

Chelan County Habitat Farming Enterprise Program Feasibility Study

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I. INTRODUCTION AND BACKGROUND

The desire to integrate fish and wildlife habitat restoration and protection with the economic strategies of tree fruit growers in the Entiat and Wenatchee River watersheds has motivated Chelan County to explore the feasibility of creating and managing a voluntary program that would provide farmers appropriate economic return for growing and maintaining riparian habitat as an alternative to traditional crops. While this concept originated among tree fruit farmer members of the Entiat Watershed Planning Unit, others in the area including the Wenatchee River Watershed Planning Unit and the Peshastin Creek Growers Association are interested in learning more about how a habitat farming program could be structured to provide value to farming operations and to the environment.

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Private landowners and farmers in this region and others around the country are increasingly recognized for the good land stewardship that they provide.¹ Their need to succeed economically while farming ecologically is also more frequently acknowledged by conservation organizations, consumers and the general public. In many places across the country private landowners, including some tree fruit growers, are playing a significant role in establishing and maintaining streamside habitat that improves water quality and provides food and cover for diverse forms of wildlife. And yet, while many of the benefits of restoring and managing riparian fish and wildlife habitat are realized by the public, the costs associated with riparian restoration and management are typically borne by the landowners themselves unless incentive programs are available. For a tree fruit grower these costs can be categorized as: 1) the opportunity cost of foregone profits from fruit production, 2) the direct costs of restoring farmlands to habitat, and, 3) the costs of maintaining riparian habitat into the future for conservation benefits. It is unlikely that agricultural lenders would look favorably upon the idea of substituting habitat for traditional crops if the endeavor only detracted from the projected profitability of the farming operation. The economic benefits of habitat farming will need to be demonstrated to motivate farmers to incorporate such an enterprise into their businesses.

While many incentive programs have been developed to promote voluntary habitat protection, restoration, and management of riparian areas, growers report that they

¹ See Jackson, Dana L. and L. L. Jackson. 2002. *The Farm as Natural Habitat: Reconnecting Food Systems with Ecosystems*. Island Press, Washington. Also see Daniel Imhoff, 2003. *Farming with the Wild*, Sierra Club Books, San Francisco

are either not well-suited to tree fruit growers in Washington, or the programs do not deal with needs addressed by the present proposal.² Examples of these include:

- The Federal Conservation Reserve Enhancement Program (CREP), which has enrolled only two contracts to date in Chelan County, amounting to a total of 4.5 acres. Reasons for this low participation rate include low rental rates and high administration costs.³
- The Environmental Quality Incentives Program (EQIP). A small percentage of tree fruit growers presently participate in EQIP in Chelan County. EQIP currently has a shortage of technical support, and the cost-share arrangements are not designed to cover the full opportunity costs associated with changing land use practices from tree-fruit production to riparian habitat farming.

Thus, there is a niche for a well-designed, regional compensation and incentive program for Chelan County fruit producers that has opportunity to support both improved riparian habitat for the region and the tree fruit industry of the county.

II. OBJECTIVES AND METHODS

² Personal communication with Ray Sandidge and Jim Small, Chelan County Habitat Farming Enterprise Advisory group members.

³ In contrast, the CREP program in Walla Walla has almost 100 enrolled participants representing over 100 river miles of riparian habitat projects. The participants are primarily dryland wheat farmers (personal communication, Audrey Ahmann of the Walla Walla Conservation District office). Whereas the CREP rental rates appear sufficient to cover the opportunity costs of taking land out of dryland farming for riparian restoration, dryland rental rates are often insufficient to cover the opportunity cost associated with irrigated land.

The objective of this study is to evaluate the feasibility of developing a riparian habitat incentive program targeting tree fruit growers in Chelan County and to make recommendations as to how such a program could be designed. In concept, the program would remunerate farmers for the costs of converting some specified portion of their holdings into riparian habitat and maintaining that habitat in an agreed upon condition for an agreed upon period of time.

To assess the feasibility of such a program, we reviewed documents, conducted interviews, and evaluated and summarized information about existing habitat enhancement and conservation incentive programs. We used our findings to generate recommendations on how a habitat farming incentive program might be designed for Chelan County tree fruit farmers. We also conferred with potential participants and an advisory group composed of local tree fruit farmers during the course of the study to clarify our understanding of their situation and needs and to gather their feedback on our feasibility findings and proposed approach.⁴ Our findings and subsequent recommendations are summarized in this report.

Criteria for Assessing Feasibility

We used a number of criteria drawn from research into existing incentive programs, discussions with Project Advisory Group members, and our individual and combined experience to evaluate *participation and eligibility, administration and funding*

⁴ Chelan County Habitat Farming Enterprise Advisory Group members and their affiliations include: Ray Sandidge, Entiat orchardist; Jim Small, Entiat orchardist; Dennis Nicholson, Peshastin Creek orchardists; Jim Keomple, Peshastin Creek orchardists; Jerry Gutzwiler, Wenatchee Heights orchardists; Kirk Mayer, Manager- Growers Clearinghouse.

and *technical support* aspects of different programs.⁵ A summary of these criteria is presented in Table 1. We contend that feasibility recommendations based on these criteria, tried and tested in a variety of settings, will guide the formation of a successful habitat farming program in Chelan County.

⁵ See assessments of incentive programs in: Habitat Conservation Incentives Workshop Summary Recommendations, the Biodiversity Partnership, Washington, D.C. 2004, Vickerman, S. National Stewardship Initiatives: Conservation Strategies for U.S. Land Owners, Defenders of Wildlife

Table 1

Criteria for Assessing Feasibility

Eligibility and Participation

- *Contract characteristics to motivate effective farmer participation*
 - Stable project-level funding sufficient to cover opportunity costs:
 1. Cost of removing the orchard tract.
 2. Cost of restoring the habitat.
 3. Cost of managing the habitat.
 - Clear and dependable compensation/remuneration process.
 - Clear, enforceable, but flexible performance requirements.
 1. Clearly specified and measurable project outcomes.
 2. Clearly specified and substantive consequences for failure to meet outcome performance standards.
 3. Agreements must be flexible enough to allow adaptation to change and unforeseen circumstances.
- *Prioritizing proposed projects for implementation*
 - Identification of willing landowners.
 - Measuring and ranking ecological benefits of specific restoration projects that meet programmatic goals.
 - Potential for cooperative restoration and management projects.
 - Fair and well-defined project ranking and funding allocation process based on an equitable analysis of each project in the context of all other proposals submitted during a specified period and under consideration at a specified time.

Outreach and education for program promotion and project implementation

- Building community awareness of the program.
- Targeting outreach to potential participants.

- Facilitating information exchange among current and potential participants.

Program Administration & Funding

- *Availability and continuity of administrative expertise:*
 - Overall program development and management.
 - Individual project planning and contract development.
 - Individual project implementation.
 - Individual project maintenance and monitoring.
- *Stable and sufficient funding required:*
 - Adequate compensation of individual habitat restoration/farming projects.
 - Base funding dedicated to program administration/expansion.
 - Matching public funds to extend base funding.
- *Complementarity with existing habitat enhancement and conservation programs.*
- *Communication network for effective program information exchange among participating landowners, program managers, and potential participants.*
- *External advisory committee for ongoing project assessment and input.*

Technical assistance for project implementation

- *Effective assistance with habitat farming planning relating to:*
 - Size and configuration of the restoration planting.
 - Compatibility of habitat farming with existing or new crops.
 - Potential for integrating secondary “crops” associated with habitat.
 - Potential to augment biological pest management with a riparian habitat also designed as beneficial insect refugia.
 - Developing a plan for measuring success.
- *Availability of support for restoration training for:*
 - Designing vegetation plan for riparian projects.
 - Restoration (implementation of the plan) of riparian habitat.

- Maintaining habitat.
- Monitoring habitat effectiveness.
- *Affordable access to recommended native plant materials.*

III. EVALUATION OF INCENTIVE PROGRAMS

Numerous public and private programs provide a basis for assessing the potential of developing and successfully implementing a Habitat Farming Enterprise Program in Chelan County. Many federal and state conservation programs have been surveyed and assessed by the Biodiversity Partnership.⁶ This organization has an extensive web site that provides information about the structure, effectiveness, assets and problems associated with numerous existing conservation programs. Additionally, a draft report recently completed by the Washington Biodiversity Council provides further analysis of existing conservation programs in our state.⁷ We have combined the results of these reports with information gathered from local fruit growers and other practitioners associated with projects around the country and reviewed program elements applicable to this study. Some of the most closely related programs are summarized in Table 2 and provide examples cited in the discussion below.

⁶ Additional information can be found at www.biodiversitypartner.org/incentives/index.shtml

⁷ Washington Biodiversity Council, 2005, Conservation Incentive Programs in Washington State: Trends, Gaps, and Opportunities, Prepared by Evergreen Funding Consultants.

Hummon⁸ summarized the primary complaints voiced by stakeholders about existing incentive programs based on a Habitat Conservation Workshop held in 2004. This summary of identified shortcomings can be paraphrased as:

- 1) Incentive funds are often not allocated among applicants based on a strategic conservation planning process, which reduces cost-effectiveness of programs.
- 2) Technical support infrastructure is often insufficient and fragmented.
- 3) Biological outcomes and programmatic goals are not often measured.
- 4) Incentive program requirements are often complex and inflexible.
- 5) Ineffective performance monitoring in terms of both the contractual obligations and biological outcomes is prevalent.
- 6) Programmatic goals are often excessively narrow relative to overall regional and statewide conservation needs.
- 7) Programs tend to be targeted toward specific agricultural commodity crops. As such many non-traditional crops and forestry do not qualify or fit many existing programs well.

Recommendations developed by participants of the Habitat Conservation Workshop and outlined in Hummon's report are related to these weaknesses. She summarized the recommendations from the workshop participants as follows:

⁸ Hummon, Cheryl. 2005. Conservation Incentive programs: Improving Effectiveness for Habitat and for Landowners. Summary of recommendations from the Habitat Conservation Incentives Workshop, June 2004. Defenders of Wildlife, Washington DC and West Linn, Oregon.

- 1) Create an effective system for ranking the ecological and programmatic values of projects and target restoration efforts toward the most ecologically important places.
- 2) Coordinate and link programmatic goals to state and federal conservation goals for the region.
- 3) Develop effective methods for measuring outcomes for habitat conservation, both within the scope of the project and within the context of the region as a whole.
- 4) Build in flexibility to meet the needs of different eligible landowners and to allow for contractual adjustments to accommodate unforeseen circumstances over the course of long-term projects.

Note that each of these problems and recommendations falls within one of the categories of feasibility criteria listed in section IV.

IV. EVALUATION OF EXISTING MODELS

In any habitat restoration incentive program there will be tradeoffs in program design. For example, a uniform set of application and restoration requirements may reduce the burden of the application process for landowners, but it may also decrease the flexibility of the program managers to address differences in contractual needs across potential sites and restoration projects. The ultimate goal should be to design a program that strikes a balance between consistency and flexibility across projects and time, given the specific characteristics of the fruit growers and conservation needs of Chelan County.

There are a number of elements of programs included in Table 2 and in other examples we have encountered through our research that could add value to a habitat farming program in Chelan County. These are listed below beneath the general categories of feasibility criteria outlined in Table 1.

Participation & Eligibility

- The Sacramento River Project, the Platte River Habitat Partnership, the Kansas Clear Water Farm Project, Reinvest in Minnesota, and the USDA Conservation Reserve Program all prioritize projects for implementation based on ecological benefits described in existing analyses, i.e., those lands that would provide the most benefit to restoration of habitat and floodplain function, grassland restoration, addressing water quality issues, vulnerable soil types, etc.
- Cooperative management and marketing among willing landowners contributes to their ability to participate and to add value to their respective operations. Examples of this type of program can be seen in the Integrated Pest Management program of the Sacramento River Project, the hedgerow and invasive control programs of the Yolo Conservation District, and the California Audubon Society's Land Stewardship Program.
- Workshops, printed materials, and signs posted on participating farms help farmers learn about the goals, benefits, and processes associated with the program and determine the fit with their respective needs. Good examples of this kind of outreach and education for program promotion and project implementation can be

seen in the River Friendly Farming programs in Indiana and Kansas, Nebraska's Platte River Habitat Partnership, the California Partners in Restoration Project, Reinvest in Minnesota, and the Fish Friendly Farms in Walla Walla County.

Program Administration & Funding

- Contract characteristics that motivate farmers to participate include clear agreement on the definition of program terms and needs through individual contract processes including project budget, compensation for management actions, performance standards, and terms for agreement. Examples of landowner agreements and contracts that could provide guidance on this element include Morro Bay Project Clearwater, Platte River Habitat Partnership Agreement, and U.S. Fish & Wildlife Habitat Evaluation Program.
- Streamlined and flexible contracting processes where administrators have the discretion to provide different kinds of assistance under different circumstances also stimulate interest in participation. Programs to look at for success in this regard include the Wetlands Reserve Program, Landowner Incentive Program, WILD Nebraska, and the Nebraska Buffer Strip Program.
- Clear performance expectations where benefits are shown to justify the investment are critical to successful incentive programs. The Cosumnes and Sacramento River projects have well developed mechanisms for measuring success on the ground. Also of note, in this regard see the Nebraska Buffer Strip Program, Partners in Restoration,

and the current effort to develop a monitoring program in Washington State as part of the Salmon Recovery Program.⁹

- The availability of administrative and technical expertise is important throughout program development and implementation. A number of programs meet this need and are able to deliver consistent and effective results by forming partnerships and creating a central managing entity. Exemplifying this is the Wildlife Habitat Program of WILD Nebraska, and watershed-based agreements through Partners in Restoration. Also see Sandhills Task Force and Platte River Habitat Partnership.¹⁰
- Sufficient and stable funding supplemented by use of other public and private sources as applicable and appropriate is a criterion of success that can be seen in Reinvest in Minnesota, WILD Nebraska, Sandhills Task Force, Platte River Habitat Partnership, River Partners, and California Riparian Habitat Conservation Program.

Technical Assistance

- Effective assistance with planning for habitat farming and the integration of farm design through the use of interdisciplinary teams is a key component of incentive program success. See Community Alliance with Family Farmers,

⁹ One of the problems faced by the USDA EQIP program is that contract structure allows contracted practices to be withdrawn after contract signing, potentially reducing the effectiveness of the overall conservation project⁹. Thus, flexibility and contract performance must be balanced carefully.

¹⁰ Links to websites for these organizations and others mentioned in this report can be accessed from the Biodiversity Partnership site.

Wisconsin Land Stewardship Project, Sacramento River Project, Yolo Conservation District, and California Certified Organic Farmers Foundation for examples of how technical assistance providers help farmers balance and maximize habitat benefits to key species and natural processes, ensure compatibility with existing or different crops, and address the economic and social needs of the community.

- Targeting training to specific project needs and sharing knowledge gained through on-the-ground experience via workshops, printed materials, private consultations and fieldtrips is an important part of many place-based incentive programs. See River Partners, Sacramento River Project, Clean Water Farm Projects, Native Plant Society and other restoration-oriented web sites for examples.

VI. RECOMMENDATIONS AND DISCUSSION

The issues, findings and examples from successful programs cited above suggest that in Chelan County a habitat farming program should be:

1. Designed to meet broad conservation goals and to distribute available funds to restoration projects with the highest ecological value.
2. Maintained through partnerships and a central managing entity that helps to minimize contracting costs and that builds flexibility into project implementation.

3. Capable of remunerating and supporting landowner participants through core funding supplemented through the use of other public and private sources as applicable and appropriate.

4. Supported by an interdisciplinary team capable of integrating farm habitat enterprise design with the habitat needs of key species and natural processes, compatibility with existing or different crops, and economic and social needs of the community.

5. Measurable so benefits of the program can be tracked for contract management and to provide clear demonstrations of success that motivates others to participate.

With these suggestions we recommend that Chelan County pilot a program in either or both of the Entiat and Wenatchee River watersheds where there is a high level of existing information and a history of community collaboration through watershed planning efforts. Developing joint or individual pilots in these watersheds will enable the County to work with the Project Advisory Group to flesh out the details before implementing a full-scale restoration incentive program.

With all of the above programmatic issues in mind, we recommend that the County pursue a general process for determining participation and eligibility, defining administration and funding needs, and providing the technical support needed to develop project proposals and contracts. Below we describe a general program framework that could be used to assess feasibility. It is our assumption that each aspect of this proposed framework or scenario would be modified and adapted during the process of developing a pilot program.

Participation and Eligibility

Interested landowners are invited to work with riparian restoration specialists to develop a preferred restoration plan agreeable to both the program managers and the landowner. This plan would likely include initial restoration and maintenance actions scheduled to take place over some specified time period.¹¹ It could also delineate restoration strategies of increasing complexity and ecological value that relate to existing plans such as the Upper Columbia Recovery Plan, the Entiat Watershed Plan and other documents available for guidance. The contract would necessarily outline the responsibilities of the landowner, the responsibilities of the program managers, and contingencies including, but not limited to recourse should one or the other party fail to implement their contractual responsibilities. It will also need to address such things as contract termination, contract renewal, and the process and rules regarding monitoring the effectiveness of habitat management. We recommend looking at some of the existing projects cited above for specific examples of contracts.

Secondly, the cost of the proposed project must be firmly estimated. The fruit grower and program managing entity should use a formulaic tool, developed for this purpose, that estimates the present value of foregone fruit production from any plantings taken out of production to accommodate restoration. Similarly, the farmer will then be

¹¹ Many incentive programs, such as the Platte River Habitat Partnership and the USDA Conservation Reserve Program use 10-year contracts while others including the Morro Bays Project Clearwater negotiate contracts with landowners for periods of time that coincide with the individual project.

best able to assess any increase or reduction in income risk associated with the project.¹² Likewise, habitat restoration specialists in conjunction with the program managing entity and other technical staff will need to provide the most accurate estimates of the costs of the initial restoration and the maintenance phases of the project.¹³ Whenever possible or desired, the program should be designed to include the use of third party assessors that would verify cost estimates. Selection of proposed projects would be based, in part, on ecological priorities, cost effectiveness and other factors the Project Advisory Group may want to include.

A project review and selection group could be established to identify and prioritize preferred projects. This group could include the program administrators, technical experts, community representatives, and farmers from the project areas.

Budgets constrain most conservation programs, and it is practical to assume that funding for projects will not be unlimited for full implementation of a Habitat Farming Enterprise Program in Chelan County. Therefore, a process will need to be designed for ranking and selecting project proposals. In principle, project proposals could be ranked based on a cost/benefit criterion approach. Costs should include a full accounting of farmer opportunity costs as described above, and estimated benefits in principle should

¹² It should be recognized that participating in a program such as this might entail additional risk if uncertainty exists about long-term funding availability, but may actually reduce a farmer's income risk if the riparian project moves some land out of fruit production and into a stable income stream from the incentive program.

¹³ See U.S. Fish & Wildlife protocols for developing these values on restoration projects where orchards are being removed from flood prone areas of the Sacramento River.

account for all benefits (market and non-market) to society from the project. In practice, existing ecological assessments of potential project sites can be used to develop a framework for prioritizing more critical areas in each watershed in conjunction with watershed planning units.

Those projects that are considered to have a high benefit to cost ratio would be ranked higher than those with a lower benefit to cost ratio, and selected sequentially until available funds allocated to new projects are exhausted. The ranking process could be highly quantified, e.g. based on a single formulaic index, or ranking could be less formulaic and occur through discussions among the members of the project selection committee. There are strengths and weaknesses of both approaches, but we recommend that a less formally formulaic process be applied at the outset. Later, a more formulaic approach might be developed and adopted once the relative importance of the various possible selection criteria is better understood.¹⁴

Funds might be allocated to voluntary riparian restoration projects as well as conservation practices that have been mandated by state and federal agencies for various purposes. In fact, allocation rules could specify that remuneration for the opportunity costs to landowners of mandated land use changes or land use restrictions take priority over voluntary projects.

Finally, it should be recognized that if funding is limited, there is a clear tradeoff between the amount of funding available to each individual participant, and the number

¹⁴ Along these lines we recommend taking a closer look at some of the program elements highlighted earlier in this report for details on different ways to rank projects, e.g., River Friendly Farming programs, Reinvest in Minnesota.

of projects that can be funded. Trying to spread funding broadly will result in potentially more participants in the short run, but each will receive only marginal gains from participation. Funding individual projects at higher levels will necessarily mean that fewer projects can be funded, but that those who participate will likely have the incentive to be more committed to the long term success of the program. Successful implementation of the program will, subsequently, be more likely to facilitate the further acquisition of funds and growth in the number of participants. The balance between funding per project and the number of projects to be funded should be considered as the program develops. We recommend that the County use the pilot program(s) to help determine the scale of projects during full program implementation.

Administration and Funding

If a project is selected for implementation, we propose that funding for initial implementation could be provided either before the physical restoration process or afterwards on a reimbursement basis. Regular maintenance payments could be made to the landowner following the installation of plantings contingent upon satisfactory progress and maintenance. The estimated present value of foregone fruit production profits could then either be incorporated into the regular maintenance payments or paid at the beginning of the contract. Landowners would clearly prefer the initial full payment, but installment payments for all or part of foregone profits over the course of the project could be used as additional incentive for satisfactory project maintenance until contract

completion. Contracts may be written so that in cases of noncompliance with contractual obligations, maintenance payments could be discontinued.¹⁵

We recommend that Chelan County work with the watershed planning units in the Wenatchee and Entiat watersheds to develop the pilot program such that it utilizes existing institutions as much as possible, e.g., Chelan Conservation District, Natural Resource Conservation Service, and others. Initial pilot projects should be selected carefully so as to provide good test cases for further program implementation. They should probably be fairly representative of the type of restoration projects that are likely to be common later on in full program development. We also recommend that the County develop the pilot program anticipating that funds from the Salmon Recovery Board, Tributary Fund, and U.S. Fish and Wildlife Service will be available to provide the needed support for long-term implementation of a solid and tested program that could grow out of a successful pilot. For purposes of the pilot we recommend that Chelan County Natural Resources Program staff, led by Mike Kaputa, be responsible for the administration of the program.

Technical Support

Riparian restoration and maintenance would be carried out primarily by the landowner in this scenario, with help from technical specialists and possibly contracted

¹⁵ One of the original motivations for developing this incentive program appears to be to support riparian management that may ultimately be required by law for endangered salmon habitat. To the extent that this threat is a primary motive for participation, reduction in the risk of future regulatory restrictions may be enough to ensure maintenance of the riparian area and the threat of discontinued program funding may be completely unnecessary.

entities. Prior to full program implementation, a group of available technical specialists should be identified along with information about the conditions under which they will participate in the program. For example, if technical experts must be paid through the program, these costs must be budgeted into the funding process at either the program level, project level, or both. If restoration efforts are pursued by landowners as a way of addressing current or future habitat legislation and land use restrictions relating to endangered species recovery and/or protection, then regulatory agency personnel should be involved in the restoration process from the outset.¹⁶ With input from participating landowners about successes and problems with their own restoration projects as well as contractual issues and other factors, the program will provide an information clearinghouse to help landowners learn from each other as their projects proceed.

During the course of any given restoration project, unforeseen costs or problems with the restoration plan are likely to develop. Landowners should be able to initiate requests for supplemental one-time or ongoing support in addition to their existing contract. Presuming that funds are set aside for such instances, a review process could be designed for negotiating such contract addendums. For example, for any given request for additional support, the program managing entity, a third party such as an outside

¹⁶ For example, the US Fish and Wildlife Service through the Endangered Species Act has the authority to limit the take of threatened or endangered species, thus effectively restricting land use. However, they have implemented programs such as the Safe Harbor Program to reduce the risk to landowners of future land use restrictions in return for current beneficial habitat management. If this issue is relevant, then the Fish and Wildlife Service should be consulted from the outset.

advisory group, an established body of program applicant reviewers or a standing group of program participants could act as evaluators to assist with decisions about the request.

VII. CONCLUDING FEASIBILITY RECOMMENDATIONS

Numerous conservation incentive programs exist in a wide variety of forms, so an incentive and compensation program such as that being considered here is certainly feasible given: 1) stable funding and sufficient availability and quality of technical assistance, and, 2) the program is designed to serve the interests of the desired participants.

In comparison to many existing incentive programs, we feel that this proposed program has a particularly good chance of success for various reasons.

First, the program targets a relatively narrow set of agricultural producers: the fruit growers of Chelan County. As a result, the program can be tailored to suit the needs of this group. Although the needs of individuals within this group will be different, these needs are more likely to overlap than those faced by many incentive programs with a broader scope.

Second, although broad conservation goals of the relevant state and federal agencies should be kept in mind, the specific focus of the proposed remuneration and incentive program can be focused on riparian habitat for fish and wildlife. This also facilitates tailoring the program to this type of restoration program.

Third, given the proposed administrative home of the program and the breadth of technical support available through various sources, it seems likely that sufficient

administrative and technical support will be available to implement projects and coordinate the program effectively.

Fourth, it is clear from discussions from involved fruit growers that there is a great deal of support for a program such as this from a broad set of stakeholders, including state agency personnel, environmental groups, fruit growers themselves, and others. This will help the program get off the ground and will likely be the foundation for broader funding and technical support as the program develops.

In this report we have presented the findings of our research, highlighted elements of programs that we think would be applicable to this situation, and suggested one general scenario for how a program could be designed to meet the need of orchardists in the Entiat and Wenatchee River watersheds. We recommend that a pilot project, that will yield valuable experience and information and in turn serve to provide a firm foundation for full program implementation, be developed. In doing so, the Chelan County Habitat Farming Enterprise Program can support fruit growers in Chelan County while promoting habitat for the fish and wildlife of Washington and the Pacific Northwest.

Table 2. Habitat Farming Incentive Program Elements

Incentive Program Name, Managing Entity & Brief Description	Participation & Eligibility	Program Administration & Funding	Technical Assistance
Federal			
Conservation Reserve Program (CRP). Provides direct funding and technical assistance to reduce soil erosion, improve water quality, establish wildlife habitat, restore floodplains, and enhance forest and wetland resources	Agricultural producers with cropland or marginal pastureland. Selection based on a benefits index.	Farmers establish vegetative cover on environmentally sensitive acreage and receive annual rental payment for term of 10-15 year contract. Cost sharing of up to 50% is provided to establish approved conservation practices. Administered by Farm Services Agency and funded by Commodity Credit Corporation.	Natural Resources Conservation Service (NRCS)
Conservation Reserve Enhancement Program (CREP). Provides benefits similar to CRP; tailored to meet significant environmental needs of each state.	Landowners must meet eligibility criteria for CRP plus additional criteria defined by state program.	State and federal partnerships provide landowners with incentive payments, cost-share assistance, and rental payments for installing specific long-term conservation practices on eligible land. Landowners enter into 10-15-year contracts and remove certain lands from production. Administered by Farm Services Agency.	NRCS
Environmental Quality Incentives Program (EQIP). USDA. To promote agricultural production and environmental quality as compatible national goals.	Landowners with livestock or agricultural production on eligible land. Local work groups set priorities for ranking proposals and distributing funds based on national priorities.	Program offers financial and technical help installing or implementing structural and management practices on eligible agricultural lands. Up to 10-year contracts, cost-share up to 75% and incentive payments for up to three years to encourage producers to try new conservation practices.	NRCS in conjunction with local conservation districts
Wildlife Habitat Incentives Program (WHIP). USDA. Assistance in establishing and improving aquatic or upland wildlife habitat.	Landowners not eligible under other USDA programs. Projects with declining wildlife species are prioritized.	NRCS works with landowner to develop wildlife habitat plan. 5-10 year contracts, up to 75% cost share for wildlife habitat plans.	NRCS
Wetlands Reserve Program (WRP). USDA. Offers opportunities to establish long-term conservation and wildlife practices and protection for wetlands.	Private lands with past agricultural use with restorable wetlands. Wetlands converted since 1985 are not eligible.	Landowners voluntarily retire marginal lands and limit land's use through sale of permanent or 30-year easements. Up to 75% cost share also available for restoration. Lands can be used for hunting, fishing and other uses compatible with wetland function. Easement compensation and cost share level depend on length of easement.	NRCS
Farm and Ranch Lands Protection Program. NRCS. Program provides matching funds to help purchase development rights in order to keep productive farm and ranchland in agricultural uses.	Private lands large enough to sustain agricultural production with conservation plan for highly erodible land.	USDA partners with state, tribal, or local governments and other organizations to acquire conservation easements from landowners. Up to 50% fair market value paid for easements.	NRCS
Grassland Reserve Program (GRP). Helps landowners protect, restore and enhance grassland, rangeland, pastureland, and shrubland on their property.	Operators with long-term control of the property.	Agreements between landowner and NRCS or a third party limit use of lands through 30 year or permanent conservation easements or rental agreements. Grazing, mowing and fire management are allowed. Commodity Credit Corporation, state or land trust can hold the easement.	NRCS

Landowner Incentive Program (LIP). US Fish & Wildlife Service. Supports on-the-ground projects that enhance, protect, or restore habitats that benefit species at risk on privately owned lands.	Individual or groups of private landowners.	Competitive grant program that establishes partnerships between landowner, state and federal government. State provides up to 75% cost share with 25% match from landowner as in-kind or non-federal contributions.	US Fish & Wildlife Service (USFWS)
North American Wetlands Conservation Act Grants Program (NAWCA). Supports the long-term protection of wetlands and associated uplands needed for waterfowl and other migratory birds. Project must support long-term wetland acquisition, restoration, and/or enhancement.	Organizations and individuals who have developed partnerships to carry out wetland conservation projects.	Grants for 4-year action plan implementation range from \$51,000 to \$1,000,000. Partners must provide at least a 1:1 non-federal match.	USFWS
Partners for Fish and Wildlife (PFW). US Fish & Wildlife Service	Private land, priority on migratory birds, fish, and threatened and endangered species.	Cost-share for restoration projects provided with landowners providing 1:1 non-federal match. Landowners agree to retain restoration project for at least 10 years.	USFWS
State - Washington			
Washington Salmon Recovery Funding Board Grant Program. Funds salmon recovery and habitat restoration projects.	Public & private entities are eligible.	Applicants must provide at least 15% matching funds or in-kind contributions. Funding shortages are a primary obstacle.	Through a sponsoring agency. Unclear whether sufficient technical assistance is provided for cost estimation.
Habitat Incentives Program. Washington Department of Fish & Wildlife.	WDFW offers state regulatory certainty in exchange for habitat restoration project.	No landowners have participated in this project yet.	None.
The Upland Wildlife Restoration Program. Designed to provide habitat to support upland wildlife.	Private agricultural and forest landowners	Department of Fish and Wildlife provides technical assistance, materials, labor costs, and \$100/acre to protect ag lands adjacent to riparian areas.	DFW
Forest Riparian Easement Program	Forest landowners	50-year easements on qualifying timber. Landowner receives 50% (or more in some cases) of stumpage value plus administration costs.	Forest Practices Division
State – California			
Riparian Habitat Conservation Program. Wildlife Conservation Board. Program provides in-kind materials and habitat improvement assistance on private lands for periods of 25 years.	Private landowners working in partnership with state, local, federal and non-profit organizations are eligible to receive funding to protect, restore, enhance and preserve riparian habitat on their lands.	Private landowners partner with an eligible entity to restore riparian areas on their properties. Landowners participating in program are required to monitor and manage project improvements for 25 years under a required management plan. Funding to eligible entities provided by California Wildlife Conservation Board.	State, federal, and local government entities as well as non-profit organizations.

Private Lands Management Program. California Department of Fish & Game. Farmers and ranchers can increase their profits by improving habitat for wildlife under this program. Landowners collect access and other fees for hunting and fishing by the public beyond the traditional seasons.	Open to anyone who has property big enough to support population of target wildlife species, i.e., pronghorn, mule deer, etc., and to show improvement to that habitat needed to support additional harvest.	Landowners must develop an approved management plan and implement the agreed upon wildlife habitat improvements. Landowner issues tags zoned for area 76 (854,000 acres)	Department of Fish & Game writes 5-year management plan including harvest rate, habitat enhancement, inspection every year and tags issued on yearly basis.
Incentives for Steelhead, Salmon, and Anadromous Trout Conservation. Department of Fish and Game	Landowners with coastal waters used by salmon and anadromous trout species or riparian buffer strips along coastal rivers and streams may qualify for the program.	Funding is provided through the Salmon and Steelhead Trout Restoration Account in the Resources Trust Fund.	Department of Fish & Game provides technical training, funding for acquisition of conservation easements, education projects and grants.
Landowner Incentive Program	Using to pay landowner to manage restored habitat for at-risk species. Native grass, wetland, and riparian.	Figure primary management practices needed to restore and maintain, such as weed abatement and irrigation. Figure costs of water, chemicals, labor. \$40/acre for riparian incentive, \$50/acre native grass, \$30 -\$200/acre for wetlands based on cost of water.	
State – Nebraska			
Wildlife Habitat Program/ WILD Nebraska. Nebraska Game and Parks Commission. Provides financial and technical assistance incentives for landowners setting aside land for wildlife habitat. Consolidates state wildlife habitat management programs and offers greater flexibility and streamlined process for designing and implementing restoration projects tailored to the landowner.	Private landowners seeking to conserve and restore upland projects in priority eligible habitat types including grasslands, woodlands, and wetlands that aren't covered by federal programs, i.e., CRP and WRP. Projects are prioritized on a state and regional basis and funds divided evenly among the three eligible habitat types.	Private Land Biologists and landowners draft management contract outlining activities needed to restore/manage wildlife habitat. Participants receive 80% to 100% cost-share on habitat restoration materials, per-acre rental payments on cropland restored for habitat for a period of up to five years, and technical assistance for restoring and managing habitat areas. Bonus payments provided for public access to land. Compliance visits performed on annual basis. Program funded by grants from the Nebraska Environmental Trust.	Nebraska Game and Parks Commission, Natural Resources Districts

Buffer Strip Program. Nebraska Department of Agriculture. This program offers annual rental payments to landowners agreeing to create and maintain vegetated buffer strips of native grasses and riparian forests on croplands adjacent to perennial and seasonal streams, ponds, and wetlands.	Prioritized according to NRCS watershed water quality rating system and presence/absence of established buffer. Designed to be used in conjunction with federal CRP, other state programs, or as a stand-alone.	Landowners sign a contract with the Natural Resources District to maintain buffer strips for 5-10 years in exchange for annual rental payments. Landowners may hay or graze the buffers in accordance with NRCS regulations. State funds Nebraska Buffer Strip Program by charging a fee on registered pesticides to manufacturers and distributors in the state.	Nebraska Department of Agriculture, NRCS and Natural Resources Districts. NRCS provides technical assistance, works with landowners to ensure eligibility, to determine the dimensions and location of the buffer strip, and to stake out the buffer area in preparation for planning. Nebraska Department of Agriculture and the Natural Resources District perform compliance checks to make sure the buffers are functioning.
State – Oregon			
Tulatin Enhanced CREP	Those who qualify for CREP	Use local taxes to enhance CREP rental payments.	Tulatin Soil & Water Conservation District
Oregon Watershed Enhancement Board (OWEB) Grants.	Broad eligibility in terms of landownership and type of conservation. The OWEB uses survey responses to prioritize conservation efforts across the state.	The OWEB is an umbrella organization for watershed councils and other state organizations. Funds come from state lottery money.	None directly, but available from various other sources.
Wildlife Habitat Conservation and Management Program.	Farm and forest land in 14 participating counties.	Tax benefits (current use rather than highest and best use), and technical assistance.	Or. Dept. of Fish and Wildlife.
Vegetative Buffer Areas for Conservation and Commerce (VEGBACC)	Landowners who don't qualify for CREP or don't want federal programs.	Administration coordinated with Tulatin Enhanced CREP. Uses federal and state funds, plus sewage fees.	Tulatin Soil & Water Conservation District
State - Kansas			
Governor's Water Quality Buffer Initiative. Kansas Conservation Commission. Provides funds to supplement federal CRP rental payments by offering cost share assistance for the protection of riparian buffers and grass filter strips and to increase habitat for game and non-game species.	Private landowners	Contact period maximum is 15 years. Landowners receive property tax reduction for riparian areas enrolled in CRP. Cost share is available at 50% for riparian forest buffer and 30% for grass filter strips. Maximum state and federal payment is \$150/acre. Funded by Special Revenue Fund of the Kansas Water Plan.	Kansas Conservation Commission.
State - Minnesota			

Reinvest in Minnesota Critical Habitat Match Program. Minnesota Department of Natural Resources. Program encourages private citizens and organizations to help fund the acquisition, restoration or enhancement of critical fish and wildlife habitat by having their donations of land or cash matched from a special state fund.	Private individuals and groups can apply for funds focused on restoring wetlands, improving forest habitat, planting critical winter cover, protecting undisturbed plant communities, preserving habitat for rare plant and animal species, protecting native prairie and grasslands, and preserving spawning and reproduction areas for fish. Priority is given to at-risk species and native ecological communities.	Program provides for state acquisition or enhancement of critical habitat on state lands by 1:1 match of land, easements, or cash. The majority of the projects are restricted for projects of mutual interest between the donor and the Department of Natural Resources. Funding source is the Reinvest in Minnesota Resources Fund.	Department of Natural Resources
Reinvest in Minnesota Reserve Program. Minnesota Board of Water and Soil Resources. Program protects and improves water quality, reduces soil erosion, and enhances fish and wildlife habitat by retiring private marginal cropland from agricultural production, planting permanent native vegetation, and restoring previously drained wetlands.	Wetland restoration areas, riparian agricultural lands, marginal cropland, pastured hillsides, and sensitive groundwater areas are eligible.	Landowners are paid a percentage of the assessed value of their land to voluntarily enroll it in a conservation easement. Cost-share for habitat restoration is also available to private landowners. After land is enrolled it is managed under a conservation plan, which generally includes wetland restoration, native grass plantings, and tree plantings. RIM Reserve cooperators post signs to show their support for the program which is funded through state bonds and administered through local Soil and Water Conservation Districts.	Soil and Water Conservation Districts.
Sustainable Forest Resource Management Incentive Program. Provides financial incentives for owners of forested land who enter into sustainable forest management plans.	Owners of at least 20 contiguous acres of forested land with a forest management plan designed to create or maintain site specific, healthy, productive and sustainable forest resources are eligible.	Participants are paid yearly by the state based on the estimated average tax per acre of timberland with a minimum payment of \$1.50 per acre. The program is administered by the State Department of Revenue.	Department of Natural Resources Forestry Office
Private			
Sacramento River Project. The Nature Conservancy. The Conservancy secures lands below the floodline and works with staff, local farmers and contract labor to restore and monitor habitat.	Farmers motivated by high costs associated with flood-damaged lands sell lands to TNC or USFWS and use proceeds to reinvest in higher elevation farmland. Priorities for land securement set by willing sellers, assessments, and proximity to other secured lands.	State and federal funds via CalFed support land acquisition and restoration activities. Some farmers also donate easements on their lands and maintain fee ownership. TNC and USFWS maintain cooperative agreement that enables TNC to hold easements on restored lands later transferred after 3 years to USFWS and other appropriate land management agency.	Farmers contracting with TNC to engage in restoration of riparian habitat follow guidelines specified in the contract.

Sustainable Conservation, Partners in Restoration (PIR) Project. CA. Farmers and ranchers who want to adopt sustainable practices can get approval through a one-stop permit program.	Works with landowners and partners in priority watersheds of CA: Elkhorn Slough, Morro Bay, Salinas River	Development of watershed-based agreements that include specific conservation practices and management measures associated with that watershed. Under a PIR, which Sustainable Conservation negotiates with the regulators, landowners are able to implement the associated conservation practices without seeking individual permits.	Technical and cost share assistance through NRCS and local Resource Conservation Districts including project design, monitoring of implementation, and maintenance of the conservation practices to ensure compliance with the program.
River Partners. CA. Works with landowners and public agencies to plan, implement and monitor riparian restoration projects.	Works with willing landowners along Sacramento and San Joaquin rivers	Project funds secured through partnerships with state and federal agencies including Wildlife Conservation Board, USFWS, Bureau of Reclamation, Central Valley Project Improvement Act, irrigation districts and others. River Partners facilitates contract between landowner and agency.	Provided by River Partners staff – everything From identifying funding sources for individual restoration projects to planting and monitoring project results.
Sandhills Task Force. Regional non-profit organization of ranchers and conservation agencies that promotes research, education, technical assistance, and on-the-ground conservation practices in Nebraska's 20-county Sandhill region by bringing together funding and expertise.	Task Force works with interested landowners to design projects suited to their operation and needs.	Participants sign 10-year agreements outlining a conservation strategy that meets the needs of the landowner while implementing conservation practices and enhancing wildlife habitat. Assistance based on the benefit for wildlife and natural resources, i.e., the greater the benefit to wildlife the greater amount of cost share funding. Funds for program come from Nebraska Environmental Trust.	Provided by Sandhills Task Force and cooperative agreements with Nebraska Game and Parks Commission, U.S. Fish and Wildlife Service, National Fish and Wildlife Foundation, and Ducks Unlimited.
Clean Water Farm Projects. Kansas Rural Center. Non-profit organization committed to advancing economically viable, environmentally sound, and socially sustainable rural culture. Project promotes adoption of clean water farming practices in high priority watersheds through cost-share and planning assistance.	Farmers and ranchers willing to assess their operations and adopt clean water farming practices in priority watersheds identified by NRCS and Kansas Department of Health and Environment. Private landowners who complete the River Friendly Farm Environmental Assessment and develop an approved action plan are eligible for a \$250 incentive payment and can apply for up to \$5,000 in cost share funds to implement their part of the plan.	Outreach to producers through workshops, farm tours, and presentations. Use River Friendly Farm Plan to assess farms and ranches and to develop a plan for addressing problems and establishing priorities. Help producers develop whole farm action plans, offer cost-share for implementation and help them identify other funding sources. Funding from U.S. EPA 319 Nonpoint Source Funds administered through the Kansas State Department of Health and Environment.	Kansas Rural Center, Kansas State University, NRCS, Kansas Department of Health and Environment.
Wetland Restoration Program. Ducks Unlimited. Technical assistance, funding and grant assistance for wetland habitat restoration projects on public and private lands.	Priority lands as determined by strategic plan.	Funding as available. Restoration and grant assistance continuous.	Ducks Unlimited

<p>Land Stewardship Program. Audubon California. Works with private landowners to conserve and restore wildlife habitat on farms and ranches while preserving or enhancing the economic conditions for agriculture.</p>	<p>Private landowners in the Central Valley. Willow Slough Watershed Integrated Resources Management Plan identifies conservation and restoration measures.</p>	<p>CALFED Ecosystem Restoration Program enables Audubon to team up with Yolo County Conservation District to develop Wildlife Friendly Farming demonstration projects on private lands that improve forage quality, restore riparian and grassland habitats, improve water quality and reduce erosion.</p>	<p>Yolo Conservation District, Audubon California</p>
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