# PSP ILF Meeting
## February 23, 2011. 10:00am-3:30pm.
2nd Floor Conference Room, Tacoma Mall Plaza.
2702 S. 42nd St., Tacoma, WA 98409.

**Attendees**
Patricia Johnson (facilitator), Yolanda Holder (notes), Chris Townsend, Ann Boeholt, Kim Harper, Dave Risvold, Hans Hunger, Allison O'Sullivan (phone), Michael Murphy, Brad Murphy, Karla Kluge, Annette Pearson, Glen St. Amant (phone), Linda Storm, Rich Doenges, and Bob Warinner.

**Credit Debit Tool Presentation**
*Tool Overview*
Patricia presented 'Calculating Credits and Debits for Compensatory Mitigation in Wetlands of Western Washington' by Tom Hruby. The following discussion is based on a PowerPoint presentation, which is attached as Appendix A.

The credit debit tool (tool) is based on the wetland rating system. The ranges are broad within the tool, similar to the wetland rating form. How much can the numbers change from one person filling out the form to another? It will vary depending on the person, but trainings will be provided to help with consistency.

There is more objectivity with the tool (than with ratios) which increases its rigor. And, it has some thresholds that are built in. A nice feature of the credit debit tool is that it can be completed in a morning compared to WAFAM, which can take up to two days in the field to be accurate. The rating system is more widely used over WAFAM and most cities and counties have incorporated the rating system into their codes. The accuracy of a WAFAM assessment is going down because trainings are no longer being offered.

Currency = acre-points. Debits: acre-points of the function lost in the wetland being impacted. Credits: acre-points of functions gained through mitigation.

Debits (Impact Site): Functions (before impact) x acreage of impact x temporal loss factor
Credits ("Lift" from Mitigation): Functions (after mitigation) – functions (before mitigation) x acreage of mitigation x risk factor

Are you assuming that the whole site is impacted? Assuming the functions lost over the area that's being impacted. If you have a 1 ac wetland and filling the whole thing, you wouldn't have function left on the site. If you have a 1 ac wetland and filling ½ - the credit debit tool will calculate the debits for the 1/2 acre being lost, but the tool does not address indirect impacts.

The questions are based on: Site potential, landscape potential, and value to society. The

ratios are essentially the temporal loss.
Is there any proposed methodology to capture options - to ensure consistency? Yes, there is guidance that staff uses to determine numbers. This doesn't address indirect, secondary, and cumulative effects that come in to play for a 404. How is King County (KC) addressing this? In almost every case we had to alter the numbers, but this tool was used as a starting point and then best available science/best professional judgment on top of that. The tool may not pick up a small impact.

Calculating Debits - The temporal loss of function is the most variable. In Ecology's Guidance (2004), the ratio for temporal loss = 1.5:1 (no change, if concurrent). There is some temporal loss that is already built in to this ratio.

Concurrent = the mitigation should be done at the same time as the impact. Usually, the concurrent mitigation may not happen until 1+ years after the impact.

Category 1 wetlands are determined in many ways. One example of a Cat I is a mature forested wetland. This type of wetland cannot be replaced in our lifetime, so impacts should be avoided as much as possible.

Where did 2 and 5 year thresholds come from? It comes from Corps and Ecology guidance. What if it were 6 years? When would you increase the ratio? It is slightly arbitrary. I know with concurrent, if it isn't built within 1 year than it's considered delayed. Is it due to Corps permitting years? It's based on a number of items: enforcement timeframe, permitting timeframes, standard length of time for planting, plants selected, monitoring hydrology, etc. Are the ratios set or are they flexible? The ratios are based on site specific information – it's a starting point. The tool is guidance, not a rule.

Emergent vs. shrub – getting hydrology right for emergent and having that set in this guidance it seems that there should be a little more on this.

Basic credits = increase in score. [Score after 10-20 years – score before]. Calculating credits – modifier – risk of failure a "discount" on the credits. Newer data – risk of failure is reduced. Result – credit/debit method uses basic ratio of 1.5:1.

The .80 ratio means it meets the criteria and hasn't been specified in a watershed plan.

Calculating credits – risk of failure modifier includes site selection. Specific risk factors are noted in the charts which are referenced in the tool. If more information is needed, you can go to those referenced charts. Linda would like an explicit list on what's calculated in the risk factors for the credits and the debits. You may want to provide this information in the ILF instrument.

What is already written in Tom's guidebook? The document is basically the rating system with additional information. KC is adopting the tool and providing it within the appendix to their instrument. These are the risk factors that we included. It would be

nice to have a bulleted list of the risk factors included for each site. Good to have this information in the mitigation plan.

Everyone on the IRT needs to be comfortable with the credit debit tool. Review the tool and provide specific questions regarding the PSP ILF project. Right now, there are so many gaps for the IRT - we need to get more familiar with it as time goes on.

The Credit Debit Tool is guidance:

- Like ratios, the scores from the tool provide a starting point.
- May be site-specific factors on debit or credit end that the tool doesn't capture.
- Do not want tool to drive the design.

*Examples*
Larchmont Wetland Reserve
There will be house removal in upper and lower corners of this site.

Before Mitigation

| Proposed Rating of unit **before** mitigation | Improving Water Quality | Hydrologic | Habitat |
|---|---|---|---|
| Site potential | M | M | M |
| Landscape potential | H | H | L |
| Value | H | H | H |
| SCORE | 8 | 8 | 6 |

After Mitigation

| Proposed Rating of unit **after** mitigation | Improving Water Quality | Hydrologic | Habitat |
|---|---|---|---|
| Site potential | H | H | H |
| Landscape potential | H | H | L |
| value | H | H | H |
| SCORE | 9 | 9 | 7 |

Proposed Credits for Created wetlands

| | Improving Water Quality | Hydrologic | Habitat |
|---|---|---|---|
| Rating of unit **after** mitigation | 9 | 9 | 7 |
| Acres created or re-established | 1.5 | 1.5 | 1.5 |
| Basic mitigation credit | 13.5 | 13.5 | 10.5 |
| Risk factor | .9 | .9 | .9 |
| CREDITS | 12.15 | 12.15 | 9.45 |

The higher the risk on the site, the lower the amount of credits received. How did you lift

the functions at the site for hydrology and water quality? The increased function is based on the design. These are just examples. The IRT will discuss more details on the design. Quick details on the design: Improving WQ - increasing portion of the site that is ponding seasonally. Increase Hydrology - increasing depth of live storage during flood events. Increasing Habitat - adding thin stemmed vegetation in the seasonally ponded areas.

Proposed credits for Enhanced wetlands

| | Improving Water Quality | Hydrologic | Habit |
|---|---|---|---|
| Rating of unit After mitigation | 9 | 9 | 7 |
| Rating of unit Before mitigation | 8 | 8 | 6 |
| Increase in score A-B | 1 | 1 | 1 |
| Acres rehabilitated or enhanced | 12.2 | 12.2 | 12.2 |
| Basic mitigation credit | 12.2 | 12.2 | 12.2 |
| Risk factor | .9 | .9 | .9 |
| Credits | 10.98 | 10.98 | 10.98 |

Is there a min. size for creation or enhancement [in the functional lift] that would increase the amount of credits? We're increasing the water quality function by enlarging the seasonally ponded areas.

There are no thresholds set in the guidance. A small site may be too much work and too costly to be worthwhile. These areas probably wouldn't be used because of the economic threshold. Small sites wouldn't be economically viable. On the debit end, there is no threshold. ILF is a good option for mitigating small impact sites.

Proposed total credits by function

| | Improving Water Quality | Hydrologic | Habitat |
|---|---|---|---|
| Acre-points | 23.13 | 23.13 | 20.43 |

**Proposed** total credits for the project: 66.69

Can you get credit for newly created area(s) within a buffer - even if its not wetland? You could make the case, but the general understanding is that the minimum buffer wouldn't generate credit. The buffer width can be negotiated on a site-by-site basis. But, it needs to be demonstratively protective.

The Larchmont site has wetlands to the road. We get credit for the lift to the wetland, but not the actual acreage of wetland in the buffer area. The buffer receives indirect credit. Essentially, because there is a buffer in place - the wetland itself receives more credits.

Note: If you have a bare buffer, the expectation is that you would plant within that area to provide a functioning buffer. In answering the credit debit tool questions, we should be thinking about the site conditions. Does it make sense? The ratios are based on the assumption that in the end there will be functional, self-sustainable wetlands.

Example wetland impact (debit): Bethel School District
Impact to an isolated wetland – filled wetland to create a ballfield.

Before impact, Cat IV pasture

| | Improving WQ | Hydrologic | Habitat |
|---|---|---|---|
| Site potential | M | L | L |
| Landscape potential | H | H | M |
| Value | L | L | L |
| **Score for wetland unit** | **6** | **5** | **4** |

Debits resulting from impact, Cat IV pasture. Delayed mitigation.

| | Improving WQ | Hydrologic | Habitat |
|---|---|---|---|
| Score for wetland unit | 6 | 5 | 4 |
| Acres of non-forested areas impacted | 1.5 | 1.5 | 1.5 |
| Basic mitigation requirement | 9 | 7.5 | 6 |
| Temporal loss factor (delayed) | 3 | 3 | 3 |
| **Debits** | **27** | **22.5** | **18** |

Before impact, Cat IV pasture. Concurrent.

| | Improving WQ | Hydrologic | Habitat |
|---|---|---|---|
| Score for wetland unit | 6 | 5 | 4 |
| Acres of non-forested areas impacted | 1.5 | 1.5 | 1.5 |
| Basic mitigation requirement | 9 | 7.5 | 6 |
| Temporal loss factor concurrent | 1.5 | 1.5 | 1.5 |
| **Debits** | **13.5** | **11.25** | **9** |

Before impact, Cat IV pasture. Advance.

| | Improving WQ | Hydrologic | Habitat |
|---|---|---|---|
| Score for wetland unit | 6 | 5 | 4 |
| Acres of non-forested areas impacted | 1.5 | 1.5 | 1.5 |
| Basic mitigation requirement | 9 | 7.5 | 6 |
| Temporal loss factor concurrent | 1.25 | 1.25 | 1.25 |
| **Debits** | **11.25** | **9.375** | **7.5** |

Comparing Debits to Credits

Debits with DELAYED temporal loss factor: 67.5 total acre-points or

- 27 acre points Water Quality
- 22.5 acre points hydrologic
- 18 acre points for habitat

Proposed Credits for Larchmont: 66.69 total acre points or

- 23.13 acre points Water Quality
- 23.13 acre points hydrologic
- 20.43 acre points habitat

The Federal rule covers all types of mitigation: concurrent, ILF, and banking. Are we going to use the tool for all types of mitigation? The tool will be rolled out slowly. This tells us that we should be looking closely at the ratios we're giving. Imposing requirements of the federal rule on all types of mitigation will be handled on a district-by-district basis. In order for ILF to work all types of mitigation must be governed the same and held to the same standards.

The credit debit tool shows that we have over valued enhancement in the past. The actual cost of mitigation highly varies depending on the site. King County ranges between $600K-$1.6M per credit. Getting the land is only one piece of the cost for the mitigation. Acquiring mitigation sites isn't always easy. Sometimes, the right mitigations site locations are not up for sale. The IRT is concerned that the price for the mitigation is too high. In the future, there may be competition between sponsors and who has the lower price. Until we have a good handle on why it's costing so much, it will be difficult to explain. It would be good to see what is included within the mitigation costs. Are they just including construction? We need to ensure that the ILF credit sales generate enough money to actually build the mitigation projects. KC has informed developers that question the price of their credits - that credit purchase is a voluntary choice. However, when they look at doing the mitigation themselves the cost may be higher – if they are held to the same requirements as the other mitigation options (ILF and banking).

Unfortunately, there is not enough staff to follow up on all mitigation sites. Cost(s) can be a factor for a permit applicant to not follow the mitigation hierarchy stipulated in the federal rules. If the applicant can demonstrate that they can do the mitigation on their own, they may be allowed to do so – even if they are within a bank's or ILF program's SA.

The credit debit tool should be reviewed without thought to mitigation cost.

*Michael Murphy, Annette Pearson, and Chris Townsend left the meeting.*

**Lunch Break**

**Credit Tracking**
Refer to Appendix B. Credit Tracking Ledger attached as Appendix C.

*Type of credit*

Universal Credit

Pros:

- Don't have to worry about using up all WQ credits and then not having any left for a future impact project
- Easier for users to understand and apply
- Decouples the impact from the compensatory mitigation. As long as you've got credits, you can sell them.

Cons:

- Harder to address if the ILF is addressing no net loss.

Why would you separate it, if you're going to lump it later? Don't want to go through the math, if the credits are going to be lumped later on. It's not total replacement, it's the big picture. Selecting the site by watershed needs may help with ensuring in-kind mitigation. This isn't happening any better right now. Do some of the functions cost more than others to compensate for? Yes.

Function specific (buckets):

Pros:

- Transparent in tracking
- Easier to parse out mitigation requirements i.e., listed species
- Regulatory agencies may require function to function replacement

Cons:

- Harder for users to understand
- Higher probability of calculation/mathematical errors
- Running out of one bucket and a surplus in others

If you're going to a bank or ILF, it's already off-site, and then potentially out-of-kind. The sites should already be selected by looking at the types of impacts in the area. Each jurisdiction may have specific buckets that are more important to them.

PSP is proposing to use universal credits to make it easier for users to understand. However, they would still track the credits by the three separate buckets. This information would be used to help determine location for future mitigation sites. With this option, one of the costs seems to be tracking data. If PSP is using the universal credits – someone still needs to track the buckets. It all adds up. Just track the universal and keep the administrative costs down. PSP would prefer to keep as much flexibility as possible. Down the road, tracking the separate buckets will be good to show the success of the program. They could show there isn't a loss in any of the functions.

You already start with the separate buckets - that is how it's built. The data is there. The universal credit is just one more step. We want the ILF program to work. If you're tracking by buckets, but not allowing to draw down by buckets, as needed – it may not work. Keep the flexibility, but track the information. The federal rule requires tracking of function and the gains. The credit debit tool already lumps functions into only 3 buckets – WAFAM has 15 functions. Linda wants to see the data for the separate buckets.

How far do you go into the 'red' with one function before you take action? If we don't track it, we won't know how well (or not) that we're compensating for function in the future. Possibly specify in the instrument to assess the functions used vs functions gained and then what/when do we do something about discrepancies? If its going to work – keep accounting of different types of impacts, you could focus your acquisition to compensate for those credits not previously mitigated. You're asking people to pay a lot of money for credits that don't actually cover all of the functions lost.

KC started with universal credits, but received lots of comments regarding no net loss issues. The PSP ILF program will have a multitude of sites, but at some points in the process it may operate in the 'red' with the differing functions. Does KC go into the 'red'? Yes, but the next site will try to replenish that bucket.

Linda – as long as it's transparent, she's OK with a universal credit, but very wary. She's obligated to comment on processes that she doesn't feel meet the federal rule tracking requirement. She thinks it is important to track by function. Are you allowing by watershed or project by project? Watershed. Others felt it should be project by project.

We may be missing or losing one function, while we're focusing on another function. The IRT has the opportunity to approve/decline the next site proposed. One of the goals of the ILF program is to focus on the watershed. In cases where the functions can't completely be compensated for by the ILF project, the permittees could be required to provide additional compensation on-site for those lacking functions. Remember that the science is always being updated. We should continually monitor the program, just to keep up. We should try not to go into the red with any function.

*Rich Doenges left the meeting.*

We may lose out by using a universal credit. By selling a universal credit, but tracking by the bucket – a permittee would not even know that they were buying 'habitat' credits, for example. We won't always be operating in the red. The sponsor would be responsible for ensuring that the buckets are in the black as much as possible. The IRT would be involved in future site selection. It's a big change in mind set for some jurisdictions.

Current mitigation tactics are reactive – this approach is more proactive. No mitigation site can compensate for everything. It makes sense to paint the bigger picture. Realizing that functions lost can be monitored and possibly compensated for with the next site. Using numerous sites has a better potential to compensate for mitigation needs. It's a more planned approach. You have three years to build the mitigation for an impact. If you are currently in the red, you would have 3 years to purchase the next site. If you have a suite of sites to choose from, you can select the site that compensates for the lacking function. KC has a lot of sites to choose from and that will make it easier to compensate for individual buckets.

What if no one buys credits? What if the ILF program is in the red, and we don't have enough money (credits sold) to actually buy a new site? In that scenario, future impacts shouldn't be authorized by the regulatory agencies.

ACTION: Bob, Dave, and Karla – let Patricia know if you would like to see more information to be able to make a decision on this topic [credit tracking, type of credit].

What if a large detention pond is proposed to compensate for hydrology and the land is cheap? Remember, the IRT needs to approve future sites and the mitigation plan for those sites. There should be a limit to how far an ILF program can go into 'the red' within the instrument. Also, have the repercussions/enforcement actions specified in the instrument. We don't want to compromise a good mitigation plan or good site to just be 'tool zombies'.

**Credit Release**
Refer to Appendix B

The process of the achievement of milestones (performance standards) and receipt of credits per the credit release schedule.

The IRT will have an opportunity to review and provide comment on the following processes - future sites, the mitigation plan(s), proposed number of credits for that site, length of the monitoring period, what will be monitored, the number of credits released for milestone achievement. Members of the IRT could also attend site visits to verify achievement of the milestones.

Advance credits would be fulfilled first. Advance credits = credits released prior to completion of mitigation.

An example credit release schedule was provided by Patricia. This schedule was based on KC's release schedule. PSP would make a request for advance credits, but this credit release would need to be approved by the IRT.

PSP would also like to have the South Midland site as part of this process. This site would get more credits because there is a lower risk factor (because it's already built). Depending on timing of when an impact project is proposed, they may fall under the advance credits or they may fall under the delayed credits. Pre-cap credits happen prior to an impact.

Mitigation receiving site constructed

- As built plan/report submitted and approved
- Completion of construction, planting (phases), etc.

Achievement of PS

- Hydrology, vegetation, and function.
- Completion of wetland delineation (years 5 and 10).
- Completion of credit debit tool
- Close out process and site entering Long Term Maintenance and Management (LTMM) phase.

What's the motivation of switching to the LTMM phase? It's the sponsor's responsibility to ensure the mitigation adequately compensates for the impacts, that they are meeting the performance standards, etc. Additional credits won't be released until performance standards are met. There will be an endowment fund established which goes towards the LTMM and money is deposited from each credit sale.

The money received from sale of advance credits can be taken back by the Corps, if no mitigation site is built (non-performance). The credit release schedule is based on the credits received for mitigation that is built.

Right now, Ecology is asking for 10 yrs of monitoring for concurrent mitigation. To ensure a level playing field between concurrent and ILFs, we need to bring up the bonds, etc.

Credits pending/proposed – Larchmont.

Credits earned or released = Credits received by the sponsor for achievement of performance standards, these credits are available for sale or use.
What happens if the 10 yr monitoring shows lack of achievement? The monitoring may be extended or fewer credits may be released.

Advanced credits - credits can be received before projects are in the ground. Need an approved mitigation report before credit release.

Parking lot items - discuss in the future:

- Credit receipt at calendar year or at actual performance standard achievement.
- Provide examples and impact scenarios to help with understanding of credits.

Action: Patricia - send out key decision documents prior to next meeting - use of tool, credit tracking, and credit release.

We are trying to meet one time per month to discuss the PSP ILF program. We will have a meeting in March, April, and May.

What's the schedule for an approved instrument? We would come to decisions within these IRT meetings. And, possibly by the end of May PSP would have an instrument presented to the IRT for their review.

**Attendees of February 23 IRT Meeting on PSP ILF Program**

| Name | Agency/Representing | Email |
|---|---|---|
| Patricia Johnson | Puget Sound Partnership (PSP) | patricia.johnson@psp.wa.gov |
| Brad Murphy | Ecology | bmur461@ecy.wa.gov |
| Yolanda Holder | Ecology | yhol461@ecy.wa.gov |
| Michael Murphy | King County | Michael.murphy@kingcounty.gov |
| Chris Townsend | PSP | chris.townsend@psp.wa.gov |
| Karla Kluge | City of Tacoma | kkluge@cityoftacoma.org |
| Dave Risvold | Pierce County Planning | DRisvol@co.pierce.wa |
| Hans Hunger | Pierce Co. Public Works and Utilities (SWM) | hhunger@co.pierce.wa.us |
| Kim Harper | U.S. Army Corps of Engineers | Kimberley.a.harper@usace.army.mil |
| Annette Pearson | Pierce Co. Public Works | appears@co.pierce.wa.us |
| Ann Boeholt | Pierce Co. SWM | aboehol@co.pierce.wa.us |
| Glen St. Amant (on-phone) | Muckleshoot Indian Tribe | |
| Alison O'Sullivan (on-phone) | Suquamish Tribe | |
| Linda Storm | EPA | storm.linda@epa.gov |
| Bob Warinner | WDFW | Robert.warinner@dfw.wa.gov |
| Rich Doenges | Thurston County | doenger@co.thurston.wa.us |

# Appendix A

## *Calculating Credits and Debits for Compensatory Mitigation in Wetlands of Western Washington*

# Calculating Credits and Debits for Compensatory Mitigation in Wetlands of Western Washington

Thomas Hruby
Washington State
Department of Ecology

# Tool to improve wetland mitigation

- Compares the functions and values lost to those proposed
- Based on the Washington State Wetland Rating System for western Washington
- Incorporates new concepts for analyzing wetlands

# The Credit/Debit Method provides the same level of scientific rigor as the Wetland Rating System.

# Three wetland functions that are valuable to society are scored

Improving water quality

Flood storage and flow reductions

Habitat for plants and animals

# Score based on a qualitative rating of:

- The potential of the site to provide the function
- The potential of the landscape to maintain each function at the site scale
- The value each function may have for society

# Scoring based on qualitative ratings of 3 aspects of function

H,H,H = 9

H,H,M = 8

H,H,L = 7

H,M,M = 7

H,M,L = 6

M,M,M = 6

H,L,L = 5

M,M,L = 5

M,L,L = 4

L,L,L = 3

# Gains and losses estimated by multiplying the score by the area

Currency is called **acre-points**

| Habitat score | | Acres of impact | | Acre-points |
|---|---|---|---|---|
| 6 | x | 0.5 | = | 3 |

# Debits and Credits

Debits: acre-points of the functions lost in the wetland being impacted

Credits: acre –points of functions gained through mitigation

# Calculating **Debits** (Impact Sites)

[ Functions (before impact) ] **X** [ Acres ] **X** [ Temporal Loss Factor ]

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# Calculating **Credits** ("Lift" from Mitigation)

[ Functions (After mitigation) - Functions (before mitigation) ] **X** [ Acres ]

**X** [ Risk Factor ]

# Calculating Debits

Modifier:

Temporal loss of function

Ecology guidance (2004)

Ratio for temporal loss = 1.5:1

(no change, if concurrent)

# Temporal Loss Factor

| Timing of Mitigation | Temporal Loss Factor |
|---|---|
| **Advance** – At least two years has passed since plantings were completed or one year since "as-built" plans were submitted to regulatory agencies | 1.25 |
| **Concurrent** – Physical alterations at mitigation site are completed within a year of the impacts, but planting may be delayed by up to 2 years if needed to optimize conditions for success. | |
| For impacts to an emergent or shrub community | 1.5 |
| For impacts to a deciduous forested wetland community | 2.0 |
| For impacts to an evergreen forested wetland community | 2.5 |
| For impacts to a deciduous Category I forested wetland community | 3 |
| For impacts to an evergreen Category I forested wetland community | 3.5 |
| **Delayed -** Construction is not completed within one year of impact, but is completed (including plantings if required) within 5 growing seasons of impact. | |
| For impacts to an emergent or shrub community | 3 |
| For impacts to a deciduous forested wetland community | 4 |
| For impacts to an evergreen forested wetland community | 5 |
| For impacts to a deciduous Category I forested wetland community | 6 |
| For impacts to an evergreen Category I forested wetland community | 7 |

# Calculating Credits

## Basic Credits = Increase in Score

[Score after 10-20 years – Score before]

Creation : Score before = 0

Re-establishment: Score before = 0

Rehabilitation: Score before = (from form)

Enhancement: Score before = (from form)

# Calculating Credits

## Modifier - Risk of Failure

A "discount" on the credits

Earlier studies - 1/2 of mitigation projects failed.

Result – Policy to require basic mitigation ratio of 2:1 (Ecology 2004)

Newer data – risk of failure is reduced

Result – Credit/Debit method uses basic ratio of 1.5:1

| Type of Mitigation | Risk Factor |
|---|---|
| **Advance mitigation**<br>The site meets **criteria in Charts 1 and 3** of the site selection guidance [i.e. identified in a local plan and is sustainable] **AND** meets the **criteria in Charts 4-11** for the appropriate functions. (Ecology publication #09-06-032)<br>***Advance*** *means that at least two years has passed since plantings were completed or one year since "as-built" plans were submitted to regulatory agencies.* | 1.0 |
| Advance mitigation without meeting criteria in Ecology publication #09-06-032 | 0.83 |
| **Concurrent Mitigation**<br>Mitigation site meets **criteria in Charts 1 and 3** of the site selection guidance [i.e. identified in a local plan and is sustainable]<br>**AND** meets the **criteria in Charts 4-11** for the appropriate functions.<br>(All worksheets for Chart 3 and in Appendix D of Ecology publication #09-06-032 are submitted)<br>*Risk factor applies to all types of mitigation.* | 0.9 |
| Mitigation site chosen meets the **criteria in Charts 2 and 3** of the site selection guidance [i.e. identified as a site with potential and that is sustainable] ;<br>**AND** meets **criteria in Charts 4-11** for the appropriate functions.<br>(All worksheets for Chart 3 and in Appendix D of Ecology publication #09-06-032 are submitted)<br>*Risk factor applies to all types of mitigation.* | 0.80 |
| *Site does not meet criteria in site selection guide, or guide was not used.* | |
| **Re-establishment, rehabilitation, or enhancement** of an aquatic bed, shrub, or forest community | 0.67 |
| **Re-establishment, rehabilitation, or enhancement** of an emergent community | 0.5 |
| **Creation** of an aquatic bed, shrub, or forest community with data showing there is adequate water to maintain wetland conditions 5 years out of every 10. | 0.67 |
| **Creation** of an emergent community with data showing there is adequate water to maintain wetland conditions 5 years out of every 10. | 0.5 |
| **Creation** of an aquatic bed, shrub, or forest community <u>without</u> adequate hydrologic data. | 0.5 |
| **Creation** of an emergent community <u>without</u> adequate hydrologic data. | 0.4 |

# Credits Through Preservation

Best ratio: ~ 4:1 (WSPI guidance)

Wetlands – Based on score for functions and:

- Wetland Category
- Location
- Risk

Uplands – [Habitat points only] based on :

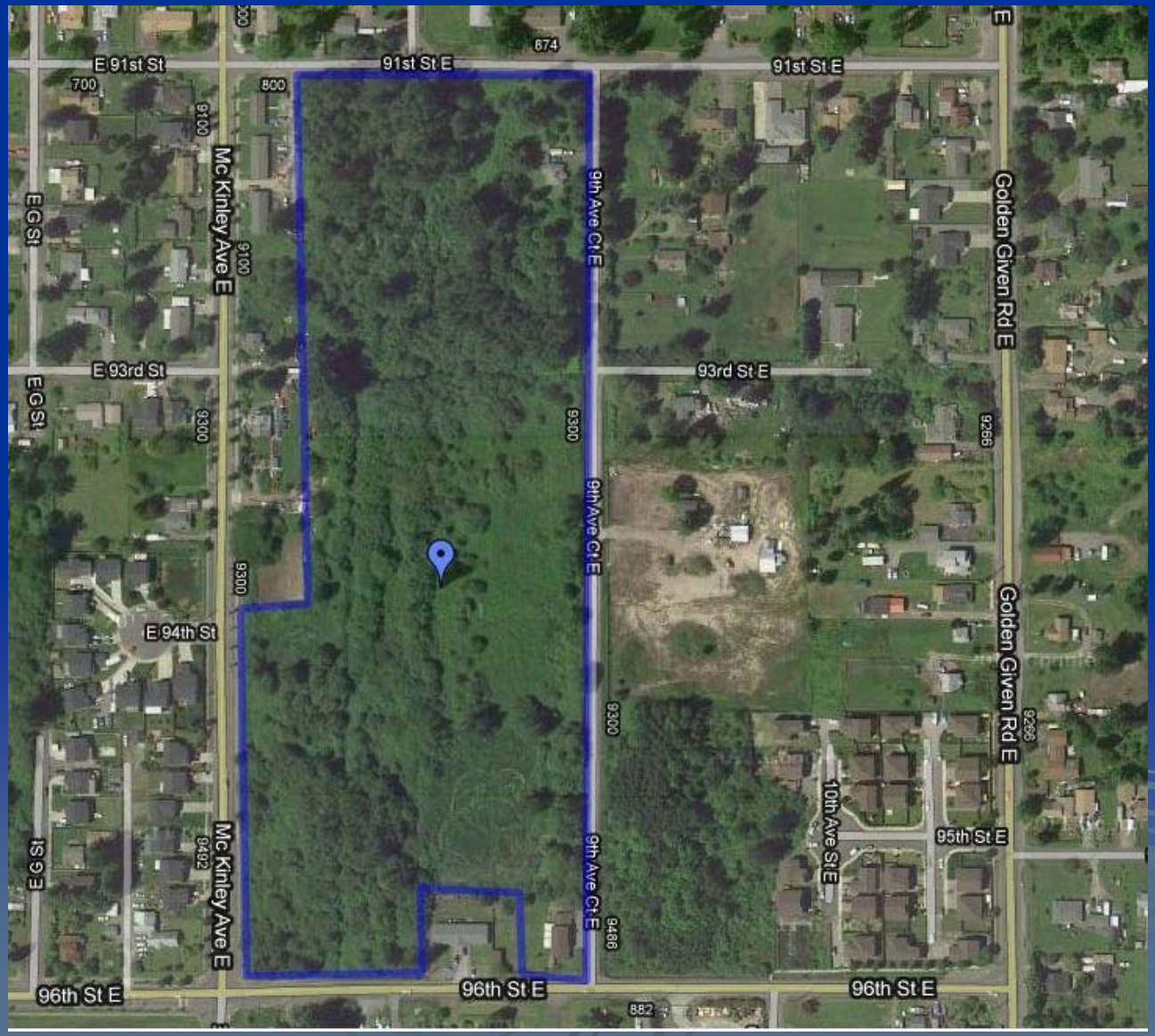
- Type of Habitat
- Connections
- Location
- Threat

A mitigation project is usually deemed adequate when its Credit scores for the three functions are equal to or higher than the Debit scores for the impacts.

# Credit – Debit Tool is Guidance

- Like RATIOS, the SCORES from the Tool provide a STARTING POINT
- May be site-specific factors on debit or credit end that the Tool does not capture
- Do not want Tool to drive the design

# Example ILF Mitigation-Receiving Site: Larchmont Wetland Reserve



# Larchmont Wetland Reserve : Rating of Unit **BEFORE** mitigation

| Rating of Unit BEFORE mitigation | Improving Water Quality | Hydrologic | Habitat |
|---|---|---|---|
| Site Potential (H,M,L) | M | M | M |
| Landscape Potential (H,M,L) | H | H | L |
| Value (H,M,L) | H | H | H |
| **Score** | **8** | **8** | **6** |

# Larchmont Wetland Reserve : **PROPOSED** Rating of Unit **AFTER** mitigation

| Rating of Unit AFTER mitigation | Improving Water Quality | Hydrologic | Habitat |
|---|---|---|---|
| Site Potential (H,M,L) | H | H | H |
| Landscape Potential (H,M,L) | H | H | L |
| Value (H,M,L) | H | H | H |
| **Score** | **9** | **9** | **7** |

# Larchmont Wetland Reserve: PROPOSED credits for CREATED wetland areas

| | Improving Water Quality | Hydrologic | Habitat |
|---|---|---|---|
| Rating of Unit **AFTER** mitigation | 9 | 9 | 7 |
| Acres **CREATED** or re-established | 1.5 | 1.5 | 1.5 |
| Basic mitigation Credit | 13.5 | 13.5 | 10.5 |
| Risk Factor | 0.9 | 0.9 | 0.9 |
| **CREDITS** | **12.15** | **12.15** | **9.45** |

# Larchmont Wetland Reserve: PROPOSED credits for ENHANCED wetland areas

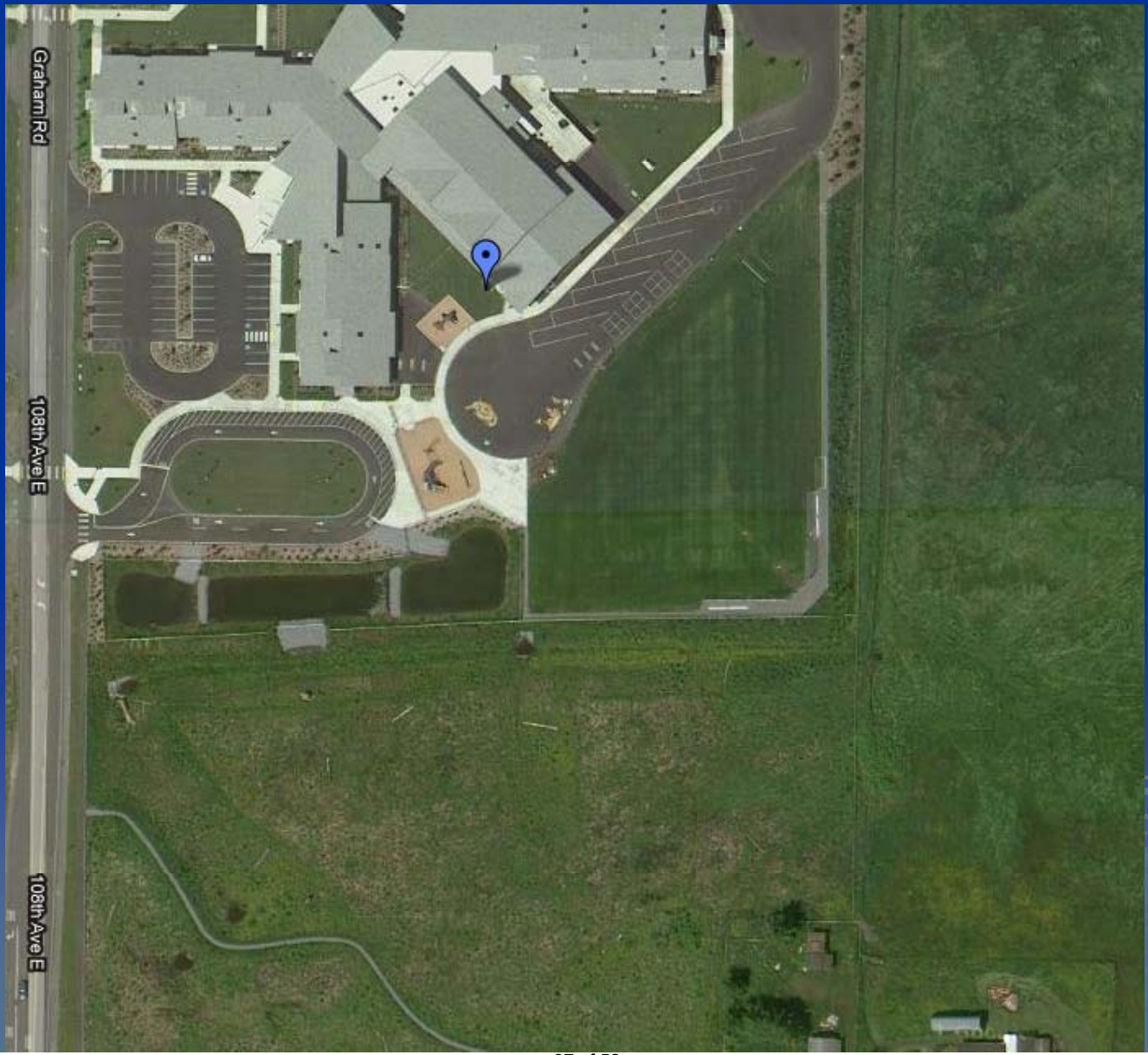
| | Improving Water Quality | Hydrologic | Habitat |
|---|---|---|---|
| Rating of Unit **AFTER** mitigation | 9 | 9 | 7 |
| Rating of Unit **BEFORE** mitigation | 8 | 8 | 6 |
| Increase in Score **(A-B)** | **1** | **1** | **1** |
| Acres rehabilitated or enhanced | 12.2 | 12.2 | 12.2 |
| Basic mitigation Credit | 12.2 | 12.2 | 12.2 |
| Risk Factor | 0.9 | 0.9 | 0.9 |
| **CREDITS** | **10.98** | **10.98** | **10.98** |

# Larchmont Wetland Reserve: **PROPOSED** Total Credits by Function

| | Improving Water Quality | Hydrologic | Habitat |
|---|---|---|---|
| Acre-points | 23.13 | 23.13 | 20.43 |

## **PROPOSED** Total Credits for the Project: 66.69

# Example Wetland Impact (Debit): Bethel School District



# Bethel School District Wetland: Rating of Unit **BEFORE** impact

| | **Improving Water Quality** | **Hydrologic** | **Habitat** |
|---|---|---|---|
| Site Potential (H,M,L) | M | L | L |
| Landscape Potential (H,M,L) | H | H | M |
| Value (H,M,L) | L | L | L |
| Score for Wetland Unit | 6 | 5 | 4 |

# Bethel School District Wetland: **DEBITS** Resulting from impact **DELAYED** Mitigation

| | Improving Water Quality | Hydrologic | Habitat |
|---|---|---|---|
| Score for Wetland Unit | 6 | 5 | 4 |
| Acres of **non-forested** areas impacted | 1.5 | 1.5 | 1.5 |
| Basic mitigation requirement (BMR) | 9 | 7.5 | 6 |
| **Temporal loss factor (Delayed)** | **3** | **3** | **3** |
| **DEBITS** | **27** | **22.5** | **18** |

# Bethel School District Wetland: **DEBITS** Resulting from impact **Concurrent** Mitigation

| | Improving Water Quality | Hydrologic | Habitat |
|---|---|---|---|
| Score for Wetland Unit | 6 | 5 | 4 |
| Acres of **non-forested** areas impacted | 1.5 | 1.5 | 1.5 |
| Basic mitigation requirement (BMR) | 9 | 7.5 | 6 |
| **Temporal loss factor (Concurrent)** | **1.5** | **1.5** | **1.5** |
| **DEBITS** | **13.5** | **11.25** | **9** |

# Bethel School District Wetland: **DEBITS** Resulting from impact **Advance** Mitigation

| | Improving Water Quality | Hydrologic | Habitat |
|---|---|---|---|
| Score for Wetland Unit | 6 | 5 | 4 |
| Acres of **non-forested** areas impacted | 1.5 | 1.5 | 1.5 |
| Basic mitigation requirement (BMR) | 9 | 7.5 | 6 |
| **Temporal loss factor (Concurrent)** | **1.25** | **1.25** | **1.25** |
| **DEBITS** | **11.25** | **9.375** | **7.5** |

# Bethel School District Wetland: Total **DEBITS** Resulting from Impact

- DELAYED = 67.5 acre points
- CONCURRENT = 33.75 acre points
- ADVANCE = 28.125 acre points

# Comparing Debits to Credits

- Debits with **DELAYED** Temporal Loss Factor:

  67.5 total acre points OR

  - 27 acre points for Water Quality
  - 22.5 acre points for Hydrologic
  - 18 acre points for Habitat

- **PROPOSED** Credits for Larchmont:

  66.69 total acre points OR

  - 23.13 acre points for Water Quality
  - 23.13 acre points for Hydrologic
  - 20.43 acre points for Habitat

# Appendix B

## *Credit Tracking and Release*

## Credit Tracking

### Types of Credit

- Universal Credit – Lumps acre-points for each function bucket into one "credit" score *(use example for SMWR or Larchmont)*
    - Pros:
        - Do not have to worry about using up all credits in one of the function buckets and ending up with "extra" credits in another function bucket.
        - Easier for users of the ILF program (permittees, their consultants, permitting staff) to understand and apply.
        - Decouples the impact from the compensatory mitigation, thereby allowing the mitigation-receiving site to target the highest priority sites within the watershed, rather than having the selection and design of mitigation receiving sites be driven by a 1 for 1 accounting of lost functions.
    - Cons:
        - Loss of flexibility for permittees that provide some on-site compensation for a specific function(s).
        - Harder to determine if the ILF program is addressing no net loss of ecological functions.
- Function-Specific Credit – Acre-points for each of the function buckets (Water Quality, Hydrologic Function, Habitat Function) are kept separate resulting in a 3-part credit score
    - Pros:
        - More transparent tracking of functions lost and functions gained; easier to determine if no net loss of functions is being met.
        - Facilitate parsing out mitigation requirements. For example, compensation for some functions may be required on-site (e.g., critical habitat, flow control, water quality treatment). Any remaining debits to functions could use ILF Program.
        - Regulatory agencies may require function for function replacement.
    - Cons:
        - Harder for users to understand and apply.
        - More likely to result in credit accounting errors.
        - May run out of credits in a specific function bucket before all debits have been addressed, but still have a surplus of credits in another function bucket.

**PSP proposes to use universal credits**

Credit Tracking Process

- PSP proposes to keep track of debits and credits in function buckets, but credit withdrawals would be from one universal bucket.
- See credit tracking ledger (spreadsheet)

Credit Release and Fulfillment

What is it?

- Process by which mitigation-receiving sites are designed, constructed, maintained, and monitored to ascertain if the site is meeting performance standards and functioning as proposed.

- Based on achievement of specific milestones during the short-term, regulatory monitoring period (~10 years), a portion of the proposed total credits for the site would be released.

- The specific milestones and the proportion of credits released will be identified in a credit release schedule.
- The IRT will review and have approval authority over multiple aspects of process including:
    - Selection of future mitigation-receiving sites
    - Mitigation-receiving site design
    - Proposed total credits (credit determination)
    - Performance standards, monitoring period, and protocols
    - Project milestones
    - Portion of credits released at each milestone
- Before any credits are officially released, it is assumed the IRT will perform site visits to confirm that the agreed upon milestone has been adequately completed.

- The ILF program will use the released credits to first fulfill the mitigation obligation from the sale of any advanced credits then for direct sale to compensate for wetland impacts (pre-capitalization mitigation-receiving sites).

    - Advance credits

        - Credits from an approved ILF program that are available for sale **prior** to being fulfilled in accordance with an approved mitigation project plan. **Impacts happen first.**

        - Sale of Advance Credits requires an approved ILF program instrument that meets all applicable requirements including **a specific allocation of advance credits**, by service area where applicable. The instrument must also contain a schedule for fulfillment of advance credit sales.

    - Pre-Capitalization Credits

        - Credits from an approved ILF program that are released from an approved mitigation-receiving site and available for sale prior to impacts occurring. **Mitigation happens first.**

        - Proposed Credits – total credits (combined potential acre-points for all three functions) that should result from the gain in functions at the mitigation-receiving site based on the approved design.

        - Achieved/released Credits – credits resulting from the achievement of performance standards/milestones, the demonstrated gain in functions, or both.

Process for Release

- Milestones

    - Acquisition of mitigation receiving site by ILF program sponsor (or other qualified government or not-for-profit entity), site protection mechanism in place, or both

    - Mitigation-Receiving site constructed

        - As-Built plan/report submitted and approved

        - Completion of planting, particularly if done in phases (i.e., underplantings)

    - Achievement of performance standards

        - Hydrologic Standard (years 1-10) – at a minimum indicating that the site has a water regime that will support wetland conditions. Standard could also focus on if the water regime for the site is as proposed.

        - Vegetation standards (years 3-10) – survival (typically used in year 1), stem density (years 3-5), areal cover (years 5-10), acreage of vegetation communities (years 5-10), diversity

        - Function- based performance standards, such as acreage and duration of inundation regimes, depth of water storage, number of vegetation communities

        - Completion of wetland delineation (years 5 and 10)
        - Completion of credit calculation to determine if proposed gain in functions was achieved (year 10)
    - IRT signs off that the mitigation-receiving site has met all performance standards and the short-term regulatory monitoring period may be "closed-out." Mitigation-receiving site enters long-term maintenance and monitoring phase.

- How much to Release When (See example credit release table)

EXAMPLE CREDIT RELEASE SCHEDULE

| **Proposed Project Milestone** | **Portion of Credit Released** | **Cumulative Portion of Fulfillment** |
|---|---|---|
| Site acquisition by sponsor or site protection mechanism in place (mitigation-receiving site plan approved by IRT) | 1/8 | 1/8 |
| Installation (approval of As-Built) | 1/8 | 1/4 |
| Year 1 performance standards achieved (primarily hydrologic) | 1/8 | 3/8 |
| Year 3 performance standards achieved | 1/8 | 1/2 |
| Year 5 performance standards achieved | 1/8 | 5/8 |
| Year 7 performance standards achieved | 1/8 | 3/4 |
| Year 10 performance standards achieved (including delineation running credit debit tool) and transition to long-term stewardship (IRT sign-off on achievement of performance standards) | 1/4 | Credit fulfilled |

# Appendix C

## *Credit Tracking Ledger*

# CREDIT LEDGER

**Chambers-Clover Service Area Summary** *Current as of:* *15-Mar-11*

**Credits Balance Sheet**

| | Water Quality Credits | Hydrology Credits | Habitat Credits | TOTAL CREDITS | Notes |
|---|---|---|---|---|---|
| Advance Credits | 0 | 0 | 0 | 0 | *To be discussed at future meeting* |
| Debited Credits (sold to impacts) | 27.00 | 22.50 | 18.00 | 67.50 | |
| Credits pending (planned, proposed) | 23.13 | 23.13 | 20.43 | 66.69 | |
| Credits earned (Released) | 0 | 0 | 0 | 0 | |
| "No Net Loss Balance" | | | | | = Credits Earned - Debited Credits |
| Credits available to sell | | | | | = Advance - Debited + Released |

Example Data

**Impact Site Details**

| | |
|---|---|
| Number of Impacts (Unique projects) | 1 |
| Acres of Impact | 1.50 |

**Mitigation Details**

| | |
|---|---|
| Projects | 1 |
| Acres | 13.7 |

# CREDIT LEDGER

***Note:***

| SITE DATA | | | | | | | | | MTIGATION DEBIT DATA | | | FULFILLMENT DATA | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Impact Site Name** | **Federal Reference Number** | **Ecology AO Number** | **Local Permit Number** | **Impact Effective Date** | **WRIA** | **Impact Acreage** | **Type** | **Category** | **Water Quality Credits** | **Hydrology Credits** | **Habitat Credits** | **Assigned to Mitigation Project** | **Mitigation Site Name** | **Mitigation-Receiving Site Project Number** |
| Example-Bethel School District Cat IV wet pasture | 20110XXXX | XXXX | | 23-Feb-11 | 12 | 1.5 | Wetland | IV | 27 | 22.5 | 18 | Y | Larchmont | XXXXX |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
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| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| **TOTALS** | | | | | | **1.50** | | | **27.00** | **22.50** | **18.00** | | | |
| | | | | | | **Impact Acreage** | | | **Water Quality Credits** | **Hydrology Credits** | **Habitat Credits** | | | |

**"Universal Debits" (sum of Credits)** **67.50**

# EXAMPLE CREDIT LEDGER — CHAMBERS-CLOVER SERVICE AREA — [MITIGATION SITES]

| Acre-Point Summary | Total |
|---|---|
| Proposed Credits | 66.69 |
| Pending Credits | 66.69 |
| Released Credits | 0 |

## MTIGATION SITE DETAILS - CREDITS AND ESTIMATED BUDGET

| PROJECT 1 | EXAMPLES ONLY Mitigation Site Name | Proposed Project Acreage | | WQ Credits | Hydrology Credits | Habitat Credits | Total |
|---|---|---|---|---|---|---|---|
| | LARCHMONT WETLAND RESERVE | 13.7 | Proposed | 23.13 | 23.13 | 20.43 | **66.69** |
| | | | Pending | 23.13 | 23.13 | 20.43 | **66.69** |
| | | | Released | 0 | 0 | 0 | **0** |
| | Credits Sold (to Contributing Impact Projects): | | | 27 | 22.5 | 18 | 67.5 |
| | Credits Still Available at Project: | | | **-3.87** | **0.63** | **2.43** | **-0.81** |

## IMPACT SITE DETAILS AND BUDGET ALLOCATION

| Impact Site(s) | WQ Credits Needed | Hyrology Credits Needed | Habitat Credits Needed | Mitigation-Receiving Site Project Number |
|---|---|---|---|---|
| Example-Bethel School District Cat IV wet pasture | 27 | 22.5 | 18 | xxxxxxx |
| **TOTALS** | **27** | **22.5** | **18** | |

| PROJECT 2 | Mitigation Site Name | Proposed Project Acreage | | WQ Credits | Hydrology Credits | Habitat Credits | Total |
|---|---|---|---|---|---|---|---|
| | | | Proposed | | | | |
| | | | Pending | | | | |
| | | | Released | 0 | 0 | 0 | 0 |
| | Credits Sold (to Contributing Impact Projects): | | | 0 | 0 | 0 | 0 |
| | Credits Still Available at Project: | | | 0 | 0 | 0 | |

| Impact Site(s) | WQ Credits Needed | Hyrology Credits Needed | Habitat Credits Needed | Mitigation-Receiving Site Project Number |
|---|---|---|---|---|
| **TOTALS** | **0** | **0** | **0** | |

Example Data

| Rating of Unit AFTER mitigation | Improving Water Quality | Hydrologic Functions | Habitat Functions |
|---|---|---|---|
| Increase in Score at mitigation site (**A – B**) = | 1 | 1 | 1 |
| Acres rehabilitated or enhanced | 12.2 | 12.2 | 12.2 |
| Basic mitigation credit (BMC) = *Score x acres impacted* | 12.2 | 12.2 | 12.2 |
| Risk factor (RF) (see table) | 0.9 | 0.9 | 0.9 |
| Mitigation credits available for each area PMC = BMC x RF | 10.98 | 10.98 | 10.98 |
| TOTAL CREDITS AVAILABLE Add the credits from the different areas | **10.98** | **10.98** | **10.98** |

| | Improving Water Quality | Hydrologic | Habitat |
|---|---|---|---|
| Rating of Unit **AFTER** mitigation | 9 | 9 | 7 |
| Acres **CREATED** or re-established | 1.5 | 1.5 | 1.5 |
| Basic mitigation Credit | 13.5 | 13.5 | 10.5 |
| Risk Factor | 0.9 | 0.9 | 0.9 |
| **CREDITS** | **12.2** | **12.2** | **9.45** |