Resistance and Habitat Calculator User Guide. The Nature Conservancy, Fort Collins, CO. Available at: http://www.circuitscape.org/gnarly-landscape-utilities.
- National Marine Fisheries Service. 2007. East Kitsap Salmon Recovery Strategy Summary; Puget Sound Salmon Recovery Plan. January 19, 2007.
- Puget Sound Ecosystem Monitoring Program and Washington State Dept of Natural Resources. 2017. Eelgrass abundance and depth distribution on Bainbridge Island: Final report to the City of Bainbridge Island, DNR IAA 16-239; June 30, 2017
- Puget Sound Partnership. 2016. The 2016 Action Agenda for Puget Sound. file:///C:/Users/Stewardship/Downloads/2016-action-agenda-comprehensive-plan.pdf

- Self, D.E., L. Hudson, S. Morse. 2000. Bainbridge Island Wildlife Corridor Network. Bainbridge Island Department of Planning and Community Development, Bainbridge Island WA.
- Shirk, A.J., and B.H. McRae. 2013. Gnarly Landscape Utilities: Core Mapper User Guide. The Nature Conservancy, Fort Collins, CO. Available at: http://www.circuitscape.org/gnarly-landscape-utilities.
- Stcherbinine, S., and B. Palmer. 2013. Farmland Prioritization Plan for Bainbridge Island, Washington. Capstone Project, University of Washington Professional Master's Program for GIS and Sustainability Management. August 2013.
- Suquamish Tribe. 2016. State of our Watersheds Report, Kitsap Basin. In, 2016 State of Our Watersheds: A Report by the Treaty Tribes in Western Washington. Northwest Indian Fisheries Commission. https://geo.nwifc.org/SOW/SOW2016_Report/SOW2016.pdf

Washington Department of Fish and Wildlife Bainbridge Island Culvert Inventory. 2014

Washington Department of Fish and Wildlife Priority Habitats and Bird Nesting Sites. 2016

- Washington Department of Fish and Wildlife Fish Distributions: coho, chum, cutthroat, and steelhead. 2017
- Washington Wildlife Habitat Connectivity Working Group (WHCWG). 2010. Washington Connected Landscapes Project: Statewide Analysis. Washington Departments of Fish and Wildlife, and Transportation, Olympia, WA.
- West Sound Watersheds Council. 2016. West Sound Nearshore Integration and Synthesis of Chinook Salmon Recovery Priorities, November 2016.

https://spf.kitsapgov.com/dcd/PEP%20Documents/West%20Sound%20Nearshore_final_113016.pdf

- Wild Fish Conservancy Stream Type Assessment, Bainbridge Island, 2014/2015. http://www.moonlitgeo.com/wfc/
- Williams, G.D, R.M. Thom, and N.R. Evans. 2004. Bainbridge Island Nearshore Habitat Characterization and Assessment, Management Strategy Prioritization, and Monitoring Recommendations. PNWD-3391. Prepared for the City of Bainbridge Island: Bainbridge Island, WA; by Battelle Marine Sciences Laboratory: Sequim, WA.

Appendix A: Maps – see attached separately

Map Index

Map 1: Location in Puget Sound
Map 2: Bainbridge Island Aerial View
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Map 10: Conservation Value Index Sum by Parcel Blakely Harbor Vicinity

Appendix B: GIS Data Sources used for 2018 Conservation Plan Update - see attached separately

Appendix C: BILT Capital Investment 2018-2028

The BILT Conservation Plan underscores the significant opportunities available for protection and restoration actions, and with that comes the realization that significant investment by BILT and its multiple partners must continue to grow and the funding sources need to diversify. What is achieved in the next ten years will have critical importance in the conservation of important resource values on Bainbridge Island.

BILT has had reasonable success obtaining grant funds to help support restoration and acquisition when the properties of focus specifically address a threatened natural resource or provide a unique opportunity to improve a critical resource, such as shoreline restoration.

Realizing the opportunity is now to act on acquiring large undeveloped parcels with high ecological values such as streams, wetlands, shoreline and large forest core areas, BILT has launched a multi property, multi - year capital campaign to support the acquisition and stewardship of new conservation lands. The **Stand for the Land** campaign will involve a diverse set of activities designed to engage the community, have them become aware of the need for natural resource protection, and encourage them to support protection actions through financial support, volunteerism, and community action. The goal of the campaign and BILT's capital investment strategy will be to raise over \$5 million in the next three years to support properties that have been identified for protection through the use of our Conservation Values Index and where landowners are willing to work with BILT on land protections.

Equally important will be capital-intensive restoration projects that come about through partnerships with land owners who wish to improve the condition of their properties. These restoration endeavors will include everything from invasive plant removal, culvert improvements for fish passage, and shoreline restoration, to removing derelict structures – allowing nature to regain valuable ground. In addition to working on private conservation easement lands, the same restoration endeavors are scheduled to take place on preserves owned by BILT.

In most instances, the fundraising efforts of BILT provide considerable leverage for public and private grants. And importantly, by maintaining a financially healthy BILT organization, those costs ABOVE acquisition and restoration can be supported by general funds, helping insure protected and restored lands are cared for far into the future.

Examining other sustainable funding sources such a conservation futures or transfer of development rights will be important to develop over the next 10 years in order to support the needs of retaining and growing the nature of Bainbridge Island.

Based on past efforts and 29 years of history, it is appropriate to project that BILT will be able to secure up to \$7,905,000 in the next 10 years and receive an additional \$12,615,000 in support from grant and other sources.

Appendix C Capital Investment Strategy Bainbridge Island Land Trust Conservation Plan (April 2018)

Bainbridge Island - BILT Land Protection & Restoration Projects Resource Investments 10 YEAR PROJECTIONS (2018-2027)

Period	Approx BILT Share of Acq Cost (including grants secured by BILT and sales to other entities)	Acquisitions	Approx BILT Share of Restoration Cost (including grants secured by BILT and sales to other entities)	Restoration	Cons Esmts** (includes amt of Stwdshp Fund contrib)
Estimated For 2018-2020	4.000.000	7,500,000	150,000	300,000	40,000
Estimated For 2021-2023	2,000,000	6,000,000	250,000	350,000	40,000
Estimated For 2024-2027	1,500,000	6,000,000	50,000	250,000	40,000
Estimated 10-year TOTAL	7,500,000	19,500,000	405,000	900,000	120,000

10-year PROJECTION TOTALS:					
AVG PER YEAR TOTAL	2,052,000				
10-year TOTAL for Acquisition, Restoration, CE's	20,520,000				
BILT-Only 1 AVG PER YEAR TOTAL	790,500				
BILT-Only 10-year TOTAL	7,905,000				

<u>10-year HISTORY</u> :		4,949,522	8,742,324	47,000	1,260,000	25,000
AVG PER YEAR TOTAL 10-year TOTAL BILT-Only AVG PER YEAR TOTAL BILT-Only 10-year TOTAL	1,002,732 10,027,324 499,652 4,996,522				**Cons Es numbers o appraised cons esm	ents - These do not include actual value of donated nts

Appendix D: Public & Stakeholder Comments Received During Plan Development

In connection with the 2018 Conservation Plan Update, BILT sought feedback from natural resource practitioners and the public from December 2017 through April 2018. This initial round of feedback provided a pulse from the public about the work and activities BILT has been involved with to help guide our plans for the future.

BILT recognizes the importance of getting feedback from the community and region we work in. During this phase of our update, our main outreach component involved creating a Community Conservation Survey via an on-line Survey Monkey.

The survey was advertised in the Bainbridge Review and Bainbridge Islander, was made available via live link on the BILT website, and was the subject of a number of e-letters sent to both members and prospect members. 502 people (our 2012 community survey received 138 responses) completed the survey, which took approximately 17minutes for each person to complete, therefore providing over 140 hours of volunteer feedback to BILT.

This feedback is entirely contained in the separately Appendix D. Some highlights of the survey results are:

In future phases of the Conservation Plan update in 2018, BILT will be reaching out to a broader network of stakeholders to share with them the results of our natural resources data work and the Community Conservation Survey. This effort will take place so we can refine our strategies moving forward, hopefully define new partners, and identify prospective new supporters and funding sources.

It should be noted that in 2018 BILT has embarking on a large multi-year, multi-property acquisition capital campaign (see Appendix C for the Capital Investment Plan) which also involves the engagement of the public and multiple audiences, including one to one interviews with the public, presentations to service clubs and professional organizations, as well as reaching out to new stakeholders and our current partners.