



Counting on the Environment

A project funded by an NRCS Conservation Innovation Grant

WORKSHOP #4 AGENDA

Thursday, June 4, 2009

8:30 am – 4:30 pm

Willamette University, Montag Den
Salem, OR

Meeting Objectives:

- Seek agreement by all participants on approach for:
 - Calculating functional gains and losses for each credit;
 - Determining trading ratios;
 - Accounting at the map unit level;
- Seek agreement by all participants on the recommended assurances;
- Begin discussions on content of a Statement of Agreement and Approval to be finalized at the August 4 Workshop.

8:30 – 9:00

I. Welcome, Meeting Objectives, Agenda, Action Items

A. Introductions

(Attachments: Working Group Reps)

B. Overview and Updates

- Update on Registry and Credit Calculation platform
- Update on an overall ecosystem quality classification
- Update on Grant Applications: Federal and State

C. Review and approval of Workshop 2 Meeting Summary and Action Items *(Attachments: Action Items and Meeting Summary)*

9:00 – 10:00

II. Present the FINAL DRAFT Integrated Ecosystem Credit Calculator

(Attachments: Credit Calculator Update)

A. Summaries of combining area and function for each credit

B. Applying with pilot project examples

10:00 – 10:15

Break

- 10:15 – 12:00 III. Continue with the Integrated Ecosystem Credit Calculator
(Attachments: Trading Ratio Options; Accounting Options)
- A. Trading ratio options
 - B. Options for Accounting at the Map Unit Level
 - C. Applying with pilot project examples
 - D. Question/answer and group discussion
- 12:00 – 1:00 **Lunch** (will be provided for Working Group members)
- 1:00 – 3:00 IV. Assurances
(Attachments: Accounting Options)
- A. Final package of assurances
 - B. Are we ready to wrap a bow on the technical content?
 - C. Question/answer and group discussion
- 3:00 – 3:15 **Break**
- 3:15 – 4:00 V. What Does Agreement and Success Look Like?
(Attachments: DRAFT Joint Statement of Agreement)
- A. Proposed framework for agreement
 - B. Discuss needed steps for Working Group member organizations to approve a Functions-Based Accounting system in August
- 4:00 – 4:30 VI. Plan for Upcoming Meetings, Next Step Tasks and Summary
- A. Review of timelines, milestones, and process elements
 - B. Next workshop (August 4)
 - C. Review and confirm action items or follow-up tasks generated during the meeting
 - D. Summary and acknowledgements
- 4:30 Adjourn

Willamette University, Salem Oregon Montag Den

Directions to the Campus

From I-5 (North or South)

1. Take the Highway 22 exit (number 253).
2. At the first light, head west (a left turn for those coming from the south, a right when coming from the north).
3. Stay on Highway 22 for about 1.5 miles.
4. As you pass 17th Street, you'll start up an overpass.
5. At the top of this overpass there is an exit to the right.
6. Take this exit (Willamette University is indicated on the sign).
7. Keep left as the exit divides.
8. You'll see a green Willamette University sign on your right — pass by, and continue to Winter Street.
9. The guest parking lot is on the northeast corner of Bellevue and Winter Streets, entrance on Winter Street.

From the Oregon Coast

1. Take Highway 18 east from Lincoln City (off Highway 101).
2. Stay on Highway 18 for about 27 miles.
3. Take the Salem exit (Highway 22).
4. Stay on Highway 22 for about 26 miles.
5. Highway 22 will take you into downtown Salem, crossing a bridge over the Willamette River, onto Center Street.
6. Turn right on High Street.
7. Turn left on State Street.
8. Turn right on Winter Street.
9. Just past Mill Street, turn left into the guest parking lot.

From Central Oregon

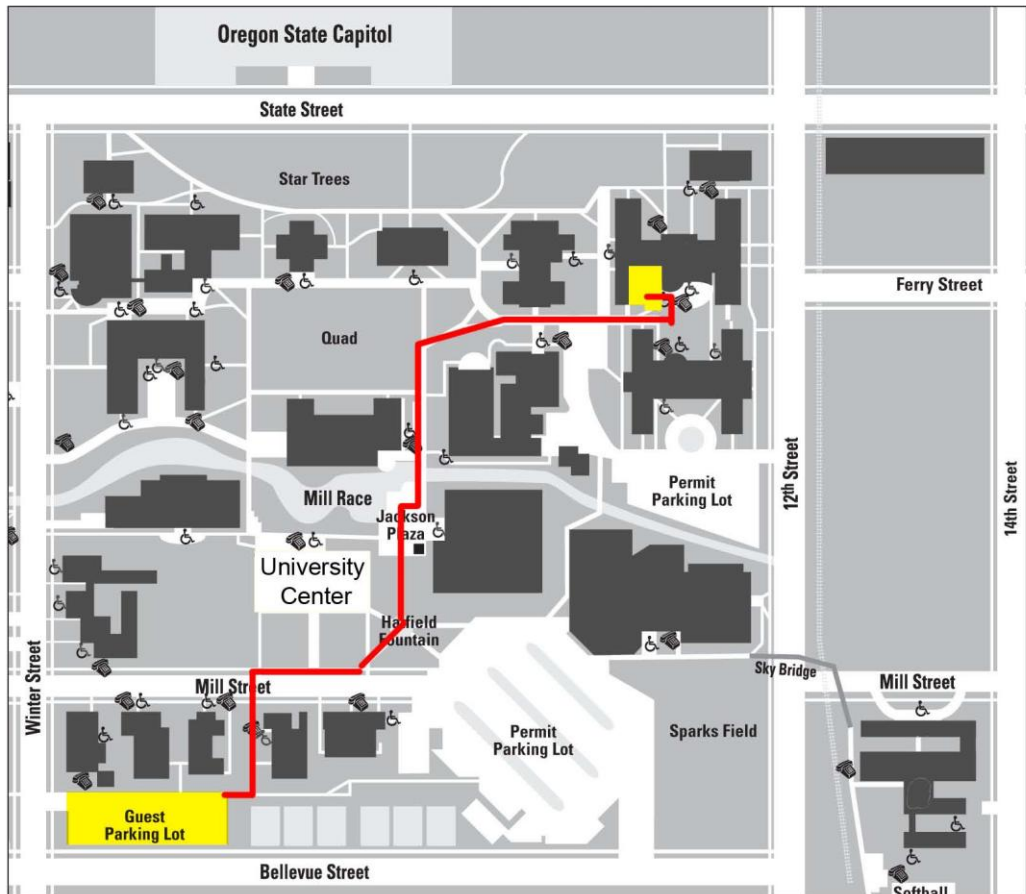
1. Take Highway 22 west.
2. After your pass over I-5, follow the I-5 directions above.

FOR PARKING:

We have 21 spots reserved on a first come first serve basis at no charge in the Guest Parking Lot at the northeast corner of Winter and Bellevue streets. Please contact Joni Shaffer jshaffer@willamettepartnership.org to reserve a parking place in advance as these spaces fill up.

Metered and un-metered city parking is also available on Winter, State and Cottage streets nearby.

Willamette University



From the guest parking lot, you can head to the back of the lot and walk between the buildings and across Mill Street, pass the University Center, pass the Eagle Fountain, go through Jackson Plaza, cross over the Mill Stream, go around Rogers Music Hall, turn right and go straight, when you see steps going down to the left take those down and turn left into the Montag Den.



April 20, 2009

MEMORANDUM

TO: Counting on the Environment Working Group Members

FROM: Debra Nudelman and Peter Harkema, Kearns & West

SUBJECT: Counting on the Environment – April 17, 2009 Meeting Action Items

Thank you for your participation and efforts at the Counting on the Environment Working Group meeting held April 17, 2009 at the Willamette University in Salem, Oregon. This memo includes the upcoming meeting dates, agreed-upon action items, and flip chart notes.

Upcoming Meeting Dates	Who	Location
<ul style="list-style-type: none"> • <u>June 4, 2009</u> 8:00 am – 4:00 pm 	Working Group	Willamette University
<ul style="list-style-type: none"> • <u>August 4, 2009</u> 8:00 am – 4:00 pm 	Working Group	Willamette University

Action Items	Who	When
1. <u>Information Follow up</u> <ul style="list-style-type: none"> • Develop and distribute action items, and flip chart notes 	Kearns & West	By cob, April 21
2. <u>Upcoming Meeting Dates</u> <ul style="list-style-type: none"> • Hold proposed meeting dates (see above) 	Working Group members	ASAP
3. <u>Assurances</u> <ul style="list-style-type: none"> • Meet to further discuss assurances 	Coordinating Team members and Katherine D., Gina L., Mike W., Marc L., Bill W., Bill A.	Wednesday, April 29; 9:00 am – 11:00 am at Clean Water Services Durham location or by phone
<ul style="list-style-type: none"> • Provide the Project Team with the definition of “landowner” used by CLCD 	Katherine D.	ASAP

Action Items	Who	When
<ul style="list-style-type: none"> Provide the Project Team with proposed language to define “locally sourced” Provide any comments on trading ratio categories and numbers 	<p>Cathy</p> <p>Working Group members</p>	<p>ASAP</p> <p>By cob, May 15</p>
<p>4. <u>Focus Groups</u></p> <ul style="list-style-type: none"> Meet to further discuss issues and refine recommendations Address site suitability and further consider eligibility criteria 	<p>Focus Group members</p> <p>Upland Prairie Focus Group</p>	<p>First week of May</p> <p>First week of May</p>
<p>5. <u>Field Test</u></p> <ul style="list-style-type: none"> Conduct the second round of field tests; Working Group members and others from your agencies/ organizations are encouraged to attend 	<p>Project Team with Working Group members</p>	<p>May 7 and 8</p>
<p>6. <u>Ecosystem Credit Calculator</u></p> <ul style="list-style-type: none"> Provide comment on the current version of the package Develop a briefing paper/executive summary of project and what approval is being requested for Check with agency/organization teams and decision makers to determine what steps are necessary for approval Develop the next version of the package for group review and approval 	<p>Working Group</p> <p>Project Team</p> <p>Working Group members</p> <p>Project Team</p>	<p>By cob, May 15</p> <p>ASAP</p> <p>In advance of June 4 meeting</p> <p>In advance of June 4 meeting</p>

Bin List
<ul style="list-style-type: none"> How to incorporate this project into the existing regulatory framework?

Meeting Documents

The following documents were distributed at this meeting:

- Ecosystem Credit Calculator Version 1 – Counting on the Environment Workshop #3 Materials Booklet
- Ecosystem Credit Calculator PowerPoint presentation handout
- Ecosystem Credit Calculator Assurances PowerPoint presentation handout

Copies of these documents can be obtained by contacting Kearns & West

FLIPCHART NOTES

Decision Making

- April 17: Understand and actions to complete
- June 4: Agreement in Principle
- August 4: Complete package and concurrence

Technology Update

- TZ1 has been selected as the no cost partner to develop the credit registry

Upland Prairie

- Address site suitability, further consider eligibility criteria

Assurances/Trading Ratios

- Are these the right categories?
- Are the numbers correct/workable?

Next Steps

- First week of May – Focus Groups
- May 7 and 8 – Second round of field tests (everyone is welcome and encouraged to attend)
- By May 15 – receive all comments
- After May 15 – develop the next version of the package

Events:

- June 18 and 19, 2009; Northwest Environmental Business Council “Ecosystem Markets: Making Them Work” Forum (<http://www.nebc.org/content.aspx?pageid=45>)

Meeting Summary

Counting on the Environment Workshop #3

I. Welcome, Meeting Objectives, Agenda, Action Items

Everyone was welcomed to the meeting and the meeting objectives were outlined.

Meeting Objectives

- Seek agreement by all participants on the approach and indicators for the Integrated Ecosystem Credit Calculator
- Provide Feedback on the discounting factors applied to credit estimates to account for contextual value, time and risk
- Provide feedback on the package of assurances for credits
- Develop a list of action items that need to occur before the June 4th Working Group meeting, so that the group can approve the credit calculation methods in concept

Technology Update

Mac Martin gave an update on the 2nd Technology Roundtable. We are flushing out more precisely what technology will be needed to make this work real. We have received a lot of great feedback and have an excited group of technical folks plugged in. We have selected a registry, TZ1 through a formal RFQ process. They are active in carbon markets and wanting to incorporate ecosystem services. We will be negotiating the contract over the next couple of weeks. We will give a further report on the software side of this project on June 4th.

Discussion commenced on the terms of the agreement between the Counting on the Environment project and the Registry. This service is being provided at no cost to the Partnership and TZ1 is designing a platform that can track a multi-ecosystem crediting system. To be creditable, we need a central registry to track different credits from multiple agencies. The pilot projects will be registered at no cost and the transaction fees still need to be negotiated. The registry is owned by TZ1 and we will make sure that the data being used is transferable. The term of the contract is for the duration of this project. The final selection of a registry will not be decided by the Willamette Partnership alone but a collective decision.

Review and Approval of Workshop #2 Meeting Summary & Action Items

There has been a lot of work done since the last meeting. At today's meeting we are at a check in point. It is important for the group to articulate what it would take to move forward with the decision making process. Between now and August these are the goals that we have set:

- April 17th Working Group Meeting: Understanding and Actions to Complete
- June 4th Working Group Meeting: Agreement in Principle
- August 4th Working Group Meeting: Complete Packet and Concurrence

The Project Team would like you to think about who may need to get involved and what it will take to get to an agreement. The Agenda and Action Items were reviewed and there were no objections or additions.

II. Presentation of the DRAFT Integrated Ecosystem Credit Calculator

Damon Hess and Paul Adamus presented the various methods of the Draft of the Integrated Ecosystem Credit Calculator and described the process and procedure for the methods to credit issuance. In the packet handed out to the Working Group there are the Focus Group summaries

and two days worth of field testing using actual credit calculations from the pilot projects. A big part of developing this process was the pilot projects. The more projects that we can run through this process the better the process becomes. Now is the time for Working Group members to voice issues so that there is time to resolve them. These are five currencies and the tools we are using to measure them:

- Wetland Habitat – Oregon Rapid Wetlands Assessment Protocol
- Water Quality (temperature) - Shadelator
- Salmon habitat – Parametrix work done with ODOT
- Prairie Habitat – Paul Adamus and the Prairie Focus Group are working on this method
- Water Quality (nutrients) – NRCS Nutrient Trading Tool (The NRCS local office is still adding to this and it may or may not be up and ready in time)

Process

- Office work including aerial photos and map units
- Initial Field Survey – setting a baseline
- Baseline scoring, calculation and projected alternative calculation
- Second field survey post alternative action – measuring actual on the ground changes, which becomes the real score
- Assurances
- Credit issuance – final score

Discussion on how much time and labor is required to verify the information on the ground commenced. We will be discussing the specifics of verification and monitoring in the assurances presentation this afternoon. Along with the assurances discussion, we will also discuss who will do that monitoring agencies or third party verifiers. Third party verification is what is used in carbon markets.

Prairie

Discussion centered on where prairie restoration can take place. Restoration can be out of kind or current native sites can be enhanced. It is important to assess the area, determine that it is appropriate for prairie habitat and that the site is able to support that habitat. The greatest benefits to prairie conservation may be protection and enhancement. There are incentives for clustering prairie sites together.

Site suitability is a major factor for restoration. The focus groups in April can discuss site suitability and eligibility and provide disincentives for people to put prairie in a place that it is not appropriate. It will also be important to consider community development, planning and zoning. There are historic photos available with the history of the property which could get at suitability and if the site was originally a prairie site.

There were concerns raised on disincentives for larger sites. The credits should represent the amount of improvement and the costs go up with more acres. One of the reasons given for discounting larger sites comes from wanting to place more weight on function and not just bigger

size gets more credits. The group consensus was that bigger sites are better and there were serious concerns about disincentives for larger areas. Smaller acres are more likely to have homes and barriers to other sites. It was suggested to place minimum eligibility requirements, minimum functional standards and minimum lift to account for functional improvements. The calculation of credits should support larger sites.

Prairie feedback summary for focus group

- Discuss eligibility requirements that addresses site suitability
- Bigger sites are better and don't have disincentives for larger sites.
- Scoring for crediting for preservation, enhancement and restoration
- Set minimum standards of lift, function and eligibility

ORWAP and Wetlands

In an ideal world when debiting wetland sites you would have a perfect match for replacing the functions. We are trying to come up with options to get as close as possible to replacing these functions. Option A is a procedure for scoring wetlands and is not trying to replace all 16 functions but to replace the functions that are really outstanding about that wetland and Option B takes an average score of the wetland and replaces it with a wetland with the same score.

The different types of procedures; priority, average, ecological condition, ratios and credits in advance for wetland crediting were discussed. Concerns were raised on the amount of wetlands and wetland functions that have been lost and how this will be accounted for. We are losing wetland acreage in the Willamette Valley because of enhancement as a dominant mitigation strategy. Functions are a priority; replacing poor quality with poor quality is not gaining value. The assessment needs to be sensitive enough to distinguish a successful project from a non successful project and the assurances will need to be clear.

The idea of looking back at historic conditions and the balance of matching those functions was discussed. If you look back into history it may get more complicated. Look at capacity, performance, landscape, context, and generally put these in a hierarchy. Don't over complicate it. No tool will be perfect and credits are not generic.

Salmon

It's important to remember that you are not going to create a system and then be done with it. You will need to build in the capability to apply new information and then be able to adjust the system after evaluating it, if it is not providing the values you are interested in.

The issue of barriers for salmon passage was discussed. The Salmonid Focus Group stated that the most important thing you can do for fish passage is to remove barriers. In the calculator this will increase the linear feet and multiply the optional function. The increase of linear feet does not have to be on the owner's property and if the additional property owner decides to do restoration they can get credits also. It was suggested that the legal issues be looked into on this idea and also consider that there is no control over that other persons property if they do destructive things. Who owns this and who is liable after credit issuance needs to be articulated.

Getting more credits for restoration that helps multiple species and/or endangered species was discussed. Why wouldn't you get more credits for helping an endangered species or four times as much credit for helping four types of species? We want to incentivize restoration and make it profitable but not one type so profitable that we don't get the other restoration done. The tool should indicate where to spend your money and get the most credits for your money and it should be a market driven currency. One difficulty is that right now we don't have the type of maps which provide clear and detailed enough information to define all of these priorities.

The values of different salmonid habitat and the value of one habitat over another were discussed. You can create a level of detail in the mitigation that if you are debiting for a spawning habitat you have to replace a spawning habitat. The mitigation should outweigh the damage.

Action Items

- Resolve the legal issues surrounding liability of ownership and assurances for salmon credits created off a property not owned by the credited landowner

Water Temperature

It will be good discussion for the focus groups to discuss the rules on how to use the shadelator. A DEQ IMD draft will be coming out in May. Site potential, types of trees planted and soil mapping should also be taken into consideration. Use the best information we have available today and when we get better information later, have a way to incorporate it.

Discounting factors

We did run the calculations on an impact site which is in your packet in the pilots section Dairy Creek Bridge. This is set up to debit an impact no matter how big the impact is. There are not any minimum standards for debiting like there are with crediting.

Scope of Work

The prairie scores will be coming soon since we were directed by the Prairie Focus Group to score them between May – June.

IV. Applying a Package of Integrated Assurances

The work put into this package is drawn from work done by Heather Hosterman's White Paper, the Climate Action Registry for carbon markets, wetland mitigation standards and DEQ's water quality trading standards. This discusses rules put into place to help ensure that a project is successful. It also discusses a temporal reserve, discounting for time taken for actions to improve ecological systems, site eligibility, monitoring and verification. This is what makes sure that the projects people are creating are creditable and the crediting is real.

There was discussion on landownership and how to avoid people taking bad actions on the land and then selling their property to a spouse and generating credits for restoring their actions. Katherine

Daniels will send Bobby language that will be broad enough to get at that issue. The problem that has happened is wetland draining and then restoring the wetland and selling the credits.

Eligibility: Minimum Quality Standards

Recommendation 5: Locally-sourced native species. It was suggested that locally sourced native species needs a more specific definition. Look at using the Native Seed Network, they are online and Oregon is well covered <http://www.nativeseednetwork.org/>. The group was asked if there are any eligibility standards that are not plant related and to send them to the Project Team in an email.

Eligibility: Permits and Land Protection

Recommendation 8: Permanent impacts need permanent conservation easements or equivalent. Temporal impacts need a lease covering the crediting period of the project. Discussion over who would hold the easements and restrict development rights commenced. Land trusts, public agencies, CDs, and endowments are different ways to do this. There are entities available and looking to get into the business of taking on these type easements.

Recommendation 10: Maximizing credit purchase from priority locations was taken from a directive by DEQ that said that 50% of restoration actions must come from priority areas. We may not be able to require these standards at this time.

Eligibility: Service/Trading Areas

Recommendation 12: For prairie and other species, the Willamette Basin is the default size of the service trading area unless a compelling case can be made by any party to expand or construct the size. It was suggested that Eco-region is the right scale and leave in the language of unless a compelling case can be made. The agencies, buyers, and sellers can make this case.

Verification & Issuance

Recommendation 13: All credits undergo verification by a neutral third-party and certification by an agency/administrator. Currently Clean Water Services is self verifying and DSL verifies for wetland mitigation. We are recommending qualified, trained and randomly assigned third party verifiers to do a full onsite assessment in year one, years two through four submitting written reports and an onsite full verification in year five. After year five you would change verifiers. If there are problems a verifier can go out on the site at any time to check on it.

Some of the obstacles to third party verification were discussed. This may be an extra cost associated for a wetland banker. By replacing the agencies on site, they lose connection with the sites and the benefits that come from them being out there. This puts the agencies currently doing verifying in a difficult spot. DSL does not have the ability to require people to use a third party verifier. This would create legal issues for them. You can't force people to use the multi-credit marketplace and it would not be of benefit to have two competing marketplaces.

The benefits for third party verification were discussed. There are currently 20 mitigation banks and this is increasing, this can help the agencies manage that workload. This helps to deal with the high level of skepticism from the public from past bad behavior in the carbon markets and establishes

more credibility. It would be beneficial to have standardization in reporting. It provides legitimacy to have people trained to be verifiers. This makes credit issuance creditable, transparent and easy to access.

There could be a requirement to participate in the marketplace you are designing that you have to use third party verification and have it separate from what the agencies do. The agencies could say that they don't require it but if you want to participate in that market, the marketplace requires it.

Agencies may not be able to require people to use third party verification but they can issue guidance that can direct people to third party verification and incentivize it. TZ1 may require third party verifying for the registration of the credits. If you set up that this is how you do business people will accept it as such.

The Project Team is available for a smaller meeting on April 29th from 9 – 11 a.m. for more discussion on third party verification and anyone who is interested can attend. Also, the Project Team is accepting comments on all of the materials between now and May 15th.

Recommendation 21: Retain liability rules for current markets. For new markets (prairie and salmonids), transfer regulatory liability from buyer to seller upon purchase of the necessary credits. This generates one report per site a year and has one person responsible. There needs to be surety that the restoration will be managed well. There is a concern with larger sites, how do you get people to take on a forever responsibility. Is there a middle ground between asking for five years of monitoring and forever? It should be spelled out what the criteria is and what landowners are agreeing too, is it controlling invasives or fence monitoring. The question of if you would ever issue a permit again on that site should be considered. If it came between mitigating an untouched site or the credited site there should be an option to permit the credited site.

Assurance Focus Group volunteers

Cathy Macdonald	Bill Warncke
Katherine Daniels	Bill Abadie
Gina LaRocco	Marc Livermann
Mike Wolf	

In the first week of May are the next focus group meetings. There will be a second round of field testing May 7th and 8th. We are asking for comments from the Working Group and also the Partnership's Newsletters last issue asked for comments back from a broader audience by May 15th.

V. Developing Action Items Needed Between April and June

What are the actions that the Project Team needs to do to move towards approval?

- Provide an Executive Summary with talking points so that the Working Group members can concisely and briefly tell their supervisors where we are and what we are asking for.
- For NOAA, be sure to show what it is that they will be getting that is a lot better than what they currently get from the USACE.

- A banking instrument with a contractual agreement showing what you would need for an individual permit.

VI. Plan for Upcoming Meetings, Next Step Tasks Summary


- Cathy Macdonald will provide what the Nature Conservancy has used in the past for grant match to run by the Partnership's financial agency
- August 4th is the date for the next Working Group Meeting
- There is an Ecosystem Services Conference June 18th and 19th hosted by NEBC and American Forest Foundation in Portland



Counting on the Environment

A project funded by an NRCS Conservation Innovation Grant

Ecosystem Credit Calculator Updates

Credit Type	Updates	Completed 
Water Quality	1. Standardized Shade-A-Lator Inputs A. Version: Use 6.2 B. Time Period: Average of June 1 through August 30 C. Vegetation community heights: PMX will recommend based on CWS practice	<input checked="" type="checkbox"/>
Prairie	1. Priority on preservation: Crediting based on post-action functional score 2. Performance standards: Based on full functional assessment 3. Bigger is better: No adjustments for size	<input checked="" type="checkbox"/>
Salmonid	1. Service Areas: Use 4 th Field Hydrologic Units 2. Priority Areas: Important to consider, but there is no objective map currently, so no preference given for priority populations at this time 3. In-Kind Trades: The credit calculator gives more credit for improvement to spawning habitat, and is calibrated for the most sensitive species in a reach. No specific requirements for trading to match life stages, specific species, or timing are recommended at this time 4. Specific functions are weighted to capture limiting factors in the Willamette	<input checked="" type="checkbox"/>
Wetlands	1. Four options for combing ORWAP scores with area to get credit	<input type="checkbox"/>



Counting on the Environment

A project funded by an NRCS Conservation Innovation Grant

Trading Ratio Options

Introduction

Environmental markets use trading ratios to account for risk, errors in measurement and temporal losses. A functions-based accounting approach, like the one developed through Counting on the Environment, uses ratios to discount the amount of credits any seller may sell or a buyer needs to buy by applying a functional score between 1 and 0. The resulting ratio essentially allows for the size and quality of restoration and development actions to be accounted for, and provides greater certainty that markets deliver the benefits they purport to. However, if policy and perception require that all developed areas be replaced at a greater than 1:1 ratio (for environmental reasons) and less than a 3:1 ratio (for economic reasons), then the application of the ratios ingrained in this approach require adjustment. The three options below represent where we can go with trading ratios.

Option 1: Ratios applied to buyers & sellers using the framework presented at Workshop 3

Determine a Difference: Baseline and Post-Action

Before determining the trading ratio, the project developer must first run their functional assessment, and then multiply the output of the credit calculators (a score between 0 and 1) to get a measure of their functional acres. They will do this twice, once for baseline, and once for post-action. The functional loss or gain is calculated by subtracting the baseline functional acres from the post-action functional acres. For prairie, functional gain is determined only by the post-action condition because of the emphasis on preservation. In the case of water temperature, the output of the Shade-A-Lator is the functional unit already.

Apply Ratios: Sellers

Trading ratios are then applied to this functional loss or functional gain using the factors below. For sellers, every project will hold back at least 10% of its functional gain because of the risk of natural disturbances like flood, fire, and invasive species. This assumes that, on average, roughly 10% of projects will have problems due to of factors beyond control of the seller. If sellers are using restoration actions with fair or low certainty of success, they will need to hold additional functional gain in reserve (1% and 5% respectively). If there is high certainty of success, no additional reserve is required. Actions will be pre-sorted into each of these categories. Finally, if a mitigation site is in a high priority area, no additional reserve is needed, but if not, then a seller must hold back 2% of the functional gain. The reserves for natural disturbance, action risk, and priority location are all added up and will range from 10% to 17% of total functional gain.

Apply Ratios: Buyers

For buyers, every project will need to purchase an additional 15% to cover potential inaccuracies in the method and 4% to cover the risks of parties going bankrupt, undermanaging projects, or rules changing. The 15% comes from the verification protocol that says a verifier's estimates of functional gains or losses needs to be within plus or minus 15%. The largest portion of the ratio



Counting on the Environment

A project funded by an NRCS Conservation Innovation Grant

is set aside for time lags between impacts occurring and a mitigation site performing all of its functions. If any of the credits in a buyer's purchase still have time before they reach full function, they need to buy roughly an additional 1% credits per year for the time their credits will take to mature. The reserve scores are then added up to determine how many additional credits a buyer will need to secure, ranging from 19% to 44%.

The goal of these ratios is that an average trade would receive a 2:1 ratio, no trade would be allowed to go below 1:1, and except for rare instances, no trade would go above 3:1.

Option 2: A standard 2:1 ratio is applied for buyers

Determine a Difference: Baseline and Post-Action

Just like in Option 1, the functional loss or gain is calculated by subtracting the baseline functional acres from the post-action functional acres.

Applying Ratios: Sellers

Unlike Option 1, no ratio will be applied to the sellers.

Applying Ratios: Buyers

Buyers will be assigned a straightforward 2:1 ratio. This is a much simpler approach than either Option 1 or 3 (described below). Except for cases where impacts occur to very low functioning sites and mitigation has medium to high uplifts, it will result in a greater than 1:1 trading ratio for area. A standard minimum acreage could still be established to ensure acreage replacement.

However, this option limits the ability of using trading ratios to apply incentives not captured in the calculation of functional gains and losses. This includes location in a priority area, selection of action types most appropriate for the site, and getting mitigation in place ahead of impacts.

The 2:1 trading ratio could still be articulated as covering all these forms of risk.

Option 3: Use the functional score to assign a trading ratio

This approach is under consideration for wetland calculations. It could be used in conjunction with Option 1.

Determine a Difference: Baseline and Post-Action

Again, the functional loss or gain is calculated by subtracting the baseline functional acres from the post-action functional acres.

Applying Ratios: Sellers and Buyers

The functional scores on the debit and credit sites would be used to classify them into a high, medium, or low functioning category and then trading ratios would be applied based on those



Counting on the Environment

A project funded by an NRCS Conservation Innovation Grant

scores. For example, impacts to a high-functioning site might get a 2.5:1 ratio while those made to a low-functioning site might get a 1.5:1 ratio. At a restoration site, gains made at a high-functioning site might get a 1:1 ratio while those made to a low-functioning site might get a 2:1 ratio.

This option blurs over some of the specificity our credit calculators are capable of by lumping sites into three categories.



Counting on the Environment

A project funded by an NRCS Conservation Innovation Grant

Options for Accounting at the Map Unit Level

Introduction

All along, we have wanted to account at the map unit level (same as subunits) of a site. For this project, we have felt it is important to give land managers the option of selling more than one credit type. This provides the incentive for broad restoration across ecosystems, rather than maximizing restoration design for a single ecosystem service. To do this, and still prevent double-dipping, we've assumed accounting at the subunit level is the most acceptable approach given the current status of policy and science for calculating credits.

The challenge is that the map units before restoration/impact are different than after restoration/impact. When functional gains and losses are calculated, the scores for each map unit are rolled up to get a single baseline condition and a single post-action condition for the site. These are subtracted from each other at the site level because the map units no longer correspond to the same geographic areas.

The challenge then becomes how to re-apportion these credits back to map units or otherwise allow a landowner to sell multiple credits.

We have considered two primary options, which will be illustrated using the Gales Creek pilot project below. The site currently has 2 acres of farmed wetland, and a stream in a channelized ditch in the property's southwest corner. The project will re-meander that stream and add an additional 14 acres of scrub and emergent wetland. It will also update a culvert and add channel diversity. The Pre and Post maps and credit estimates are below.



Credit Type	Functional Gain	Total Credits after applying ratios
Wetland (acres)	10.05	8.84
Salmonid (ln ft)	707	622
Prairie (acres)	N/A	N/A
Water Temp. (kcal/day)	2,953,027	2,598,664



Counting on the Environment

A project funded by an NRCS Conservation Innovation Grant

1. Track credits in broad habitat categories

The ledger for each project would be divided up by three habitat types: wetland, prairie, and riparian/instream. Wetland credits will be assigned to wetland habitat and prairie credits will be assigned to upland prairie habitat. Salmonid and temperature credits will be assigned to the riparian/instream habitat. For riparian and stream areas, as a % of salmonid credits are sold, temperature would be reduced by that same % and vice versa. Below is an example ledger for the Gales Creek project.

Habitat/Credit Type	Wetland	Prairie	Salmonids	Temperature
Wetland (acres)	8.84			
Riparian/Instream			622	2,598,664
Prairie (acres)		0		

In this scenario, Gales Creek can sell all of its wetland credits. For the riparian area, there is a bundle of salmon and temperature credits that can be sold. If 311 (or 50%) of the salmon credits are sold, then there would be roughly 1.3 million kcal of temperature credit remaining.

This approach is simple, but it is not explicitly connected back to geographies on the ground, but it could be. A corollary to this approach would be drawing three bigger map units based on habitat type.

2. Divvy up the total credits back to map units proportionally based on their size

The approach above is simpler, but as more credit types become available for land managers, it may limit their choices or ability to sell multiple types of credits. This approach would divvy up the total credits to the post-action map units proportionally based on the size of each map unit.

There are a total of five wetland map units on the site. The 8.84 credits would be divided up to each of those based on their size. For example, if Map Unit 1 covers 50% of the wetland area, it would get 4.42 credits. The salmonid credits and the temperature credits would both get assigned to the in-stream map units in the same way.

The map units are defined according to standard rules, and are based on common habitat structures and features. The in-stream units are divided into 100-ft segments to ease data collection and consistency.

The challenge with this approach is that the credits for each map unit no longer represent the functional contribution of that map unit to the whole. As a result, verification, performance standards, and credit release would all need to happen at the site level. This provides a stronger incentive for managing whole sites rather than parts.

**Counting on the Environment Working Group
Statement of Agreement on Ecosystem Credit Accounting System**

Introduction

In November 2008 a Working Group made up of federal and state agencies and other stakeholders engaged in applying market-based approaches to restoring the health of ecosystems in the Willamette Valley and beyond. The Working Group was convened by the Willamette Partnership, a nonprofit coalition of leaders in the Willamette striving to expand the pace, scope, and effectiveness of restoration with funding from an NRCS Conservation Innovation Grant. The Working Group has met in five intensive workshops to provide guidance and reach agreement on the aspects of an integrated ecosystem credit accounting system. This statement represents the collective agreement of the Working Group.

Whereas the Working Group agrees that:

Restoration and conservation of Oregon's natural resources are critical to the provision of clean water, clean air, and natural places which are important elements of healthy communities, economies, and ecosystems.

The current mechanisms of investing in natural resources and mitigating for unavoidable environmental impacts does not provide adequate incentives for high quality conservation in areas of highest importance. And that under current mitigation rules and practices, land managers face significant hurdles in restoring a breadth of habitat types and ecosystem functions on their lands. There is little or no opportunity to create multiple types of credits, and if there are, transaction costs of working with vastly different credit issuance processes can be cost-prohibitive.

Conservation and restoration activities should be 1) suitable to the site, 2) provide for and consider appropriate context and connectivity, and 3) be sustainable over the long term.

Toward this end, an ecosystem credit accounting system can quantify the flow of benefits and impacts for multiple ecosystem services stemming from actions taken on a site. It can verify, register, and track these ecosystem services over time.

It is important to provide cost-effective mechanisms to land managers to restore sites for a broad suite of ecosystem services, and the ability to sell multiple types of credits from the same site can help increase the pace, scope, and effectiveness of restoration.

Therefore, the Working Group approves:

That Version 1 of the ecosystem credit accounting system, which includes 1) credit calculators for wetlands, salmonid habitat, upland prairie, and water temperature, 2) an integrated package of assurances, and 3) a standard process for issuing credits is sound,

ensures high quality restoration and adequate mitigation, and meets the needs of compensatory mitigation for these resources.

The ecosystem credit accounting system can be used on a pilot basis from September 2009 through September 2011 with complete check-ins for revisions in August 2010 and August 2011.

The agencies will work together with support from other *Counting on the Environment* Working Group members to issue the attached Joint Statement of Approval necessary to accept credits generated through the accounting system as adequate compensatory mitigation.

Implementation

Working Group participants, as representatives of their organizations endorse and support the concept of an integrated ecosystem credit accounting system. Participants commend the Working Group process, conclusions and recommendations and agree to communicate this Agreement to their organizations and others as appropriate for consideration and support.

Statement of Approval for Functions-Based Crediting in Ecosystem Markets

Issued by: AGENCIES and COUNTING ON THE ENVIRONMENT WORKING GROUP MEMBERS

Executive Summary

This Statement represents the collective effort of a Working Group made up of federal and state agencies and other stakeholders engaged in applying market-based approaches to restoring the health of ecosystems in the Willamette Valley and beyond. The Working Group was convened by the Willamette Partnership, a nonprofit coalition of leaders in the Willamette Valley striving to expand the pace, scope, and effectiveness of restoration. Funding for the project was made possible by a Natural Resources Conservation Service Conservation Innovations Grant. The Statement represents an integration of several years-worth of work conducted by all parties involved.

The Willamette Partnership is asking the federal and state agencies, who will be responsible for issuing credits developed through this process, to jointly issue this Statement on a pilot basis for two years beginning September 2009 and carrying through to September 2011. The Statement will apply to eligible permitted impacts and eligible compensatory mitigation for wetlands, upland prairie, salmonid habitat, and thermal impacts to water quality. Eligible projects will include the pilot projects begun under the Willamette Partnership's *Counting on the Environment* project and any additional projects determined on a case-by-case basis by agencies and other partners. This Statement will be revisited in August 2010, and again in August 2011, to assess results and make adjustments, as necessary.

Under current mitigation rules and practices, land managers face significant hurdles in restoring the full breadth of habitat types and ecosystem functions on their lands. There is little or no opportunity to create multiple types of credits, and if there were, the transaction costs associated with vastly different credit issuance processes make it cost-prohibitive.

The credit calculation methods, integrated credit issuance processes, and joint assurances contained in this Statement will enable land managers to:

1. Generate, quantify, and have options to sell multiple types of credits from their restoration projects;
2. Operate within predictable rules that outline the steps and processes necessary to develop those credits;
3. Restore whole ecosystems towards their full potential rather than to the confines of individual regulations;
4. Generate higher credit value by restoring the best sites, in the best places, to a broad range of functions

The Statement will allow developers with unavoidable impacts on natural systems to:

1. Operate within predictable rules that outline the steps and processes necessary to determine their mitigation obligation;
2. Base their mitigation obligation on the quality and context of the sites where impacts occur, providing an incentive to avoid the best sites, in the best places, that provide a broad range of ecological functions.

For agencies, the Statement will allow them to:

1. Provide standard, functions-based credit calculation methodologies to measure both impacts and benefits in a way that provides new incentives for restoring the breadth of ecosystem functions and moving impacts from the highest functioning sites;
2. Provide a more routine, predictable, and less resource-intensive process for most creditable restoration actions, reducing uncertainty and the time to implementation; and
3. Track and account for sites selling multiple credit types.

I. Introduction and Background

In November 2008, the Counting on the Environment Working Group convened to develop an accounting system by which land managers taking conservation or development actions and regulatory agencies overseeing those projects could quantify a range of ecosystem service benefits and impacts generated by those actions. This accounting system included credit calculation protocols for wetlands, salmonid habitat, upland prairie habitat, and temperature reductions from riparian habitat. It also included a package of assurances that included recommendations for eligibility criteria, verification, credit issuance processes, and ongoing monitoring and credit release schedules. The Working Group was convened by the Willamette Partnership, a 501c3 non-profit working to expand the pace, scope, and effectiveness of restoration, and facilitated by a professional team hired by Oregon Consensus.

This Statement represents the guidance of the Working Group on which of these recommendations can be used in existing ecosystem markets, which recommendations will be used as routine procedures, and which elements require future work.

These conclusions and recommendations do not expand or alter any existing laws, regulations, or other authorities under which the Agencies operate. However, it is expected that the Agencies will use their respective legal review, or other authorities and means, to implement the conclusions and recommendations in a unified and consistent fashion to the greatest extent possible and permissible.

This Statement will remain in place for two years from September 2009 to September 2011 when it will be revisited. All actions taken under this Statement are considered part of a pilot effort to test implementation of an integrated ecosystem market approach.

II. General Statements

- A. For compensatory mitigation involving eligible development actions or conservation actions, agencies will accept credit estimates generated by the Counting on the Environment protocols so long as credit projects are also in accordance with current Agency credit issuance Statement, rules, and applicable statutes.
- B. These credit estimates will be subject to the eligibility requirements, verification rules, and credit issuance processes for each market. For most credit types, agency certification and a letter of release will be required before credits and debits can be issued and registered.
- C. Agencies recognize that ecosystem credits estimated using the Counting on the Environment Protocols, verified according to the Partnership's assurances package, and registered with the Willamette Partnership's registry partner TZ1, have completed all of the requirements needed to issue credits. Agencies will do their best to streamline their issuance process for these credits.
- D. There are a number of recommendations developed as part of the Working Group process that require further work and public review. Agencies will work with each other and the Partnership to complete this work for the priority recommendations identified below.

III. Specific Statements

There are several specific elements that will become routine elements of an agency's credit issuance process. Guidance on those elements is listed below. This Statement applies specifically to compensatory mitigation required under a range of federal and state laws. The Counting on the Environment protocols can be used for:

1. Compensatory **wetland** mitigation under state and federal rules
2. Mitigating impacts to **upland prairie** or **salmonid** habitat regulated under the Endangered Species Act or Oregon Department of Fish and Wildlife's habitat mitigation policy
3. Water quality trading programs for **thermal load** reductions authorized in discharge permits issued by the Oregon Department of Environmental Quality under their water quality trading Internal Management Directive.

Not all potential impacts or mitigation actions are covered under this first version of the Statement of Approval. Eligible mitigation/conservation actions are included in Table 1 and eligible development actions are included in Table 2. Other actions may be used for

mitigation, but do not fall under the credit calculation protocols and other guidance referenced here.

Table 1: Version 1 Eligible Conservation Actions by Mitigation Type

Mitigation Type	Conservation Actions
Water Quality- Temperature	Version 1 actions Plant native vegetation
Wetland Habitat	Improve function of an existing wetland Restore and create wetland hydrology
Salmonid Habitat	Plant native vegetation Improve In-stream fish habitat: Large wood placement Improve fish passage: Culvert removal
Prairie Habitat	Manage sediment inputs: Add fencing Improve function of an existing prairie Restore prairie functions Protect existing prairie

Table 2: Version 1 Eligible Development Actions by Mitigation Type

Mitigation Type	Development Actions
Water Quality- Temperature	NPDES discharge permit impacts calculated using other methods
Wetland Habitat	Altered vegetation Altered hydrology
Salmonid Habitat	Altered vegetation Altered hydrology Contaminants
Prairie Habitat	Natural system modifications Altered fire Altered vegetation

Every type of ecosystem market includes a package of, what is commonly called, assurances. Assurances seek to guarantee the environmental restoration actions completed to offset the impacts of development actually deliver the benefits that they are designed to. Assurances also work to provide process certainty to buyers and sellers in markets. The framework presented below proposes a package of assurances that might be used across many market types. It was developed based on existing market rules, their overlaps and the identification of gaps that could be filled by common approaches. The assurances fit into the credit calculation methodology as eligibility criteria, and as components of the credit issuance and credit calculation processes.

A. Eligibility criteria

As a type of assurance in markets for ecosystem services, eligibility criteria apply to sellers, buyers and to the trades themselves. Eligibility criteria, as noted earlier, serve as minimum standards designed to avoid inappropriate projects or trades. Setting these standards is likely to be an iterative process, reflecting conservation objectives and market conditions. In new markets, a significant amount of time is spent between project developers and agencies. Eligibility criteria can help ensure time is spent on the projects with the highest likelihood of success and avoid conflicts tied to inappropriate projects or trades.

Additionality

All credited projects need to demonstrate that they provide “additional” benefits beyond what is required under current regulations (e.g. Forest Practices Act, SB 1010, or local land use) and business as usual. The additionality requirement ensures credits are awarded for doing more than what would otherwise have happened without a market mechanism in place. Additionality does not include the use of trading to meet regulatory obligations.

All issued credits must result from restoration actions that are 1) above and beyond a regulatory threshold for compliance, and 2) above and beyond business as usual. Defining “business as usual” will be based on a set of questions answered by the landowner during the project validation process. A sample Validation Checklist is available on the Willamette Partnership’s website at www.willamettepartnership.org.

Markets focused on restoration generally do not provide strong incentives for preserving high quality habitat. To counteract this shortcoming, credits generated within this suggested market must result only from restoration actions that occur a minimum of 10 years after a significant, intentional development action on the site. This disincentivizes the degradation of natural resources just to receive credit for restoring them soon after. For example, a landowner¹ would be ineligible to sell credits for restoring riparian forest if they had removed any portion of a pre-existing riparian forest in the last 10 years. For wetland projects, any restoration action occurring on prior converted or farmed wetland according to the 1985 Food Security Act is eligible for credits. If a wetland has been converted in the last 10 years, it is not eligible. Standard agricultural and forest practices occurring on wetlands would not necessarily preclude credit eligibility. If land changes hands from the landowner conducting the development action to a new land owner not included in the definition in Footnote 1, and who is conducting the restoration action, the second landowner would be eligible to sell credits.

¹The landowner includes, “the wife, husband, son, daughter, mother, father, brother, brother-in-law, sister, sister-in-law, son-in-law, daughter-in-law, mother-in-law, father-in-law, aunt, uncle, niece, nephew, stepparent, stepchild, grandparent or grandchild of the owner or a business entity owned by any one or combination of these family members.” This language is in ORS 215.205 (6) and applies to the development of “lots of record.”

Minimum quality standards

Creditable projects also need to meet a minimum standard of quality. The time and investments required to create, verify, and register credits is significant. Quality standards help save time and money by ensuring good site selection and project design prior to making these investments.

If a restoration action includes planting as a component, that planting must consist of locally-sourced native species to the extent available. Planting must consist of suitable diversity and maturity, which are planted at established density levels based on appropriate reference conditions. Each market will set minimum standards. For riparian planting, the planting plan must include an appropriate mix of trees AND shrubs (e.g. no less than 20% of stems as trees and no less than 20% of stems as shrubs).

Minimum standards for other types of restoration actions may be added for specific markets.

Land protection

Creditable projects will also need to include land protection agreements to sell credits. These requirements may vary by market, but land protection ensures benefits are protected as landowners may change. Long-term agreements that run with the land, such as easements, are always preferable to short-term contracts. Yet, requiring permanent easements is a significant barrier to entry for landowners thinking of entering markets and is not recommended for temporal impacts.

For permanent impacts (e.g. wetland removal and fill or species take), credible projects need permanent conservation easements or another equivalent agreement (deed restrictions, covenants, or agreements from public agencies). For temporal impacts (e.g. air or water pollution), credible projects, at a minimum, need an appropriate agreement such as a lease, contract, or equivalent covering the crediting period of the project. For example, if nutrient reductions are sold for five years, there needs to be at least a five-year lease with the landowner to protect those reductions. In special cases (e.g. fish passage removal), where the credited stream reaches are not owned by the project developer, credit can only be awarded for those reaches where the landowners have signed agreements not to install barriers in the future and to retain whatever riparian corridors are there at the time of crediting. These agreements do not need to be recorded with the property, but they do need to be registered as part of the credit issuance process.

Documenting avoidance and minimization

Buyers/permittees will also need to meet some minimum standards before accessing markets. These standards are often set in agency rules. Generally, these rules require that buyers avoid or minimize the impact of their development actions, by being in full compliance with all relevant laws and rules related to offsetting their impact through the best practicable technology and practice, prior to using credits to offset impacts. Agencies will provide buyers with documentation if this requirement is met at the planning level and/or design level of an impact project.

Trade and service areas

Most eligibility will be dealt with as buyers and sellers access markets, but some trades are not appropriate. Service/trading areas make it clear market participants which types of buyers and sellers can conduct trades with each other. They help to make trades spatially-relevant.

All trades will abide by service area restrictions specific to the currency being traded. For wetlands and salmonids, the 4th-field hydrologic unit is the default size of the service/trading area unless a compelling case can be made by any party to expand or constrict the size. For water quality, the service area is defined by the area covered by the TMDL or other regulatory instrument. For prairie and other upland species, the Eco-region is the default size of the service/ trading area unless a compelling case can be made by any party to expand or constrict the size. Recovery Plan area will be defined as the service area for listed species with recovery plans.

B. Credit issuance process

Similar to eligibility criteria, verification and credit issuance are types of assurance that apply to sellers, buyers and individual trades. Verification is the process of taking credit estimates produced by project developers, confirming that the project meets the market's minimum quality standards and eligibility, that the quantity of credits were estimated accurately, and that all procedures have been followed and documentation is in place. Verification can range from intense, re-running of calculations and visits to the site, to office review of monitoring reports that confirm no significant changes have occurred. Intense verification is often referred to as "full" or "complete" verification, and the check-ins are often termed "partial" verification. Credit issuance is the act of releasing credits for sale and is determined by the market manager after reviewing all necessary documentation.

Verification

All credits, prior to being issued by agencies, must undergo verification by the relevant agency or by a neutral third party accredited by the Willamette Partnership. All credits listed on the Willamette Partnership's credit registry must undergo third party verification, but the Partnership will accept agency verification.

The Willamette Partnership will maintain an accredited pool of qualified verifiers. Verifiers are hired, paid, and selected by the Willamette Partnership and funded by fees charged to buyers and sellers.

The Willamette Partnership's verification occurs on a five-year cycle modeled after carbon verification protocols. A full verification is conducted in Year 1 following construction of a development project or restoration action. This will always include a field visit to check credit estimates and as-built conditions. Annual, partial verification of monitoring reports submitted by credit sellers will be conducted in Years 2-4. Site visits in years 2-4 are not required, but can occur at the discretion of the verifier or the

responsible agency. Another complete verification will be conducted in Year 5. Verification cycles continue through the life of all credits. For permanent impacts, verification will occur in two phases. Phase I is described above and continues through the development life of a credit project. As a project moves into long-term management, only a full verification will occur every five years, and only if required by the agencies.

The estimates of debits submitted by buyers will need to be verified with the same level of rigor as the credits a seller produces, but only once as part of the permitting process and prior to impacts occurring. As buyers move through permitting and verification, re-opening clauses in agency or market agreements will be minimized.

Agencies will give full consideration to third-party verification reports submitted to the Willamette Partnership's registry. Agencies will be solely responsible for issuing credits.

Credits generated by mitigation done in advance of impacts and in accordance with market rules will count toward future impacts.

As projects begin to generate multiple types of credits and debits under the jurisdiction of different agencies, it is in the agencies' best interest to authorize, encourage, and where possible require a single or connected group of registries to track credit issuance and transactions. The agencies strongly encourage use of a single credit registry managed by a third-party market administrator. This registry will need to assign unique serial numbers to credits, so no credits can be sold more than once. The registry will need to provide access to the public, generate reports for Agencies at regular intervals, and provide access to the documentation underlying credit issuance and transactions. The Willamette Partnership will have created a registry that meets these specifications by September 2009, and agencies will accept and encourage use of this registry to the extent possible.

C. Calculating credits and debits

Calculating multiple credits from one project demands a standardized approach to credit accounting. The Willamette Partnership's credit accounting protocols provides such an approach. The agencies will accept and use the credit issuance process described in the Willamette Partnership's General Crediting Protocol.

Credits are calculated and accounted for using similar habitat areas within a project site (called map units). The crediting protocols listed in the references describe the criteria for establishing map units.

A project developer first determines if their project is eligible to either buy or sell credits. Once their project is determined to be eligible, baseline conditions are calculated and future conditions are projected based on restoration or development plans. This produces a credit estimate for permitting and other necessary agency approvals. Once conservation or development actions have begun, project developers create a revised credit estimate based on as-built conditions. These credit estimates are accounted for at the map unit level.

This credit estimate is verified, credits are issued by agencies, and placed on a registry. Many mitigation projects will phase their credit releases over time as projects achieve performance standards. See the credit specific protocols for performance standards and credit release schedules available on the Willamette Partnership's website at www.willamettepartnership.org.

For both buyers and sellers, trading ratios will be replaced by a contribution to a Reserve Pool. A portion of the credits needed or created will be placed aside in this "Reserve Pool" to guard against a variety of risks ranging from inaccuracies in the calculation methods to financial risks, and from natural disturbances to the risk of temporal loss. These Reserve Pool contributions work exactly like, and replace, trading ratios. Buyers will always need to buy credits at more than a 1:1 trading ratio (e.g. impacts of 10 acres will require at least 10 acres of mitigation). Except for extreme cases, the effective trading ratio will be less than 3:1. See Appendix X for more on determining Reserve Pool contributions.

D. Program Monitoring and Adaptive Management

Functions-based accounting is a tested and valid process, but it is fully anticipated that adjustments will be needed. This Statement applies for two years from September 2009 through September 2010. In two years, a complete evaluation and revisit of this Statement will be conducted.

In the interim, the development and restoration projects completed under this Statement will be tracked via their verification reports. Active comment will be consistently accepted. Where minor changes can be made, they will be made. All credits issued prior to changes will not be subject to those changes unless all parties agree to adjustments. For major changes affecting the credit quantities issued to future project developers, those changes will not be made until September 2011 unless there is good reason to change or participants mutually agree to the change.

IV. Future Work

The items below have been identified by the Working Group as needing more attention. Agencies will work closely with the Willamette Partnership to address these issues in time for the September 2011 update to this Statement. Issues include:

1. Third party verification. Some markets can immediately accept third party verification as part of their credit issuance. Others may need time to see how it works, new rules, or a clearly distinction of responsibility between verifiers and agency staff.
2. Single credit registry. Agencies cannot require use of a single credit registry at this time. They can recommend it, but may need to make changes to rule or law in order to adopt a single registry. Work is also needed to connect databases for permitting and other internal agency information with the registry.

Appendix X: Determining Reserve Pool Contributions

TO BE DETERMINED BETWEEN WORKSHOP 4 & 5