2017 Skagit Watershed Council Protection Strategy Update

FINAL REPORT, December 7, 2017

SKAGIT WATERSHED COUNCIL
A Community Partnership for Salmon

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Introduction

This report is intended to update and improve the voluntary conservation acquisition components of the Skagit Watershed Council (SWC) Habitat Protection and Restoration Strategy (SWC 1998) and its Application (SWC 2000). This update was developed to meet a locally-identified need to evolve our local strategy to preserve the remaining high quality habitat in the Skagit Watershed as well as to meet the required outputs of a grant (#13-1425) from the Salmon Recovery Funding Board. It should be considered an addendum to the Strategy (SWC 1998). While this product meets these needs at this time, it is also intended to be a vehicle for continued improvement in coming months and years.

With the publication of this document, the SWC finds no current need to adjust the goal of the Strategy to "assist and encourage the voluntary restoration and protection of natural landscape processes that formed and sustained the habitats to which salmonid stocks are adapted." We continue to abide by the Strategy's guiding principles and scientific framework, as well as recognize its limitations within the context of broader salmon recovery in Washington State.

While the basic fundamentals still stand, there has been an evolution in our understanding and management frameworks for salmon and salmon habitat recovery since 1998. For example, the Skagit salmon co-managers (Native American Tribes and Washington Department of Fish and Wildlife) drafted, and the federal government approved, the Skagit Chinook Salmon Recovery Plan (Co-managers 2005) as required by their listing as threatened under the federal Endangered Species Act (ESA). In response, SWC developed the Strategic Approach (SWC 2005) to refine our multi-species focus towards understanding, protecting, and restoring habitat forming processes that would have the most benefit for Skagit Chinook salmon. Over the intervening years as our scientific and local knowledge grew, and implementation progress was made, this Strategic Approach was adaptively managed to focus on priority habitats for increasing Chinook salmon abundance, productivity, and diversity, resulting in the 2015 Strategic Approach (SWC 2015). Additionally, Puget Sound Steelhead were listed as threatened under the ESA in 2007. In response and as an interim step for voluntary habitat recovery while Skagit co-managers develop a formal steelhead recovery plan, SWC developed and adopted the 2016 Interim Steelhead Strategy (SWC 2016). These advancements continue to refine and focus our voluntary protection strategy toward addressing habitat limiting factors for Chinook salmon and steelhead.

The 1998 Protection Strategy was developed to identify conservation acquisition priorities. Subsequently, an empirical "protection formula" was refined through reach by reach assessments to evaluate the relative value of conservation parcels. This quantitative assessment method, combined with a parcel-level review by the SWC Protection Subcommittee (reporting to the SWC Technical Working Group and Board of Directors), assured the Washington State Salmon Recovery Funding Board (SRFB) that they could allow SWC members to receive reach-level block grants that serve as a secured local funding source for acquisition. The common method for purchasing conservation properties with SRFB funds is to identify the properties prior to grant rounds and then seek funding through the regular SRFB process; this can take a year or even longer. The nature of real estate transactions favors the ability to act swiftly when an opportunity is identified. With the funding cache made available through reach-level block grants, conservation organizations

operating in the Skagit Watershed have been able to move quickly and efficiently on acquisition opportunity and have been very successful in securing conservation properties in the watershed.

While the current formula has served the SWC well for several years, the method has shortcomings and a need to revamp the Protection Strategy was identified. The project described herein is an update to the Strategy and specifically to the formulaic process used to evaluate the conservation value of acquisition opportunities.

Problem Statements

Specific changes to the SWC Protection Strategy have been driven by the identification of problems or weaknesses in the 1998 Strategy and/or its subsequent implementation and outcomes. The following problem statements were developed and vetted by the SWC Protection Subcommittee, Technical Work Group, and Board of Directors. Each has been addressed to a significant degree by "changes" listed in the next section, and each change to the protection strategy can be linked back to a problem statement.

A. The current SWC protection strategy's cost effectiveness (CE) scoring process failed to identify some of the high value fish habitats in functioning floodplains. The CE scoring processes' focus on costs is one significant driving factor in these failures, which in turn is driven by zoning as well as parcel boundary location and size not reflecting habitat characteristics.
B. While past acquisitions meeting CE score thresholds have protected many of the largest remaining high quality habitats in the Skagit floodplain, it has also resulted in a checkerboard ownership pattern rather than contiguous, reach-scale land blocks that function at the scale of habitat-forming processes.
C. The current weighting of main stem aquatic habitats and floodplains disproportionately undervalues tributaries which have emerged as more important than previously thought for Chinook salmon.
D. Similarly, SWC's policy priorities have shifted to include steelhead, furthering our need to increase focus on tributaries.
E. Connectivity and threat have had very limited impact on CE scores though they are important considerations. Known imminent threats haven't been addressed in past assessments.
F. The definition and application of isolated habitat over the years isn't clear and/or sufficiently detailed.
G. The current protection strategy does not explicitly incorporate ways to characterize and value areas with potential resilience to climate change such as groundwater/surface water sources.
H. Properties with significant upland habitats do not "rank," thus disqualifying the uplands as well as large sections of associated aquatic habitat since they cannot be dissected.

Problem statements that remain significantly unaddressed by this iteration of updates are *identified in italics* below. It is our intent to further consider them in the future.

I. Not all floodplain habitats are of equal value to Skagit salmonids.

J. *Restoration needs and potential are not evaluated through the current CE scoring process. Modest site degradation such as vegetation clearing may impact relative ranking rather than valuing the site's intrinsic potential for aquatic habitat.*
K. *Current guidance is mute with respect to marine nearshore habitats outside of the tidal delta.*

Summary of Changes

Architecture & Authorization

- Eligible Area

  Thus far, eligible acquisitions in the Skagit Watershed were allowed only in areas with existing conservation assessments limiting acquisition to the Upper Skagit, the Middle Skagit, and the Sauk & Suiattle Rivers. The eligible area for acquisition in the new strategy will encompass all Tier 1, Tier 2, and Tier 2S ("Tier 2 Steelhead Target Areas") areas as identified in the Strategic Approach (SWC 2015) and Interim Steelhead Strategy (SWC 2016). The Strategic Approach (SWC 2015) expanded Tier 2 Target Areas into fourteen (14) major tributaries that contain significant rearing habitat. The upstream extent is defined by documented Chinook salmon or steelhead distribution, excluding confined channels with floodplain widths less than two (2) channel widths, channels greater than 6% gradient, and parcels with only sub-tributary habitats. The 2017 Protection Strategy applies to all parcels with freshwater floodplain habitat in Tier 1, Tier 2, and Tier 2S Target Areas. Parcels outside of floodplains and with riparian areas only are excluded.

  Parcels that are already permanently protected for their salmon habitat values were removed from the eligible area before quantifying habitat, connectivity, and threat scores.

- Decision Support Framework

  The Habitat Protection and Restoration Strategy (SWC 1998) provides an empirical formula for assessing and prioritizing reach level protection projects by their relative cost effectiveness. The 2017 Protection Strategy Update maintains all of the major parameters (with amendments and/or additions listed below), though instead of a single cost effectiveness score for each parcel, it relies upon a decision support framework (Figure 1) to examine habitat, connectivity, and threat parameters in a stepwise fashion to determine the degree to which parcels meet agreed-upon thresholds. Threshold scores are established for each step to determine if acquisition should proceed, move to the next assessment step, or terminate.

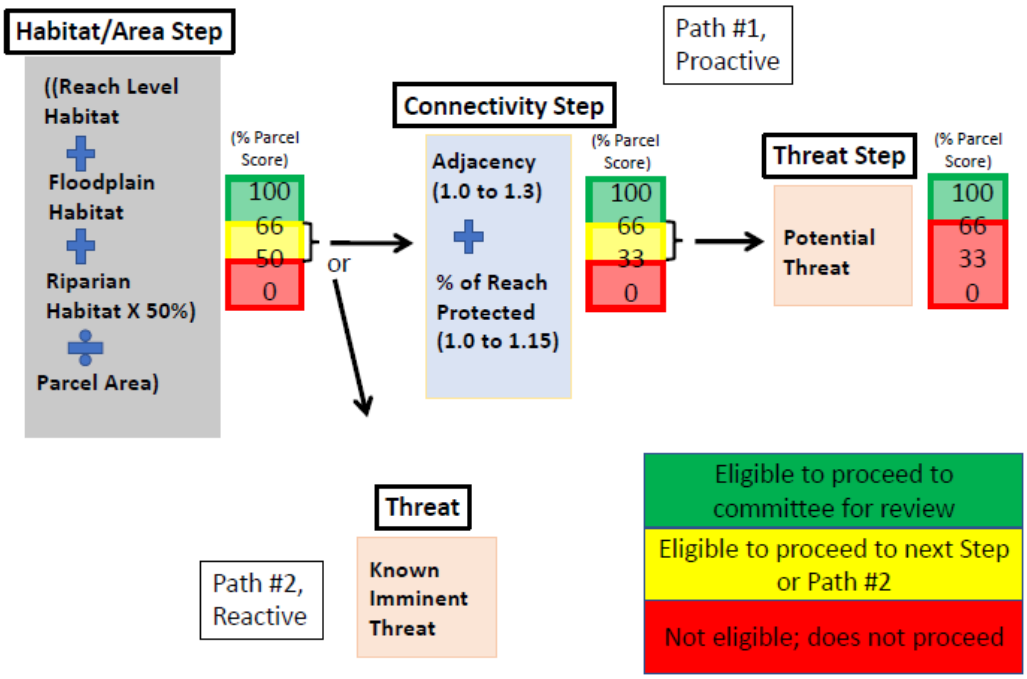

Figure 1. Decision Support Framework for 2017 Skagit Watershed Council Protection Strategy Update

In Figure 1, the top third (>66%) of the evaluated parcels are considered to be above the "high" quality habitat threshold and are eligible for acquisition. Parcels ranking in the top half (>50%) but less than the top third, are considered to be above the "medium" quality habitat threshold and are eligible to go on to the second ranking step of evaluating their relative connectivity. Parcels ranking in the bottom half (<50%) are considered "low" value habitat and are no longer considered in this step.

Parcels that are highly connected and thus rank in the top third of the second ranking step are eligible for acquisition. Parcels that rank above 33% but below the top third during the connectivity step are eligible to go on to the third ranking step of evaluating their relative threat. Parcels ranking in the bottom third (<33%) are considered low value in connectivity and are no longer considered in this step.

Parcels that were characterized as medium quality habitat and medium quality connectivity will be further evaluated in the final step of Path #1 for their relative potential threat. Such parcels that are highly threatened and thus rank in the top third of the third ranking step are eligible for acquisition. Parcels ranking in the bottom two-thirds (<66%) are considered low potential threat and are no longer considered for acquisition via Path #1.

An additional pathway (Path #2) through the decision support framework has been developed to reconsider acquisition of parcels with a known imminent threat on a reactive, case-by-case basis. Details are discussed below.

- Uplands

  Upland portions of parcels (also known as Tier 3 Target Areas) outside of the floodplains and their riparian areas can be acquired in association with high quality salmon habitats if the parcel meets habitat thresholds or if other funding programs are used to offset the cost for the upland land area.

- Authorization

  Any parcel that meets criteria for being high quality salmon habitat as outlined herein is eligible for purchase with reach-level acquisition grants once a parcel-level review and consent is provided by the SWC Protection Subcommittee, Technical Work Group, and/or Board of Directors as indicated below (known cumulatively to SWC members as "greenlighted"). The Subcommittee maintains a responsibility to report greenlight decisions (with their parcel-level information) to the TWG at the TWG's next available meeting, as well as provide summaries of purchased lands no less than every six months to the TWG and Board of Directors.

  Before considering greenlighting parcels, the Protection Subcommittee Chair or SWC staff shall provide agenda items and sufficient review materials with at least 5 days notification to members of the Protection Subcommittee. The Protection Subcommittee shall greenlight or reject the proposed parcel for purchase if within their range of habitat degradation thresholds (Table 1) or recommend the proposed parcel for purchase to the Technical Work Group if in the TWG range.

  If parcels are recommended for approval to the TWG, the Protection Subcommittee Chair or SWC staff shall provide agenda items and sufficient review materials with at least 7 days notification to members of the TWG. If no regularly scheduled TWG meeting occurs within 4 weeks of the Protection Subcommittee meeting, then a special TWG meeting will be scheduled within 4 weeks. Because protection projects have little time for delay, a quorum for purposes of implementing the 2017 Protection Strategy is defined as those voting TWG members in attendance at the special meeting. The TWG shall greenlight or reject the proposed parcel for purchase if within their range of habitat degradation thresholds (Table 1) or recommend the proposed parcel for purchase to the Board of Directors if in the Board's range.

  The Board of Directors shall consider the proposed parcel acquisition at their next regularly scheduled meeting and only if recommended by the TWG, and with sufficient review materials provided in a timely manner.

Table 1. Range of Habitat Degradation Thresholds Eligible for Approval by Type.

Degradation Type Within Priority Fish Habitat Area	Protection Subcommittee	Technical Work Group	Board of Directors
Flood Protection Levees (length to edge)	0 to 0%	0 to 10%	10 to 100%
Hydromodification (length to edge)	0 to 0%	0 to 35%	35 to 100%
Vegetation Clearing (area)	0 to 50%	50 to 70%	70 to 100%

Acquisition costs from non-SRFB funding sources can be used for matching reach level grants once review and consent is provided by the SWC Protection Subcommittee using the approved Guidelines for Qualifying SWC Acquisition Match Properties (Appendix A).

- Monitoring and Adaptive Management and Assessment Updates

  Data layers utilized by the Protection Strategy will be updated to incorporate recommendations flowing from the monitoring of habitat status and trends as well as implementation of the Protection Strategy. Timing of this M&AM process can be recommended on an as-needed basis by any committee or subcommittee, and must be reviewed by the Technical Work Group and approved by the SWC Board of Directors.

  Before greenlighting a parcel for acquisition, habitat and connectivity attributes and scores will be updated with site-scale information to validate its qualifications. Additionally, large-scale physical (e.g. channel avulsions) or planning-level (e.g. steelhead recovery research) events significantly changing strategic priorities may trigger systemic review and update of the stepwise assessments.

HABITAT/AREA PARAMETER

- Reach Level Habitat

  Reach level or aquatic habitat have been quantified using measures of the relative value of edge habitat area as opposed to simple channel area as this best represents juvenile salmon rearing habitat. This approach has the additional benefit of being able to more equitably compare areas of useful habitats in the main stem and tributaries.

A new metric was developed for habitat scores, where habitat/area =

$$\frac{\text{Reach Level + Floodplain + (Riparian X 50\%) (acres)}}{\text{Parcel Area (acres)}}$$

- Reach level, main stem habitat has been quantified via the 2015 edge type habitat poly-lines for bar and bank habitat developed by Skagit River System Cooperative (SRSC) following the protocols in Beechie et al (2005), and extrapolating area estimates using average edge habitat widths by type from the Skagit Chinook Recovery Plan (co-managers 2005). Backwater habitats were directly quantified via the polyline data. Either habitat polylines or polygons (also from SRSC protocols) were used to quantify off-channel habitat area, depending on parcel boundary locations. See detailed methods guide in Appendix B.
- Mainstem hydromodifications were included using recent inventory data provided by the Upper Skagit Indian Tribe (USIT, 2015). Following observations of decreased fish densities in modified versus natural edge habitats documented in the Skagit Chinook Recovery Plan (Co-managers, 2005), edge habitat area amount was reduced by 66% for these modified bars, banks, and backwaters.
- Reach level tributary habitat has been quantified via the area occupied by a modeled 2-year flow event, which is a polygon modeled by SWC following a methodology in Vondrasek (2015). See Figure 3 in methods section.
- Sub-tributary confluences provide unique high quality habitat for salmonids (Kiffney et al 2006). To acknowledge the increased habitat value of sub-tributaries, credit for additional habitat area has been given. The score was created by multiplying the width of the channel (X) at its confluence with the sub-tributary by a length of two channel widths downstream of the sub tributary; X*2X (or $2x^2$) (see Figure 2).

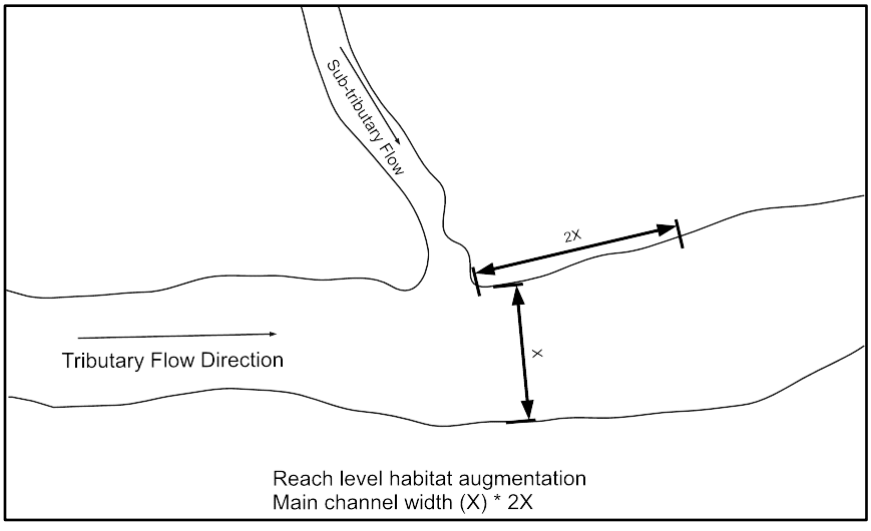

Figure 2. Habitat Gains from Inputs of Sub-tributary Streams

- Floodplain Habitat

  Non-channel floodplain habitat in the main stems has been quantified via the existing SWC floodplain polygon until updated floodplain layers become available.

  Isolated and shadowed habitat have been further defined and delineated, with current definitions and multipliers shown in Table 1. The term isolation remains as defined in 1998 as the lack of anadromous access and has a multiplier of zero (0). Shadowing however reflects muted but existing functions that should not be subject to the same multiplier of zero (0), and thus receives a multiplier of one-half (0.5).

  Non-channel floodplain habitat in the tributaries has been quantified via the area occupied by a modeled 100 year peak flow, which is a polygon modeled by the SWC following a methodology in Vondrasek (2015).

  Criteria for floodplain categories (Table 2) of moderately impaired and functioning have changed from median tree size < or > twelve (12) inches diameter breast height (dbh) to < or > fifty (50) feet in order to facilitate remote sensing analyses.

Table 2. Floodplain and Riparian Category Criteria and Multipliers.

Floodplain & Riparian Category	Floodplain & Riparian Land Cover Criteria	Multiplier
Isolated	Isolated from anadromy	0
Shadowed	Muted floodplain or riparian functions.	0.5
Impaired	No forest cover due to human activity	1
Moderately impaired	Median tree height <50 feet due to human activity	2
Functioning	Median tree height <50 feet due to natural processes (e.g. fire, flood)	3
Functioning	Median tree height >50 feet	3

- Riparian Habitat

  Riparian areas outside of 'non-channel floodplain habitats' have been included up to two (2) site potential tree heights beyond the floodplain boundary (defined as 300 feet total in each direction outward and throughout the larger Skagit watershed). No additional area (beyond floodplain habitat area already valued) was assigned for riparian areas inside of the floodplain.

  Riparian habitat quality categories have been aligned with floodplain quality conditions, using the same categories and multipliers (Table 2). For example, riparian area functions isolated by a road or levee received zero habitat value.

  Given the relatively lower contributions of floodplain boundary riparian areas to habitat forming processes compared to reach level, floodplain or streamside riparian habitats,

floodplain boundary riparian habitat values have been discounted by 50% when calculating the base habitat per area score.

Given the reduced contributions of shadowed riparian areas to fish habitat, these values have been discounted an additional 50% when calculating the base habitat per area score.

CONNECTIVITY PARAMETER

- Connectivity Factor

Connectivity as it is used here pertains to the phenomenon that the habitat value of conservation lands is greater for joined or more connected conservation areas than the sum of several smaller individual or isolated conservation areas making up the same acreage. Consistent with the 1998 Strategy, two types of connectivity were quantified: the adjacency of a parcel to conservation lands and the total amount of conservation lands in the reach where the parcel resides.

- A parcel listed in conservation status includes only those lands that are intended to be managed primarily for the benefit of fish & wildlife and where the property's ecological habitat values, processes, and functions are conserved currently and into the foreseeable future.
- Given significant progress of on-going conservation actions via fee simple and conservation easement acquisition, connectivity scores were updated to reflect current conditions. SWC has worked with many landowner organizations to both update and evolve the County's protected lands database with protected lands that meet the definition above. This list of groups includes but is not limited to Seattle City Light; Skagit Land Trust; The Nature Conservancy; Puget Sound Energy; the Town of Hamilton; WA Departments of Natural Resources, Fish & Wildlife, and Parks; US Forest Service; and National Park Service. SWC and its partners will maintain this database as lands are protected into the future. Tributaries were included. Agricultural easements that do not protect functional habitat were not eligible for inclusion. Lands protected for utilities such as pipelines were not included, though fish and wildlife mitigation lands such as for Seattle City Light and Puget Sound Energy were.
- The weighting of adjacency is increased from a multiplier of 1.05 to a range of 1.20 to 1.30. If the parcel is adjacent on only one side it would get 1.20, on two sides it would get 1.25, and on three or more sides it would get 1.30. No adjacency gets no multiplier.
- Reach level protection weights were kept the same at up to 15% times the percent of the reach already protected.

THREAT PARAMETER

- Threat Factor

Consistent with our Strategy (SWC 1998), threat was categorized in two ways; potential threat and known imminent threat. Potential threat refers to non-immediate habitat threats posed to a

parcel based on the parcel's zoning or land use designation. Known imminent threat refers to threats posed to a parcel by highly certain, planned activities. Each of these factors is considered in its own pathway as referenced above under the decision support framework section and shown in Figure 1.

- Threat Path #1 assesses potential threat similarly to the 1998 Protection Strategy, with Table 3 comparing the 1998 and 2016 method side-by-side. Only parcels zoned in county comprehensive plans defined as medium to high density development would be eligible for greenlighting up to 33% of the population of parcels moving to the threat step. Proposed zoning is defined as those development rights/area at or greater than 1 unit per 5 acres in Skagit County and 1 unit per 4.6 acres in Snohomish County. If more eligible parcels exist in these designations than the 33% threshold, they will be further screened by prioritizing zoning further via increasing development rights/area. Conservation and Reserve Development (CaRD) options will be considered on a case-by-case basis. Rezoning or application of CaRDs may require rescoring via Path #1. Finally, if additional screening is necessary, habitat/area scores will be used as tie-breakers.
- Threat path #2 is a secondary, reactive re-assessment of previously scored parcels that are identified on a case-by-case basis due to a proposed action by the landowner. Table 4 provides examples of types of relevant development activities and relevant documentation that may be included in the Threat and Impact Memo, though is not a comprehensive list. Once a known imminent threat to a parcel that scored in the 16% of medium-high habitat/area step is identified, documentation of the proposed development activity and its impacts should be provided by the project proponent in a "Threat and Impact Memo." This memo should include comparable examples of impacts from nearby areas where available. The Protection Subcommittee will review the memo and verify the likelihood of threat to habitat quality as meeting or not the threshold of a known imminent threat. If qualifying as a known imminent threat, they will then estimate the extent and magnitude of likely impacts of the development proposal by rescoring the parcel's habitat/area. If the new habitat/area score falls below the 50% threshold, or is reduced by more than 10%, then the Protection Subcommittee may recommend to the TWG and Board of Directors that SWC greenlight the parcel for acquisition.

Table 3. Comparison of 1998 and 2017 Approaches to Assessing Potential Threat of Development.

Land Use/Zoning Designation	% Effective Impervious Area Possible	1998 Inflation Factor	2017 Skagit and Snohomish Comprehensive Plan Zoning Designations
Wilderness Area/ Protected Area	0% to 2%	0%	Not eligible via Potential Threat
Forest/Agriculture/ Recreation Area/Parks with Developed Areas/ Low Density Residential	1% to 4%	4%	Not eligible via Potential Threat
Medium-High Density Residential/Urban/ Industrial	10% to 86%	10%	Skagit County: Rural Intermediate, Rural Village/Residential, Rural Cluster, Urban Growth, Urban Reserve Residential, City. Snohomish County: Rural Diverse, Rural Cluster; Conservation & Reserve Development (CaRD)

Table 4. Examples of Known Imminent Threats and Documentation for 2017 Protection Strategy.

Examples of Relevant Development Activities Qualifying as Known Imminent Threats	Examples of Documentation in Memo
Timber harvest within CMZ or specified buffer width for adequate protection of stream type	Forest Practice Application; Regulatory Agency Opinion of Likelihood of Approval
Zoning change or conversion to a more intensive land use	Rezone Application; Past Examples of Similar Rezones
Parcel for sale with potential to reduce existing impacts	Real Estate Listing or For Sale By Owner (FSBO); Regulatory Agency Opinion of Likelihood of Approval
Parcel for sale with building or clearing in floodplain or riparian area allowed	Real Estate Listing or FSBO and Regulatory Agency Opinion of Likelihood of Approval
Parcel for sale with additional buildable lots	Real Estate Listing or FSBO and Current Zoning Designation
Proposed rip-rapping, diking, or other hydromodifications	Permit Application; Regulatory Agency Opinion of Likelihood of Approval
Proposed dredging	Permit Application; Regulatory Agency Opinion of Likelihood of Approval
Road building within floodplain or 200 feet of salmon bearing water	Permit Application; Regulatory Agency Opinion of Likelihood of Approval

Other Parameters

- Cost

  The emphasis on cost has been reduced in favor of a stronger habitat focus, but will remain an important attribute. Parcel area/size will serve as the primary indicator of property costs.

  The cost modifier of the original formula has never been used for correcting real versus modeled cost effectiveness as envisioned and so is dropped from further consideration in the 2017 Protection Strategy Update.

Results and Discussion

This analysis incorporates practical knowledge gained through 18 years of implementation of voluntary acquisition, an inventory of 3700 acres of lands acquired in that time, new remote sensing completed by our members and SWC staff, and new hydraulic modeling in Skagit tributaries also completed by SWC staff. New methods were developed to better account for how juvenile fish use mainstem and tributary edge habitats, the positive effects of tributary inputs such as climate resilience, the provision of resources from riparian habitats inside and outside of the floodplain, the value provided by aggregating lands to benefit reach-scale processes, and the threat of potential and known development impacts. And importantly, an updated and common understanding was developed among 40 members of the Skagit Watershed Council about what constitutes high quality habitat that is deemed of sufficient value to put into permanent protection for the benefit of salmon and our community's future generations.

Multiple parameters outlined above were objectively quantified for 3384 mainstem parcels and 195 tributary parcels. The results of this analysis have been compiled into spreadsheets of empirical information and six map layers (both mainstem and tributary version for habitat, connectivity, and threat) that provide insights into relative conditions across habitat, connectivity and threat including each of their sub-parameters so that a more nuanced understanding can be derived in a step by step analysis across this expansive and diverse watershed.

In the mainstem, the habitat/area scores range between 13.0396 and 0, with the top 33% (1127 of 3380 parcels) scoring greater than .9364 and the top 50% (1690 of 3380 parcels) scoring greater than .3217. In the smaller group of tributary parcels, the habitat/area scores range between 7.833 and 0.030, with the top 33% (97 of 291 parcels) scoring greater than 2.189 and the top 50% (145 of 291 parcels) scoring greater than 1.394. These scores become the thresholds for determining when to consider greenlighting, move to the next step wise assessment, or remove from further consideration.

About 563 mainstem and 43 tributary parcels with moderate habitat value moved to the connectivity assessment, where a subset of about 200 of those parcels became eligible for greenlighting based on our site-scale assessment. In the mainstem, the connectivity scores ranged between 2.406 and 1.0102, with the top 33% scoring greater than 1.0645 and the top 66% scoring greater than 1.039. In the smaller group of tributary parcels, the connectivity scores ranged between 2.437 and 1.019, with the top 33% scoring greater than 1.0681 and the top 66% scoring

greater than 1.06. Again, these scores become the thresholds for determining when to consider greenlighting, move to the next step wise assessment, or remove from further consideration.

Finally, another 200 or so parcels of moderate habitat value and moderate connectivity moved on to be screened for potential threat based on their specific zoning. The results of all of these stepwise assessments have been mapped in green, yellow, and red symbology to correspond to Figure 1 thresholds, and are available to SWC members and members of the public upon request.

This assessment identified 1074 "piano key" parcels, which as the name suggests are small parcels lined up adjacent to each other in a linear fashion and often fronting key aquatic habitats. Habitat scores for these piano keys ranged from very low to very high. However, given their high cost, difficulty to manage (e.g. homeowner associations), and interrelated character of these parcels, SWC has chosen to exclude seven of these piano key areas from being considered for voluntary acquisition in the near future. This assessment confirms though that these areas do still support key or important habitats that should continue to be protected through other means.

This assessment also produced a handful of parcel scores that were inconsistent with our conceptual model of lands worth protecting through acquisition, which isn't surprising given the landscape scale of this effort. In particular, several parcels appeared to have become "lost" to riverine erosional processes, leaving too little edge, floodplain or riparian habitat to raise their score above established thresholds for greenlighting. These parcels were removed from the assessment given this unique condition and would thus have to be considered in the future on a case-by-case basis. It follows that if this analysis has missed eligible parcels in this landscape scale analysis that they too can be considered at some future point on a case-by-case analysis using the thresholds established herein.

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Appendix A. Guidelines for Qualifying SWC Acquisition Match Properties

At the June 26, 2012 Skagit Watershed Council (SWC) Protection Subcommittee (PS) meeting, the PS decided that if it supports and approves applying SRFB funds toward the acquisition of a property then, regardless of the proportion of SRFB funding and other funding sources, all non-SRFB funds expended for that property purchase may count fully towards SRFB match provided that the Deed of Right is placed on the whole property. On September 25, 2012 the PS also approved the following guidelines for "stand alone" properties where 100% of the purchase price comes from other sources and the property is offered as match:

1. A property is eligible to be used as match if it meets or exceeds one or more thresholds established in the 2017 SWC Protection Strategy Update (unless PS determines that there is a valid reason to disallow it).
2. If the CE score for a property does not meet any of those thresholds, the property can be eligible to be used as match IF the PS concludes that conservation ownership of the property would allow for significant protection or enhancement of ecosystem processes important for creating and sustaining river and floodplain ecosystems and salmonid habitat. To be eligible for use as match the PC must agree that based on quantitative data and best professional judgment many of following criteria are met:
    a. The property contains or borders intact salmon habitat that may include:
        i. **Middle Skagit –** high-value habitat or priority protection sites defined as mainstem backwater, mainstem secondary channel, off-channel and at tributary junctions with the mainstem;
        ii. **Sauk River** – properties susceptible to erosion from active migration
        iii. Other salmon-bearing mainstem, off channel, or tributary stream habitat.
    b. The property includes functional floodway or floodplain habitat.
    c. The property may include some upland that contributes functional riparian forest or is at risk of short-term development that would degrade adjacent priority habitat or functional floodplain. (Explain how the acquisition of the uplands is essential for protecting salmonid habitat through protection of watershed processes, channel migration, or water quality).
    d. If the property includes some degraded floodway, floodplain, or significant riparian habitat within 300 feet of existing mainstem, tributary, and floodplain habitat or within area inundated at 2-year flow (frequently flooded areas) it can be restored with replanting or as part of a potential larger restoration project.
    e. Acquisition of the property has a current or potential benefit of connecting adjacent conservation properties and fits in with a realistic strategy for accumulation of important properties.
    f. The property does not include any structures or "improvements" on the property that do not exceed (some percent) of the sales price and cannot be removed.
    g. Other criteria or considerations not included above deemed appropriate by the committee.