



**INCREASING THE PACE, EXPANDING THE SCOPE, AND
IMPROVING THE EFFECTIVENESS OF CONSERVATION**

A CENTRALIZED EXCHANGE PLATFORM FOR TRADING IN THE WILLAMETTE ECOSYSTEM MARKETPLACE

INTRODUCTION

This technical memorandum presents the Draft Market Framework recommended for consideration by the Willamette Partnership. This draft framework introduces the summary results of a gap analysis that, together with feedback received on previous presentations of alternative market elements and market models, informed the development of the recommended centralized framework.

GAP ANALYSIS OF MARKET FRAMEWORK ELEMENTS

The primary finding of the gap analysis on key market elements is that there are numerous gaps that must be addressed to develop and support the envisioned Willamette Ecosystem Marketplace:

- A few elements exist in a form immediately applicable and available to the Willamette Ecosystem Marketplace;
- Other elements exist by way of example or analogy and must be tailored and adapted for use in the Willamette Basin;
- Some critical gaps can be filled by assembling existing building blocks, which in their current form are insufficient without modification or augmentation; and
- Other critical gaps can only be filled with new advancements in science, policy, or technological tools.

A secondary finding—but an important one which bears on how the gaps are best addressed—is that where elements or building blocks exist they are generally in a *decentralized* or situation-specific form. An evaluation of alternative options for various market elements characterized them on a spectrum from decentralized to centralized in nature (see *Market Framework, TM#1, Task 4, TO 1, October 18, 2006*). A subsequent presentation and discussion with the Willamette Partnership Board presented examples and aspects of market models reflecting different degrees of decentralization and centralization, including clearinghouse functions, facilitation services, credit brokering, and market making (see *PowerPoint presentation from September 27, 2006, Slides 35-71*).

The result of these evaluations and discussions was a general consensus and direction from the Board that many of the elements would need to be implemented in a *centralized* fashion in order to achieve the informational, transactional, and resource efficiencies assumed necessary

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to successfully launch and operate a multiple credit market serving the entire Basin. Thus, to the extent market elements already exist in whole or in part, but are decentralized, a gap exists until they can be centralized or duplicated with some degree of consistency or standardization across the marketplace.

The market elements, including key regulatory components, discussed below, are based on previously presented configurations of the elements, but have been defined and organized specifically for this analysis so as to best represent the existing capabilities and key gaps identified. A narrative summary of the gap analysis conducted follows this list.

- Legal, Regulatory, and Policy Authorizations
- Credit Baselines
- Trading Areas and Trading Ratios
- Credit Calculations
- Credit Generation: Certification, Verification, Registration
- Credit Market Information: Notification of Offers to Buy and Sell, Cost-Basis and Pricing
- Reporting and Tracking Transactions
- Credit Project Monitoring and Re-Certification
- Market-Level Reporting and Evaluation
- Public Outreach and Education

Legal, Regulatory, and Policy Authorizations

The Oregon Department of Environmental Quality Water Quality Trading Internal Management Directive (IMD) (January 2005) describes the legal and policy basis for trading in Oregon. “DEQ is using its broad authority under state law to incorporate provisions for trading through various mechanisms. These include provisions for incorporating trading into permits and establishing provisions for trading in TMDLs or watershed plans. These provisions may incorporate or be supplemented by private contracts between sources or third-party contracts where the third party provides an indemnification or enforcement function.”

The IMD lists a number of policies dealing with: Regulatory Compliance, Enforceability, Public Participation, Protection of Designated Uses, Antibacksliding, Antidegradation, Baselines, Credit Creation and Duration, Compliance and Enforcement, Program Evaluation, EPA Oversight, and Dissolution of Credits.

These authorizations and policy pronouncements establish a solid framework for trading but will need to be supplemented by a variety of mechanisms to fully implement a trading program that includes Clean Water Act (CWA) pollutants. Mechanisms already identified for such development and adaptation include:

- Develop DEQ Permit Language / Standard Schedule template;
- Evaluate General vs. Individual permit framework;

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- Develop MOA for WP/DEQ framework; and
- Develop the legal elements needed to implement ecosystem marketplace.

Where other ecosystem credits are involved, the cognizant regulatory entity may need to make a policy statement regarding the creditability and procedures for trading credits related to wetlands, floodplain, and habitat benefits. Some discussions have occurred among Partnership representatives and agencies with jurisdiction over these areas, including the Department of State Lands, NMFS, and some informal statements have been made, but something more formal may be needed to guide market participants.

Credit Baselines

Credit baselines are the level of responsibility a discharger or landowner must fulfill, with respect to pollutant load reductions or other environmental improvements, before additional benefits are generally creditable. For CWA constituents, the IMD specifies the baselines as follows:

- Point sources—permitted effluent limitation or TMDL WLA; and
- Nonpoint sources—the level of pollutant load associated with existing land uses and management practices that comply with applicable state or local regulations.

These general guidelines have been converted into quantitative estimates of potential kilocalorie supply and demand for selected sources. An assessment of potential demand and supply in other potential credit markets involving wetlands, habitat, and carbon offsets, and habitat was prepared with some degree of quantitative estimates (carbon offset projects may be important in the Willamette Ecosystem Marketplace because they could generate other types of credits beyond carbon sequestration, including for example pollutant load reduction and habitat enhancements, depending on the type of project implemented.). Agencies with jurisdiction over these types of credits have not specified baselines for trading purposes. It is assumed these credit baselines could be developed from existing policy, but that additional analysis and or negotiations will be needed to establish baselines for other credits.

Trading Areas and Trading Ratios

The IMD specifies that trading partners be located in the same watershed, as defined by a TMDL, watershed management plan, or other DEQ-approved designation. The IMD also states that “the use of greater than 1:1 trading ratios is appropriate between point and nonpoint sources.” For example, Clean Water Services temperature credit program employs a ratio of 2:1 (two kilocalories reduced through shade plantings count for one kilocalorie of credit).

Some additional technical work and discussions involving key regulatory agencies will be needed to refine application of this policy, including preferences or limitations on directions of credit trades, treatment of subwatersheds, and whether trading ratios may be needed or desired to address differences in equivalency between benefits at the credit use versus credit

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generation location. The Partnership's work program will address some of these needs for demonstration purposes and will provide recommendations for addressing trading areas and ratios beyond the demonstrations.

Credit Calculations

The IMD provides detailed information on calculating thermal credits generated by riparian shading. It also provides some information on flow augmentation credits, and nonpoint source BMP credits for nutrients. The CWS NPDES Watershed permit and supporting documents provide information on point source to point source ammonia and BOD credit calculations for the Tualatin River. The Partnership's technical work program will develop additional information regarding these and other types of credits using available science. It is expected that some data gaps will exist that will need to be addressed before guidance for credit calculations covering the full complement of ecosystem credits would be available.

Credit Generation: Certification, Verification, Registration

There is currently no system in place for certification, verification, or registration of CWA-related credits. Wetlands, carbon, and endangered species mitigation programs involve different types of procedures and levels of detail to document mitigation credits within those programs. Thus, processes and rules are needed to govern CWA-related credits within a multi-credit market. With respect to other types of credits, it is assumed existing rules in those programs would serve as a starting point for certification, verification, and registration within a Willamette Ecosystem Marketplace, but that additional work may be needed to ensure consistency as appropriate across credit types. The Partnership has proposed a conceptual approach to filling this gap, but additional further work would be needed to implement the recommendations.

Credit Market Information: Notification of Offers to Buy and Sell, Cost-Basis and Pricing

There is currently no centralized location for this type of information for most types of credits being considered for the Willamette Ecosystem Marketplace. This is true for CWA constituents, wetlands opportunities, and habitat projects. To date, market information, including offers to generate, bank, or trade credits and terms of the deal (e.g., price, number of credits, etc.) has been exchanged ad hoc, bi-laterally between parties, or multi-laterally, with various types of third parties facilitating the development and exchange of information. With respect to carbon-related credits, which can generate other types of benefits of interest to the Willamette Ecosystem Marketplace, The Climate Trust, the Chicago Climate Exchange, and a number of other national and regional brokerages offer somewhat centralized sources of information, but collectively they do exhibit gaps and overlaps in coverage. There are some consolidated sources of information for these types of credits, but it appears that no one source is complete, gaps exist, as do overlaps in coverage.

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The only CWA trades authorized in Oregon have been the internal BOD and ammonia trading for the CWS wastewater plants, and the CWS riparian thermal load trading program. Neither of these programs have required the development of credit cost-basis and pricing.

Reporting and Tracking Transactions

For CWA-related credits a reporting and tracking system has not yet been developed. The CWS NPDES Watershed permit requires an annual report summarizing the results of its credit trading activities for the previous year, including:

- (a) Identification of Trading Baselines;
- (b) Summary of Actual Loads Discharged;
- (c) Summary of Credit Trades, including credits used to meet baselines, as well as credits generated, purchased, or held but not applied to baseline compliance;
- (d) Environmental Benefits Summary, describing how the credit trades supported watershed management objectives; and
- (e) Efficiency Summary, describing how the credit trades supported cost effective and timely watershed management.

Existing programs covering other types of credits, such as those related to wetlands, carbon, and habitat, each have different systems for documenting and recording individual mitigation or trading transactions. As with other market elements, there is no centralized or consolidated reporting and tracking system that incorporates some standardized methods and approaches, as applicable, across the potential credit types.

Credit Project Monitoring and Re-Certification

There is currently no system or standardized set of requirements in place in Oregon governing monitoring projects that generate water quality credits, or to specify a process to periodically re-certify credits (re-certification, for example, might involve inspecting a BMP every year to confirm that it is still in place, being properly operated and maintained, and generating the type and level of credits its owner has banked, offered, or sold. Existing programs covering other types of credits each have different sets of requirement, some of which are more comprehensive than others.

Market-Level Reporting and Evaluation

Market-level reporting and evaluation would focus on the cumulative activity and benefits of a specific type of credit across all transactions, and also on the cumulative activity and benefits of all transactions across credit type. There is currently no such market-level system in place in Oregon for water quality credits. Existing programs covering other types of credits each have different processes and provide varying levels of detail about market-level results, as distinct from results for individual transactions, or particular participants.

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Public Outreach and Education

With respect to water quality credit trading, the IMD makes a strong statement about outreach and education at various stages in program development and implementation:

“DEQ supports public participation throughout the development of water quality trading programs. Stakeholder involvement is necessary for program effectiveness and credibility. To insure adequate opportunity for public participation, permits incorporating trades should be considered to fall into Category IV under OAR 340-045-0027. As trading becomes more familiar to the public, permits incorporating trading may be deemed to fall into [different categories for the purposes of considering appropriate outreach and education needs.] Complex trades such as those involving multiple sources or trades that are precedent-setting should be developed with an advisory process.

As trading is authorized in permits and trading plans are submitted to DEQ, these plans will be made available for public review and comment. In the interest of keeping stakeholders informed about trading in Oregon, DEQ intends to maintain a web page with a designated contact person, current trading policy and information on trading activity in Oregon.”

Programs involving wetlands mitigation, carbon, and habitat, for example, each have varying degrees of outreach and education, and utilize some traditional and program-specific mechanisms.

Outside of the Partnership’s overall program, and the Partnership’s demonstration program, there is currently no one consolidated outreach and education effort for the Willamette Ecosystem Marketplace.

Gap Analysis Summary

The gap analysis shows that there are many needs and challenges in getting started to create the marketplace, including:

- Technical and scientific gaps;
- No dependable regulatory framework;
- No credit standards, no transaction rules;
- Questions about how buyers and sellers find each other;
- No clear process and procedures completing deals; and
- No automatic monopoly with respect to who can easily be the first to provide the range of needed market services.

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The potential options for marketplace creations would be to either leave the status quo of an unorganized marketplace, develop a marketplace through decentralized approaches or develop a centralized market.

Based on discussions with the Willamette Partnership Board of Directors and the project team's consideration of the options, including successful examples in water quality credit trading and other environmental credit markets, a market framework with predominantly centralized features is recommended for further consideration, as described in the next section of this TM.

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FILLING THE GAPS: A CENTRALIZED MARKET FRAMEWORK—“WILLAMEX”

Rationale

The gap analysis showed that no one entity in the Willamette Basin has an existing or immediate monopoly on the potential ecosystem marketplace. The prospect of many separate markets—either by watershed and/or credit type—seems economically inefficient and fraught with the potential for many different sets of potentially inconsistent rule systems. To have immediate and long-lasting relevancy and influence over the envisioned market-based approach to restoration and capture the economies of scale and market consistencies that a centralized marketplace can offer, something unique must be offered to bring people to the central marketplace. There are many elements that make a market, and many players that have role and an opportunity to help develop and implement it. Success requires a significant coordination and collaboration effort—and without a unifying feature that can serve as the cornerstone, the effort could be unsustainable and fail. The cornerstone for a central Marketplace can be laid by offering a state-endorsed, regulator-approved, and trader-accepted set of recognized credit standards and the mechanisms to facilitate deals efficiently, cost-effectively, and with certainty in credit quality.

Introduction to the “WILLAMEX”, “WILLBR”, AND “WILLMA” Concept¹

“WillamEx” would be the state-endorsed centralized administrative and electronic marketplace for ecosystem-related credits in the Willamette River Basin. WillamEx would provide a registry and trading system for pollutant reductions and other environmental improvements in pre-approved, standardized exchange units, including kilocalories, wetland functions, and habitat types. WillamEx would be self-regulated according to operating rules and policies that would be developed in collaboration with its Founding Members and state agencies with regulatory authority over the environmental performance of participants in WillamEx. Within the Basin, various entities face regulatory requirements or take voluntary actions to improve the health of the ecosystem. WillamEx platforms would provide the means to document benefits created and track net progress toward specified Basin-wide restoration targets.

The goals of WillamEx would be to:

- Help credit buyers and sellers find each other and facilitate efficient exchanges through the use of pre-approved credit verification and certification procedures;
- Create financial incentives for voluntary restoration actions by translating environmental benefits into a bankable and tradable commodity with monetary value;

¹ This section presents essentially the same information and recommendations as were presented in the “Preliminary Draft Prospectus for the Willamette Ecosystem Bank and Exchange” (a seven page document delivered on December 11, 2006). Selected language was modified, including specifically the grammatical tenses, to make this presentation more suitable for a Technical Memorandum. Additionally, graphic representations of the overall market and elements thereof that were developed for the PowerPoint presentations to the Board and the Steering Committee (December 13th and 14th, 2006, respectively) are included in this TM, but were not yet developed when the Preliminary Draft Prospectus was first delivered and circulated. The terms WillamEx, WillBR, and WillMA were “Googled” with no meaningful results. If these or other terms are ultimately used, a trademark search would need to be performed to develop and register sufficiently unique names.

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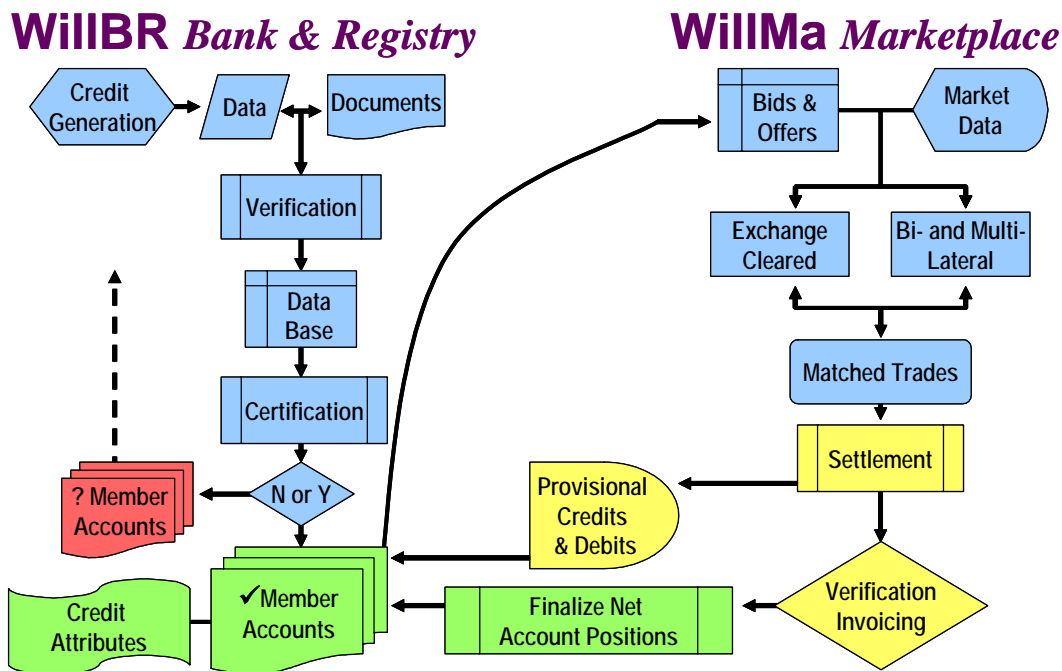
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- Establish, support, and regulate credit standards that ensure credibility of the commodities for the protection of the participants, especially those using credits as part of a regulatory or contractual compliance strategy; and
- Help educate the public about the restoration needs in the Willamette River Basin and the opportunities for beneficial action.

Banking and Trading

WillamEx would have two major platforms—The Registry and The Marketplace, as depicted in Exhibit 1.

Exhibit 1. Example WillamEx Platforms



The Willamette Bank and Registry—WillBR could be a secure web-site² and database system that would be the official repository of ecosystem credits created and purchased by WillamEx Account Holders, also referred to as Members. Members generating credits would deposit them in their WillamEx registry account by following the credit calculation, documentation, and verification procedures in the WillamEx Rules (to be developed) specific to the type of credit(s) being deposited. A “hold” would be placed on the credits until they are certified by WillamEx through an audit procedure carried out by WillamEx staff or its technical consultants. Upon certification, the hold would be removed and the credits would be available for trading. Members purchasing credits through WillamEx would deposit them in their registry account after they have been processed by The Marketplace. Key information would be attached to the credits when they are placed in the registry, including as applicable

² It would be optimal to have a web-based registry, but this will be dependent on funding.

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minimum asking price, and “vintage” (i.e., the period over which the benefit represented is live and during which the credit is tradable).

The Willamette Marketplace—WillMa could be an internet-accessible³ database system that matches [automatically or allows administrators to] requests for and offers of credits and would be used to execute trades among WillBR account holders. WillMa would display and track a range of market data, subject to any confidentiality provisions in the WillamEx Rules, including credit prices (transactions, average, high, low, closing for reporting period), trade sizes, total volume, and vintage.

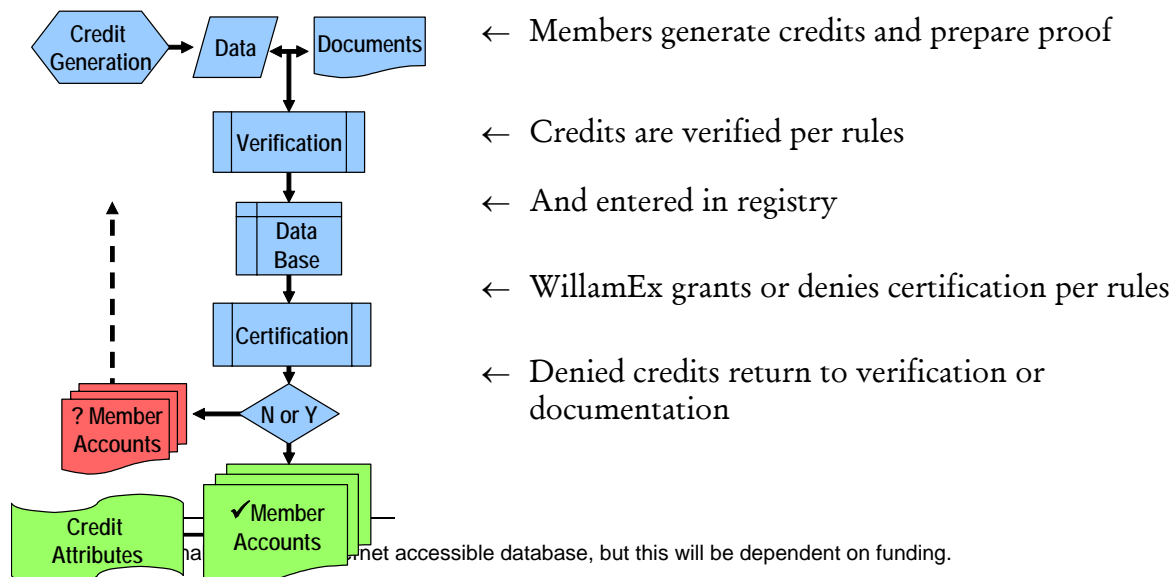
WillMa could support several types of exchanges:

- **Exchange-Cleared** trades would be anonymous to the trading partners and within the transaction reports, except to WillMa administrators and system auditors. Members would submit bids and offers which would be matched based on price, vintage, and time priority. Buyers’ credits and sellers’ debits would be recorded in their WillBR accounts, but would not be connected to each other.
- **Bi- or Multilateral Exchanges** would involve one or more members that have agreed to a specific set of negotiated terms and conditions with respect to price, quantity, vintage, etc. and submit the request to WillMa for processing.
- **Trades between Members and non-members** could be considered, subject to rules that would be needed to qualify non-member credit buyers and sellers.

WillMa would process all transactions, including verifying credit attributes in WillBR prior to trade settlement, making provisional credits and debits to buyers’ and sellers’ WillBR accounts pending settlement, producing invoices for buyers to secure settlement, and finalizing net account positions in WillBR post-settlement.

These processes are summarized in Exhibit 2 for WillBR and in Exhibit 3 for WillMa.

Exhibit 2. Summary of WillBR Processes

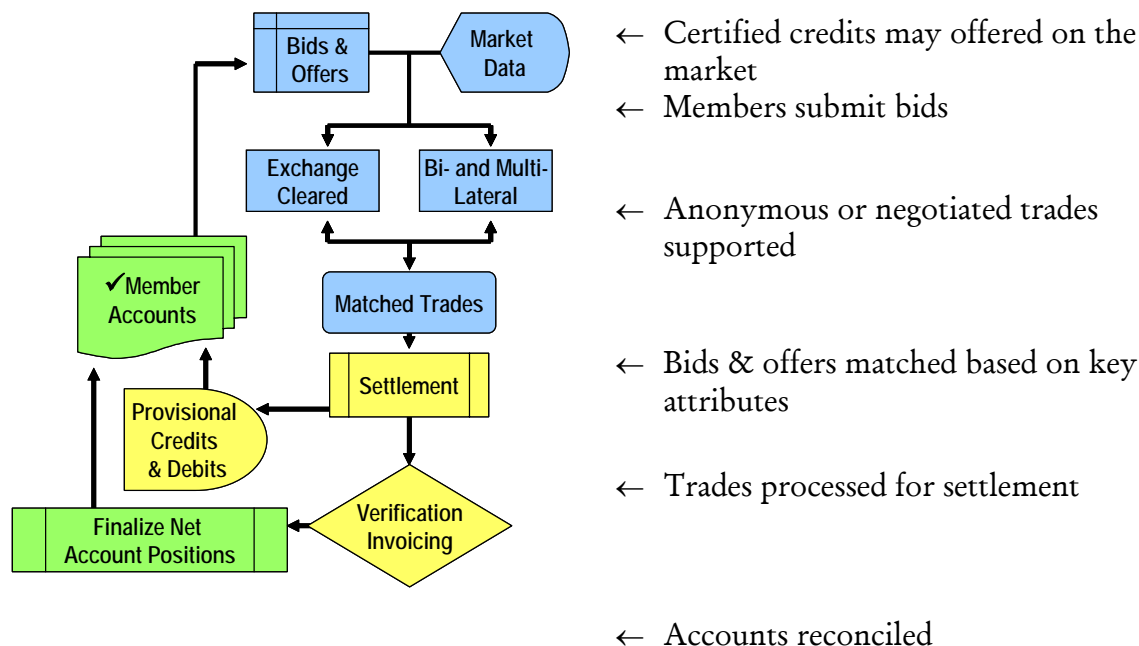


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← Certified credits deposited into Member accounts

Exhibit 3. Summary of WillMa Processes



Reporting

WillamEx could be configured to generate a number of pre-specified reports and support additional queries by Members and WillamEx administrators, as described below.

- **Individual Members:** Selected reports about individual member's registry accounts and trading activities could be automatically generated or requested from the WillBR and WillMa databases. These could follow pre-set or custom formats to serve member's own tracking and evaluation needs, or conform to regulatory submittal requirements.
- **Marketplace Collective:** As part of its agreements with participating regulatory agencies, WillamEx and its members could agree to compile and report certain consolidated summaries of banking and trading activities to support their oversight responsibilities with a balance between transparency and confidentiality of market participation. These reports could be negotiated with the regulatory agencies and would be described in attachments to the Member Agreement. Becoming a member of WillamEx would secure the necessary permissions to provide individual data in summary format.

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- *WillamEx, WillBR, and WillMa Management and Auditing*—WillamEx staff and its technical consultants could generate and review a variety of reports to ensure the integrity of its operations, perform QA/QC and oversight functions, and to understand how it can best serve its members. The information contained in these reports would be confidential, subject to the terms and conditions of the Member Agreement and WillamEx Rules.

Additionally, WillamEx could publish various materials for the benefit of its Members, Willamette River Basin stakeholders, and other interested parties and make them publicly available following pre-release to Members, including for example: an *Annual Report*, a *Quarterly Newsletter*, and *Monthly Summaries*.

Credit Verification and Certification

Members would be responsible for verifying credits submitted to the Registry subject to the applicable published rules which would have been negotiated by regulatory agencies and other authorities. Members must follow these pre-approved methods and approaches for calculating and documenting credits. By following these verification procedures, Members could self-verify using an independent verifier accredited by WillamEx. If these procedures are not followed and an accredited verifier not used, Members would need to submit proof that the relevant cognizant regulatory agency or other authority accepts the proposed credits as real and valid and has granted direct regulatory certification. This certification route may not be encouraged or supported by WillamEx, except on a case-by-case basis, for example when the credit proposal is not adequately covered by the pre-established guidelines or is otherwise uniquely complex.

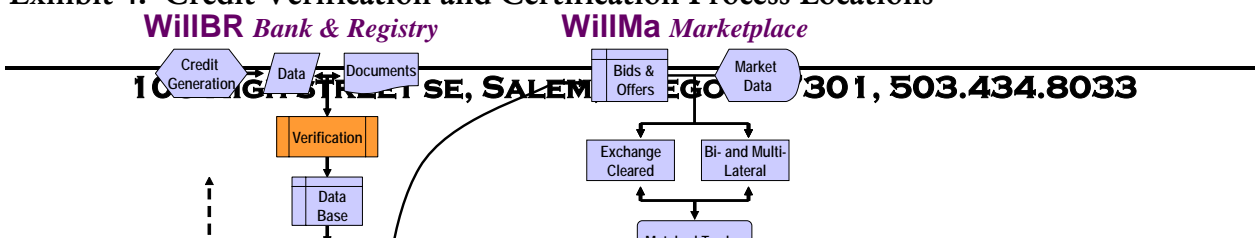
WillamEx Founding Members, in cooperation with selected regulatory agencies, could establish a Credit Verifier training and accreditation process. This process would be described in a document such as a WillamEx Credit Verification Handbook. A list of accredited verifiers could be obtained by contacting WillamEx staff or visiting the WillamEx website.

Upon the deposit of duly verified credits into the Registry, WillamEx staff or its technical consultants would certify the credits by performing an audit of the verification documentation. This audit process would be developed in collaboration with regulatory agencies and would be carried out in accordance with Credit Certification Rules that would be developed.

Most types of credits would require periodic re-verification and re-certification. The specific period and requirements would generally be specific to the credit type, and possibly also the type or location of the project or activity generating the credit. For example, periodic field inspections, modeling analysis, and/or environmental monitoring may be required or advised. Members could consult a document such as a Credit Verification Handbook and Credit Certification Rules for details.

The locations in the WillamEx process graphic that support credit verification and certification are highlighted in orange in Exhibit 4.

Exhibit 4. Credit Verification and Certification Process Locations



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Credit Recruitment

WillamEx, or one of its founding members could maintain a GIS-based system of priority locations and pre-screened project opportunities. Additionally, some members of the WillamEx who have historically maintained lists and descriptions of potentially creditable projects may make these available on their websites, or upon request. Members could consult these sources for credit opportunities and would be encouraged to visit WillMa and periodic WillamEx publications to identify unmet credit demand.

Members of WillamEx, its Board of Directors, or its staff could from time to time identify priority credit creation opportunities that the marketplace has not sufficiently incentivized. Such identifications would follow WillamEx's Credit Recruitment Policy, for example. To the extent that WillamEx takes a financial position or other type of interest in a project that generates credits eligible for banking only or exchange, such position would be disclosed to Members according to WillamEx Rules.

Public Outreach and Education

WillamEx should be committed to ensuring that Members, potential members, watershed stakeholders, and the general public understands the challenges facing Willamette Basin restoration efforts and the opportunities to participate in meeting those challenges offered in this credit marketplace, as well as through other means. WillamEx could issue a range of periodic publications designed to support this goal, and host special forums and seminars. Additionally, WillamEx Members could offer a wide range of ways to learn more about Willamette restoration needs and initiatives and opportunities to get involved. A list of past and upcoming outreach and education events could be posted on the WillamEx website, on selected Members' websites, and could be available from staff upon request.

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Relationship with Cognizant Regulatory Agencies

To support the creation and implementation of the Willamette Ecosystem Bank & Exchange, WillamEx Founding Members would negotiate credit standards, verification protocols, and certification procedures, supported by a range of additional guidance, to facilitate and enable the efficient and credible exchange of ecosystem-based credits. These negotiated agreements would be memorialized in a document like a Memoranda of Understanding signed by the WillamEx Board of Directors and the Directors of the participating regulatory agencies, natural resource agencies, and other authorities.

This relationship would provide members with a pre-approved credit verification and certification process that signatory agencies could accept without further documentation. This relationship would also provide members with pre-approved reporting forms, standardized data queries, and customizable reports members could get in a variety of formats (e.g., PDF, Word, Excel) that they could include in submissions to their cognizant regulator, or readily modify.

Selected regulatory agencies might join WillamEx as Founding Members, or as regular members, hold Board of Director positions, and might open Registry Accounts in their agency's name. This level of participation in WillamEx would exemplify the partnerships that make this ecosystem marketplace possible and successful.

These relationships would not convey to WillamEx any direct environmental or regulatory authority over its members or participants except as detailed in its member agreements, rules, policies, handbooks, and other guidances. Membership and participation in the Registry and the Exchange would not be substitutes for fulfilling regulatory requirements as specified in permits, ordinances, and other compliance documents, except as provided for said mechanisms. Members would need to take individual action to comply with requirements for performance, documentation, and reporting. In selected pre-established situations, WillamEx could generate or issue selected reports on a Member's behalf and may transmit this information to a Member's cognizant regulatory authority. In these transactions, WillamEx would not act as a responsible party, co-permittee, or in any other manner that would invoke liability for the environmental performance of its Members.

Member Services

WillamEx staff and its technical consultants could offer a limited set of services to its members, as would be outlined in the Membership Agreement. WillamEx could also maintain a roster of pre-qualified organizations and individuals that it deems have the necessary expertise and knowledge of the WillamEx rules and policies to provide assistance in the areas in which they have been pre-qualified. The set of services that could be provided by WillamEx staff, its technical consultants, and approved providers is briefly described below. A document, such as a WillamEx Services Handbook, could provide additional information.

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- Technical—including individual credit portfolio analysis and investment strategies, site planning, engineering, credit estimations, cost and financial analyses, modeling, sampling, monitoring, and performance assessments.
- Regulatory—including permitting support, language development, negotiations, and compliance assessment assistance.
- Legal—including regulatory-related legal analyses, risk assessments, contract development, negotiations, and preparation and submittal of legal filings.
- Facilitation and Negotiation—including supporting credit project siting and development, credit sales or use, stakeholder participation, public involvement, and bi- or multi-lateral deal-making.
- Outreach and Education—including identification of recommended opportunities and mechanisms, preparation of collateral materials, logistical and other support for meetings, seminars, and other forums and media events.
- Credit Package Submittals—bundled services that could include all or some of the above listed services, with objective of preparing the required documents to register credits.
- Credit Verification—separate from the above services, performing the specific verification function, according to established procedures, to register verified credits that pass the certification audit.

Member Benefits, Ecosystem Benefits

WillamEx members could save time and money when they choose to employ credit banking or trading as part of their regulatory compliance strategy or as part of their financial investment and/or environmental stewardship strategy. Members would know that regulatory agencies would accept WillamEx-cleared credits. Critical access to credit market information would help buyers and sellers quickly find each other and provide one-stop shopping when multiple trading partners are needed to secure or place credits. Convenient tracking and reporting tools would provide members with easy ways to evaluate their own positions and satisfy any reporting requirement with minimal or no administrative effort. Members would also have ready access to WillamEx staff, technical consultants, other members, and pre-qualified service providers for assistance with difficult to find or hard to place credits, or other needs.

WillamEx would provide its members with an opportunity to meet their regulatory or voluntary restoration goals more quickly and more cost-effectively and offer the chance to direct projects and activities to priority needs and locations. Cleaner water and land-based improvements will provide the watershed's humans, fauna, and flora with an ecosystem that can expand and sustain the environmental and economic benefits it delivers.

STEPS TO CREATE THE WILLAMETTE ECOSYSTEM BANK & EXCHANGE

The Willamette Partnership and other parties willing to invest in WillamEx to secure the watershed's targeted potential would need to follow a series of minimum steps—11 are

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suggested below. Some of these could occur in parallel, but there would necessarily be some sequencing or iteration prior to launching WillamEx.

1. Agreement in Principle with Regulatory Agencies and Other Authorities

Recommendation

The proposal for WillamEx would be shared and discussed with entities whose support is critical to the formation and implementation of the WillamEx. After an opportunity for review, comment, and revisions, the proposal would be converted into language for a Memoranda of Understanding, or other such document on which signatures secure the commitments sought.

Current Status (December 2006)

- Discussions with DEQ have been started regarding credit definitions and permitting issues.
- Informational meetings have been held with other key agencies, including: Department of State Lands, US Fish and Wildlife Service, NFWF, US Geological Survey, and, US Environmental Protection Agency.
- The Market Proponent would need to initiate a formal process to get agreements with these stakeholders.

2. Confirmation of Sufficient Member Participation

Recommendation

Further and specific analysis would be performed beyond the EPA grant-funded market appraisal to survey prospective members' interest in this opportunity and willingness to join and participate in the WillamEx. Surveys, focus groups, and additional Round Tables are a few approaches.

Current Status (December 2006)

- The Willamette Partnership's market appraisal identified categories of demand and priority locations, e.g., kcals and wetlands.
- Some formal and informal interviews were conducted as part of the appraisal and ongoing outreach efforts.
- There would need more quantification of market demand and specific discussions regarding the WillamEx concept with prospective participants.

3. Chartering a WillamEx

Recommendation

Political and legal discussions would be launched to identify, evaluate, and select the best corporate structure for the proposed organization, considering incorporation options available under Oregon statutes, authorities of existing organizations, and the desirability or need for special legislative chartering and institutional endorsement mechanisms.

Current Status (December 2006)

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- Different operational models have been identified.
- Some discussions have been held about whether a new organization is needed to perform some market functions, or whether an existing organization can take on these responsibilities.
- Political and legal discussions and an options evaluation would need to be launched to develop a more detailed recommendation.

4. Credit Standards

Recommendation

Procedures and protocols for estimating, calculating, modeling, documenting, monitoring, and evaluating credit creation and performance would be developed, negotiated with cognizant regulatory agencies, and published in an easy to understand and use format.

Current Status (December 2006)

- Kilocalorie crediting and debiting method is being documented using Clean Water Services methods and guidance.
- Other credit definitions under development as part of the EPA grant-funded project.
- Some technical and scientific gaps will still exist after the scoped work is complete.
- Market proponents would need to develop specific proposals, get approval, and prepare guidances.

5. Verification Standards

Recommendation

Procedures and protocols by which proposed credits are independently verified, including training and accreditation of pre-approved verifiers would be developed, negotiated with cognizant regulatory agencies, and issued. The verification program supported by the WillamEx, its members, or other entities would be supported at a level such that a sufficient supply and diversity of approved verifiers exists to serve this function.

Current Status (December 2006)

- Some of these recommendations would be met if the Credit Standards recommendations are carried out, as verification is about auditing the standards.
- Stakeholders would still need to establish auditing process and line up auditors.

6. Certification Standards

Recommendation

Procedures and protocols by which the WillamEx (its staff or technical consultants) review and audit submissions to the credit registry would be developed, negotiated with cognizant regulatory agencies, and issued.

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Current Status (December 2006)

- Much of this guidance could be drawn directly from credit standards and verification standards, recommended under other steps: certification audits the verification and makes a credit real, bankable, and tradable
- Stakeholders would still need to develop standards, get endorsement, and put them in place.

7. Initial Marketplace Architecture

Recommendation

Alternative manual, electronic, and web-based platforms available to create and deliver WillamEx, WillBR, and WillMA would be identified and evaluated along key criteria, including ease of use, time to readiness, cost to develop, functionality and access, and resources needed to operate and maintain. Options for providing immediate basic services that allow future scalings and expansions to match market demand and evolution would be preferred.

Current Status (December 2006)

- The Partnership's project team has documented some different examples in Market Framework deliverables submitted to date.
- The Marketplace creation task in the EPA grant-funded project provides for further evaluation of options and development of a prototype.
- Following these evaluations, market proponents would need to select the preferred architecture, draft a blueprint, and build it.

8. Accrediting Verifiers and Pre-Qualifying Other Service Providers

Recommendation

As soon as verification standards are approved, WillamEx and its members could launch an effort to recruit and accredit qualified verifiers. A separate qualification process could be developed and implemented to identify and pre-approve a range of firms, non-profit organizations, and individuals to create a roster members can consult for assistance in participating in WillamEx.

Current Status (December 2006)

- Some of the verifier accreditation recommendations overlap with Steps 4 and 5.
- Prospective candidates could be involved in standards development.
- The Partnership is already familiar with consultant roster process, and other agencies and organizations potentially supporting the marketplace also have experience with contractor and consultant qualification and selection procedures.
- The accreditation process could be coordinated with efforts for outreach, education, and member recruitment.

9. Rules and Policies

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Recommendation

A range of rules and policies would be developed to govern membership, WillamEx operations, participation in the Registry and Exchange, expected roles and responsibilities, and binding commitments. The types of rules and policies envisioned were outlined in the above description of the WillamEx concept.

Current Status (December 2006)

- Some ingredients for this step are included in other steps.
- Actions needed to complete this step would necessarily follow completion of previous steps.

10. Business Plan—Business Model and Funding Mechanisms

Recommendation

Consistent with the type of corporation selected, a business plan for the new organization or addition to an existing organization would describe its governance model (roles, responsibilities, and liabilities of Board, staff, and consultant positions), identify expected expenses, and demonstrate how its expenses will be covered by fixed or variable revenues. Due diligence of this plan should be performed to provide confidence that the WillamEx is capable of launching and maintaining its promised operations and services.

Current Status (December 2006)

- Some discussions about alternative business models and funding sources have already occurred and more are planned.
- The market proponents would still need to develop a formal plan and get endorsement from key participants and stakeholders.

11. State/Regulatory Approvals, Enablers, Endorsements, Anointments

Recommendation

As decided and agreed to in the previous steps, the formal legal and other mechanisms to convey upon WillamEx the necessary authority to incorporate and operate according to the set of governing agreements, rules, and policies would be drafted, negotiated, and duly executed.

Current Status (December 2006)

- Many of the building blocks would come out of the other steps.

NEXT STEPS

As stated in the introduction to this TM, the analyses, concepts, and recommendations regarding the missing pieces needed to develop a Willamette Ecosystem Marketplace and how those pieces might be developed have been presented to the Willamette Partnership's Board of Directors and the EPA grant-funded project Steering Committee in various forms, including the previously referenced TM, PowerPoint presentations, and Preliminary Prospectus for

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WillamEx. The Board and the Steering Committee are considering these recommendations and will provide feedback and further direction to the Partnership's Project Manager and project team which will be incorporated into subsequent activities and carried out by Partnership staff and its consultants under the EPA workplan for the Willamette Ecosystem Marketplace project.

Upon the Partnership's acceptance of the marketplace framework, as proposed or as may be modified, a second gap analysis in the form of a an assessment of the capabilities and willingness of selected cognizant regulatory agencies, other state institutions, watershed-based groups, other stakeholders, and potential market participants to fulfill specific roles and responsibilities as relates to creating and implementing the marketplace. This assessment will be used to refine and expand the detail of the proposed market framework and suggested evolutionary path, solidify recommended roles and responsibilities, and prepare an estimate of the financial and staffing resources needed and available to implement the proposed framework.