



# HERITAGE BARNNS

STATEWIDE SURVEY AND PHYSICAL NEEDS ASSESSMENT



WASHINGTON STATE HERITAGE BARN  
PRESERVATION ADVISORY COMMITTEE



This report commissioned by the Washington state Department of Archaeology and Historic Preservation for the Washington state Heritage Barn Preservation Advisory Committee.

Published June 30, 2008

*Cover image of a calvary horse barn Fort Spokane.*

*Source Artifacts Consulting, Inc., graphic design by Rusty George Creative.*

# CONTRIBUTORS

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# PROJECT TEAM

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The project team included a broad and unflaggingly enthusiastic group. Mary Thompson's extensive experience in preservation policy and state government informed the core policy chapter of this report providing the tools and ideas for continued Heritage Barn stewardship. Mary Humstone, director of the national BarnAgain! Program brought invaluable contextual setting for our state's efforts relative to barn preservation programs in other states, the best practices gleaned from these models, and prevailing agricultural trends and their impacts on barn preservation. Our team is deeply grateful for the survey manager Brooke Boback who contacted barn owners, plotted out the thousands of survey miles across the state and traveled to each of the 112 barns surveyed. Ms. Boback authored the archetype and function material as well as contributing through discussions and concepting to the overall report. Dave Brogan, project manager, of Bellingham Bay Builders undertook the complex task of developing the cost data that informed the large and small models. The Bellingham Bay Builders crew, Dylan Hicks, Ross Grier, Dave Ghan, Dave Sears, Dave Bennink, and Steve Mann carefully deconstructed the Oakville Barn for use as a model project in old growth timber reclamation for Heritage Barn repairs. Christy Johnson of Artifacts Consulting, Inc. assisted in the edits and completed all of the database entry for each barn surveyed. Eugenia Woo with Artifacts Consulting, Inc. assisted immensely during the field work. Erica Sage of Sage Editing edited the volumes of draft text for the report. Renee Petterson and Matthew Stoffel of Rusty George Creative provided the report graphics and design. Holly Taylor assisted in concepting. Jennifer Meisner, Executive Director, Chris Moore, Field Director, and Cathy Wickwire, Program Associate/Mansion Manager of the Washington Trust for Historic Preservation graciously shared data on the Heritage Barn grant program, authored an overview of the grant and register programs, and provided invaluable public outreach support. Michael Sullivan of Artifacts Consulting, Inc. served as the principal-in-charge providing vision and direction for this diverse team. Spencer Howard, partner with Artifacts Consulting, Inc. served as project manager and field surveyor.



Photograph courtesy of the Pacific County barn owner.

Once, more than 35,000 barns were constructed by hand throughout the state of Washington. Like a terrestrial array of stars, they covered the open landscape in a pattern determined by the geometry of section lines, homestead allotments, and railroad land grants. They were the landmarks by which people navigated country roads and the timepieces neighbors used to mark the changing seasons and the passing of generations.

But more than anything else, Washington's rich collection of Heritage Barns marked the places of individual family farms within the vast agricultural terrain that covers most of the state's flatlands. Even after 1910, when census records showed that most Washingtonians were living in cities and small farms were being consolidated into sprawling company farms and ranches, there were barns newly being built. In fact, many of the great barns in Washington date from the first quarter of the twentieth century. They were massive works of timber engineering that blended architecture and agriculture into monumental pieces of our state's heritage.

Our Heritage Barns are undeniably vanishing. Age, deterioration, changing land use, expanding urban areas, and natural disasters are all taking their toll on Washington's classic barns and working farm buildings. Fifty years ago began the trailing edge of the hand built barn era; and, as Heritage Barns are slipping from the landscape, more than just memory is in danger of being lost.

However, in Washington, we may be transcending the point when these rural landmarks were completely abandoned to indifference, disuse, and neglect. We may have reached a turning point where social patterns, economic factors, individual effort, and growing public awareness have blended into a statewide movement to preserve Washington's Heritage Barns.

Today, the reemerging vitality of small farms, local food and wine producers, and sustainable agricultural businesses holds new promise and purpose for working Heritage Barns. At the edges of our urban areas, barns are helping to anchor agricultural lands; and, through the policies of local governments, land trusts, and farmland conservation organizations, barns are finding a new sense of purpose and value.

Like many places across the country, Washington State has initiated a focused effort to preserve historic barns with action by the state legislature during the 2005 session. Since then, an intensive effort has been underway to understand the threats to Heritage Barns, to study the favorable trends that may help in their preservation, and to develop a catalog of measures, policies, and actions available to state policymakers and the public.

This document is the narrative of those efforts.



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# OVERVIEW



This physical need assessment of Washington's Heritage Barns aspires to serve the larger purpose set forth by the Washington state Department of Archaeology and Historic Preservation (DAHP) and the Washington state Barn Advisory Board of helping farmers and ranchers best use their existing resources and have these barns continue to function in agricultural use. This is accomplished establishing baseline data of capital repair needs through a representative sampling of the state's Heritage Barns and exploring options for long-term strategies to address these needs in a sustainable manner. The principal impetus behind the purpose set forth for this report is the accelerating erosion of the physical artifacts of our state's agricultural heritage in the face of changing agricultural practices, suburban expansion, and rising material and labor costs involved in repairing barns.

The scope of this survey extended to all of Washington's counties having Heritage Barns (thirty-six of the thirty-nine total counties). Selective sampling of 112 of the 292 Heritage Barns designated in 2007 and spring of 2008 through the Heritage Barn register program started in 2007 provided a broad cross-section of barn types, conditions, and uses (e.g. working dairy barn to personal storage space). Capital repair needs were compared with the 105 grant applications received through the existing statewide Heritage Barn grant program started in 2007 to confirm condition patterns and general cost values.

# BACKGROUND & REPORT ORGANIZATION

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Preservation of Washington's Heritage Barns has roots in the success of several locally based precedent programs. These local programs demonstrated the need and provided a foundation for the larger statewide survey and inventory and physical needs assessment.

These local programs include the statewide Centennial Barn program started in 1989, the Centennial Farms projects in Snohomish and Whitman counties and the King County Barn Again Program, both working to celebrate and raise the profile of historic farms. The Washington state Department of Archaeology and Historic Preservation had inventoried a handful of historic barns across the state and several counties had or were in the process of embarking upon survey and inventories of historic barns.

The shift to a statewide focus to address barn preservation and provide an overarching framework for the various local jurisdictions to facilitate their work's contribution to the broader understanding of the state's history and culture occurred during the 2007 legislative session when the Washington state Legislature passed Substitute House Bill 2115. With passage of the bill, the legislature acknowledged that factors such as changes in the agricultural economy and farming technologies, prohibitive rehabilitation costs, development pressures, and regulations restricting new uses collectively work to endanger barns statewide and contribute to their falling into decay or being demolished altogether. Few resources are available to barn owners to support the preservation of Heritage Barns. The purpose of the act was to create a system for recognizing Heritage Barns statewide and providing for their stabilization and rehabilitation through matching grants and a statewide barn assessment.

In May of 2007, Governor Gregoire signed the bill into law, effectively creating the Heritage Barn Preservation Initiative. Established as a program within the Washington state Department of Archaeology and Historic Preservation (DAHP), SHB 2115 authorized the department to:

- *Establish a Heritage Barn recognition program (Heritage Barn register);*
- *Provide matching grants to Heritage Barn owners throughout the state in support of efforts to preserve, stabilize, and rehabilitate Heritage Barns; and,*
- *Establish a Heritage Barn preservation advisory board to examine incentives and regulatory issues related to barn preservation and use.*

This report informs the third task above by assessing and quantifying the physical needs and costs for Heritage Barn preservation statewide. It also explores local and national precedents of policy, easements, and public education for barn preservation. Preparation of this report drew upon ongoing efforts in the first two tasks; the Heritage Barn register, and grant programs.

Organization of this report consists of five chapters addressing Grant Program & Physical Needs (1.0), Tax Incentives & Policy (2.0), Easements (3.0), Public Awareness & Education (4.0), Ideas & Considerations (5.0) and providing an appendix of Supplemental Material (6.0). The organization intent is two-fold. First the sequencing of chapters looks at existing grant and register programs, the physical needs of barns, and which encompassing taxation, policy, easement, and public education mechanisms affect barn preservation, how they do this and what possibilities exist to strengthen existing or create new mechanisms to encourage barn preservation. Second the division of subject matter amongst the chapters is intended to align with the focuses of those legislative workgroups and committees potentially utilizing this report.

[Chapter 1.0 Grant Program & Physical Assessment](#) provides an overview of the ongoing Heritage Barn register and grant programs (1.1) and barn types, including functions and components, extant within Washington state (1.2). The third section (1.3) contains the core data from the physical needs assessment including condition issues and planning figure cost data.

[Chapter 2.0 Tax Incentives & Policy](#) delves into an overview of state policy (2.1), statewide agricultural land use trends (2.2) and taxation practices in Washington state (2.3). This chapter also looks at the current application of building codes and permits to barns (2.4) and land use planning relative to agricultural lands and the barns they contain (2.5).

[Chapter 3.0 Easements](#) explores the purchase and transfer of development futures and rights in conjunction with conservation easement programs (3.1) and their use in barn preservation. This chapter also addresses zoning (3.2) and conservation futures (3.3) and their role in barn preservation.

[Chapter 4.0 Public Awareness & Education](#) addresses partnerships (4.1), education and public awareness (4.2), and technical support (4.3) mechanisms utilized in barn preservation. This chapter also looks at the new trend of agri-tourism (4.4) and established national barn preservation programs (4.5).

[Chapter 5.0 Ideas & Considerations](#) brings together as ideas and considerations those potential action items stemming from the research, field work and analysis in the preceding four chapters. Ideas include those relative to grant programs and physical needs (5.1), tax incentive and policy (5.2), easements (5.3), and public education (5.4).

[Chapter 6.0 Supplemental Material](#) provides supporting background data acquired during the research and field work undertaken preparing this report. This chapter includes maps (6.1), photographs (6.2), a listing and photograph of the barns surveyed (6.3), case studies in deconstruction and repair work pricing (6.4), a listing of barn preservation resources (6.5) and a bibliography (6.6).

# RESOURCE TYPES & DISTRIBUTION

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Driving through the back roads and countryside of Washington State surveying Heritage Barns garnered a high level of appreciation for the sheer quantities and vast range of barn types spread throughout the state. For the average observer, a casual drive along our state's principal transportation corridors of Interstates 5, 90, and 82 can easily yield barn sightings. Branching off onto the state's Scenic Byway system and state routes dramatically increase the frequency of these barn sightings. This survey and physical needs assessment is extended only to Heritage Barns; however, this sampling provides some insight into the multitude of barn types and their distribution throughout the state.

Surveyors encountered twenty-six different barn types while surveying 112 of the 292 barns listed to the Heritage Barn register at the time of publication. The essential barn type stems from the roof form and, to a lesser extent, the overall barn composition. Interior functions varied by region, often with few external suggestions of interior functional differences. For example, many west side dairy barns looked remarkably similar on the exterior to east side draft horse barns. Broken gable (16 percent), Dutch gambrel (16 percent), and gable (19 percent) represent predominate barn types encountered. The next most frequently occurring were gable with lean-to-additions (10 percent), gothic arch (9 percent), and gambrel (5 percent). The remaining twenty types ranged from one to three in numbers encountered. (See [Section 1.2](#) for additional information on barn types.)

Of these barn types, forty-four (39 percent) remain in active agricultural use, primarily in livestock and hay storage capacities. Conversions to adaptive, non-agricultural use account for forty-nine of the current barn uses (44 percent), with general storage being the main function. Of those surveyed, only eighteen (16 percent) stood vacant, and only one had collapsed. (See [Section 2.2](#) for additional information on barn uses.)

Washington's Heritage Barns exhibited concentrations in areas having deep agricultural ties, where similar types of agricultural practices from the past hold a prominent local or regional role today. The period of construction for the barns surveyed extended from the 1870s through the 1950s. The majority of barns surveyed were built between 1900 and 1909 (25 percent) and 1910 and 1919 (26 percent). The next main periods of construction were 1890 to 1899 (11 percent), 1920 to 1929 (12 percent), 1930 to 1939 (17 percent), and 1940 to 1949 (9 percent). Wood comprised the principal building material in the majority of the barns surveyed.

# METHODOLOGY

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Preparation of this report benefited from the collective expertise of the project team as well as numerous individuals working in the field of barn preservation and maintenance. Methodology development for this project involved survey, case study development, policy and trend research, and planning figure cost data development. Methodology for each benefited from the exchange of ideas among team members working on the various parts, professionals and barn owners in the field.

Survey methodology relied upon the Heritage Barn forms received by the Washington state Department of Archaeology and Historic Preservation (DAHP). Artifacts Consulting, Inc. contacted applicants in each county to identify owners willing to have surveyor's visit and walk through their barn and discuss previous work and physical needs. Enthusiasm proved overwhelming among Heritage Barn owners. Artifacts staff set up five to eight barn surveys per day using Google Maps to plot travel routes and times between each barn. Staff covered from one to three counties in a day depending upon the number and complexity of the barns. Once on site, staff met with the barn owner, discussed previous repairs, general building history, and physical needs. Staff then digitally photographed the building (exterior and interior) and conducted an exterior and interior walk-through survey to identify any additional physical need issues and character-defining elements. Barn selection for the field survey focused upon the diversity of barn types, relative condition, and proximity of the barns to main roadways for efficiency of field work. This diversity proved highly informative for understanding the range of issues faced by owners in maintaining their barns. During the field work staff also collected GPS way-point data for each barn and completed a field form for transferring to the DAHP electronic Historic Property Inventory database. Staff then entered the field data into and linked digital photographs with the DAHP database and an excel datasheet for quantifying and analyzing capital repair needs.

Case study selection arose out of the need to cross check the planning cost figure model data and to explore the potential and benefits of barn deconstruction for aiding other Heritage Barn owners in repair. The owner of the barn selected for the repair cost comparison had already retained a contractor experienced with Heritage Barn preservation to complete a thorough assessment of the barn. The owner graciously shared this data for comparative purposes. Selection of the barn for deconstruction stemmed from conversations with Washington state Department of Fish and Wildlife personnel during the survey an inventory of another barn owned by this department.

Policy and trend methodology looked to both national and state precedents to analyze what has or is working, both here and across the nation in the efforts to preserve historic barns. Researchers then culled out the best practices for inclusion in the report. Conversations with practitioners in the various fields examined provided additional insight into the successes and short-comings of various programs operating in other states.

Cost data methodology stemmed from a need to assign planning cost figures to the patterns of physical issues encountered in the barns surveyed. Artifacts Consulting, Inc. developed two models (large and small) for barns surveyed in the field. Each model was then priced out by Bellingham Bay Builders as to what it would cost to build the structure with today's labor costs and using salvaged old-growth lumber. Individual barn repair needs were then assessed on a percentage basis and costs ascribed using the values of the two models to create a low (small barn) and high end (large barn) range that would encompass the many sizes and types of barns encountered. Please refer to [Section 1.3.4](#) for a detailed overview of the cost estimating methodology employed.

# PHYSICAL NEEDS

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The field survey work revealed that, if the goal is to keep the barn standing and in use, there are reoccurring patterns of physical issues that lend themselves to prioritizing the physical needs. The cost data below ascribes planning figure totals to the condition issues identified in the 112 barns surveyed. (See [Section 1.3.4](#))

Physical needs are prioritized according to stabilization, preservation, and rehabilitation. (See [Section 1.3.3](#)) These categories address the basic principals of temporarily halting further loss, then preventative measures to keep existing materials and assemblies, followed by steps to assist in continued, adaptive new uses of the building. The three critical barn stabilization elements, in order of greater to lesser priority, consist of roof, foundation, and frame.

Two of the greatest concerns identified during the field work were the dramatic decrease in maintenance when a barn is no longer in use and the gradual disappearance of barns through incremental replacement of materials and assemblies with contemporary materials. Once a barn is no longer used, repairs do not provide a return on the farmer's investment. Small repairs that might have been accomplished as part of routine maintenance by the farmer are deferred and grow to become overwhelming repair tasks. (See [Section 2.2](#)) The gradual replacement of original barn materials with contemporary elements tends to start with exterior components, such as window and siding replacements, as old-growth materials are exchanged for vinyl and Hardy Board. This erosion proceeds inward to the frame as heavy timbers are replaced with steel and pressure treated lumber. This is a complex issue because, at the onset of these changes, the overall value of keeping the barn standing and in use is undeniable. Over time, however, the accrual of these changes can unexpectedly leave a well-intentioned barn owner with a different barn than when s/he started. Often this transition erodes the basic integrity of the barn until it lacks sufficient materials to be classified as historic.

The method for avoiding this erosion is the use of in-kind materials when undertaking repairs. In the case of barns this often involves expensive old growth lumber that far exceeds in cost what the farmer can expect to gain in return through the continued operation of the barn. Reclamation of old growth timber from failed barns for the reuse in Heritage Barns presents a promising method for their preservation. (See [Section 1.4](#))

The major cost items identified during the field work consisted of wood deterioration at the foundation and frame, amounting to 33 percent of the total costs. Secondary cost items were correcting the effects of wracking and repainting the barns (not including associated siding repairs), amounting to 14 percent of the total costs. In small barns, window and door repair was also a secondary cost, though proportionally this diminished in the larger barns. Tertiary costs were failed roofing, water management, and flooring and joist deterioration. In actual practice, the cost of roofing could surpass the aforementioned categories, as barn owners will typically replace roofs in full, whereas the assessment looked at the amount of roof needing repair. Reclamation efforts could directly offset material costs for the major cost items, as well as flooring and joist deterioration in the secondary costs.

The total planning-figure costs identified for the 112 barns surveyed provided a range from \$2,549,600 to \$28,844,400. The lower end of the range of planning-figure costs reflects the small barn model coupled with the low end of repair-need percentages. The upper end of the reange of planning-figure costs reflects the large barn model coupled with the high end of repair-need percentages. (See [Section 1.3.4](#)) These figures yielded an average (arithmetic mean) per barn of \$24,300 to \$274,700. As of publication, there are 292 listed Heritage Barns. Stabilization costs for the barns surveyed ranged from \$474,600 to \$4,747,300. Preservation costs ranged from \$964,400 to \$19,063,000. Rehabilitation costs ranged from \$1,110,500 to \$5,034,000.

# POLICY

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A three-legged stool supports farmland conservation. The first leg is land use planning. The second is agricultural easement programs, sponsored by local governments and non-profit land trusts. The third is agricultural zoning. Individually, each of the three tools is flawed. Taken together, they complement and reinforce each other with a package of regulations and incentives that are used in creative ways throughout the state in order to meet community goals.

The Growth Management Act (GMA) placed land use planning front and center in the battle to guide the state's growth. Since GMA passed in 1990, all local governments are required to plan for natural resource-based lands, including agriculture. Planning identifies important agricultural lands and provides a blueprint for the long-term. Zoning implements the vision laid out by comprehensive planning. It is essentially the stick enforcing day-to-day behavior; the corresponding carrot is the activities of land trusts and public conservation programs. Using a voluntary-based approach, these groups exert control over large swaths of acreage. Most often, however, the barns and homesteads that support agricultural use are not part of the protection scheme.

Barns are working buildings, and their best guarantee of longevity is to remain so. Working farms are critical to working barns, and the tools discussed in Chapter 3.0 are the supports on which the future of working farms perch. While the regulatory tools are critical, the voluntary, easement-based activities that stretch dollars to exert maximum impact hold, perhaps, the most promise for barn preservation. To date, working partnerships between land trusts and preservationists are the exception, but they will become increasingly essential in order to protect not only land but also the structures that complete the story of places.

# 1.0 GRANTS & PHYSICAL ASSESSMENT



Round barn (1930s) in Eastern Washington. Photograph courtesy of the Washington state Archives.

This chapter covers the two key topics of identifying barn types and quantifying their physical needs. The recognition of historic barns is dealt with in sections [1.1 Heritage Barn Preservation Initiative](#) and [1.2 Barn Archetypes](#). The first section delves into the process and results of Washington's new Heritage Barn register and grant program started in 2007. The second section is intended to provide readers insight into the fundamentals of barn function and form.

Quantifying the physical needs of our state's not insignificant collection of Heritage Barns is dealt with in section [1.3 Physical Needs](#). This section looks at patterns of operational and physical issues, as well as capital repair priorities.



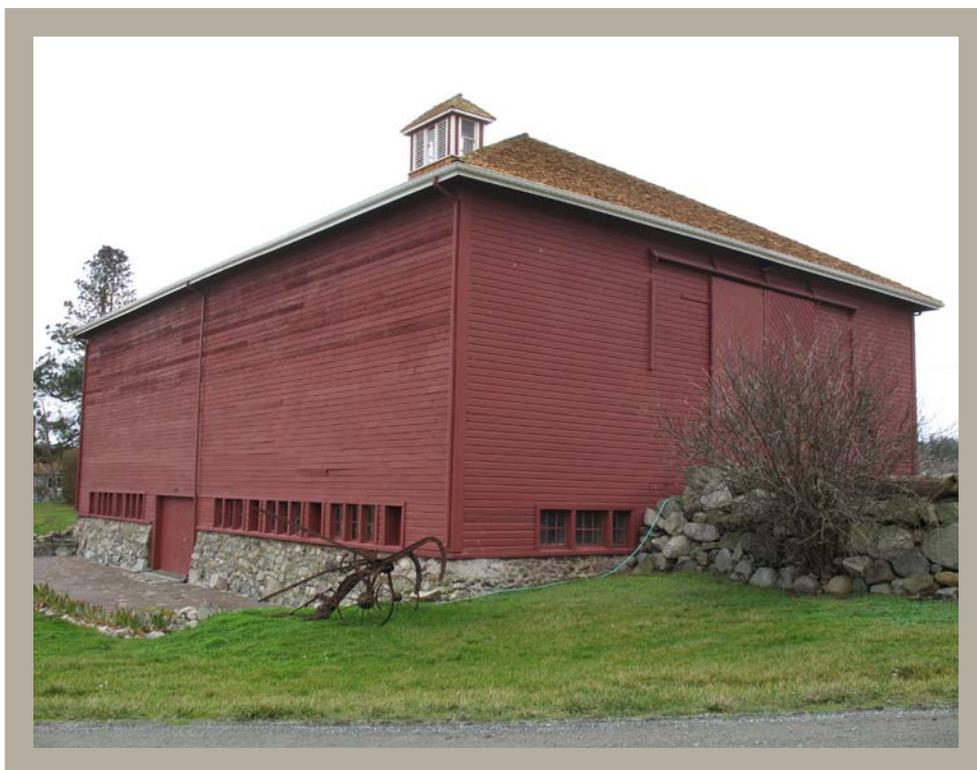
1930s view of a horse drawn combine in Eastern Washington. Photograph courtesy of the Washington state Archives.

# 1.1 HERITAGE BARN PRESERVATION INITIATIVE

Recognizing that historic barns are essential symbols of Washington's history and culture, the Washington state Legislature passed Substitute House Bill 2115 during the 2007 legislative session. With passage of the bill, the legislature acknowledged that factors such as changes in the agricultural economy and farming technologies, prohibitive rehabilitation costs, development pressures, and regulations restricting new uses collectively work to endanger barns statewide and contribute to their falling into decay or being demolished altogether. Few resources are available to barn owners to support the preservation of Heritage Barns. The purpose of the act was to create a system for recognizing Heritage Barns statewide and to provide for their stabilization and rehabilitation through matching grants and a statewide barn assessment.

In May of 2007, Governor Gregoire signed the bill into law, effectively creating the Heritage Barn Preservation Initiative. Established as a program within the Washington state Department of Archaeology and Historic Preservation (DAHP), SHB 2115 authorized the agency to:

- *Establish a Heritage Barn recognition program (Heritage Barn register);*
- *Provide matching grants to Heritage Barn owners throughout the state in support of efforts to preserve, stabilize, and rehabilitate Heritage Barns; and,*
- *Establish a Heritage Barn preservation advisory board to examine incentives and regulatory issues related to barn preservation and use.*



Colonel Walter Crocket Barn, Island County. Source: Artifacts Consulting, Inc. 2008.

## 1.1.1 HERITAGE BARN REGISTER

To distinguish those barns possessing architectural and historic significance across the state, DAHP developed a nomination form whereby owners are able to describe the character-defining features of their historic barns and provide a narrative history of the structure and associated farmstead. The two-page form allows owners to identify building features, such as roof form, siding material, barn ornamentation, etc. using a check-list format. By submitting the easy-to-use form to DAHP's architectural historian, owners can nominate their structures for designation as official Washington state Heritage Barns.

If the barn meets the designation criteria (building must be over fifty years old, retain a significant degree of its historic integrity, etc.), DAHP's architectural historian accepts the nomination materials and forwards the information to members of the Washington state Advisory Council on Historic Preservation (ACHP). As an appointed body, the ACHP reviews Heritage Barn nomination materials and formally accepts eligible structures for listing in the Heritage Barn Register at its regularly scheduled meetings throughout the year.

In its two meetings since the program's establishment in 2007, the ACHP has officially designated a total of 292 structures in thirty-six counties across the state as official Heritage Barns. In addition to those listed, over forty eligible barns are pending designation as Heritage Barns in round three reviews. After the first two rounds of review, twelve barns were deemed ineligible for inclusion in the Heritage Barn Register due to alterations and/or loss of historic integrity.

Designation as a Heritage Barn is an honorary recognition; listing in the Heritage Barn Register is a means to highlight the significance of these structures and associated agricultural buildings while acknowledging the long-term stewardship of barn owners. Designation carries no regulatory constraints for owners of Heritage Barns, and proposed changes or alterations to these structures, including demolition, can be implemented without review. Designation does, however, make owners of Heritage Barns eligible to apply for matching grants (subject to availability of funds) designed to assist owners with projects to stabilize, preserve, and rehabilitate listed structures.



Ostervoid Farm, Wahkiakum County. Source: Artifacts Consulting, Inc. 2008.

## 1.1.2 HERITAGE BARN GRANT PROGRAM

In addition to establishing the Heritage Barn Register, the legislature allocated \$500,000 to be used for the creation of a matching grant program. Understanding that Heritage Barns constitute a public good in economic, social, and historic terms, the Legislature believed that a capital investment that works to retain these structures was warranted. Through the program, owners of designated Heritage Barns (or barns previously listed in the National Register of Historic Places or the Washington Heritage Register) were eligible to apply for grants to assist with stabilization and rehabilitation projects designed for the long-term care and preservation of listed structures. Projects include roof replacements, foundation repairs, structural stabilization, replacement of deteriorated siding, etc. All work must be implemented in a manner that is sensitive to and consistent with the historic nature of the building per the Secretary of the *Interior's Standards for the Treatment of Historic Properties* (1995).

Applications requesting grants in the inaugural funding round of the program were due on January 15th, 2008. DAHP contracted with the Washington Trust for Historic Preservation (WTHP) to assist with the administration of the grant program. DAHP received 105 applications requesting over \$2.13 million in grant funds. Applications were forwarded to the Barn Advisory Committee; and, through the evaluation process the committee developed, all applications were reviewed based on the program's criteria. After review, the Barn-Advisory Committee awarded \$454,216 to eighteen barn projects in fifteen counties statewide. All eighteen barns receiving grants are visible from public roads, and sixteen of the eighteen barns remain in agricultural use—factors to which the committee gave special consideration. With the requirement that barn owners match the grant award on a dollar-for-dollar basis, these funds will work to leverage nearly \$910,000 worth of overall improvements to designated Heritage Barns.

Barns receiving grant awards in 2008 are listed below (see [Table 1.1.2](#)). Future funding cycles are dependent upon additional legislative allocations for the grant program's continuation.

**TABLE 1.1.2 HERITAGE BARN GRANTS (2008)**

COUNTY	FARM NAME	GRANT AWARD	PROJECT TASKS
Garfield	Van Vogt Family Farm	\$5,000	roof and rear wall repair
Island	Sherhill Vista Farms, LLC	\$22,701	structural stabilization, repairs to sills and walls
Kittitas	Blue Heron Farm	\$2,821	roof replacement
Klickitat	Crocker Ranch	\$41,852	replacement roof elements, flooring elements
Lewis	Boistfort Valley Farm	\$25,513	roof and foundation replacement
Lincoln	Straub Farm	\$18,721	leveling and repair of foundation; stabilization of walls
Okanogan	Olson Long Ranch	\$24,212	structural stabilization, including foundation
Pacific	Parpala Farm	\$52,095	replace siding, replace floor, paint
Pend Oreille	La Porte Farm	\$15,644	stabilization project, including foundation work
Skagit	J4 Ranch, LLC	\$18,000	roof replacement
Skagit	Prevedell Farm	\$40,649	roof replacement, foundation work, wall repairs
Snohomish	Jackknife Ranch	\$9,690	roof and rafter replacement
Spokane	Hutton Settlement	\$35,600	roof replacement, barn and silo
Spokane	Paulson Heirs	\$38,000	foundation stabilization
Thurston	Erickson Family Farm	\$34,650	foundation and flooring project
Whatcom	Rocky Mountain Dairy	\$25,000	roof replacement, siding repair/replacement
Yakima	Herke Hop Kiln	\$11,562	roof replacement
Yakima	OJ Gendron Ranch	\$32,506	roof replacement on four buildings
Award Total:		\$454,216	



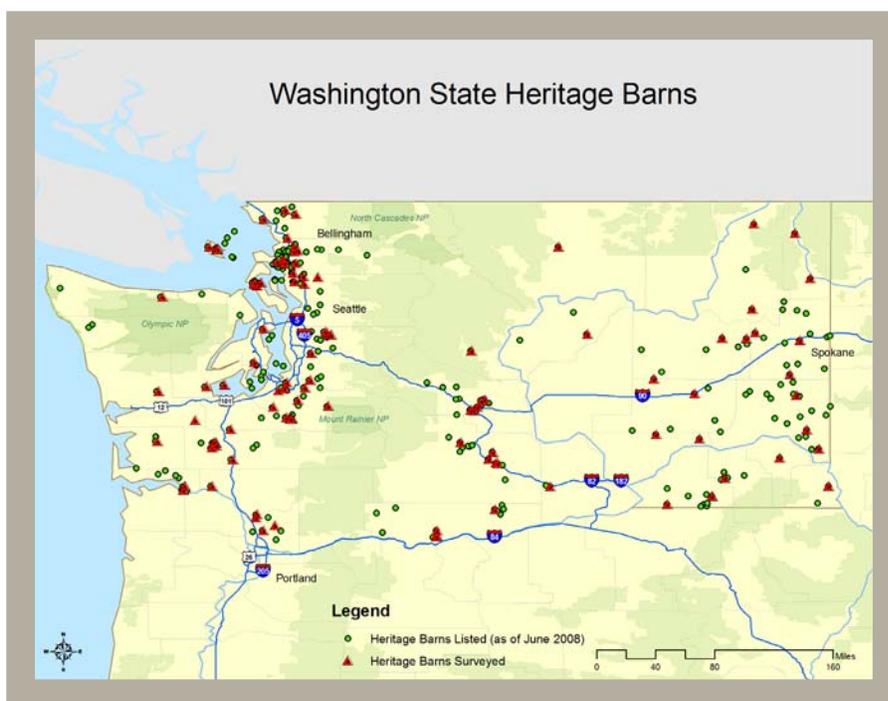
extension service, and other heritage and agriculture-related organizations to coordinate activities and information. A database identifying barn contractors and consultants is in development. King County’s Heritage Barns are featured in the annual [Harvest Celebration Farm Tour](#).

Recent survey work has found over 200 potential Heritage Barns in the Enumclaw Plateau alone that could be eligible for matching grant funds through the county’s Barn Again! Program. Barns must be at least forty years old, retaining most of their historic integrity, and in need of substantial repair in order to qualify for funding. Approximately \$100,000 is available for grants in 2008, and staff anticipates at least sixty applications. Grant awards are typically between \$5,000 and \$15,000. Like the state’s Heritage Barn grant program, projects are expected to comply with the *Secretary of the Interior Standards for Rehabilitation*, and accept a ten year easement to protect the barn’s historic character.

4Culture, King County’s public authority that supports arts and heritage, also operates programs that support historic barns and farms. Their Heritage Trails initiative, supported by a Preserve America grant, is producing virtual thematic tours of the county, one of which concentrates on agriculture. 4Culture funding programs include the Landmark Rehabilitation Program, which provides matching grants to landmarked properties in King County. The Mary Olson Farm in Auburn and the Hjertoos Farm in Carnation are past recipients of grant funds.



1930s photograph of a cherry picker in Eastern Washington. Photograph courtesy of the Washington state Archives.



Map of listed and surveyed Heritage Barns. See Section 6.1 for a full size map. Source: Artifacts Consulting, Inc. 2008.

## 1.1.4 OTHER STATE GRANT PROGRAM EXAMPLES

Beyond Washington state's programs there are three types of grants provided by barn preservation programs in other states: building assessment grants for barn owners, bricks-and-mortar grants for barn owners, and grants to organizations for workshops and conferences. (See also [Section 4.5](#))

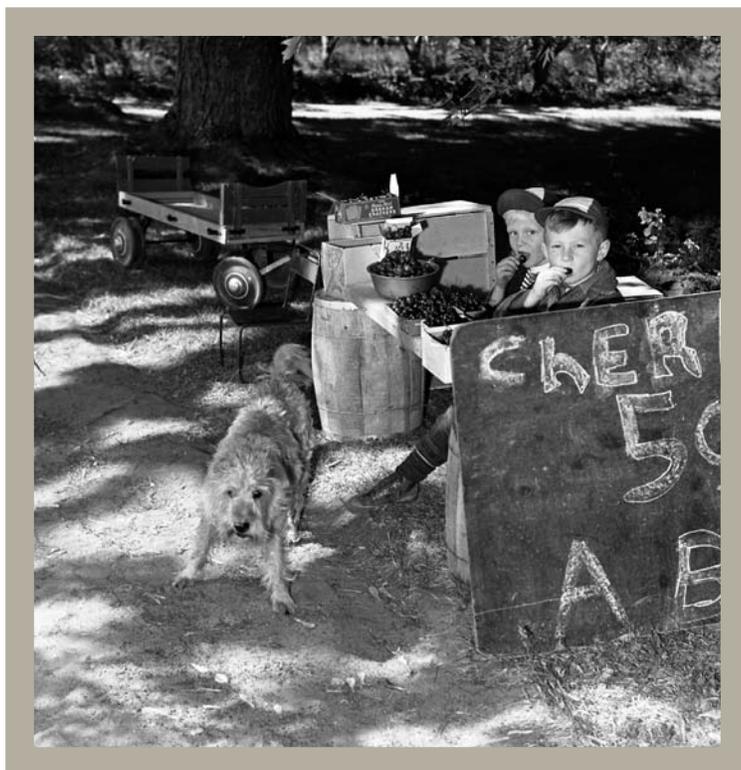
### 1.1.4.1 BUILDING ASSESSMENT GRANTS

Vermont, New Hampshire, and Connecticut all offer small matching grants to help barn owners assess the needs of their historic structures. These assessments can help address immediate stabilization issues, general care and upkeep, reuse strategies, budgeting, and a long-term revitalization plan.

The Preservation Trust of Vermont (PTV) has been offering barn assessment grants since the early 1990s, as funding has been available. The fund averages around \$3,000 per year and is supported by the Burlington Free Press (Gannett Publishing). These matching grants to barn owners pay \$350 of the \$500 cost of a standard barn assessment, which includes a description of the building and its construction, a description of any structural or other problems, a prioritized list of work to be done, basic procedural information for repair of problems, and a cost estimate. Most of the assessment projects lead to grant applications to Vermont's bricks-and-mortar barn preservation grant fund. Although the assessment grants are not a prerequisite for a bricks-and-mortar grant, they greatly increase the chances of getting a grant because the applications are easier to review and the staff has some assurance that the job will be done right.

The PTV selects the consultant for the barn assessment from a pool of about six barn preservation experts, based on the barn type, geographical location and availability of the consultant. Staff of both the PTV and the Division for Historic Preservation, which manages the bricks-and-mortar grants program, agree that the assessment grants have been a valuable tool for barn preservation in the state.

The New Hampshire Preservation Alliance (NHPA) started its barn assessment grant program in 2000. This grant pays either \$250 or \$400 of the \$500 cost of a comprehensive barn assessment. Owners apply for either amount, according to their need. Grants are available to private and nonprofit owners of barns that are more than fifty years old. Additional criteria are as follows: whether the barn is in agricultural use; historical and architectural significance of the structure; threat to the structure's existence; current and prospective uses of the building; visibility of the structure to the community; community support for the preservation of the structure; and, the viability of the structure. Applicants can use a pre-approved contractor or submit the name of their own contractor for approval.



1930s cherry vendors, Eastern Washington. Photograph courtesy of the Washington state Archives.

Since 2000, the New Hampshire Preservation Alliance has awarded approximately eighty-one grants to help owners assess the needs of their barns, set priorities, and give cost estimates for repairs. Grants have been awarded to approximately 25 percent of the applications received since 2000. That percentage has been higher in recent years due to the decline in applications from the high levels of the first few years of the program. NHPA awards approximately \$5,000 annually with the funds coming from the New Hampshire Division of Historical Resources and private donors. Grant winners receive a site visit from an approved barn consultant and a short (five to eight pages) written report highlighting the architectural significance of the barn, structural needs, prioritization of repairs, and rough cost estimates. The report also often includes immediate stabilization recommendations, general care and upkeep, reuse strategies, and a long-term revitalization plan.

According to NHPA staff, this program has been productive in terms of connecting barn owners with experienced barn experts and other barn enthusiasts, resulting in an extensive barn network throughout the state. It is evident that most of these grants do lead to some sort of barn repair, whether it is just the minor repair of a leaky roof or a major barn overhaul.

The Connecticut Trust for Historic Preservation (CTHP) set up its grant program in 2008 with funds from the Connecticut General Assembly, the Connecticut Humanities Council, and the Connecticut Commission on Culture and Tourism. Private, nonprofit, and municipal barn owners can apply for matching grants (25:75) of up to \$10,000 in order to evaluate buildings for structural integrity, for historic significance, and for feasible adaptive uses, as well as for preparing nominations to the National Register of Historic Places. Private applicants must be able to demonstrate community-level significance, support from a local historical organization, agricultural group, or municipality, and a public benefit from the grant. The goal is to distribute at least \$40,000 in grants by June 30.



Cloverdale Farm barn, Grays Harbor County. Source: Artifacts Consulting, Inc. 2008.

#### 1.1.4.2 BRICKS-AND-MORTAR GRANTS

In addition to Washington, Iowa, Maryland, Montana and Vermont, currently offer bricks-and-mortar grants for barn preservation. Two other states, Maine and New York, have previously had grant programs but have discontinued them.

##### *Iowa*

The only grant program managed exclusively by a private, nonprofit barn preservation organization is that of the Iowa Barn Foundation. Founded in 1997, the Iowa Barn Foundation's mission is to educate the public about Iowa's endangered barns and to provide grants to help property owners restore their barns. The organization also presents awards for exemplary barn preservation projects and sponsors educational programs, such as its "All-State Barn Tour" (see below). The foundation also accepts gifts of economically and financially self-sustaining farms, which it conserves in perpetuity for agricultural purposes. The organization includes a board of directors with twenty-three members representing most of Iowa's ninety-nine counties.

The Iowa Barn Foundation's grant fund comes entirely from donations from private individuals, corporations, and foundations. Grant awards are made by the board of directors. To be eligible for a grant, barns must be at least fifty years old, located on their original sites, retain architectural significance or significance to the community, and have original siding. The barn must be restored as closely as possible to its original condition. Grant awards average \$10,000, and must be matched with cash (50:50). The owner must begin the restoration/rehabilitation project within one year of the award and finish it within two years. In addition, property owners must sign a perpetual easement, which guarantees that the barn will be maintained in perpetuity. The Foundation has been able to award grants to most eligible applicants

A board member or county representative visits each barn before the award is made in order to make sure that the property is eligible; the representative visits again to inspect the work at the end of the project. The owner receives the grant check when the work is completed and the easement signed. Although the easement requirement has scared away some potential grantees, the program has awarded approximately ninety matching grants totaling \$1 million since it began ten years ago.

### *Maryland*

The Southern Maryland Tobacco Barns Preservation Initiative is an effort led by Preservation Maryland with the support of many organizations, including the Maryland Historical Trust (SHPO), National Trust for Historic Preservation, the county governments of the five affected counties, farm organizations, and heritage tourism organizations. The program is in response to the widespread loss of this particular agricultural building type in southern Maryland, due to a combination of agricultural land being consumed by the rapidly growing Washington, D.C. metropolitan area and the unintended consequence of Maryland's 2001 "tobacco buyout" state policy, which encourages farmers to stop cultivating tobacco. Thousands of acres of agricultural land and scores of tobacco barns have lost their economic usefulness and now stand unused and deteriorating.

A report published in 2004 outlined the issues surrounding loss of historic tobacco barns and called for various steps to stem the loss, including grants, tax credits, and educational programs. That year, "Tobacco Barns of Southern Maryland" were listed on the National Trust for Historic Preservation's list of 11 Most Endangered Historic Places in the country, adding to the visibility and urgency of the issue. In 2005 Preservation Maryland was awarded a \$200,000 Save America's Treasures (SAT) grant from the National Park Service, along with a \$30,000 grant from the SHPO, to launch a tobacco barn rehabilitation grant program.

To date, the program has awarded twenty-seven grants, with another five to seven grants expected to be awarded in 2008. Grant conditions and criteria are similar to those of Vermont, with a \$10,000 maximum award, a match requirement (50:50), and priority given to barns in agricultural use. Grantees must also agree to a five-year preservation covenant. Unlike Vermont, contractors are paid directly by Preservation Maryland. As a result of the program, thirty-five to forty barns will be preserved; the program will also raise the visibility of the importance of tobacco barns and need for their preservation. Additionally, the broad partnership for barn preservation that was developed by Preservation Maryland and the SHPO creates a lasting network to advocate for barn preservation at the local level.

According to Josh Philips, who administers the grant program for Preservation Maryland, the amount of paperwork required for the SAT grant makes it extremely difficult to administer, and the lack of administrative funding has exacerbated the problem. In addition, the SHPO money requires a perpetual easement, something no barn owners have been willing to agree to up to this point. Problems also arise with contractors who are not familiar with preservation techniques; for example, most contractors want to replace all siding on a barn, not just the sections that are damaged.

In 2006, Preservation Maryland and its partners successfully lobbied for a state-government sponsored state-wide barn preservation program that is not limited to tobacco barns. That program, which calls for about \$400,000 per year in grants for barn preservation and a staff position at the SHPO dedicated to administering the barn grants, has yet to be funded. When funded, the program will free up Preservation Maryland staff and other partners to do the other barn preservation work, such as education, advocacy, heritage tourism, and public policy, all of which is required for a comprehensive barn preservation program.

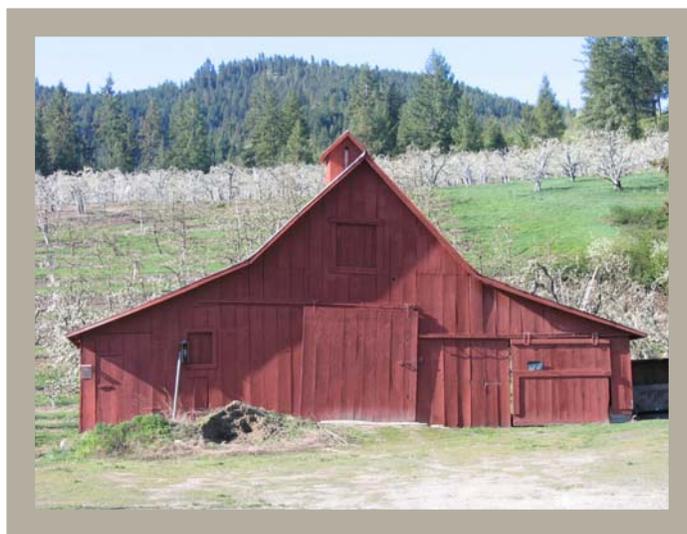
### *Montana*

In 2008-2009, the State Historic Preservation Office of the Montana Historical Society will offer its third round of “Rural Property Brick and Mortar Grants.” The program will award up to three grants for a total of \$15,000. Buildings must be historic and related to rural agriculture; in addition to barns, grain elevators and farm out-buildings are eligible. Owners will be reimbursed a minimum of \$5,000 for approved work. Priority is given to National Register-listed buildings, although Register-eligible buildings also qualify. Work must comply with the Secretary of the Interior’s Standards for Historic Rehabilitation. Priority is given to applicants who can provide a match (1:1), which may be either cash or in-kind. Grant recipients enter into a five-year preservation agreement with the SHPO.

### *Vermont*

The longest running barn preservation grant program is in Vermont. In response to the loss of historic agricultural buildings due to changes in agricultural technology and economic forces, the Vermont Division for Historic Preservation (Division) instituted a matching grant program in 1991 in order to assist private property owners, municipalities, and non-profit organizations in rehabilitating important historic agricultural buildings across the state. The grant program has been funded exclusively by legislative appropriation of between \$150,000 and \$200,000 each year since 1991. Since then the Division has awarded more than 175 matching grants worth more than \$1.1 million in order to assist with preservation of barns, corn cribs, sheds, grist mills, and other historic agricultural buildings.

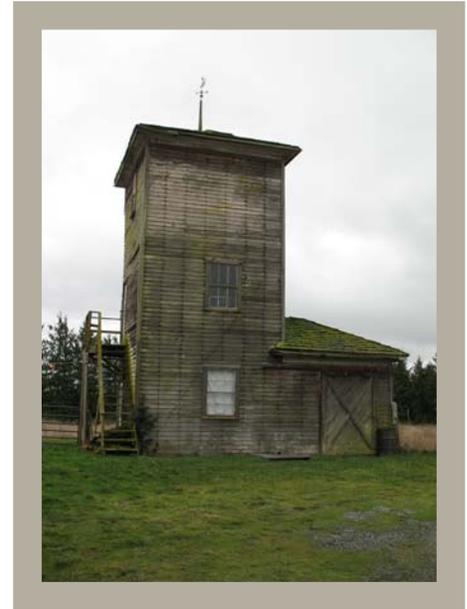
Matching grants (50:50) of up to \$10,000 are awarded annually to assist with the restoration and repair of these endangered buildings. The program encourages the continued use of farm buildings for agricultural use. Eligible work includes restoration and repair of roofs, structure, windows, foundations, and other important components of historic agricultural buildings. To be eligible for a grant, the agricultural building must be eligible for, or listed on, the National Register of Historic Places, and proposed work must comply with the Secretary of the Interior’s Standards for Rehabilitation. Grants are competitive (about 25 percent of applicants are successful), and are evaluated on the following criteria: preservation of historic features and materials, preservation of agricultural building type, plan for long-term use, public benefit, geographic distribution, and financial need.



Remley Orchards barn, Chelan County. Source: Artifacts Consulting, Inc. 2008.

Grants must be matched with cash (no in-kind match) and are awarded at the completion of the project, following approval of the project and expenses. Owners sign an agreement stipulating that they will carry out the work in the manner agreed upon, will assume the cost of maintaining the property in its rehabilitated state for a period of five years, and will consult with the Division for prior approval of any interior or exterior alterations, additions, or major rehabilitation projects for a period of five years. Grants are subject to recapture if the property is sold within five years.

The Division has found that the program benefits greatly from the companion grant program for barn assessments administered by the Preservation Trust of Vermont (see above). Barn owners who have received an assessment have a clear idea of what needs to be done, and how, and the Division has confidence that this information has been provided by a knowledgeable professional. Occasionally applicants will be encouraged to first get an assessment, and then reapply for a bricks-and-mortar grant.



Kineth Farm, Island County. Source: Artifacts Consulting, Inc. 2008.

#### 1.1.4.3 GRANTS NOT SPECIFICALLY FOR BARN, BUT AVAILABLE FOR BARN & OTHER RESOURCES

The New Hampshire Land and Community Heritage Investment Program (LCHIP) is an independent state authority that makes matching grants to New Hampshire communities and nonprofits in order to conserve and preserve the state's most important natural, cultural, and historic resources. LCHIP funds cover an average of 20 percent of the total project cost. The grant program is supported through an appropriation from the state legislature, with administration paid for by the sale of conservation license plates. Grants are only available to nonprofit organizations and municipalities; however, grants can benefit private property owners. To date, barn rehabilitation projects have made up only a tiny percent of the \$24.5 million invested in projects by the LCHIP.

#### 1.1.4.4 GRANTS TO NONPROFITS FOR EDUCATIONAL PURPOSES

The Michigan Barn Preservation Network provides grants of up to \$250 to individuals or groups who organize workshops related to barn preservation. Examples include workshops and sessions covering technical and educational topics related to barn preservation, hands-on demonstrations of preservation techniques, and barn tours.

The national BARN AGAIN! Program does not have a grants program. However, its sponsoring organization, the National Trust for Historic Preservation, has made occasional grant awards for barn preservation workshops, conferences, and other educational activities.

### 1.1.4.5 CASE STUDY: NEW YORK STATE BARNS RESTORATION & PRESERVATION GRANT PROGRAM

The preservation community in New York was taken by surprise when the state legislature, at the urging of then Governor George Pataki, appropriated \$2 million for grants to barn owners in 2000. The program was administered by the New York State Office of Parks, Recreation and Historic Preservation, which scrambled to develop guidelines and criteria for the barn grants. Over the course of the program, which ended in December, 2006, 540 grants totaling \$12 million were awarded to barn owners throughout the state.

The state was overwhelmed by the response to the grant program. In the first round, 4,800 applications were submitted. Grants were a maximum of \$25,000 (increased to \$50,000 for the last round in 2006) and had to be matched on a sliding scale from 10 percent to 50 percent, depending on the owner's financial situation. A covenant was required as a condition of the grant, with a term extending from ten to twenty years, depending on the grant amount.

The New York State Office of Parks, Recreation and Historic Preservation contracted with an experienced barn contractor, Randy Nash, to manage the program. Nash was responsible for reviewing applications, visiting each barn to meet with the owner and make recommendations, negotiating contracts, and following up to ensure that projects were completed. The program benefitted from having an experienced barn contractor in this position, since he was able to work directly with owners and contractors and guide them in the proper rehabilitation techniques.



Nutter Barn, Wahkiakum County. Source: Artifacts Consulting, Inc. 2008.

Although the numbers are impressive, problems that arose with the grant program are also instructive. Some of these are noted below.

- *There was no requirement for completing a survey form or for evaluation of a barn for listing on the National Register prior to or after receiving grant, so it was difficult to judge barns on their historic significance. Also, the information on grant recipients was not entered into the statewide survey.*
- *Goals for the program were not spelled out in the legislation, and the agency neither had adequate staff and time, necessary to develop specific goals, nor an application form and criteria to match. Therefore, public money was not used as strategically as it might have been.*
- *Contractors knowledgeable in nineteenth century barn construction techniques were hard to find, and it was sometimes difficult to convince modern contractors to use traditional materials and building techniques. Some owners had to decline grants because they could not find a contractor to do the work.*
- *Out of 280 projects awarded grants between 2001 and 2005, only 150 have been completed. About 20 percent declined the grant after they realized what was actually involved in coming up with the match money, completing the work, and signing a covenant.*

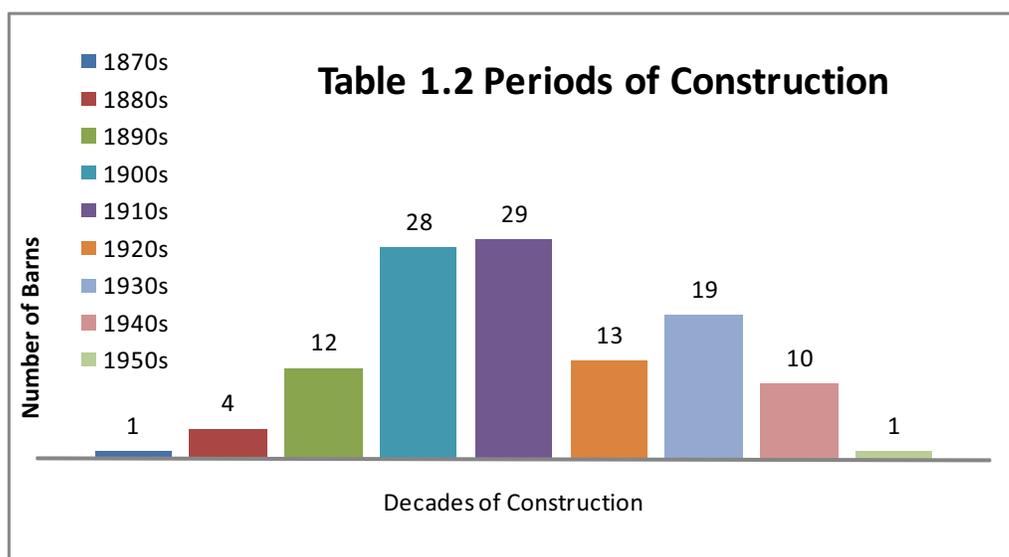
Overall, preservation advocates in New York believe that the New York State barn grant program was a success. In addition to the sheer number of barns rehabilitated through the grants program, the existence of the program generated significant excitement and interest in barn preservation throughout the state. Each one of the thousands of grant applicants prepared detailed scopes of work for their barn projects, and many also provided detailed histories of their barns. The program also raised the level of skill in barn repair work statewide. It helped to identify existing craftspeople and to train others in proper rehabilitation techniques. A lasting side benefit of the grant program is a list of contractors with experience in barn preservation, which is available on the website of the [New York State Barn Coalition](#).

# 1.2 BARN ARCHETYPES

Barns comprise an important vernacular architecture component of our state’s built environment. The majority of barns surveyed are not high-style, architect-designed structures; rather, their architectural components speak of the types of resources available in different regions, builders and traditional crafts backgrounds, and the changes in farming, dairy, and ranching practices. Their regional dialect of interior layouts (e.g. the shift from west-side dairy stanchions to draft horse stalls on the Palouse), forms, and material characteristics bind them to a particular period, place, and often user-group. They have served a full spectrum of uses: from the birthing of calves, barn dances, and hayloft basketball courts, to hay and livestock storage, and processing centers for grain and seed. The following sections 1.2.1 Functions, 1.2.2 Components, and 1.2.3 Catalog of Barn Types present an overview of these characteristics identified during field surveys.



Syth Barn, Douglas County. Source: Artifacts Consulting, Inc. 2008.



## 1.2.1 FUNCTIONS

Barn functions changed over time in response to traditional preferences, farming practices, and building and farming technology. The evolution of barn functions provides an important narrative in understanding barns today. This understanding creates a framework that guides future changes in a manner that retains vestiges of past uses for their interpretive value while also allowing new purposes to sustain use of the barn.

Single story barns, designed with inherited customs adapted to the New World, were the first to appear on the North American landscape in the seventeenth century. As the United States emerged into a land devoted to agriculture in the eighteenth century, people began building barns at increased heights, resulting in the birth of the two-story barn. The two-story barn quickly prevailed across the land, spreading from the east to the west coast. As industrialization swept over the country in the nineteenth century, new farming innovations and the production of cash crops inspired an abundance of primary-use barns, such as dairy and draft horse barns. Whether built as a single-story, or a much larger two-story structure, the barn functioned as a home for the agricultural tasks necessary to work the farmland.

In England, the barn had been solely used to store threshed grain; livestock was kept in smaller outbuildings surrounding the main barn. In Holland, living quarters, livestock, and agricultural areas, were all housed inside one structure. This was a trait shared throughout much of central Europe. These immigrants infused the growing collection of vernacular architecture in the United States with a rich variety of building and interior layout practices derived from traditional ways of farming and barn building. To adjust to climatic, social, geographic, and farming practice differences, adaptations and variations on traditional construction methods soon emerged. For example, English settlers combined grain storage and livestock into one structure while Dutch settlers began constructing their living quarters as a separate building. What emerged across a geographically immense landscape from the broad range of influences and changes, was the single-story barn in the United States.

These early barns featured a central threshing floor flanked on either side with areas used for livestock pens, grain and hay storage, and/or tools. In this time before modern farming equipment, the central floor was a place where grain was threshed by hand in order to separate the kernels from the chaff. The threshed grain was then stored in granaries built along one side of the threshing floor. A waist-high threshing wall often divided open granaries from the threshing floor area. Ladders mounted to the walls of enclosed granaries allowed the farmer to climb down into them. Mows holding stacked hay used for livestock feed typically ran along the same side of the threshing floor as the granaries. The livestock pens lined the opposite side of the threshing floor. An area for tool storage could be found along either side of the threshing floor, depending on where space could be found between the granaries and mows. This interior layout of



Second floor hayfoft in the Galbreath Land and Livestock barn, Adams County. Source: Artifacts Consulting, Inc. 2008.



Draft horse stalls in the Nelson Barn, Lincoln County. Source: Artifacts Consulting, Inc. 2008.

the barn functioned as the heart of the farm; it housed the livestock, grain supply, fodder, and space needed to thresh the grains in order to live off the land.

In the eighteenth century, the United States continued to develop as a land devoted to agriculture. Serving as Secretary of State, Thomas Jefferson promoted this trend with the passing of the Land Ordinance of 1785, which imposed a standardized survey system of townships on the unsettled frontier west of the Appalachian Mountains. As agriculture became the main focus of the new Nation, the scale of barns began to transform. Exterior barn designs still reflected the farmer's heritage; but, building heights increased to create more space, and the two-story barn became the standard.

The addition of a second story not only enlarged the barn, but it also allowed for improved separation of uses within the layout of interior spaces. In early single-story barns, every inch of the interior floor space had to be utilized to accommodate the various farm functions. With the addition of a second story, the purpose of the space could be differentiated; the upper floor served as a threshing area and hayloft (often with a modest granary mounted to an end-wall) while the lower level was devoted to the housing of livestock and equipment. Chutes and large openings in the loft floor allowed the hay to be fed down to the livestock below. Although serving the same purpose of storage space for stacked hay, haylofts differ from mows. Whereas haylofts are exclusively an upper-loft area, haymows can also be present on the ground floor.

With the threshing floor and hay storage moved up to the second story, the central area of the lower level became available for expanded livestock use. The livestock pens were typically kept to the sides of the interior, with both sides available for livestock. The central area, formerly a threshing floor, functioned as a passageway for the farmer to tend to the livestock. Many barns during the eighteenth century were built according to the number and type of livestock it would house in the ground floor. If the farmer had a sizable herd and the barn was built large enough, the central passage way could now be used for a wagon to bring crops into the barn and/or to be stored out of the elements. These barns often incorporated a wide range of functions.

At the beginning of the nineteenth century, nearly 80 percent of all Americans lived on farms, and barns continued to be built according to the quantity and type of the farmer's livestock and his cultural background. The barn was often built before the house was completely constructed as a necessity to shelter the livestock needed to run the farm



Mechanical hay track in the Old McNeil Ranch barn, Kittitas County. Source: Artifacts Consulting, Inc. 2008.



Second floor hay chutes in the Old Bush Place barn, Whitman County. Source: Artifacts Consulting, Inc. 2008.



Feeding troughs in Old Bush Place, Whitman County. Source: Artifacts Consulting, Inc. 2008.

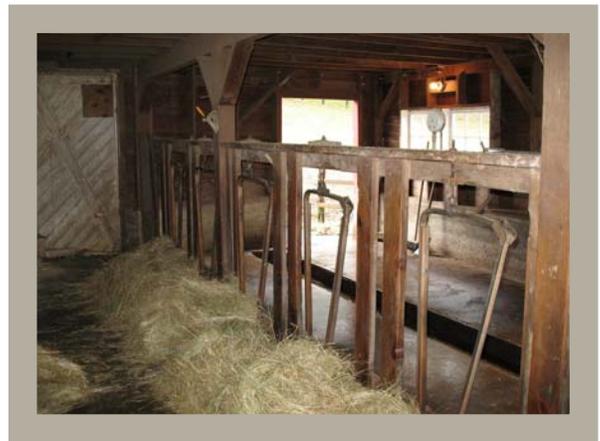
and supply the family with food. As the nineteenth century toiled on, the United States became an industrialized nation in which the total value of the nation's manufactured goods grew to five times greater than all crops raised by farmers. By the end of the nineteenth century, industrialization was in full swing, the frontier was closed with no more open land available, and the railroad had transformed the once agrarian society into an urban network. Farmers now found that, with access to railroads for shipping and ever growing urban areas, producing a single cash crop or expanding their milking operation was monetarily more advantageous than farming to meet the various immediate needs of the family. This transition marked the beginnings of farmland consolidation, and primary-use operations began to sweep the nation.

This change led to construction of a new generation of larger barns designed with a more focused interior program to better serve this shift in farming practices. Often the older, smaller barn would be left for use in a secondary capacity. These larger primary-use barns typically housed either large dairy herds or draft horse barns. The draft horses were used extensively in wheat farming to pull the large combines and grain wagons. In conjunction with this specialization of barn uses, agricultural colleges began designing barns specifically for dairying and draft horse quarters, publishing their designs in newspapers and trade magazines during the last quarter of the nineteenth century. New innovations, including mechanical hay tracks, improved ventilation systems, drainage systems, stanchions, and milking areas were featured. Although many barns were constructed with these new designs, by 1920, most people were living in urban areas and working in factories rather than on farms. By the 1930s, the first signs of agri-business (farming as an industry focused on the processing, storage, and distribution of farm commodities) began to develop; and, the farmer was now faced with a corporate rival. This shift, over the ensuing decades into the present, effected a profound reduction in the intensity of barn use and a consequent diminished role for these structures in large-scale corporate farming operations.

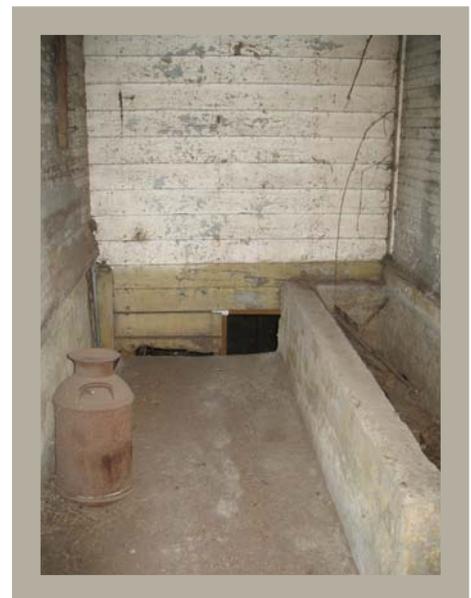
Today, many of the barns surveyed as part of this project retain substantial vestiges of former functions and changes in functions. Often in barns built for dairy herds, the cessation of dairy operations and a shift to beef cattle can be read in the remnant manure troughs, interior white wash, and residual stanchion parts, as well as the new feeding troughs added for the beef cattle. Overall, the interior layout of the barn has not changed dramatically since the building of two story barns began. The second story continues to be used as a hayloft, often times with the original mechanical hay track still intact (and the addition of basketball hoops for the farmer's children). One common trend found has been the enlargement of the main barn doors to allow for modern



Basketball hoop in hayloft. Hanson Farm, Kittitas County. Source: Artifacts Consulting, Inc. 2008.



Improved livestock stanchions, manure trough and milking operations in the Carlson Farm, Clark County. Source: Artifacts Consulting, Inc. 2008.

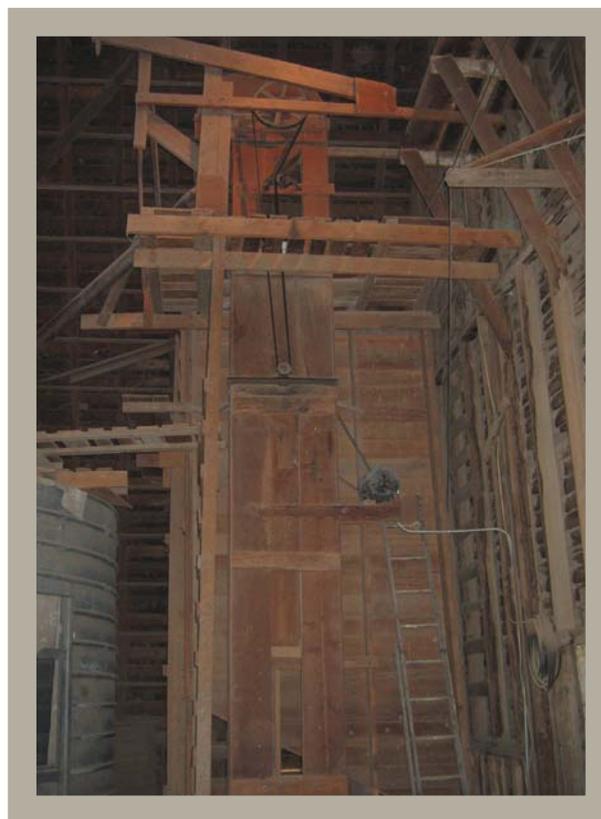


Milk room in the Townsend Family Farm barn, Thurston County. Source: Artifacts Consulting, Inc. 2008.

farming equipment, which is significantly larger than the wagons of old, to enter the lower quarters. Often times, the removal of a section of the upper hayloft accompanied this trend, as more height was needed to store the equipment. Although seen less rarely, some second story haylofts have had their central area completely removed to make way for the larger equipment, leaving only the livestock areas on the lower level covered. The biggest problem facing barns today is the abandonment of the farm. Once a barn is no longer functioning as an agricultural vessel, the deterioration of the barn quickly gains momentum.



Improved livestock stanchions, manure trough and milking operations in the Cloverdale Farm, Grays Harbor County. Source: Artifacts Consulting, Inc. 2008.



Grain processing and storage within the Hart Farm barn, Franklin County. Source: Artifacts Consulting, Inc. 2008.

## 1.2.2 COMPONENTS

Barns consist of a variety of components within the principal groupings of foundation, frame, roof, building envelope, and interior elements. The predominant material throughout each grouping is wood, with some stone, concrete, metal, and glass employed to lesser degrees. Collectively these components form the visual, character-defining elements of the barns. Their high quality (e.g. clear grained old growth lumber) and practical assemblies contribute to the continued use and viability of barns as agricultural buildings.

### 1.2.2.1 FOUNDATION

Foundations consist of those soil bearing elements (e.g. footings), the vertical structural element carrying the sill upon which the frame stands. Foundations serve the essential role of providing a level, stable base for the barn's frame and interior flooring upon which the barn's uses occur. They keep the frame and flooring elevated above the surrounding soil in order to provide a dry environment and allow air circulation beneath the building.

Barn foundations range from post and pier systems to poured-in-place concrete footings and walls. Surveyed barns exhibited post and pier systems, rubble stone, poured-in-place concrete, and rubble stone held in a timber crib. The post and pier systems consisted of old growth cedar or Douglas fir logs for the piers, set on field stone footings with massive hand-hewn sills. These piers supported the heavy timber sills upon which the barn's structure was built. The rubble stone foundations consisted predominately of randomly laid-up rubble stone that relied heavily upon the mortar to hold the wall together. Poured-in-place concrete foundations included both footings and walls. Footings tended to assume the role of wood piers in supporting heavy timber sills that carried the structure. Walls, measured in visible height above grade, ranged from just a foot or more to several feet in height. Concrete also varied in quality: from mixes using well-graded, coarse aggregate and quality cement, to weak cement bonded around round river rock sourced from a nearby stream. The use of timber cribbing to hold in rubble stone for a foundation was observed at only one barn, which stands in Eastern Washington. The crib, a timber framework, was filled with rubble stone to form a foundation upon which the structure was built. This method is frequently employed in anchors for fences where posts are scarce or the ground is too difficult to dig.

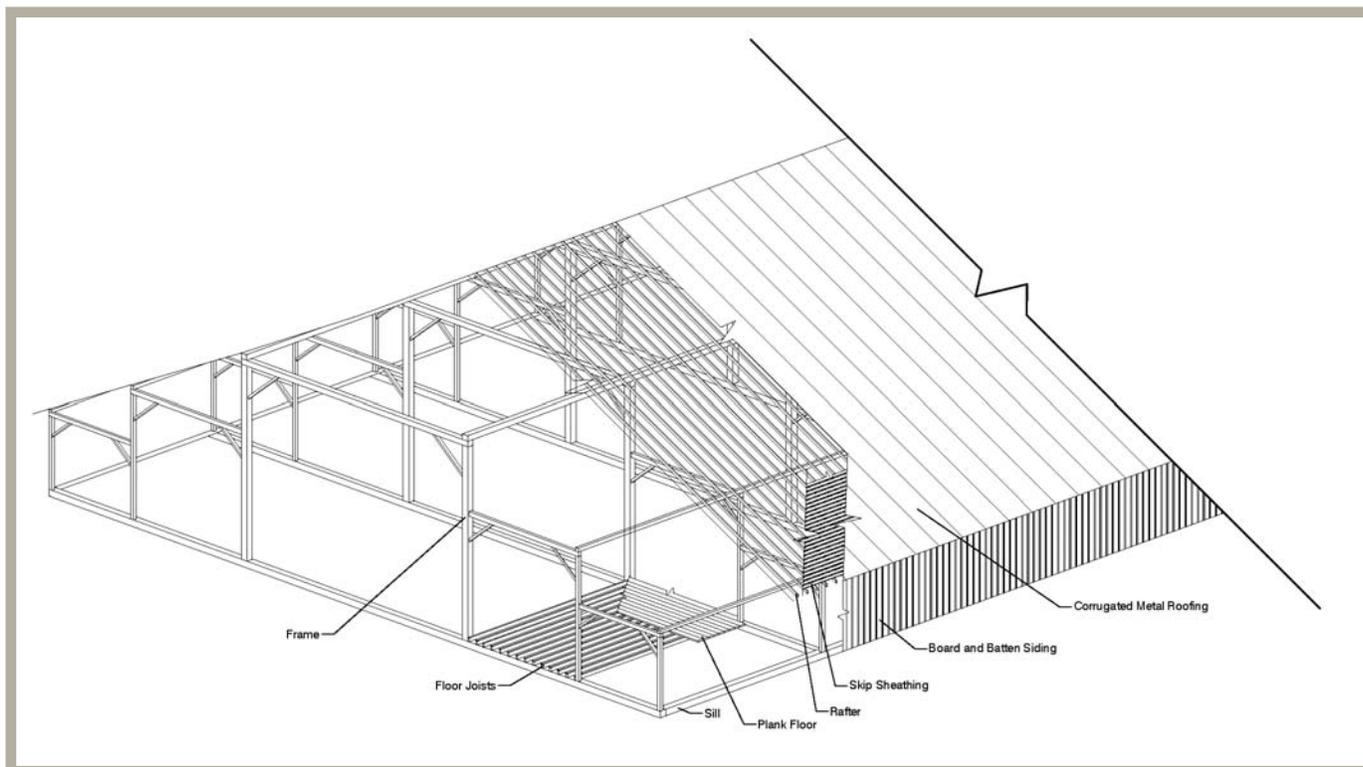
### 1.2.2.2 FRAME

A barn's frame embodies the true marvel of engineering and material qualities; it is designed to be the most enduring of the building's components. Frames consist of the beams at each floor level, as well as vertical structural elements supporting the walls, roof, and an upper floor or loft if present. Floor joists and flooring, as well as other interior elements, are addressed in [section 1.2.2.5](#). Not all barns exhibit frames, as is the case with Quonset type barns that consist only of a low foundation and arched roof.

Barn frames range from simple peeled logs to complex wood-pegged, mortise-and-tenon jointed, hand-hewn timber frames. Surveyed barns exhibited timber, braced,



Red Goose Inc. farm, Adams County. Source: Artifacts Consulting, Inc. 2008.



and platform and balloon frames. Wood pegs were typically employed to secure connections where joinery was involved. Metal spikes and heavy nails fulfilled this role in less complex assemblies that did not involve mortise-and-tenon joints. Braced frames were a frequent occurrence. These consisted of heavy timber posts at the corners and beneath beams with smaller, dimensional lumber infilling between. Platform and balloon frames employed the smaller, dimensional lumber throughout. The principal assembly difference between these two was that each floor was constructed as a separate unit in the platform method and wall studs ran the full height of the structure in balloon frames. These functioned differently from the timber and braced frame assemblies in that the frame and skin were integrated into one unit. The platform and balloon frames relied upon the exterior siding for rigidity (rarely did barns exhibit sheathing beneath the siding).

### 1.2.2.3 ROOF

Roofs serve the essential function of shedding water and other environmental elements to keep the interior spaces, envelope, frame, and foundation dry and usable. Rooflines present the principal classification means for barn types, as they are a defining visual characteristic. They consist of the roof framing, cladding material, flashing, ventilation elements, decorative elements (e.g. wind vanes), and sometimes gutters and downspouts.

Barn roofs encompass a variety of forms and cladding materials. Refer to [section 1.2.3](#) for a listing of roof forms. Most barns featured eave and gable overhangs to move water runoff away from the building. Roofs exhibit the widest range of materials. Cladding types include cedar shingles and shakes, asphalt composition shingles, and various forms of metal roofing (including steel and aluminum). Often successive re-cladding of roofs is done directly over the previous or original cladding. Framing consists of purlins, rafters, skip sheathing, and sometimes a ridge board. Timber framing materials included S4S and rough sawn purlins, rafters and ridge boards, as well as hand-hewn purlins, and peeled log purlins and peeled pole rafters. The rafters and purlins would often be continuous lengths of wood over their full distance (e.g. from the ridgeline to the eaves in the case of rafters). Round barns typically included a center connecting element (often a former tree trunk) from which the framing radiated. In the Gothic arched and round barns, this framing consisted of layers of thin dimensional lumber bent or built-up to form the overall roofline form. In some cases, the curvature would continue

inward past the wall plate juncture, creating the sensation of being inside the hull of an inverted ship. Examples included long strips of one-by-three-inch material layered (parallel to the roof plane) and bent, and shorter sections of one-by-six and wider material cut into sections and layered (perpendicular to the roof plane) to form the desired roofline profile. Ventilation elements range from ornate cupolas with louvered sides to simple sheet metal ventilators mounted along the ridge line.

#### 1.2.2.4 BUILDING ENVELOPE

The building envelope serves as the exterior skin protecting the frame and interior uses. The envelope consists of both static elements, such as siding and trim, and dynamic elements, such as windows and doors. Dynamic elements are often moved and adjusted during the course of the barn's operation. The envelope provides an important, character-defining role, which affords daylight, personnel, equipment, and livestock access to and from the building and protection from the elements. It also provides a visually defining role for the building. The principal material for the building envelope is wood with metal for fasteners and glass window panes.

Siding on surveyed barns ranged widely in type and included vertical and horizontal bevel, drop and flush variations. Only a few barns exhibited shingles, and these were usually in the upper gable ends. Vertical examples consisted of board and batten systems with the boards butted edge to edge with battens covering these joints. Another type consisted simply of vertical boards butted edge to edge without battens. Horizontal, bevel-type siding consisted predominately of clapboard. Flush siding types featured both shiplap and tongue-and-groove joints. Barns with horizontal siding typically included corner boards and a rake molding along the gable ends beneath the eaves.

Windows on surveyed barns consisted of multiple-light wood sash units. Often the more elaborate double-hung windows were employed in the gable ends with smaller windows for day lighting and ventilation along the side walls. Some barns exhibited decorative window casings, though the majority featured simple flat stock to trim out the openings on the building exterior. A frequently encountered window type consisted of a single sash that floated in the window opening. Along the inner jambs of the opening



Boistfort Valley Farm, Lewis County. Source: Artifacts Consulting, Inc. 2008.



Galbreath Land & Livestock farm, Adams County. Source: Artifacts Consulting, Inc. 2008.

were nailed two boards that angled up and in from the lower outer corner. Triangular wood wedges set between these boards, and the sash locked the sash shut. Upon removal of the wedges, the sash could be leaned back to rest against the angled boards or lifted out for cleaning. This proved a practical and efficient system.

Doors on surveyed barns consisted of both large and small doors. Small (personnel) doors were the small doors provided for farmer access to the building. These ranged in type from paneled doors to flush doors built up from dimensional lumber. The large (barn) doors ranged in types from the massive main doors for livestock and equipment entry to smaller side doors for livestock and gable end doors for hay entry. These doors typically were built up from dimensional lumber with an interior framework clad with materials similar to the building's siding. Heavy metal hinges carried these doors. The main barn doors often featured top hung roller tracks allowing the doors to slide open which eliminate the need for a large clear space to accommodate the swing of the doors. On all door types the hardware was simple and practical ranging from wood levers to simple metal door knobs and pulls.

### 1.2.2.5 INTERIOR

Interior spaces hosted a variety of uses, often with only the most basic of amenities. Simplicity of interior features and finishes, facilitated cleaning, kept building costs low, and eased future rearrangements as uses changed and grew. The essential interior elements consisted of the flooring and floor joists. Other common

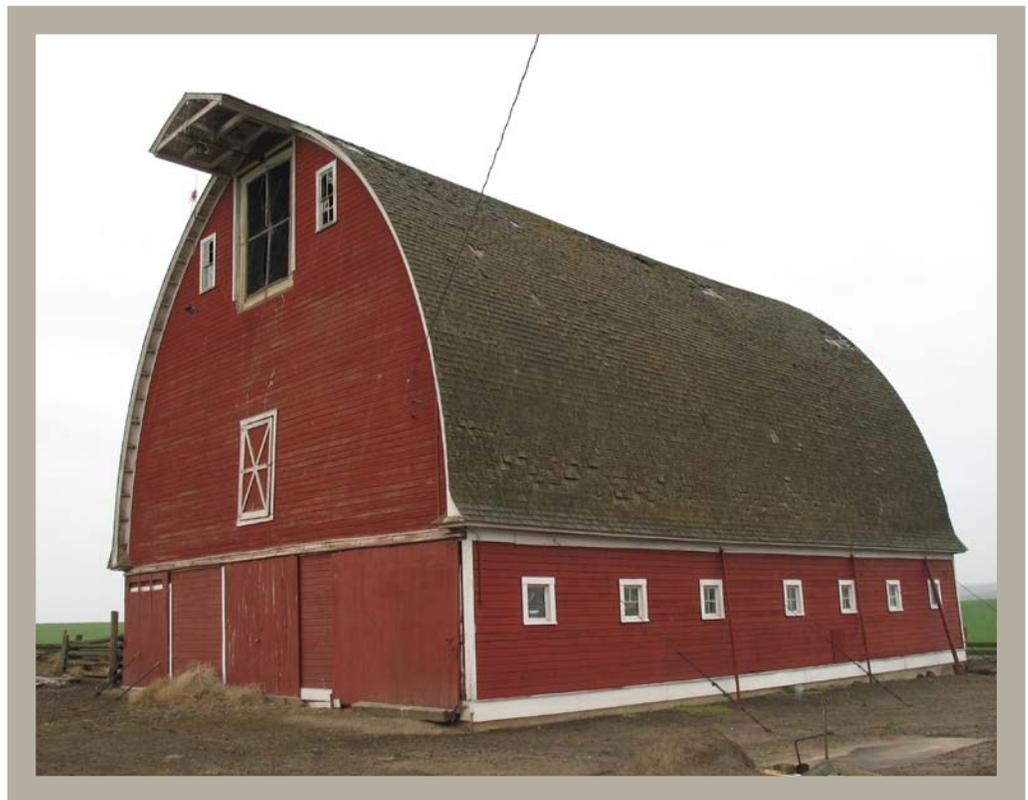


The Farm at Novelty, King County. Source: Artifacts Consulting, Inc. 2008.

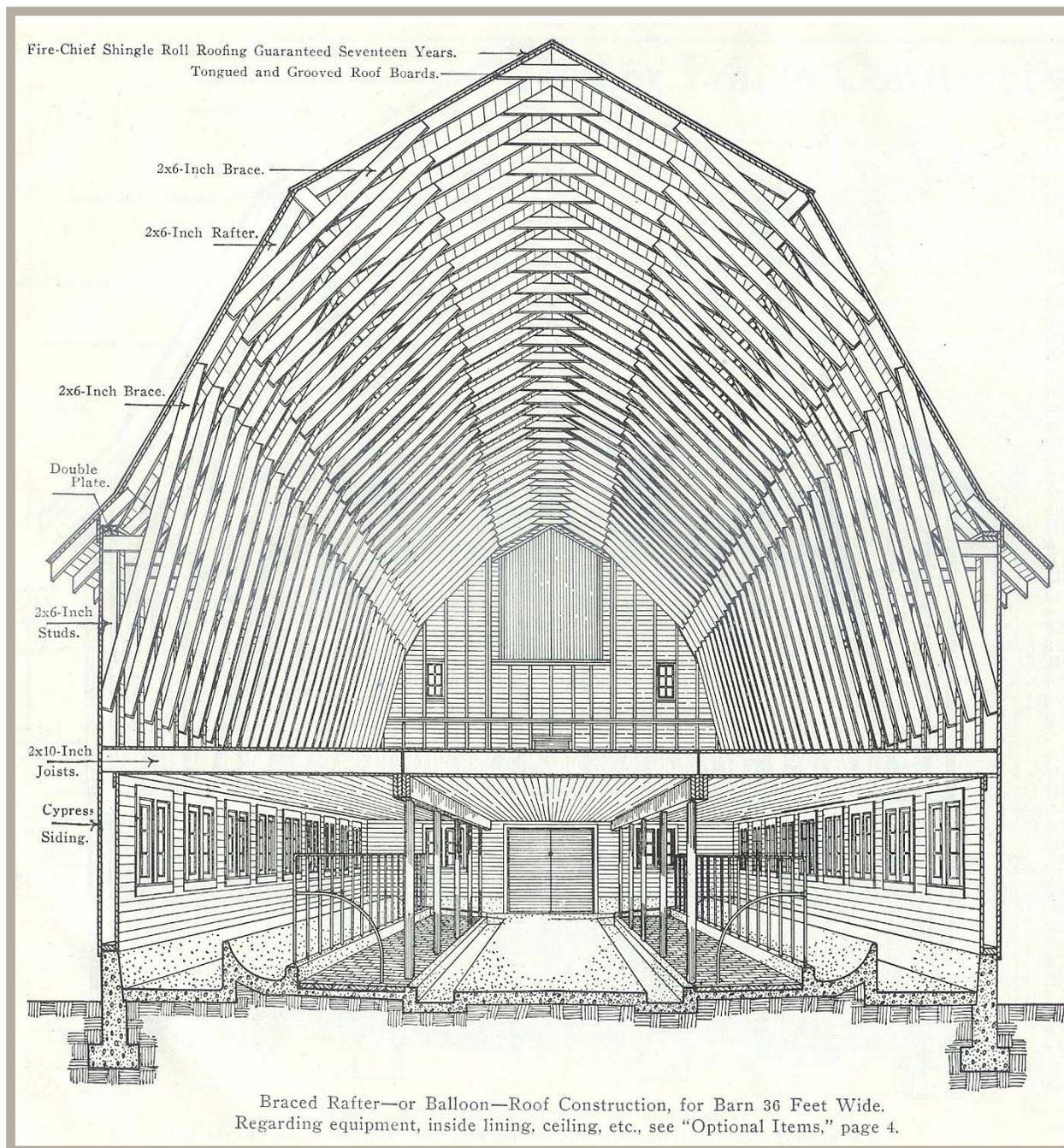
fixtures included draft horse stalls, partitions, manure troughs, granaries, and the overhead tracks for bringing hay into the barn. Refer to [section 1.2.1](#) for information on the role of these various components within barns.

Interior elements in barns surveyed consisted of a range of joist and flooring sizes from standard dimensional lumber to massive heavy timber members. Joists tended to consist of rough-sawn, oversized lumber designed to support the heavy loading of equipment, livestock, and hay storage. Flooring types included large three-inch thick by twelve-inch wide cedar planks, smaller plank dimensions, and in one instance diagonally laid sub- and finish-floors of slightly thinner material built up to provide the equivalent of plank flooring.

Draft horse stalls consisted of heavy lumber side walls with a front feeding bin or trough. Dairy milking stanchions included metal and wood varieties, often with individual cow numbers assigned to the particular stanchion. These were coupled with concrete floors, manure troughs, and a white-washed interior for sanitation purposes. The overhead tracks mounted to the peak of the roof (and, in cases of multiple tracks, to the purlins) with a hay carrier or hooks mounted to the underside of the track. Ropes on either end of the carrier allowed it to be pulled into and out of the barn, often using horses when the carrier was loaded with hay. Similar manure carriers were mounted on the ground floor to the ceiling for moving manure out of the barn to a composting area. Granaries within the barns consisted of a wood frame clad with tongue-and-groove exterior and interior cladding. Small, lower doors allowed for access to the grain, while large upper doors allowed the granaries to be easily filled.



Van Vogt Family Farm, Garfield County. Source: Artifacts Consulting, Inc. 2008.



Pattern book drawing of a model barn. Illustration courtesy of Lauren McCroskey.

## 1.2.3 CATALOG OF BARN TYPES

This section presents an overview of known barn types extant within Washington state. Given the vast number of potential barns within the state, as the Heritage Barn register program continues additional barn types will likely be identified. The form and function of barns have adapted over time with the westward settlement of our nation and changes in agricultural practices. Today Washington is fortunate to have a broad range of barn types across the state providing us with a tangible connection to our agricultural heritage. Many of the best examples of each type remain intact, in good condition, and continued agricultural use. (See also tables 1.2 and 1.2.3)

### 1.2.3.1 BANK BARN

Built into the side of a natural or man-made hill, bank barns are two-story barns constructed with one of their sides built into the hill. This allows access directly into the second story on the banked side of the barn while the first floor is only accessible from the side of the barn that is not banked. Typically, one of the longer facades of the barn was the banked side. The abutment of the barn with a hill permitted wagons or tractors to enter directly into the second story via an earthen ramp. Large, double-leaf doors ordinarily pierced the center of the banked side of the barn at the top of the earthen ramp. This layout made it simple for wagons to enter into the upper floor easily for the loading and unloading of grains. The second story also served as a threshing floor, grain storage area, and hayloft.



Bank barn example. Sleepy Meadow Farm, Pacific County. Source: Artifacts Consulting, Inc. 2008.

Bank barns were commonly constructed of wood from the second story upwards. The narrow-end walls and ground level, however, were typically constructed from field stones or brick and featured various openings to allow for ventilation. This ventilation was necessary not only as a structural feature, but also because livestock was housed on the ground floor. Often times, the ground level of the un-banked facade would be open, the stone or brick walls only extending along the narrow-ends of the barn. This type of construction included several large wood beams that supported the second level from below.

While bank barns are commonly linked to German traditions, there appears to be no standard roof slope associated with these barns. More often than not, bank barns feature more than one roof slope sheltering its interior spaces.

### 1.2.3.2 GABLE

The gable roof is the most simple and most common roof type on barns in both Washington and across North America.

Gable roofs materialize in the shape of an inverted V. They have two equal pitched sides rising together to meet at the peak, forming one center ridge running the length of the roof.

Rafters, comprised of three special cuts, support the skip sheathing and roofing. The first cut is the plumb cut, which is located at the top of the rafter and rests against the ridge plate. The second cut, the end tail cut, forms the outside look of the eaves. The eaves can be either plumb cut or square cut depending on



Gable roof example. Kineth Farm, Island County. Source: Artifacts Consulting, Inc. 2008.

builder's preference for eave design. Due to the primary purpose of eaves, which is to ward off rain from the buildings sides and foundation, the eaves typically extend out over the barn at least one foot. The final cut in truss rafters of a gable roof is a bird's mouth cut, which allows the rafter to sit on top of the double plate support beam.

Gable roofs may be the most identifiable roof type on American farms, but its origins trace back to a Dutch heritage.

The earliest examples of gable barn roofs in America are found on Dutch barns in New York and parts of New Jersey. First and many second generation Dutch settlers established homesteads in the Hudson, Mohawk, and Schoharie valleys in the early seventeenth century. These Dutch settlers brought with them their own style of barn construction.

In their homeland, the Dutch had created a building known as a loshoe. This single structure was designed to accommodate agriculture, animal husbandry, and living space. It included one large double doorway, allowing entrance at one gabled end. Livestock and crops were kept closest to the door and often took up two-thirds of the space within the loshoe. The remaining one-third of the loshoe was reserved for the family's living quarters. This living space was farthest from the doorway. This design allowed for the living area to be sheltered from the outdoor elements, while also providing insulation in the form of livestock. However, the presence of just one entrance into the building made the process of driving a wagon in and out of the barn difficult.

After arriving in the New World, Dutch settlers eventually adapted to the change in climate. While they kept many of the original features of their barns, they also made some changes. These changes resulted in what is known today as a Dutch barn.

New England winters were much harsher than the cold months in the Netherlands. In Holland, the Dutch had heated the living area of the loshoe with peat. With the unavailability of peat in America, and the availability of wood in abundance, the living spaces for early settlers were removed from the barn. Instead, living space was built as an independent structure, allowing for heat to be confined to a much smaller area. The removal of living quarters resulted in Dutch barns having a nearly square shape. Furthermore, because a portion of the building no longer needed to be heated for residential use, the Dutch added an additional set of large center doors. Thus, the new style of barn included large center doors at both gabled ends of the barn.

The most common element of the Dutch barn, though, is the broad, front-facing gable roof. In early examples, the roof extended very low to the ground. Horizontal siding of simplistic design covers the nearly square barn. Sidewalls typically extend



Gable-on-hip roof example. Olson Long Ranch (Rear View), Okanogan County. Source: Artifacts Consulting, Inc. 2008.



Broken gable roof example. Remley Orchards, Chelan County. Source: Artifacts Consulting, Inc. 2008.



Gable roof example. Michael J. Sullivan Barn, Skagit County. Source: Artifacts Consulting, Inc. 2008.

up between 13 ½ and 16 feet high. Each gabled end has large center doors, allowing wagons and livestock to enter through one door and exit through another. Often times, a pent roof, a shallow roof with a single slope, is found over the center doors to further deflect rain. Outside of the doors, there are small openings, known as martin holes, cut into the weatherboards of the gables to allow small birds entrance into the barn. These holes are typically the only other opening in Dutch barns.

The interior of the Dutch barn is composed of a wide central area, flanked on each side by aisles of livestock stalls. This central area is used as a threshing floor, and it is typically twice the width of each side aisle. Originally, the threshing floor was covered in wood planking.

The internal structural frame is composed of pegged mortise and tenon beams and columns. The beams are sometimes as large as twelve x twenty-four-inches around and thirty-plus feet long. Struts at shoulder or head height link the columns longitudinally, while horizontal struts connect the columns to the sidewalls. The heavy columns are capped by the purlin plate, held in place by diagonal braces.

The gable roof rafters are widely spread, resulting in no need for tie beams or collars.

Few early gable-roofed Dutch barns are still standing today.

Variations of the Dutch barn began emerging in the 1830s. While a gable roof still topped the barns, often times the roof was raised several feet and rotated 90 degrees. Doorways were found along the long sides of the barn rather than at the gabled ends.

This new style created more storage space in the upper loft. Lower passageways also ran narrower, which allowed for more stables.

Further variations of the gable roof include the broken gable and the lean-to. The broken gable appears as a gable roof with two shed roofs extending out from each side. The lean-to roof, not to be confused with the saltbox roof, has one slope extending lower to the ground than the other. What sets the lean-to apart from a true saltbox roof is that the slope on a lean-to is not one continuous line. (See also [sections 1.2.3.10 and 1.2.3.11](#))

### 1.2.3.3 GAMBREL

During the eighteenth century, two-story barns became increasingly more common as people began building barns according to the number and type of animals that would be eventually housed in the structure. In the eighteenth and early nineteenth centuries, larger barn spaces became necessary to accommodate more livestock. Additional space allowed for hay storage as dairying practices became more popular in America. With the availability of dimensional lumber, the gambrel roof emerged.

The shape of a gambrel roof evolved from the gable roof. Essentially the gambrel roof is the combination of two gable roofs into one structure. The upper slope of a gambrel usually has a pitch



Dutch gambrel roof example. Klumpar Ohop Valley Ranch, Pierce County. Source: Artifacts Consulting, Inc. 2008.



Gambrel roof example. Hanson Farm, Kittitas County. Source: Artifacts Consulting, Inc. 2008.

of about 30 degrees, connecting fluently to the lower slope, which normally has a 60 degree pitch. The gambrel roof acquired its name due to its resemblance to a butcher's hook, which is called a gambrel in French. However, it is also said that the gambrel roof resembles the hock (bent part) of a horse's leg.

The shape of the gambrel roof provided more usable loft space, larger head-space, and more ample storage room. The main supports for a gambrel in the interior of the barn are located near the sides of the eaves, allowing the center of the barn to be almost entirely open.

The Dutch gambrel is the most common variation of the gambrel roof. The Dutch gambrel became increasingly more popular in New England as the Dutch settled in the New York and Hudson River valley area. A Dutch gambrel is shaped exactly like a gambrel roof with the exception of an added angle upward at the eaves. This angle is often referred to as a "Dutch knuckle," which gave way to the name Dutch gambrel.

### 1.2.3.4 GOTHIC

First appearing on barns early in the 1900s, gothic roof barns were found to add even more loft room and storage space than the gambrel roof shape provided.

Shaped like an arch, the gothic roof is sometimes referred to as such. Topping a barn with a gothic roof became quite simple in the twentieth century, as laminated arched rafters could be bought prefabricated. Catalogs, such as Sears, Roebuck and Company, made the entire barn building process even easier through the purchase of prefabricated designs in which every piece of lumber was numbered and keyed to an accompanying blueprint.

Gothic roofs are also sometimes referred to as round or rainbow roofs; although, unlike the gothic roof, these latter two roof types have no center ridge due to their continuous arched shape.

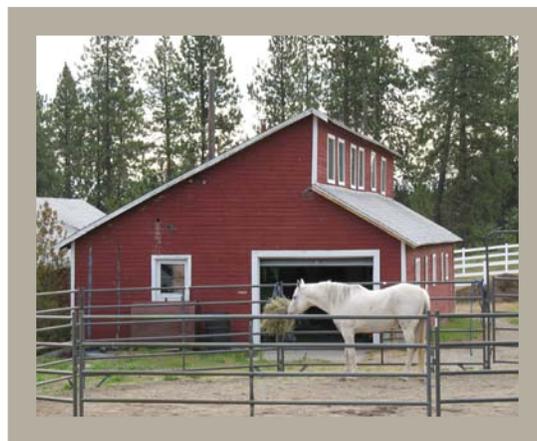
### 1.2.3.5 HALF MONITOR

The half monitor roof is a variation of the monitor roof.

This roof is composed of two shed roofs of differing slopes that never meet, although both usually slope down from the center of the barn. The higher roof appears as one side of a gable, with a barn wall extending down from the highest point of the slope. The lower roof appears as the other side of a gable; however, it begins its decent downwards from a midsection of the wall, extending down from the higher shed roof.



Gothic roof example. Rocky Mountain Dairy, Whatcom County. Source: Artifacts Consulting, Inc. 2008.



Half monitor roof example. Long Barn Farm, Spokane County. Source: Artifacts Consulting, Inc. 2008.

### 1.2.3.6 HIP

More commonly found as a residential roof type, the hip roof reflects designs attributed to Normandy. It also reflects adjustments the French made to barn designs in the Caribbean before coming to America.

Composed of four slopes meeting at a central ridge along the peak, hip roofs slope down on each side to create an overhang along every wall of the barn. This style of roof offers the least amount of loft space for hay and fodder storage, thus it is not normally found on rural barns.

Urban carriage barns, in which loft space is not essential, are commonly topped with hip roofs. In Louisiana, where many French from the Caribbean settled, barns are often hip-roofed.

One variation of the hip roof is the gable-on-hip roof. The upper portion of the roof is gabled and sits upon the lower portion, which is hipped.

Another variation of the hip roof shape is the snug Dutch roof, sometimes called “snub nose” roofs. The snug Dutch roof consists of a gable; however, on the gabled ends, the upper corners are beveled, giving the roof a hip roof appearance.

Gable-on-hip roofs are popular for tobacco barn roofs, and can be found throughout the South today.

### 1.2.3.7 MONITOR

Monitor roofs are another style of barn roof shape that provides more storage space in the upper loft area as well as ample roof span to shelter livestock.

Most common in south-central and western states, monitor roofs became popular in the late eighteenth and early nineteenth centuries.

Resembling a broken gable, the center section (referred to as a “monitor”) of the roof is raised and topped with a gable roof. This elevated section was often used for ventilation, and, if windows were present, allowed the entrance of additional natural light into the barn. The lower slopes of the roof are essentially clad in shed roofs, although if these sides were raised to meet the monitor, the roof would form a complete gable.

Barns topped with monitor roofs are sometimes referred to as Western, Midwest (Midwestern Three-Portal), Feeder, or Prairie barns.



Hip roof example. Colonel Walter Crockett Barn, Island County. Source: Artifacts Consulting, Inc. 2008.



Monitor roof example. Sherhill Vista Farms, Island County. Source: Artifacts Consulting, Inc. 2008.

### 1.2.3.8 QUONSET BARN

As WWII raged on in 1941, the United States Navy was in search of an inexpensive, lightweight, easily transportable, all-purpose building which could be erected with unskilled labor in little time to house people and supplies. The George A. Fuller construction company out of New York was retained to produce such a structure, and within two months, the Quonset hut was born.

The Quonset hut design was based on the Nissen hut, which was developed by the British during WWI. The first Quonset huts were manufactured in Rhode Island at Quonset Point, from which the name “Quonset” was given to the structures. The American designed, prefabricated Quonset hut featured a half-cylindrical shape measuring twenty-by-forty-eight-feet, framed with a row of ten-foot radius steel ribs and covered in a skin of corrugated sheet metal. The two exposed ends were sided with plywood and fitted with doors and windows. A total of 720 feet of completely open, usable interior space materialized. The easily insulated interior often featured plywood flooring. The structure could be erected upon a poured concrete foundation, wood pilings, or even simply placed directly on the ground.

Over 150,000 Quonset huts were produced during the war years. The simple design was not expensive, and after the war ended, the military offered the surplus Quonset huts for sale to the public for \$1000 each. The easily constructed huts continued to be built after the end of WWII and remain in use today, though primarily as equipment and general storage facilities, with at least one use as a horse barn.



Quonset barn example, built ca. 1941. Panache Hackney Horse Farm, Wahkiakum County. Source: Artifacts Consulting, Inc. 2008.

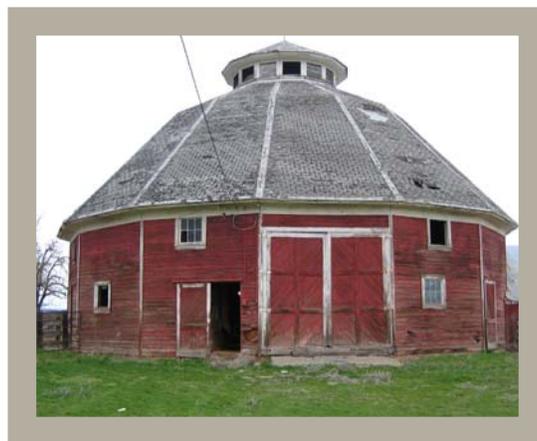
### 1.2.3.9 ROUND BARN

From the late 1880s through the 1920s, people began building round barns in increasing numbers across the United States as more and more agricultural colleges began teaching progressive farming methods.

Due to its shape, round barns required less material for construction than any other barn shape, which reduced building costs. These barns also had a greater volume-to-surface ratio than other barns. With its lower price tag and more useable interior space, round barns were constructed in almost every region of the U.S.

Typical to most barns, livestock was housed on the ground floor and topped with a second-story hayloft, yet the circular form was viewed by many as more efficient because the farmer could work in one continuous direction around the barn. Some round barns were built around a large tree in order to center the structure; the tree trunk was removed once the barn was completed. Other round barns were built around a silo, which remained engulfed in the barn after the structure was completed and sometimes extended out through the roof.

Another feature of the round barn is its roof. Round barn roofs are self-supporting and do not need interior structural support beams, which allows for more interior space to be used for livestock, and storing hay.



Round barn example. Crocker Ranch (Fourteen Sided), Klickitat County. Source: Artifacts Consulting, Inc. 2008.

The origin of round barns is mostly unknown, although some evidence points to the Shakers. The Shakers not only invented the circular saw and used circles in many of their inspirational drawings, but they were also known to have frequent sewing circles, singing circles, and praying circles. The oldest known round barn to date was built entirely from stone by the Shakers in Hancock, Massachusetts in 1826. There is also a religious saying that round barns were built in order to ‘keep the devil from hiding in the corners.’

Hexagonal, octagonal, and other polygonal barns, with roof shapes matching the number of sides of the barn, are typically classified as round barns, though they may not be ‘truly round.’

### 1.2.3.10 SALTBOX

Most likely designed by American pioneers coming from England, saltbox roofs were developed as a tool to cope with the harsh winters of the New World. First popular within the New England landscape, due to early settlement patterns, saltbox roofs can be found today adorning barns nationwide.

Saltbox roofs generally have the same qualities of the gable roof, with one exception. With a saltbox roof, one side of the roof extends longer and closer to the ground than the other side. The longer side is often built facing north (or whatever direction the prevailing winter winds blow). This feature allows for added protection from cold winter storms and gusting winds associated with the New England climate.

In early examples of the saltbox roof, the lowest edge of the longer side rose just one or two feet off the ground. The minimal space between the ground and roof was often packed with leaves, hay, or cornstalks mixed with sod. Filling in the gap between the ground and the roof allowed for the wind-blown snow to pile up over the roof. Not only did filling in the gap prevent the snow from reaching the side wall, it also acted as a natural insulation blanket.

Consisting of two differing lengths, rafters for saltbox roofs are understandably short for the shorter slope and long for the longer slope. Overlapping two long boards, supported at their mid-points by either a girder or an interior wall, forms the long rafter. While the slopes may vary, by and large they have the same pitch.

Often times, gable-roofed barns with the addition of a shed-roofed structure attached to one side, give the appearance of a saltbox roof, and are normally classified as such. This roofline can also be referred to as a lean-to, though, since the structure was originally a simple gable and the addition does not result in the true saltbox form.



Saltbox roof example. McCloud Barn, Skagit County.  
Source: Artifacts Consulting, Inc. 2008.



Saltbox roof example. Barnswallow Farm, San Juan County.  
Source: Artifacts Consulting, Inc. 2008.

### 1.2.3.11 SHED ADD-ON

Sloping in one continuous direction from the front of a building to the rear, shed roofs feature one single pitch.

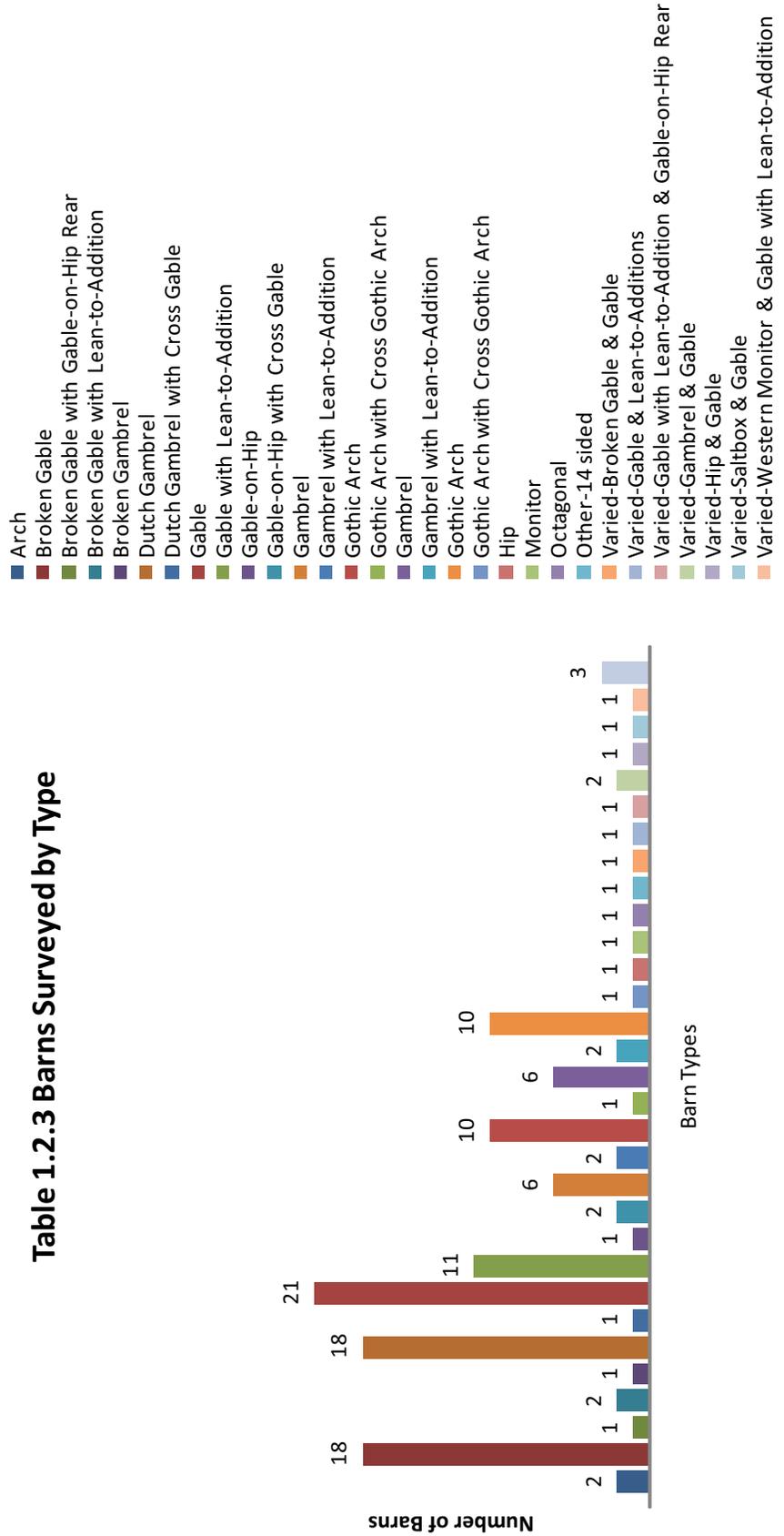
The rafters of a shed roof notch over the low wall and the high wall in a straight run. These rafters are comprised of two bird's mouth cuts in order to snugly fit the piece over the front and back wall plates.

While shed roofs are not altogether uncommon on barns, they are most likely found on animal stalls, woodsheds, outhouses, or other narrow buildings.



Shed roof addition example. Straub Farm, Lincoln County. Source: Artifacts Consulting, Inc. 2008.

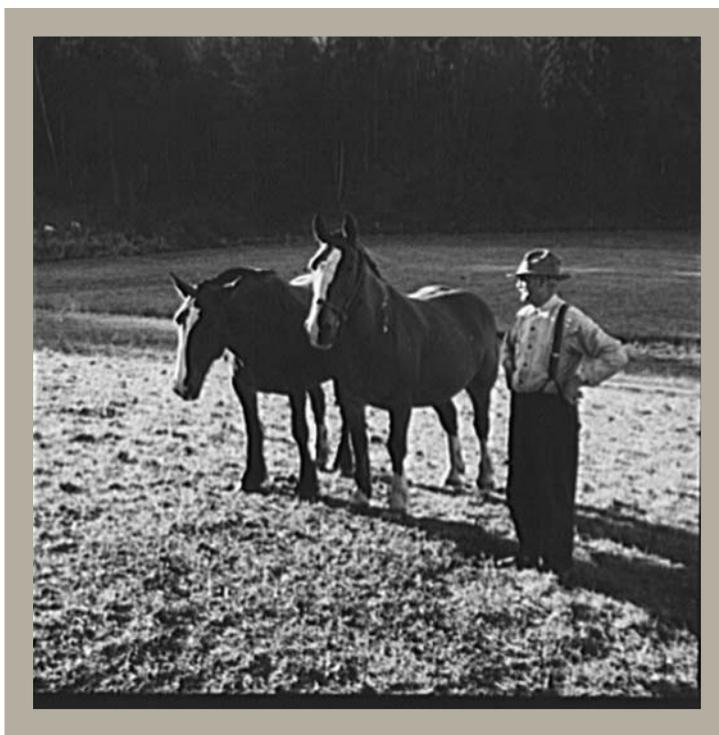
**Table 1.2.3 Barns Surveyed by Type**



## 1.3 PHYSICAL NEEDS

Quantifying the physical needs of Washington's barns presents a daunting task for the sheer breadth of geography, typology and operational uses not to mention the potential vast number of barns in existence statewide. The 2002 census lists the total number of farms in Washington state at 35,939. Of course not every farm will have a barn, much less one that is at least fifty years of age. Though neither does the census number does account for former farm land no longer in operation as a farm but retaining a barn. In addition many farms had multiple barns, often a first primitive barn off to the side of a second, larger barn built once the farm was well established. Fortunately Washington's Barn Preservation Initiative provided two invaluable tools: the Heritage Barn register, and the Heritage Barn grant program. The former provided a short list of barns statewide with owners eager to participate and have surveyors come to and walk through their barns as well as discuss past and present repair needs. The grant program provided a group of repair needs identified by barn owners and contractors to compare with data collected during our field work to help verify the types, patterns, and priorities of physical issues observed.

Of the 296 listed Heritage Barns as of spring, 2008, surveyors visited a select 112 barns across the state. This sampling provided the basis for the following sections: [1.3.1 Patterns of Operational Issues](#); [1.3.2 Patterns of Physical Issues](#); [1.3.3 Capital Repair Priorities](#), and [1.3.4 Capital Repair Cost Data](#). Use of barns is a prime factor influencing their condition and what dollar amount in repairs barn owners can see a return on. The first section looks at the types of uses encountered and their relative effects on barn preservation. Those reoccurring condition issues identified in the field compose the second section. This list represents the main issues faced by barn owners, though some barns may have unique issues not included in this listing. The third section sets forth methods for assigning priority to physical needs. Planning cost figures for these repairs on the barns surveyed are presented in the fourth section to ascribe a dollar value to statewide need for barn preservation. Please bear in mind that these dollar values are not intended to imply a direct monetary need, rather they express the quantification of energy needed to repair and retain these structures in a universally comparable medium. Ideas for generating this needed energy are covered in chapters two, three and four.



“Wester Washington, Lewis County, near Centralia. Farmer shown with his team of which he is most proud.” Photograph and caption courtesy of the Library of Congress, Dorothea Lange Collection (Neg. no. 8b34449u).

## 1.3.1 PATTERNS OF OPERATIONAL ISSUES

Maintaining barns holds a place of reverence in both rural and urban localities, for barns provide a community with ties to its agrarian heritage. The flood of Heritage Barn nominations from across the state in two rounds of reviews is a testament to the level of interest in recognizing the importance of our state's historic barns. With all too great a frequency, however, the simple cost, coupled with not knowing how to approach repairs and maintenance on such massive structures, hinders otherwise good intentions. During the field survey process, the overall attitude of Heritage Barn owners was genuine enthusiasm for the history of their barn and finding ways to continue to use and maintain the building.

Operational issues associated with the use of barns fall into two categories: ongoing [Agricultural use](#); and [Non-Agricultural reuse](#). Identified during the field work and conversations with barn owners, the following explores some of the trends, issues and threats to preservation of these barns. (See also [tables 2.2.2 and 2.2.2.1](#))

### 1.3.1.1 ONGOING AGRICULTURAL USE

Ongoing agricultural use of barns represents for these agrarian structures the highest and best use. Sustaining agricultural uses benefit not only the feeling and character of the barn, but also the approach to material repairs, and retention of the rural setting, and any associated secondary farm structures. While in continued agricultural use, barns rarely undergo substantial conversions or material changes to their structure and form. When an agricultural use is maintained, small incremental changes to the barn tend to be the norm—slight adjustments that correspond with the changing dynamics of farming and contribute to the overall character of the barn.

Today, of the 112 Heritage Barns surveyed, forty-four (39 percent) remain in continued agricultural use. Livestock and hay storage accounts for the principal agricultural use (thirty barns). Of the barns surveyed eighteen (16 percent) stood vacant and one had collapsed.

In addition, many of the barns surveyed also had barn owl populations. Collectors from Bellingham cycle through these barns once per year to collect the barn owl droppings for use in science classes for dissection, thus fulfilling a secondary habitat and wildlife ecology sustenance role.

The issues associated with maintaining an agriculture related use in barns are few. The main threats to their retention are the financial burden of maintenance, the high cost of in-kind repairs, and the shift from rural land use to residential use. Most barn owners have made a choice to find a viable use for the barn rather than to tear it down and hastily construct an inexpensive pole structure; thus, the owners tend to treat the building with a high degree of respect (pole barn construction averages fifteen dollars per square foot, construction with either new or in-kind materials can range from twenty-eight to well over fifty dollars per square foot). Often times these buildings have been in the family for generations, inspiring a deep sense of loyalty to the barn. For some barn owners, however, the cost of demolition and disposal has been a deterrent for losing the building. This has created a low level use of these barns, such as storage.



Barn owl. Photograph courtesy of All About Owls Info.

The principle issues facing these barns include the following:

- *The switch from loose hay to baled hay. The upper lofts of barns served as the storage facility for a farm's hay, which was fed to the livestock over the winter and spring. The transition by the 1940s from loose hay to baled hay dramatically increased the concentrated loading of the hayloft. Bales, which are compressed, chopped hay bound tightly by wires or string, could be stacked tightly in a loft to the point of overloading the floor joists designed for the weight of loose hay.*
- *Physical modifications to accommodate transitory uses, such as equipment storage. In one example, a series of hayloft joists were cut out of an 1800s era barn to allow a tractor to park in the barn. When small changes gradually erode the building's materials, they depreciate the perceived value of the barn. This can lead to more substantial changes that otherwise might not have been contemplated.*
- *Conversions to agricultural related commercial or retail spaces, such as wine tasting rooms, can, depending upon how they are implemented, significantly alter the physical character of a barn.*

### 1.3.1.2 ADAPTIVE NON-AGRICULTURAL REUSE

As the barns transition away from agricultural use, the majority become utilized for a range of purposes, including storage facilities, workshops, and living quarters. Often this change corresponds with a shift in surrounding land uses. Subdivision of farmlands, or consolidation of multiple small farms into larger tracts, can relegate former farmsteads and barns to residential use without connection with the surrounding land uses.

Today, of the 112 Heritage Barns surveyed, forty-nine (44 percent) have transitioned over to adaptive, non-agricultural reuse in the form of general storage (forty-three), retail and marketing (five), and education (one).

Adaptive non-agricultural uses present both an opportunity for continued use of the barn and a need for education on general preservation practices. Managing change in these buildings is an important step for their preservation and continued use. Too frequently non-farmers and non-ranchers approach repairs to their barn in terms of the building type with which they are most familiar, typically their contemporary house. This can result in switching out deteriorated wood sash with expensive and non-compatible vinyl or aluminum sash windows. These actions can be avoided through awareness of salvage and hardware reuse facilities, where a building owner could purchase compatible wood sash windows inexpensively.



Great Horned owl. Photograph courtesy of the National Park Service.

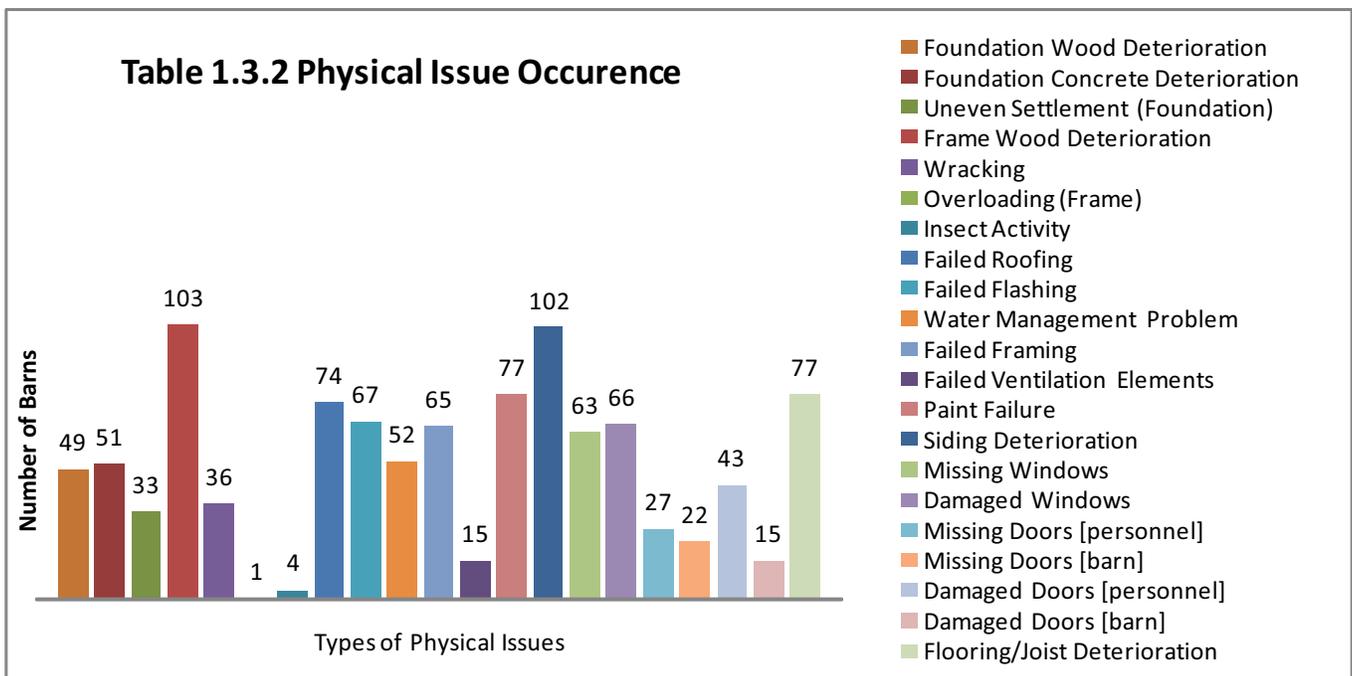
### 1.3.2 PATTERNS OF PHYSICAL ISSUES

Physical issues tend to exhibit consistent patterns of development due to the commonality of causes (e.g. weather exposure, insect activity, etc.) and the straightforward assembly of barns. Causes tend to stem from exposure, deferred maintenance, and operational issues. Age, in contrast with contemporary (often petroleum based) materials that depreciate from the moment of installation, does not hold a significant role in the majority of historic barns. The wood utilized in the construction of these barns has life spans in terms of centuries, which far exceed contemporary planning efforts. A clear, tight-grained, old growth Douglas fir beam will not fail in any of our lifetimes due to age; rather, such factors as water exposure, overloading, or insect activity will cause the beam’s deterioration. Thus, given the quality of original materials, the most effective strategy for preserving barns is to keep them maintained with a functioning roof, stable foundation, and intact exterior envelope to keep out inclement weather. The best method to sustain this level of care for these buildings is to keep them in use.

The level of use stems directly from the operation of the surrounding land. Site and setting both operate as an anchor that effectively slows change and work to keep alterations in harmony with the original character of the building. Keeping land in agricultural use as farmland provides both a consistent setting and stabilizing effect for historic barns. This, coupled with owners versus renters operating the farm, significantly reduced the potential for rapid, large scale conversions that obliterate the original character of historic barns.

Many of the barns surveyed exhibited layers of changes, marking such notable transitions as the arrival of electricity, the change from dairy to many cattle, and the introduction of baled hay. By nature, barns were built to accommodate a variety of uses. This slippage or allowance for interior change makes them highly adaptable to a variety of functions, agricultural and non-agricultural.

The following section explores the physical need issues identified during the statewide survey of a sampling of 112 Heritage Barns in 2008 across thirty-six counties (three counties did not have any listed Heritage Barns at the time of this survey). The survey focused on major issues affecting stabilization, preservation, and continued use of barns. The intent is not to prioritize individual barns; rather, it is to look at the broad pattern of issues barn owners face in an attempt to prioritize efforts for addressing those issues looming as the most immediate



threat to preservation and continued use of barns as a collective statewide heritage resource group.

The treatment recommendations outline general guidelines for approaching the care and maintenance of barns. Each barn will undoubtedly have its own particular set of circumstances that may warrant an approach that is different or varied upon a standard. These recommendations stem from the authors' collective experience working with historic structures, as well as the invaluable insight provided by barn owners during the field survey process and skilled contractors working on a day-to-day basis with the repair of historic barns. Future work should build upon these recommendations to develop a repository of technical guidance available to the public in order to help owners understand and develop strategies for the repair of their barns.

### 1.3.2.1 FOUNDATION

Barn foundations range from post and pier systems to poured-in-place concrete footings and walls. Surveyed barns, in many instances, also exhibited systems of concrete footings and new wood or concrete piers replacing former wood piers. Foundations consist of those soil bearing elements (e.g. footings) and the vertical structural element carrying the frame (e.g. foundation wall or pier) as well as the sill upon which the frame stands. Foundations serve the essential role of providing a level, stable base for the barn's frame and interior flooring upon which the barn's uses occur. They keep the frame and flooring elevated above the surrounding soil to provide a dry environment and allow air circulation beneath the building. Systems surveyed during this project ranged in age from over a century to just achieving fifty years. The principle patterns of physical need issues included: wood deterioration, concrete deterioration, and uneven settlement.

#### *Concrete Deterioration*

In barn foundations, concrete deterioration typically manifests as the loss of binder strength holding the matrix of aggregate and sands together. The reasons for loss of binder strength can be various and often a combination of reasons: improper mixes; poor-quality or improper ingredients; freeze-thaw actions causing small cracks from within; loss of alkalinity, leading to corrosion of reinforcing steel within the concrete, which jacks (expands) and fractures the concrete; absorption of soluble salts, which expand as the walls dry out, causing small internal cracking within the concrete, and contribute to loss of alkalinity. The quality of concrete employed in barns is highly variable. Some builders understood well the working properties of concrete, such as the contents to include in the mix, the quality of cements, and the need for, and proper placement of, reinforcing



Concrete deterioration example. Lasley Ranch, Klickitat County. Source: Artifacts Consulting, Inc. 2008.



Rubble stone foundation deterioration and uneven settlement example. Old Bush Place, Whitman County. Source: Artifacts Consulting, Inc. 2008.



Cracks in foundation example. Syth Barn, Douglas County. Source: Artifacts Consulting, Inc. 2008.

steel. However standards were not as well developed, nor enforced, and materials were expensive and not readily available as today. This is clearly demonstrated in the frequent absence of reinforcing steel, and the use of large, round river rock aggregate and poor quality cements. Barn foundations in general exist in a harsh environment, subject to high water exposure, more pronounced freeze-thaw cycles (as only in the rarest of cases are barns heated), and the nitrogen-rich manure typical of barnyard environments.

Types of concrete barn foundations ranged from simple concrete footings to board formed concrete walls with footings and several-foot tall stem walls. Mixes ranged from large, round river rock aggregate, likely sourced from nearby creeks, to crushed, well-graded rock brought in from a quarry. Footings were often later additions, replacing field stone footings and post and pier foundation systems. Foundations that exhibit the poorer quality aggregate often utilized poor quality cements; these cements, through exposure to the elements and settlement, weaken and become friable. Settlement, which results in cracking, tends to be the main issue with higher quality foundations. Rising dampness in both foundation types, due to high water tables or poor site drainage, can lead to water transfer to wood sill and frame members and their consequent deterioration. Most concrete foundations did not exhibit a water break or barrier to rising dampness (such as felt paper).



Uneven settlement due to wind pressure on back roof. Sarsfield Farm, Klickitat County. Source: Artifacts Consulting, Inc. 2008.

Replacement in-kind is the recommended approach for repairing failed or deteriorated concrete. When possible, replace only those failed or deteriorated sections. In terms of addressing concrete deterioration issues, each barn becomes its own case study to determine the root cause of the deterioration, its effect on the frame, and how to effectively repair or correct it. Prior to implementing the repair, determine the cause for the failure or deterioration, and correct these conditions. If water runoff is undercutting the foundation, then the site drainage should be addressed first, or at the time of the repair, and temporary stabilization measures should be implemented until the site repairs can be accomplished.

Cracks (1/8 inch in width or larger) in concrete foundations should be filled to prevent water infiltration. Soft, high-lime content grouts can be effective for filling these cracks, as this material allows better breathe-ability than synthetic sealants and adjusts to movement better than epoxies. Expandable spray foams provide effective and inexpensive fillers for non-visible locations.

Due to the friable character of older concrete mixes, the use of surface patches or parging is not recommended. These will adhere to the concrete, but the concrete will often have lost its own bond with itself, causing these patches to flake off. In addition, they often trap in moisture, causing further deterioration and obscure condition issues.

During these repairs, consultation with a contractor experienced with working on historic barns can aid immensely in understanding and scoping the repairs needed.



Uneven settlement causing major damage to the frame. Sleepy Meadow Farm, Pacific County. Source: Artifacts Consulting, Inc. 2008.

### *Uneven Settlement*

Uneven foundation settlement plagues most barns, and it ranges in severity from a minimally discernible settlement, not affecting the frame, to severe settlement, producing visible stresses and damage to the frame. Uneven settlement occurs when one section, corner, or portion of a foundation drops out of alignment with the rest of the foundation. Visual clues to uneven settlement include cracks in the foundation, sloped interior floors or beams, pulling apart or excessive compression of frame joints, sagging or uneven ridge lines, and bowed or splintered framing members. Barn frame types have different tolerances for resisting the wracking of an uneven foundation settlement. Composite stud wall systems, or those frames having multiple small vertical structural elements, can redistribute loading and resist longer the loss of support beneath one or more members; however, a timber frame structure, losing support beneath one or more members, can have noticeable effects on the rest of the structure. The causes for uneven foundation settlement are various: soft soil, uneven loading, repeated high wind pressures pushing the windward portion of a structure down, failed underpinning or footing, water erosion of the soil beneath the footing through lack of proper or improper drainage, and material deterioration of the foundation. For these reasons, each barn becomes an individual case study to determine the root cause of the settlement and how to eliminate the cause, realign the structure, and reinstate support beneath the structure at the failed location. Some items, such as wind pressures, may simply be a recurring force that cannot be eliminated, though wind-break tree plantings may reduce the effects.

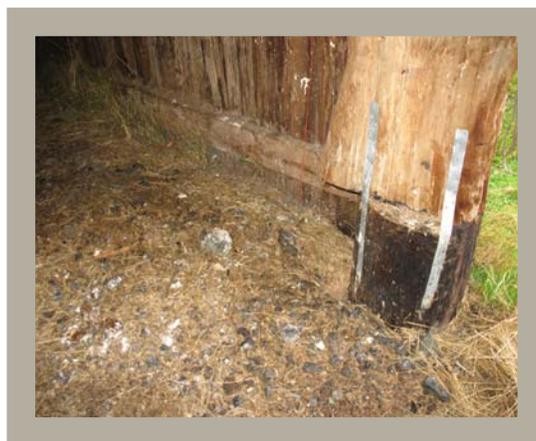
If the uneven settlement is imminently threatening to the stability of the barn, recommend providing temporary stabilization measures in consultation with a contractor experienced in working on foundation issues with historic barns. Once the building is stabilized, determine the cause of the uneven settlement; then correct this issue prior to, or as part of, the realigning and rebuilding of the damaged or failed foundation section. It is important to consider that often correcting wracking in a barn can induce its own set of stresses within timbers and joints. Therefore, serious consideration should be given to the slow reversal of these conditions (occasionally over one or more years) to avoid further damage to or creation of new stresses within the structure.

### *Wood Deterioration*

The quality of wood employed in barn post and pier foundation systems is generally high, consisting of old growth timbers having dense, tight growth rings and minimal knots. Wood deterioration is the breakdown and loss of the cellular structure of the wood, resulting in loss of resilience, flexibility, and strength. Often these barns utilized old growth cedar and Douglas fir logs for the piers, set on field stone footings with similar materials for sills. Barn foundations, however, exist in a harsh environment and over a century of water exposure, more pronounced freeze-thaw cycles (as only in the rarest of cases are barns heated), and exposure to the nitrogen-rich manure typical of barnyard environments can have a significant impact on the soundness of even the best old growth wood. Soil build-up over the years also covers, or partially covers, many of these foundation wood elements and restricts air circulation beneath the barn floor. Over a century or more, the fine particles of manure, soil, hay, and other



Wood deterioration example. Andrew Johnson Farm, Skagit County. Source: Artifacts Consulting, Inc. 2008.



Wood deterioration example. Barnswallow Farm, San Juan County. Source: Artifacts Consulting, Inc. 2008.

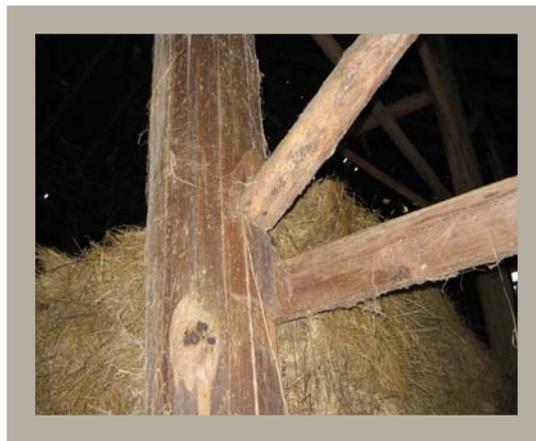
debris filter down through the cracks in floor boards to accumulate beneath the barn floor. Deteriorated wood piers and sills can also transmit water to wood framing members, leading to dry- and wet-rot in these members, encourage insect activity, and no longer provide the same structural capacity as originally intended.

In-kind replacement for wood foundation elements is recommended, such as using salvaged old growth timbers. If unavailable, then pressure-treated, or other preservative-treated, timbers should be used. Determining and correcting the cause for the deterioration prior to implementing the repair is critical. If the field stone footing has settled, or did not exist, and water is entering through the end grain of the pier, then putting in a concrete footing beneath the new wood pier is recommended. If soil has accumulated beneath the building and mounded along the sides of the piers, holding water against them, then this soil should be cleared out and brought back down to the footing level before repairs are undertaken. It is important to remember that foundations, especially in barns, function as a system; major changes to this system can affect the rest of the building, so slow and incremental changes can help the rest of the building adjust. If the failed pier resulted in racking to the frame, this should be corrected at the time of repair. During these repairs, consultation with a contractor experienced with working on historic barns can aid immensely in understanding and scoping the repairs needed.

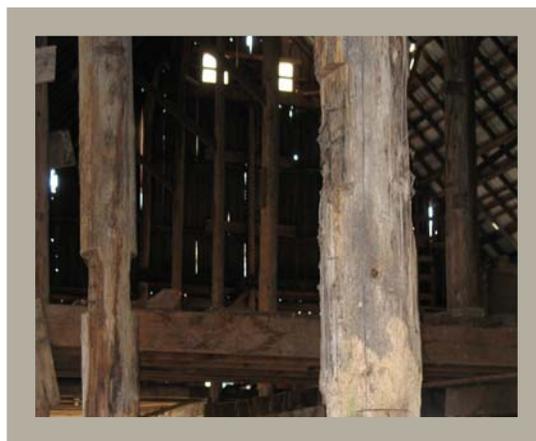
### 1.3.2.2 FRAME

Barn frames range from simple peeled logs to complex wood-pegged, mortise-and-tenon jointed, hand-hewn timber frames. Some barns had steel connecting elements and added steel supports, but none of the barns surveyed had an all-steel frame. Some of the few barns with concrete frame and timber trusses exist at the former Northern State Hospital near Sedro-Woolley. Frames consist of the beams at each floor level, as well as vertical structural elements supporting the walls, roof, and an upper floor or loft if present. Floor joists and flooring, as well as other interior elements, are addressed in [Section 1.3.2.5](#). A barn's frame embodies the true marvel of engineering and material qualities; it is designed to be the most enduring of the building's components. Roofs, envelopes, and foundations, albeit more durable compared to those constructed with contemporary materials, are shorter lived. Builders anticipated their renewal. The frame, however, is the essence of the structure, capable of enduring for centuries when the more susceptible elements of the structure are maintained and the building kept in use.

Timber frames constitute a significant portion of the frames for barns surveyed. These are notable because they function differently from a typical balloon- or platform-framed building with dimensional lumber stud walls. In buildings with dimensional



Insect activity example. Mountain View Farm, Clallam County. Source: Artifacts Consulting, Inc. 2008.



Insect activity example. Lagerwood Farms Inc., Skagit County. Source: Artifacts Consulting, Inc. 2008.



Overloading example with added posts. Hart Farm, Franklin County. Source: Artifacts Consulting, Inc. 2008.

lumber stud walls, the building's skin (envelope) and frame integrate into one unit. In timber frame structures, there is a separation of the frame and skin; subsequently, these two elements play differing roles in timber frame barns. The principle patterns of physical need issues include: wood deterioration, racking, overloading, and insect activity.

### *Insect Activity*

Insect activity on the barns surveyed often occurred in the lower portions of vertical framing members. Insect activity consisted primarily of wood boring beetles. No termite damage was observed. The severity of wood boring beetle infestations ranged from a few holes to extensive holes around the full circumference of a framing member. The most immediate concerns were structural members affected by both moisture driven deterioration and insect activity. The bore holes can enhance water penetration and accelerate wood deterioration.

Holes, from wood boring beetles, do not necessarily mean a framing member has been compromised. The beetles typically penetrate only one to two inches into the outer layer of wood. Many of those affected with timber boring beetles were vastly over-built, using members ranging in dimensions from eight-by-eight inches to well over twenty-four inches in diameter. Thus, even with the reduced capacity of one to two inches of outer wood, the framing members may well be capable of serving their structural capacity. Consultation with a contractor experienced with working on historic timber frame barns can provide invaluable insight into the functional capacities of timbers and evaluating whether they should be augmented or replaced. If left in place, the outer layer should remain as is rather than removing the compromised layer and exposing fresh inner wood to additional beetle activity. An experienced exterminator should be consulted to determine if the insects are still active or if they are no longer present.

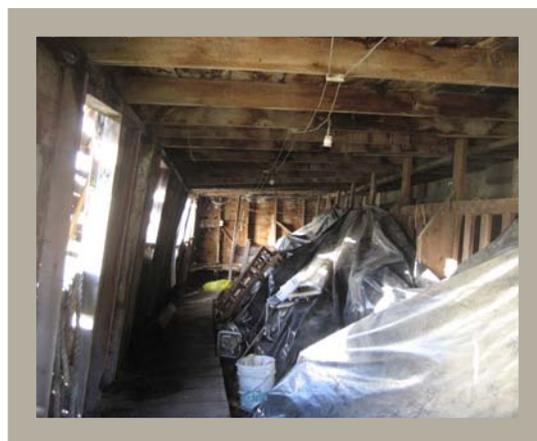
### *Overloading*

In barns surveyed, overloading often occurred due to the transition from loose hay to bales. The transition to bales of compacted hay by the 1940s reduced the bulk of hay by one-half to two-thirds. One ton of loose hay, depending upon type and dryness, could occupy around 500 cubic feet, while that same weight in baled hay took up just around 150 cubic feet, depending upon how well the baler compressed the hay. Thus, with a typical forty-by-forty-foot barn with around twenty feet of vertical height in the loft, a farmer could fit up to 96 tons of loose hay but up to 320 tons of baled hay. Obviously this does not account for access doors in the floor or walking space in the loft, and farmers—being practical—would not try to stuff over 300 tons of hay into a small forty-by-sixty-foot loft. Nevertheless, the example illustrates how quickly new technology can change design factors. Several barns surveyed had added metal posts beneath beams on the ground floor in order to provide additional support for carrying baled hay in the loft.

The recommended approach for addressing overloading is to reduce or disperse the load. Subsequent to this, if the joists and frame have been weakened, additional braces should be installed with their own footings or tied into existing foundations. In



Wracking example. Lakeview Dairy, Pierce County. Source: Artifacts Consulting, Inc. 2008.



Wracking example. Hummel Barn, Pierce County. Source: Artifacts Consulting, Inc. 2008.

some instances, the joists and framing may be capable of supporting the loading; however, the flooring may be of poor quality or too thin to support the load. In these instances, the flooring could be reinforced in a reversible manner to accommodate the loading.

### *Wracking*

Wracking is the twisting and often violent misalignment of barn frames through external forces. This process places excessive stresses on joints and members, and can also change load patterns so that compressive members, capable of resisting heavy loading, are in tension. Due to this tension, joints and members are pulled apart by forces for which they were not designed; similarly, tension members can be crushed under heavy compressive loads for which they were not designed. Causes for wracking can include uneven foundation settlement (see [Section 1.3.2.1](#)); broken frame members due to overloading, causing the rest of the frame to shift out of alignment under the excessive loading; and, wind deflection pushing a frame out of alignment. Foundation settlement is the most common cause in the barns surveyed.

The recommended approach is to carefully bring the frame back into alignment. Leaving a frame in a racked position places abnormal stresses upon the frame, effectively reducing its overall lifespan. The methods of bringing a frame back into alignment involve jacking up the timber(s) that have dropped out of alignment. The complexity of this process can vary: it could include raising up one timber that the rest of the frame may be supporting in order to install a footing; or, it could include reestablishing a base datum and realigning all of a barn's posts to this datum. In all instances, the value of an experienced contractor familiar with working with barn assemblies cannot be understated. It is also imperative to understand how the structure is working, what may have been removed, and if any temporary stabilization is needed before any readjustment is undertaken. In one instance, all of a barn's lofts had been taken, eliminating this diaphragm and prompting the need for installing cross-cables between the posts in order to provide some internal rigidity to the structure while the posts were realigned. One notable example of realigning a frame included hoisting cabled boards twenty to forty feet up on fifty- to sixty-foot tall two- to three-foot diameter posts (basically peeled trees). Crews then ran poles in at angles (flared outward to leave the base clear) with jacks beneath the poles. Crews then raised the post, excavated beneath it, and placed rebar and poured a footing. Finally, they lowered the post down and anchored it to the new footing. As stated previously, under Foundations, it is important to consider that often correcting wracking in a barn can induce its own set of stresses within timbers and joints. Therefore, serious consideration should be given to the slow reversal of these conditions (occasionally over one or more years) to avoid further damage to or creation of new stresses within the structure.

### *Wood Deterioration*

The quality of wood employed in barn frames is generally high. Often these barns utilize old growth Douglas fir or cedar, having a clear, extremely tight grain. Wood deterioration is the breakdown and loss of the cellular structure of the wood, resulting in decreased resilience, flexibility, and strength. This deterioration stems from



Wood deterioration due to water exposure. Old Schwartz Farm, Clark County. Source: Artifacts Consulting, Inc. 2008.



Wood deterioration due to insect activity. Sudar Farm, Cowlitz County. Source: Artifacts Consulting, Inc. 2008.

a variety of factors, including insect activity, as well as repeated and prolonged exposure to water. In the barns surveyed, the lower ends of posts, as well as beam members along the outer wall edge, tended to most frequently exhibit deterioration due to water exposure. Water reached the wood through rising damp from the foundation, flooding, and water entry through leaks in the roof or walls.

The recommended approach for repairs to wood timber members in barn frames is to resolve the issue, removing as little original material as possible. Consolidate and sister on members before splicing in sections. Splice in sections before replacing full timber lengths. Recommend all spliced material and replacement timbers be salvaged old growth barn members. These will provide the best continuity in terms of material quality and long-term performance for the barn. When salvaged timbers are not available, recommend the use of pressure or preservative-treated members in direct contact with foundation piers or concrete. Sistering members can be standard Douglas fir S4S (surfaced four sides) stock.

Prior to implementing repairs, the cause for the deterioration should be determined and corrected in order to avoid a recurrence of the problem. When repairs are undertaken to structural members, consultation with a contractor experienced in working on historic barns is recommended.

### 1.3.2.3 ROOF

Barn roofs encompass a variety of forms and cladding materials. They consist of the roof framing (e.g. rafters, purlins, skip sheathing, sometimes a ridge board), cladding material, flashing, ventilation elements, decorative elements (e.g. wind vanes), and sometimes gutters and downspouts. Cladding types include cedar shingles and shakes, asphalt composition shingles, and various forms of metal roofing. Roofs exhibit the widest range of materials. Often successive re-cladding of roofs is done directly over the previous or original cladding. Ventilation elements range from ornate cupolas with louvered sides to simple sheet metal ventilators mounted along the ridge line. Their forms present the principle classification means for barn types, as they are a defining visual characteristic. Roofs serve the essential function of shedding water and other environmental elements to keep the interior spaces, envelope, frame, and foundation dry and usable. Small roof leaks constitute one of the most frequently encountered condition issues. These small leaks saturate interior framing members, causing localized accelerated deterioration at the wet area. In order to bring hay into the upper loft, there is often attached to the underside of roofs a track that operates in conjunction with doors in the gable ends. These are addressed separately under [Section 1.3.2.5](#).



Failed flashing example. Borin-Bullock Barn, Kittitas County. Source: Artifacts Consulting, Inc. 2008.



Failed framing due to water entry. Libby Farm, Mason County. Source: Artifacts Consulting, Inc. 2008.



Failed roofing example. Glenwood Farm, Kitsap County. Source: Artifacts Consulting, Inc. 2008.

### *Failed Flashing*

Failed flashing occurs with less frequency than failed roofing, as the majority of barn roofs feature few valley or slope transitions. Flashing functions to redirect water away from open junctures in roofing. Additionally, it facilitates in shedding water by forming a drip-edge that causes the water to drip off the roof rather than run by capillary action. This process relies on surface tension underneath the overhanging roofing material along the eaves and gable ends. Principle areas for flashing failure occur at slope transitions on gambrel roofs and at the interface between roofing and rooftop projections, such as cupolas, ventilators, and the rare dormer. The flashing on weather-facing facades, as opposed to the flashing on leeward sides, can exhibit significantly accelerated rates of corrosion, loose anchors, failed coatings, detachment, and deformation. Flashing materials include copper, as well as coated and uncoated sheet steel.



Failed roofing example. Cloverdale Farm, Grays Harbor County. Source: Artifacts Consulting, Inc. 2008.

Recommend replacement in-kind, maintaining existing systems and materials. The use of synthetic compounds is discouraged due to their short serviceable life spans, visual impacts, and the difficulty in removal.

### *Failed Framing*

Failed framing occurred principally due to exposure to prolonged water entry through the roof or in a sudden event, such as a severe wind storm. Types of failure included rotted, crushed, and splintered framing members. In all instances, these contributed to the allowance of additional water into the barn interior, exposing the frame and interior elements to moisture and increasing chances for their deterioration.

The recommended approach for repairs to roof framing members is to resolve the issue by removing as little original material as possible. Consolidate and sister on members before splicing in sections. Splice in sections before replacing full timber lengths. Recommend all spliced material and replacement timbers be salvaged old growth barn members. These will provide the best continuity in terms of material quality and long-term performance for the barn.

When salvaged timbers are not available, recommend the use of standard Douglas fir S4S (surfaced four sides) stock. Prior to implementing repairs, the cause for the deterioration should be determined and corrected in order to avoid a reoccurrence of the problem.



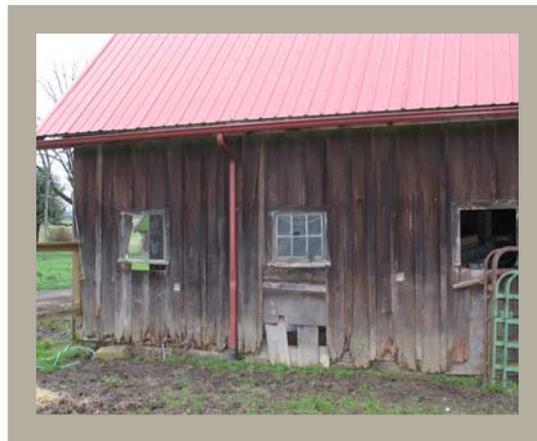
Deteriorated ventilation element example. Boistfort Valley Farm, Lewis County. Source: Artifacts Consulting, Inc. 2008.

### *Failed Roofing*

Failed roofing (cladding) is a frequent factor in the deterioration of a barn's frame and interior materials. Barns surveyed exhibited a range of conditions, from a few shingles missing to entire roof sections collapsed or blown off. The longer water is allowed to enter the building through leaks in the roof, the greater chance it has to cause deterioration of frame and interior wood members and the longer it takes to reverse this process. Small, readily fixable roof leaks, when left unattended, can cause damage to frame members that is highly expensive and difficult to repair. Roofing is the renewable element intended to protect the durable interior frame elements. Causes for roof leaks include loss of roofing during wind storms, poor quality wood shingles with knots,

improperly installed roofing, and general material failure of roofing exposed to the elements. Causes for roofing failure include age and weather exposure related deterioration over time, as these cladding material bear the brunt of weather exposure; poor quality materials, such as shingles with a high quantity of knots, which shrink, fall out, and leave holes; strong winds blowing off cladding materials; and, improper attachment of successive roofing layers, such as securing new corrugated metal roofing by running the screws into only the shingles and not the skip-sheathing or rafters. The majority of barns surveyed featured roofs added within the last forty years.

Replacement in-kind is the recommended approach. When reroofing a whole building, this may not always be economically feasible or permissible for rural fire code purposes. Often this situation will occur with barns that originally had cedar shake or shingle roofs. While contemporary roofing materials may not compare with the visual qualities of the original materials, the imperative is to protect the frame and keep the building as a serviceable structure. Roofs have a far shorter life cycle than the frame; thus, if a frame is preserved, it may yield future opportunities to roof the building per its original design. Shakes and shingles, though having some selective salvage value for the majority, are not salvageable in quantities or qualities allowing the reroofing of barns with salvaged materials. Corrugated metal, though, has proven salvageable, and it can be used for reroofing or select repairs to existing roofs that are clad in corrugated metal.



Water management problem example. Roth Family Farm, Lewis County. Source: Artifacts Consulting, Inc. 2008.

During reroofing projects, it is important maintain the original roofline profile. In addition, it's important to keep such rooftop elements as dormers, cupolas, or weather vanes, as well as existing roof trim and any decorative elements.

### *Failed Ventilation Elements*

Ventilation elements served an important role by promoting the circulation of air throughout the barn. This was particularly important for the loft areas filled with loose hay that needed good air movement to continue to dry and avoid mold growth. As farming practices change or a barn transitions to other uses, these ventilation elements are often neglected or closed off. These rooftop elements serve an important character-defining visual role on barns. Deterioration includes material failure due to exposure, as their location on the rooftop places them directly in the path of inclement weather, and wind damage, such as breaking or detaching pieces. Unfortunately these ventilation elements being located at the top of the roof renders them the least accessible barn element for effecting repairs, making them targets for removal during subsequent reroofing operations. Left in a deteriorated condition, they provide ready access for barn owls and pigeons. While barn owl residence benefits the surrounding farmland with minimal impacts to the barn, pigeons deposit substantial quantities of guano that can be costly and hazardous to clean up as well as damaging to the barn materials. A substantial number of barns surveyed participated in a collection program for owl pellets, in which collectors would make the rounds to the various barns and gather up the owl pellets.

Recommend repairing these elements in-kind using salvaged materials when possible. Repairs should replicate historic assembly methods unless a demonstrated design flaw merits some adjustment to the original assembly method. Retention of a contractor experienced in working on historic barns can aid immensely in safely dealing with these difficult to reach elements.

## Water Management

Improper or lack of water management around a barn often result in accelerated foundation and envelope (lower portions of wall siding) deterioration. Water management pertains to moving water (typically from rain and snow fall) away from the building to keep the foundation and site dry. Gutters were not always an original design element for barns. Many barns surveyed relied upon surface drainage to move water away from the building. Some barns received French drains; but, if not maintained and renewed periodically, they lose their efficiency over time. Some barns surveyed also had gutters and downspouts added, though these were not always connected to a drainage system that could move the water away from the building's base. In some instances, water movement along steep slopes to the sides of barns undercut the foundation walls and footings.

Recommend address the means of moving water away from the building. Site and soil conditions vary with each barn. The critical issues are to not have standing water around the barn and for any flowing water to flow around the building, as far away as possible so as to not undercut foundations and footings. Installation of French drains with outlets at least twenty feet from the foundation proved beneficial to controlling water. The gravel bed along the drip line reduced the amount of backsplash up onto the siding, thus reducing deterioration along the lower edge of siding and posts. Gutters are effective tools for collecting and directing roof runoff; but, they must have downspouts that are connected into a drainage system, such as a French drain or discharge well away from the building. Too often these create a large pool of standing water directly against the building at the base of each downspout. Re-grading of soil around the building to slope away from the barn has also proven beneficial.

### 1.3.2.4 BUILDING ENVELOPE

The building envelope serves as the exterior skin protecting the frame and interior users. The envelope consists of both static elements, such as siding and trim, and dynamic elements, such as windows and doors. Dynamic elements are often moved and adjusted during the course of the barn's operation. The envelope, particularly on windward-facing facades, bears the brunt of inclement weather. The materials used in the various components, relative to the frame, are typically of smaller overall cross-sections. Consequently, this high-wear, thin-layer exterior shell operates on a shorter life cycle than the frame it protects. The envelope provides an important, character-defining role, which affords day light, personnel, equipment, and livestock access to and from the building and protection from the elements. It also provides a visually defining role for the building. The principle



Missing and damaged door example. George Comegys Farm, Whitman County. Source: Artifacts Consulting, Inc. 2008.



Missing and damaged window example. Sherhill Vista Farms, Island County. Source: Artifacts Consulting, Inc. 2008.



Paint failure example. VT Farm, Lewis County. Source: Artifacts Consulting, Inc. 2008.

material for the building envelope is wood with metal for fasteners and glass window panes.

### *Missing or Damaged Doors*

Missing or damaged doors occurred with modest frequency in the barns surveyed. These important elements serve as the means to control access to and from the barn for personnel, equipment, materials, and livestock. Door sizes ranged from small gable end doors, serving as a pass-through for rope, to massive side- or end-wall doors, allowing wagons into the barn. Methods of door attachment consisted of side-hinged (both personnel and large barn doors) to top-hung doors sliding on a rail mounted to the exterior or interior of the barn. Doors often exhibited material deterioration along the lower edge due to storm water back-splash from the roof drip line. Impact damage from animals and machinery passing through the openings were frequent occurrences. Missing or damaged doors on vacant barns present a security risk.

The recommended approach is to repair and retain existing doors. Depending upon the extent of deterioration, pull the door and frame. Consolidate or, if needed, splice in new in-kind materials, such as, matching wood species with similar dimensions and profiles. Scrape and clean door and frame pieces. Prime, repaint, and reinstall all elements. The majority of original doors in barns are straightforward assemblies that, with some practice, can be readily repaired and maintained by barn owners. If the original doors are missing, salvaged window sash present a good opportunity to provide a compatible weather barrier in these openings.

### *Missing or Damaged Windows*

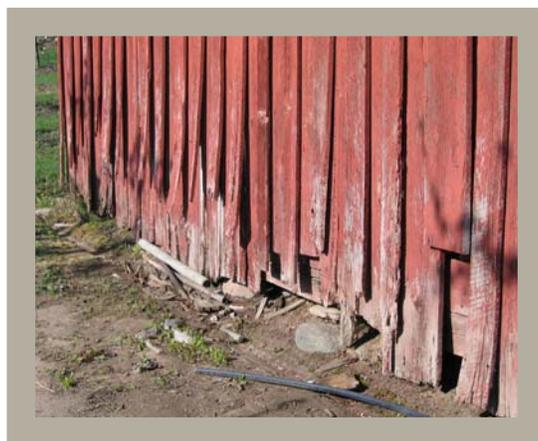
Missing and damaged windows were a frequent occurrence on the barns surveyed. Original windows consisted of simple wood sash, multi-lite units. These varied in operation from fixed to double-hung. In the barns surveyed, many window openings that had lost their original sash were simply left open or covered with plastic sheeting to keep out the weather. Replacement units ranged from salvaged wood to contemporary vinyl and aluminum units.

Windows serve an important function, providing day lighting and ventilation to the interior spaces while maintaining the overall integrity and weather resistance of the building envelope. The majority of barns surveyed featured exterior trim and sills at each window with an interior stool. Most did not feature any interior window casings.

The recommended approach is to repair and retain existing sash and glass. Depending upon the extent of deterioration, pull the sash and frame. Consolidate or, if needed, splice in new in-kind materials that match wood species, dimensions, and profiles. Scrape and clean sash and frame pieces. Prime, repaint, reset glass with glazing putty, and reinstall all elements. The majority of original windows in barns are simple assemblies that, with some practice, can be readily repaired and maintained by barn owners. If the original sash are missing, salvaged window sash



Yarr Fish & Wildlife Refuge, Jefferson County. Source: Artifacts Consulting, Inc. 2008.



Siding deterioration. Remley Orchards, Chelan County. Source: Artifacts Consulting, Inc. 2008.

present a good opportunity to provide a compatible weather barrier in these openings. Vinyl and aluminum units are not recommended.

### *Paint Failure*

Paint failure involves the loss of continuity within the protective film of paint covering exterior wood surfaces. The causes for this include poor surface preparation, differences in material and paint expansion rates during hot weather, and prolonged periods between repainting. In barns built after the 1930s, the poor quality of wood used in siding can also be a factor. Instead of employing the clear-grained old growth in the construction of these barns, these structures were built with third and fourth growth lumber. Third and fourth growth lumber has a multitude of sappy knots to which the paint does not adhere; this lumber also presents complications due to growth ring rates and the cut of the wood. Barns are inherently difficult to paint due to their massive scale and the need for lifts or rope systems to reach the upper wall and gable ends. Failure of the paint allows water entry to the siding, accelerating its deterioration. See [Siding Deterioration](#) below. Some barns have never been painted; as such, their exterior siding has weathered to a distinct patina and should not be painted.

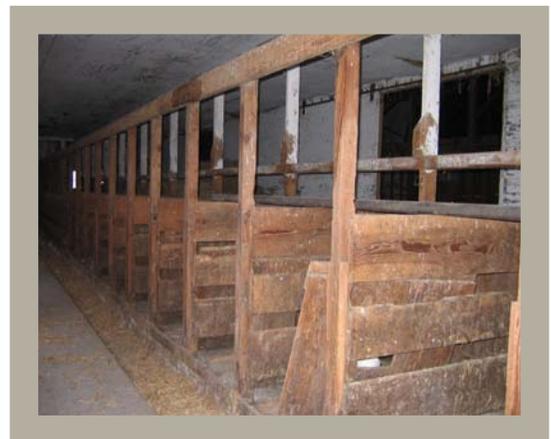
Not all barns were originally painted, and it is inaccurate to assume such simply because a barn currently lacks paint. For those barns that were originally painted, the recommended approach is to repaint them at regular intervals and not to wait for the coating to fail extensively before repainting.

All wood surfaces should be thoroughly prepared through scraping and sanding in order to smooth out rough areas where previous coatings peeled and to pull off any partially-failed previous paint coatings. During the scraping process, fill nail holes, reset loose nails, and repair any damaged or missing siding. This should be followed with a pressure washing, using a fan-tip and less than 300 psi, working two feet from the building. The intent of the pressure washing is to wash off dust and loose debris; it should NOT be used to abrade the paint. An oscillating tip should never be used, as this will quickly abrade the wood. A thorough drying is necessary following the washing. Ideally this process, including painting, should be done during the summer months. Priming the wood following the scraping is critically important with the dry wood of barns. When possible, a penetrating oil-based alkyd primer should be used, followed by an alkyd or alkyd-modified acrylic latex exterior paint compatible with the primer.

Color selection is a complex, subjective issue. Ideally a color sampling could be done to determine the original color scheme and then used to repaint the building. The original coating may also have been a white wash. In some instances subsequent color schemes have achieved a significance or local renown in their own right that may merit replication. Ultimately paint is a protective coating that has a short lifespan, so disputes over color should not hinder the actual painting of the barn to protect its materials.



Deteriorated flooring example. Weary Farm, Walla Walla County. Source: Artifacts Consulting, Inc. 2008.



Interior stall partitions. Grimm-Jensen Farm, Snohomish County. Source: Artifacts Consulting, Inc. 2008.

### Siding Deterioration

Siding deterioration stems principally from exposure to the elements. Siding types include clapboard, vertical board and batten, vertical board, and shiplap. The main areas exhibiting deteriorated and failed siding are along the base of a barn near grade and on the weather-facing facade(s). Siding deterioration along the base of the building often results from a combination of failed-paint coatings and water backsplash onto the side of the building due to lack of or improper site drainage. Siding deterioration on the weather-facing facade results from the concentrated effects of weather exposure, including, but not limited to, wind abrasion; failures in the paint coating, due to expansion and contraction of the coating under extreme temperatures; and, frequent saturation with wind-driven rain.

When assessing the rates of deterioration on different barns, it is important to distinguish quality of siding material. High-quality siding material has a greater ability to withstand failed paint, water, and thermal expansion fluctuations. Poor quality siding generally will have a higher frequency of material issues, including cupping, holding nails poorly, and the sap from knots compromising paint coatings.

The recommended approach for siding repairs is to consolidate when possible. Splice in salvaged material when consolidation will not work. Replace select pieces when the majority of a board is deteriorated. Replace using salvaged material matching the profile, thickness, and wood species; or, if unavailable, mill new material to match the profile, thickness, and wood species of the original. Contemporary materials such as Hardy Board and T1-11 are not recommended.

#### 1.3.2.5 INTERIOR

Interior spaces hosted a variety of uses, often with only the most basic of amenities. Simplicity of interior features and finishes facilitated cleaning, kept building costs low, and eased future rearrangements as uses changed and grew. The essential interior elements consisted of the flooring and floor joists. Other common features include stalls, partitions, manure troughs, and the overhead tracks for bringing hay into the barn.

#### Flooring and Joist Deterioration

Flooring and joists provide the basic interior structure and surface upon which all of the barns' uses occur. These are important character-defining elements: the experience of walking into a barn with a wood plank floor versus a concrete slab is noticeably different. In addition, the wood plank systems provide a softer, more desirable walking and standing surface for livestock than hard, cold concrete. Wood floors also provide a better storage surface for hay, as water tends to wick up through the concrete, leading to mold development in the hay. The ground floor and



Manure trough. Alderbrook Farm, Mason County. Source: Artifacts Consulting, Inc. 2008.



Milking stanchions. Cloverdale Farm, Grays Harbor County. Source: Artifacts Consulting, Inc. 2008.



Overhead metal track system. Old McNeil Ranch, Kittitas County. Source: Artifacts Consulting, Inc. 2008.

the upper loft exhibit different condition issues. The ground floor, typically featuring heavy floor joists with a thick plank floor, often features deterioration issues similar to the foundation. Moisture wicking up into the joists from grade can lead to deterioration of both the joists and planks. Heavy traffic on the floor abrades the planks over time. Water entry through leaks in the roof or siding can also lead to large areas of deterioration. Foundation settlement issues can also displace joists and planks. The loft often faces issues of overloading and water entry through the roof and side walls. Water related deterioration is the most expensive to repair, involving both the cost of the roof or envelope repairs, as well as interior repairs to deteriorated joists or flooring. Overloading usually resulted in the addition of supplemental vertical posts to carry the joists. Rarely in these cases were additional footings added at grade level to carry these posts; instead, the load transferred to existing ground floor joists and their foundation system. Some lofts featured notably thin floors with an abundance of knots in the wood, making uses other than minimal loose hay storage difficult.

Recommend replacing failed or deteriorated flooring elements in-kind. Avoid overloading flooring systems, particularly at haylofts. Provide regular cleaning of flooring systems to keep manure and other debris from accumulating, particularly at the flooring/wall junctures. Recommend that added hayloft supports have their own footings or the existing foundation system be augmented to carry this increased loading.

### *Interior Partitions*

Interior partitions varied over time, as barn uses changed or existing uses expanded. Interior partitions form an organic part of the barn's interior shifting and changing with uses. Original and potentially historically significant partitions can often be readily identified through their materials and construction methods. While interior partitions are unique elements, these features do not rise to the same level of importance as the frame or envelope.

As barn uses change, these elements can become impediments to continued use of the barn. Recommend to retain when possible. When removal is necessary, however, photograph prior to the removal, if possible, or retain a small section, if it does not interfere with the ground floor uses.

### *Manure Troughs*

Manure troughs within former dairy barns provide a unique character-defining interior feature. Their placement facilitates identification of former milk stanchions and interpretation of past interior uses. Often subsequent barn uses have required infilling these troughs or removing them completely.



Corrugated metal roof. Ledford Ranch, Pierce County. Source: Artifacts Consulting, Inc. 2008.



Interior hardware, grain mill. Bolick Farm (Grain Grinder), Asotin County. Source: Artifacts Consulting, Inc. 2008.



Siding example. Hanson Farm, Kittitas County. Source: Artifacts Consulting, Inc. 2008.

While manure troughs are unique elements, these features do not rise to the same level of importance as the frame or envelope.

As barn uses change, these elements can become impediments to continued use of the barn. Recommend to retain when possible. However, when infilling is necessary, photograph prior to work. Infill is recommended over removal, as the difference in new concrete or spliced-in wood planking will allow barn users and visitors to read where the troughs ran and interpret the original functional layout of the barn.

### *Milking Stanchions*

Milking stanchions within former dairy barns provide a unique character-defining interior feature. Barns surveyed often exhibited a variety of construction methods from all wood or metal to a combination of materials. Frequently alternative agricultural and compatible non-agricultural uses have removed the stalls to create additional space. While important, the materials employed in the construction of these features, do not rise to the same level of importance as the frame or envelope.

As barn uses change, these elements can become impediments to the continued use of the barn. Recommend to retain when possible. When removal is necessary, however, photograph prior to removal, if possible, or retain a small section, if it does not interfere with the ground floor uses. The photographs, when taken by the barn owner, can help provide a record of changes to the barn, as well as previous configurations and uses.

### *Overhead Metal Track System*

The overhead metal track systems used to hoist loose hay into the barn lofts represent significant character-defining elements. The transition to conveyor loading systems for bringing bales into the loft, as well as cessation of agricultural activities and the consequent absence of a need for hay storage, has rendered these systems artifacts of a bygone era. Their overhead placement in the barn, however, keeps them out of the operating space of the barn, whether it is in agricultural or non-agricultural use. Thus, the opportunity to preserve these artifacts exists simply by leaving them alone. Most exhibited minimal condition issues as long as the roof was maintained.

Retain in place when possible. A majority of these systems run along the ridge of the roof, and do not interfere with uses in the hayloft area. When removal is necessary, recommend the pieces be made available for salvage to other barn owners restoring their systems.

## 1.3.2.6 MATERIAL REUSE

Material reuse operations have become an important tool in the preservation of cultural resources. The majority of historic barns feature materials of a quality, dimension, and age that cannot be duplicated with modern materials. Reusing elements from failed barns provides an opportunity to reclaim these materials for use by other barn owners such that they can preserve their structures and sustain the state's agricultural legacy. Reclaiming barn components is a complex task requiring skilled artisans recognizing the historical and economic value of the materials, and understanding the dynamics of timber framing and the safe deconstruction of these barns without damaging the constituent materials.

### *Corrugated Metal*

Corrugated metal has achieved a niche in our collective visual catalog of agrarian and industrial materials. Some barns were even built originally with corrugated metal cladding and roofing. The material provides a durable, utilitarian building envelope material.

Recommend reuse of the sheet metal and making it available to other barn owners repairing their Heritage Register listed barns. Reclamation operations should prioritize sheet metal types by dimensions. When possi-

ble, the reclamation entity should prepare an inventory to aid in matching reclaimed pieces with the needs of other barn owners.

### *Interior hardware*

Interior hardware serves more an interpretive function. Some of the rarer elements merit local historical society inclusion for interpretive displays. Other elements could be made available to other barn owners to complete their systems and bolster the overall interpretive effect of their barns, particularly when available for public visitation at scheduled times.

When possible, unique hardware elements should be retained and made available to other barn owners repairing their Heritage Register listed barns or given to reuse/recycle centers for continued use.

### *Siding*

High-quality, clear-grained old growth siding has a durability far exceeding contemporary siding materials. The reuse of siding also facilitates the blending of selective repairs with existing barn siding.

Recommend reuse of siding and making it available to other barn owners who are repairing their Heritage Register listed barns. Reclamation operations should prioritize siding types by material, profile, and dimensions. When possible, the reclamation entity should prepare an inventory to aid in matching reclaimed pieces with the needs of other barn owners.

### *Timber*

Timbers employed in barn construction constitute some of the last and most prolific resources for old growth timber. The clear-spans of forty to sixty-plus feet of twelve-by-twelve-inch and larger old growth timbers cannot be replicated. This resource is being lost at an alarming rate due to demolition of collapsed barns. The demolition of collapsed barns eliminates liability and life-safety issues; and, it provides of the opportunity to sell barn timber for re-sawing and use in high-end modern timber frame houses.

Recommend reuse of timbers and making them available to other barn owners who are repairing their Heritage Register listed barns. Reclamation operations should prioritize timber types by material and dimensions. When possible, the reclamation entity should prepare an inventory to aid in matching salvaged pieces with the needs of other barn owners.

### *Windows*

Wood sash windows occurred in a range of relatively consistent sizes and types. The quality of materials employed on these windows was typically high. Assemblies are straightforward, facilitating repair efforts.

Recommend reuse of windows and making them available to other barn owners who are repairing their Heritage Register listed barns. Reclamation operations should prioritize windows by types and dimensions. When possible, the reclamation entity should prepare an inventory to aid in matching reclaimed windows with the needs of other barn owners.



Timber example. Lagerwood Farms Inc., Skagit County. Source: Artifacts Consulting, Inc. 2008.



Window example. Colonel Walter Crockett Barn, Island County. Source: Artifacts Consulting, Inc. 2008.

### 1.3.3 CAPITAL REPAIR PRIORITIES

The following section outlines a set of priorities for capital repairs based upon adherence to the *Secretary of the Interior's Standards for the Treatment of Historic Properties* (1995) and the following three goals:

- *Keeping barns standing and protected from the weather;*
- *Facilitating the long-term continued use of barns; and,*
- *Attending to the role of the state's agricultural heritage.*

The following categories are arranged from greater to lesser priority: Operational, Stabilization, Preservation, Rehabilitation, Restoration, and Reclamation/Reuse.

An underlying thread throughout the discussion of prioritizing tasks is the life-cycle of materials. In modern terms, a thirty-year period fulfilling the duration of the construction loan has become the high-end for durability. Many synthetic and man-made materials have far shorter functional life cycles, ranging from just a few years to one to two decades at the most.

Barns operate on a different time frame, one that is more appropriately measured in generations. Critical to long-term preservation are not only arresting patterns and habits of deferred maintenance and disuse, but also selecting materials and methods compatible with the life-cycle of historic barn materials and assemblies. It is critical to keep to a minimum the introduction of modern, short-lived elements and systems, or at least employ these more modern elements and systems such that they can be later reversed. To this end, the reuse of materials will hold an increasingly important role in the statewide preservation of barns. This avenue provides one of the most cost effective means for often cash-strapped barn owners to obtain the high-quality building materials needed for repairs.

#### 1.3.3.1 OPERATIONAL

Operational needs address the basic factor that, if a barn is not in use, the chances decrease significantly that its owners will attend to its maintenance and repair needs. Barns that fall into disuse are often viewed by their owners as not worth the investment to repair since they present no return on this expenditure, other than aesthetic value for the countryside. Keeping barns in agricultural use presents the highest long-term value for the state in terms of fostering continued agricultural activities, maintaining previous investments of materials and labor in a productive mode, and for reducing

#### The Secretary of the Interior's Standards for Preservation:

1. A property will be used as it was historically, or be given a new use that maximizes the retention of distinctive materials, features, spaces, and spatial relationships. Where a treatment and use have not been identified, a property will be protected and, if necessary, stabilized until additional work may be undertaken.
2. The historic character of a property will be retained and preserved. The replacement of intact or repairable historic materials or alteration of features, spaces, and spatial relationships that characterize a property will be avoided.
3. Each property will be recognized as a physical record of its time, place, and use. Work needed to stabilize, consolidate, and conserve existing historic materials and features will be physically and visually compatible, identifiable upon close inspection, and properly documented for future research.
4. Changes to a property that have acquired historic significance in their own right will be retained and preserved.
5. Distinctive materials, features, finishes, and construction techniques or examples of craftsmanship that characterize a property will be preserved.
6. The existing condition of historic features will be evaluated to determine the appropriate level of intervention needed. Where the severity of deterioration requires repair or limited replacement of a distinctive feature, the new material will match the old in composition, design, color, and texture.
7. Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials will not be used.
8. Archeological resources will be protected and preserved in place. If such resources must be disturbed, mitigation measures will be undertaken.

the potential for significant adverse changes to the barn and its contextual setting. Agricultural related functions, such as conversion to wine tasting, present an alternative that, while often involving substantial interior modifications, contribute to the overall retention of agricultural activities and preservation of the barn. Adaptive reuse for non-agriculture functions presents a lesser option that, while better than the loss of the barn, often substantially alter and detract from the original character of the building and its setting. Often, changes such as conversion to dwellings occur in conjunction with the subdividing of farmlands for suburban developments, which erode the broader characteristics of rural Washington. The reclamation of barns for reuse of the components in barns listed as Heritage Barns is a last resort for those collapsed or partially failed structures that cannot be stabilized and preserved. This use provides an opportunity for the retention of these valuable materials while assisting in the preservation of other barns.

It is important to recognize that while the report addresses barns specifically, these buildings exist within and depend upon the broader context of the farmstead. The preservation of the state's working farmsteads will hold an increasingly important role in keeping barns standing and in agricultural use.

### 1.3.3.2 STABILIZATION

Stabilization efforts are precursor efforts to keep a building standing and protect historic materials until preservation efforts can be funded and undertaken. Stabilizing can include temporary bracing to keep walls from falling, or providing temporary roofing to keep out inclement weather. As a general rule of practice, stabilization efforts should be reversible with minimal damage to historic fabric. Part of the implementation of stabilization measures should recognize that this is a short-term remedy, and that planning and fundraising for a full repair should commence immediately.

The three critical barn stabilization components, in order of greater to lesser priority, consist of the roof, foundation, and frame. Building envelope elements, such as siding, windows, and doors, while undeniably important to the overall longevity and usefulness of a barn, are not critical path items for stabilization. Such repair tasks are most readily accomplished by barn owners, with minimal to no assistance by a contractor.

#### The Secretary of the Interior's Standards for Rehabilitation:

1. A property will be used as it was historically or be given a new use that requires minimal change to its distinctive materials, features, spaces, and spatial relationships.
2. The historic character of a property will be retained and preserved. The removal of distinctive materials or alteration of features, spaces, and spatial relationships that characterize a property will be avoided.
3. Each property will be recognized as a physical record of its time, place, and use. Changes that create a false sense of historical development, such as adding conjectural features or elements from other historic properties, will not be undertaken.
4. Changes to a property that have acquired historic significance in their own right will be retained and preserved.
5. Distinctive materials, features, finishes, and construction techniques or examples of craftsmanship that characterize a property will be preserved.
6. Deteriorated historic features will be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature will match the old in design, color, texture, and, where possible, materials. Replacement of missing features will be substantiated by documentary and physical evidence.
7. Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials will not be used.
8. Archeological resources will be protected and preserved in place. If such resources must be disturbed, mitigation measures will be undertaken.
9. New additions, exterior alterations, or related new construction will not destroy historic materials, features, and spatial relationships that characterize the property. The new work shall be differentiated from the old and will be compatible with the historic materials, features, size, scale and proportion, and massing to protect the integrity of the property and its environment.
10. New additions and adjacent or related new construction will be undertaken in a such a manner that, if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.

### 1.3.3.3 PRESERVATION

Preservation is defined by the *Secretary of the Interior's Standards for the Treatment of Historic Properties* (1995) as:

*“the act or process of applying measures necessary to sustain the existing form, integrity, and materials of an historic property. Work, including preliminary measures to protect and stabilize the property, generally focuses upon the ongoing maintenance and repair of historic materials and features rather than extensive replacement and new construction. New exterior additions are not within the scope of this treatment; however, the limited and sensitive upgrading of mechanical, electrical, and plumbing systems and other code-required work to make properties functional is appropriate within a preservation project.”*

This category of work represents the majority of issues facing barn owners. Typically the preservation of a barn involves keeping it in a similar, if not exactly the same, use as it was originally designed. Many low-impact uses, such as general storage, are also able to exist within barns without the need to significantly alter interior features, the frame, or building envelope.

### 1.3.3.4 REHABILITATION

Rehabilitation is defined by the *Secretary of the Interior's Standards for the Treatment of Historic Properties* (1995) as:

*“the act or process of making possible a compatible use for a property through repair, alterations, and additions while preserving those portions or features which convey its historical, cultural, or architectural values.”*

This category occurs with less frequency than preservation. Typically the rehabilitation of a barn marks its transition into a substantially different use, such as dairy or wine tasting. The key consideration is the compatibility of the new use with the existing structure.

#### The Secretary of the Interior's Standards for Restoration:

1. A property will be used as it was historically or be given a new use which reflects the property's restoration period.
2. Materials and features from the restoration period will be retained and preserved. The removal of materials or alteration of features, spaces, and spatial relationships that characterize the period will not be undertaken.
3. Each property will be recognized as a physical record of its time, place, and use. Work needed to stabilize, consolidate and conserve materials and features from the restoration period will be physically and visually compatible, identifiable upon close inspection, and properly documented for future research.
4. Materials, features, spaces, and finishes that characterize other historical periods will be documented prior to their alteration or removal.
5. Distinctive materials, features, finishes, and construction techniques or examples of craftsmanship that characterize the restoration period will be preserved.
6. Deteriorated features from the restoration period will be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature will match the old in design, color, texture, and, where possible, materials.
7. Replacement of missing features from the restoration period will be substantiated by documentary and physical evidence. A false sense of history will not be created by adding conjectural features, features from other properties, or by combining features that never existed together historically.
8. Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials will not be used.
9. Archeological resources affected by a project will be protected and preserved in place. If such resources must be disturbed, mitigation measures will be undertaken.
10. Designs that were never executed historically will not be constructed.

### 1.3.3.5 RESTORATION

Restoration is defined by the *Secretary of the Interior's Standards for the Treatment of Historic Properties* (1995) as:

*“the act or process of accurately depicting the form, features, and character of a property as it appeared at a particular period of time by means of the removal of features from other periods in its history and reconstruction of missing features from the restoration period. The limited and sensitive upgrading of mechanical, electrical, and plumbing systems and other code-required work to make properties functional is appropriate within a restoration project.”*

Only a select few barns merit a full restoration to their original state. Consultation with the Washington state Department of Archaeology and Historic Preservation is recommended to determine the relative significance of the barn.

### 1.3.3.6 RECLAMATION/REUSE

Reclamation and reuse is the careful disassembly, cataloging, and storage of reusable barn components for use in the repairs of other barns listed as Heritage Barns. These parts should be dedicated for use only for barn owners who are repairing Heritage Barns that will remain in agricultural use or demonstrated agricultural-related use. See operational priorities above. The careful reclamation of a barn is a dangerous and complex task and should be undertaken only by qualified personnel in order to mitigate both life-safety concerns and potential loss of reusable materials. Refer to [Section 1.4](#) for specific information on a case study barn reclamation to provide old-growth timbers for reuse by Heritage Barn owners.

## 1.3.4 CAPITAL REPAIR COST DATA

Estimating the cost of barn repairs pulls together a host of variables for a resource type for which the exact quantities throughout the state are only the roughest of estimations. Artifacts identified the following three main variables as having the strongest influence on the planning-figure cost estimates: components, inflation, and geography. Managing these variables through the use of models allowed us to project planning-figure cost estimates for physical repair needs of the Heritage Barns surveyed. Please note, that these cost figures are for planning purposes only, and under no circumstance should they be used as construction budgets or individual barn grant applications. The intent was to provide an overview of the collective needs of Heritage Barns; consequently, they do not reflect the finer, itemized details of a well-prepared construction estimate.

### 1.3.4.1 METHODOLOGY

The following provides an overview of the methodology employed in developing our planning-figure cost models. For the specific results, please proceed to [Section 1.3.4.2](#).

The three critical barn components consist of the frame, roof, and foundation. Building envelope elements such as siding, windows, and doors, while undeniably important to the overall longevity and usefulness of a barn, are not critical path items for stabilization and include repair tasks most readily accomplished by barn owners with minimal, to no assistance by a contractor. These are, however, included in the planning-figure cost estimates.

The strategy for managing variables and analyzing the costs for repairing Heritage Barns looks first at the patterns of condition issues identified in the field and the quantities of work involved in correcting these conditions. This approach allows the information gathered through this survey to function as baseline data for the volume of Heritage Barn physical needs statewide against which future quantities of work could be measured. Work undoubtedly will continue to increase as the years go by, depending upon how many additional Heritage Barns are listed. Ideally, work undertaken on the current list of Heritage Barns will generate interest and enthusiasm among other barn owners, leading to additional barns being repaired.

The data collected for this survey represents only a sampling of the total potential work needed by Heritage Barns (much less barns at least fifty years of age) throughout the state. Surveyors inspected 112 Heritage Barns. The Heritage Barn program generated at the time of this report publication was a total of 292 registered Heritage Barns. The 2002 census listed the total number of farms in Washington state at 35,939. Based on these numbers, a presumptive projection of 35,000 barns statewide is not outlandishly unfounded. Following this line of conjecture, the 292 listed Heritage Barns would account for just eight thousandths of a percent of this presumptive total. This assumes of course that each farm had at least one barn. In reality, farms will often have more than one barn, and many will have no barns. This total number of farms tallies only those still in operation; it does not account for former farm sites that have since converted to other uses but still retain their barns, as the state's peak number of farms reached in 1937 was 84,800. The total number also does not account for barns that may have been built within the last fifty years.



Large model barn (field site 106) prior to reclamation, Grays Harbor County, WA. View of southwest corner. Source: Artifacts Consulting, Inc. 2008.

What these numbers do illustrate is the need for a cost estimating model that can extrapolate from a small fraction of the whole with a relatively predicible degree of inaccuracy. This inaccuracy stems from the unknown conditions of so many un-surveyed heritage, and as yet unidentified, historic barns, and the variability of material and labor costs across the state. In light of these unknowns, we focused on the most predictable condition issues with the lowest levels of inaccuracy and endeavored to establish ranges at both the individual line item and total cost summaries that could further absorb slight variations. Overall the majority of work on barns does not follow the typical patterns of major construction projects with a design team, general contractor, and sub contractors. Rather projects are often handled at an informal level by the barn owner, local crafts persons, and contractors to keep costs low.



Large model barn (field site 106) during reclamation, Grays Harbor County, WA. Photograph taken during deconstruction to illustrate the interior framing. Source: Artifacts Consulting, Inc. 2008.

Artifacts' approach in the field assessment was to identify the condition issues affecting the barn and determine what percent of the whole of that component would need to be repaired. For example, the siding might be missing from one side- and end-wall of a barn. This would constitute a 50 percent siding-repair need. In the field, this type of assessment required only quick visual, proportional estimating, rather than detailed measurements to quantify the exact board-feet of siding missing. This allowed us to visit more barns, the variety of which shaped significantly our understanding for the patterns and variations of condition issues in existence across the state. In the office, staff entered these percentages as ranges into corresponding fields for each barn in an Excel workbook. The ranges are as follow:

- *0% Intact*
- *1 to 25% Minor*
- *26 to 50% Moderate*
- *51 to 70% Substantial*
- *71 to 89% Extensive*
- *90 to 100% Failed*

For example, if concrete foundation deterioration and loss was estimated at 12 percent in the field, it would be entered as 1 to 25 percent. These ranges accommodated for surveyor error during field assessment, and provided an initial sorting of data to facilitate comparisons. In the analysis phase of this cost estimating the use of percentages allowed for relative comparison of barns of varying sizes and shapes.

Cost data for these percentages was then ascribed based upon what it would cost to replicate these items today using in-kind



Large model barn (field site 106), Grays Harbor County, WA. View of southeast corner. Source: Artifacts Consulting, Inc. 2008.

materials and techniques compliant with the *Secretary of the Interior's Standards for the Treatment of Historic Properties* (1995).

Artifacts utilized two barns we had surveyed, one as a large model and one as a small model, to develop cost data for replicating missing or failed barn components. (See [Section 1.3.4.3](#)) The large model also served as our reclamation and reuse case study. The 2008 *RSMeans Building Construction Cost Data* provided values for repairing select barn components not included in the models (such as windows, doors, and exterior painting).

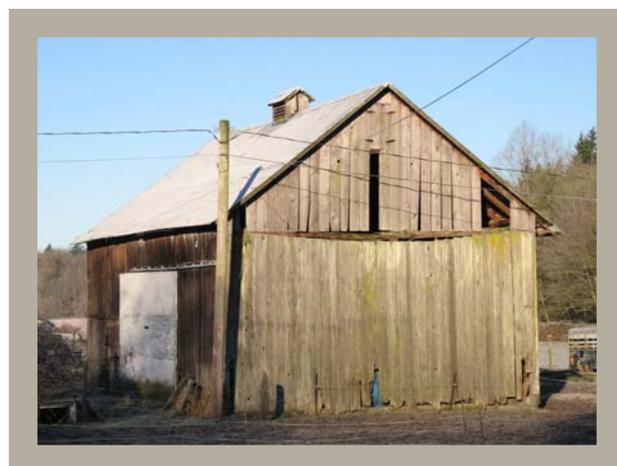
To develop costs for the two models, Artifacts provided as-built drawings and material quantities for the frame, roof, flooring, and foundation components of the two model barns to Bellingham Bay Builders. Bellingham Bay Builders priced out the cost of constructing each of these barns using today's labor values for skilled timber framers and the price of salvaged old-growth lumber. These figures provided the replication costs for barn components. In practice, if the cost of building the small barn frame cost \$100,000, then an assessed repair value of 25 percent on a barn's frame would equate to \$25,000 worth of needed repairs.

Two issues that this model was not adept at dealing with were roof repairs and exterior painting. In each case, a critical threshold in terms of preserving the building and value return on the owner's investment was set at 50 percent. Once the repair need exceeded this value the repair was automatically treated as a full replacement cost (i.e. a 100 percent repair need).

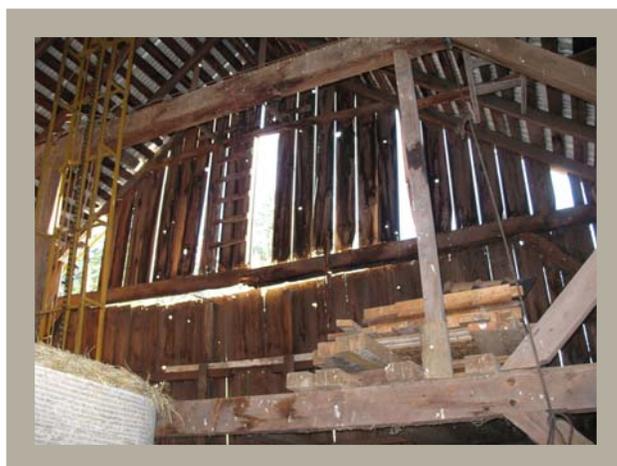
- *When a roof suffers over 50 percent damage, it is typically more advantageous to replace the entire roof. In the seventeen instances where field recorded values were above 50 and below 90 percent, these were treated as 100 percent roof replacements.*
- *When over 50 percent of the building's paint has failed, it is more practical and economically efficient to paint the whole barn, rather than just half now and the other half later. In the thirty-three cases where field recorded values were above 50 and below 90 percent, they were treated as 100 percent repainting need.*



Small model barn (field site 42), Skagit County, WA. View of exterior corner. Source: Artifacts Consulting, Inc. 2008.



Small model barn (field site 42), Skagit County, WA. View of exterior corner. Source: Artifacts Consulting, Inc. 2008.



Small model barn (field site 42), Skagit County, WA. View of interior. Source: Artifacts Consulting, Inc. 2008.

### 1.3.4.2 COST DATA

Planning-figure cost data derived from the above described process is prioritized according to stabilization, preservation, and rehabilitation. The table below ([Table 1.3.4.2](#)) provides a summary of cost data developed for this project developed for the 112 Heritage Barns surveyed. The upper portion of the table lists the cost totals for the condition issues according to the small and large barn models. Within each model size, there is an upper- and lower-end range. The bottom portion gives the overall totals and totals for stabilization, preservation, and rehabilitation. The low- and high-ends of the ranges are bolded. The general costs were estimated using the 2008 *RSMMeans Building Construction Cost Data* and were tallied in the field (e.g. number of windows missing) rather than as percentages. Consequently these figures are independent of the two cost models but figure into the overall totals. Some other items, including uneven settlement, wracking, overloading, insect activity, and water management problems were recorded in the cost analysis as either a “yes this problem existed” or “no.” This provided a more effective method for quantifying these issues as their repair or correction of these conditions often affected the whole barn, not just a percentage. Cost repair for these conditions were estimated based upon the overall dimensions and assembly of the small and large models.

Stabilization cost items stemmed exclusively from foundation condition issues. These included foundation, wood, and concrete deterioration and uneven settlement.

Preservation cost items stemmed from roof and frame condition issues. These included frame wood deterioration, wracking, overloading, and insect activity. Roof issues included failed roofing, flashing, framing, ventilation elements, and water management problems.

Rehabilitation cost data stemmed from envelope and interior issues. Envelope issues included paint failure, siding deterioration, and missing and damaged windows and doors. Interior issues consisted of flooring and joist deterioration. No cost data was developed for restoration efforts, as priority was placed upon stabilizing, preserving, and sustaining use of existing barns.

### 1.3.4.3 COST MODELS

Artifacts Consulting, Inc. selected two barns for use in cost modeling. The purpose of this report is directed towards assessing the overall cost of physical needs identified during the field surveys, rather than construction estimates for individual barns. This enabled costs from a far wider geographic dispersion and typology of barns to be included in the overall assessment. This method also allowed the relative severity of physical needs to be measured, rather than quantifying only the physical volume of work (such as linear board feet of new siding needed). Measuring severity of physical needs is important to understand what issues are most affecting the stabilization and preservation of barns. The deficiency in quantifying only physical volumes is that a repair need of 1,000 board feet of siding has a far higher degree of urgency on a small barn if this represents 60 percent of the total siding. This in contrast to a large barn where this amount of siding might represent just 10 percent of the total siding.

**TABLE 1.3.4.2 COST DATA FOR SURVEYED BARNs**

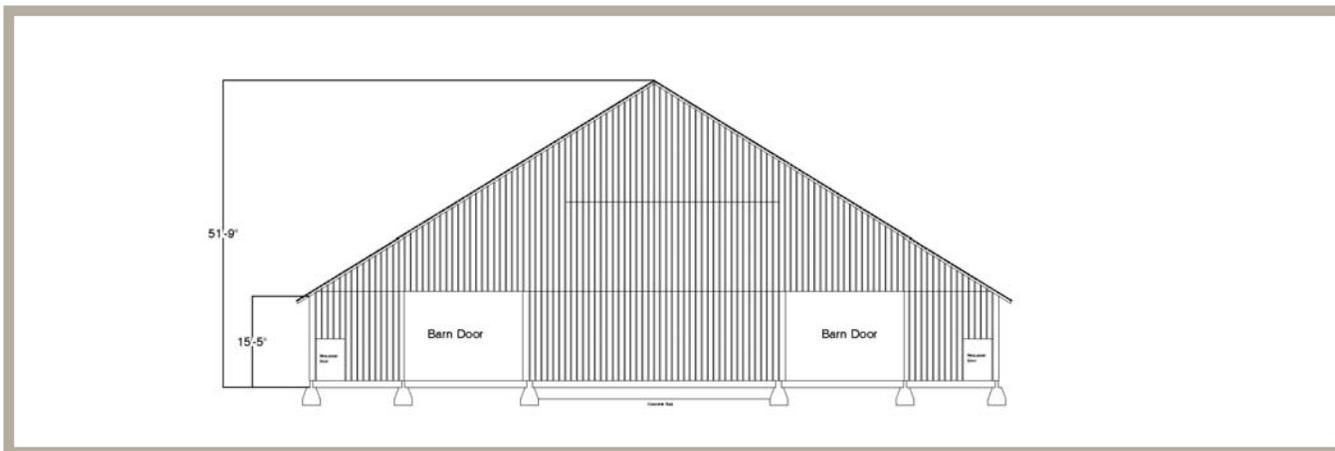
CONDITION ISSUE	SMALL MODEL		LARGE MODEL		GENERAL
	(Lower-End)	(Upper-End)	(Lower-End)	(Upper-End)	
<b>Foundation</b>					
Wood Deterioration	\$382,335	\$911,331	\$1,147,004	\$2,733,994	NA
Concrete Deterioration	\$26,300	\$86,500	\$110,460	\$363,300	NA
Uneven Settlement	\$66,000	NA	NA	\$1,650,000	NA
<b>Frame</b>					
Wood Deterioration	\$401,583	\$1,774,396	\$1,654,791	\$7,311,709	NA
Wracking	\$180,000	NA	NA	\$1,080,000	NA
Overloading	\$2,000	NA	NA	\$5,000	NA
Insect Activity	\$8,000	NA	NA	\$60,000	NA
<b>Roof</b>					
Failed Roofing	\$127,448	\$184,737	\$2,712,474	\$3,931,762	NA
Failed Flashing	\$79,081	\$112,853	\$169,925	\$242,494	NA
Water Management Problem	\$104,000	NA	NA	\$1,560,000	NA
Failed Framing	\$30,297	\$141,791	\$1,023,955	\$4,792,108	NA
Failed Ventilation Elements	\$32,000	NA	NA	\$80,000	NA
<b>Envelope</b>					
Paint Failure	\$263,118	\$318,840	\$1,617,176	\$1,959,659	NA
Siding Deterioration	\$87,063	\$222,298	\$537,901	\$1,373,425	NA
Missing Windows	NA	NA	NA	NA	\$161,509
Damaged Windows	NA	NA	NA	NA	\$221,785
Missing Doors [personnel]	NA	NA	NA	NA	\$94,825
Missing Doors [barn]	NA	NA	NA	NA	\$21,482
Damaged Doors [personnel]	NA	NA	NA	NA	\$152,079
Damaged Doors [barn]	NA	NA	NA	NA	\$15,754
<b>Interior</b>					
Flooring/Joist Deterioration	\$92,932	\$516,775	\$185,864	\$1,033,549	NA
<b>Average (arithmetic mean) per barn:</b>	<b>\$24,282</b>	<b>\$47,019</b>	<b>\$93,590</b>	<b>\$274,709</b>	<b>NA</b>
Stabilization costs:	\$474,635	\$997,831	\$1,257,464	\$4,747,294	NA
Preservation costs:	\$964,409	\$2,213,777	\$5,561,145	\$19,063,073	NA
Rehabilitation costs:	\$1,110,547	\$1,725,347	\$3,008,376	\$5,034,068	NA
Total (including windows & doors):	\$2,549,590	\$4,936,955	\$9,826,985	\$28,844,435	NA

The barns selected for the small and large models were surveyed as part of the field work and intended to represent the small and large ends of the barn scales observed in buildings surveyed. The small model is field site 42 and remains in continued agricultural use (hay storage) in Skagit County. The large model is field site 106 and stood near Oakville in Grays Harbor County. The large model stood vacant and Bellingham Bay Builders reclaimed the building in consultation with Washington state Department of Archaeology and Historic Preservation and the Washington state Department of Fish and Wildlife as part of this project to assess the overall reuse of old-growth barn components for repair of Heritage Barns. Due to the later discovery of a draft horse barn in Eastern Washington that actually exceeded the size of the Oakville barn we increased the overall large model dimensions to accommodate this discovery.

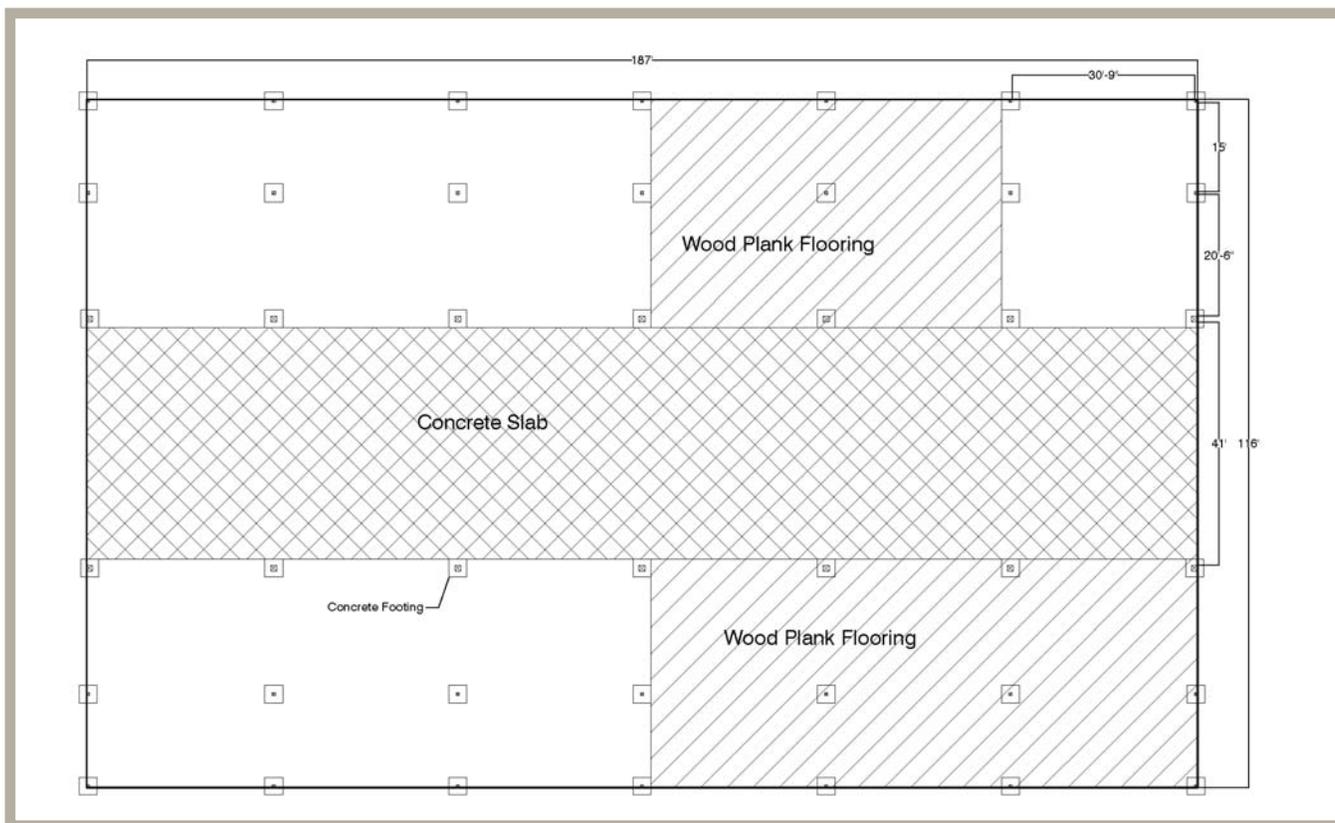
Artifacts prepared as-built drawings for the two model barns. Material dimension and quantity lists developed from these drawings provided the base data. (See tables 1.3.4.1 and 1.3.4.3.2) Bellingham Bay Builders then worked up what the cost of rebuilding each of the barns using in-kind old growth materials and contemporary lumber yard sourced materials. Relevant dimensions are provided on each plan and elevation. The axonometric model in Section 1.2.2 is based on the large model.

TABLE 1.3.4.3 COST MODELS

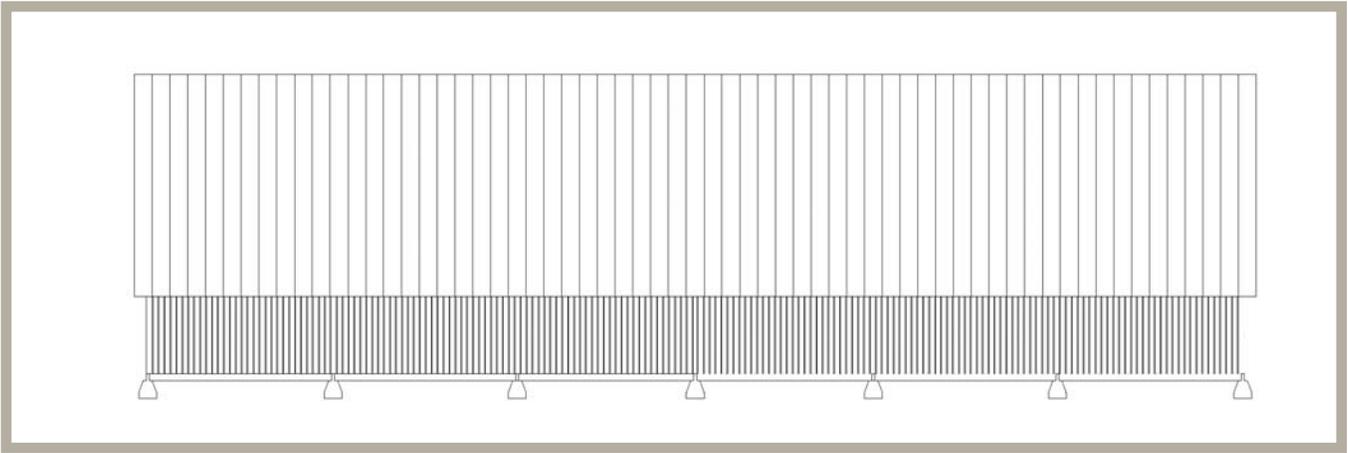
TASK	MATERIAL DESCRIPTION	SMALL MODEL	LARGE MODEL
<b>Rebuild Complete Barn</b>			
	In-kind using recycled, resawn Douglas Fir timbers and smaller dimensional material with a cedar shake roof, and rake finish concrete slab.	\$76,089	\$1,074,714
	Contemporary materials utilizing green Douglas Fir timbers, lumberyard sourced, with Western Red Cedar siding and concealed metal fastener metal roofing and rake finish concrete slab.	\$52,485	\$609,511
	Pole barn replacement with a concrete foundation, 6x6-inch pressure treated posts, engineered wood trusses, 2x6-inch purlins and wall braces, colored sheet metal wall and roof cladding.	\$13,125	\$325,350
<b>Frame (only)</b>			
	In-kind using recycled, resawn Douglas Fir timbers.	\$55,133	\$195,154
	Contemporary materials utilizing green Douglas Fir timbers, lumberyard sourced.	\$37,543	\$137,959
<b>Floors</b>			
	In-kind using recycled, resawn Douglas Fir timbers with 4x12-inch joists on top of 14x14-inch sills with 3x12-inch decking nailed to top of joists, all in rough condition with no finish.	NA	\$138,360
	Contemporary materials utilizing green Douglas Fir timbers, lumberyard sourced.	NA	\$58,582
<b>Siding</b>			
	In-kind utilizing recycled, rough-sawn Douglas Fir 1x12-inch siding.	\$8,967	\$75,761
	Contemporary utilizing Western Red Cedar 1x12-inch siding.	\$5,977	\$50,684
<b>Roof Structure</b>			
	In-kind using recycled, resawn, full-sized Douglas Fir timbers with 2x4-inch rafters nailed to 1x6-inch skip sheathing.	\$7,699	\$240,931
	Contemporary materials utilizing green Douglas Fir timbers, lumberyard sourced with 1.5x3.5-inch rafters nailed to 0.75x5.5-inch utility grade lumber skip sheathing. Skip sheathing nailed to rafter tops on or about 6-inch centers.	\$3,280	\$60,996



Large barn typical end wall elevation. Not shown are missing and deteriorated siding areas or additional windows and doors. All heights and dimensions are approximate based upon rough field estimates and digital photographs. The intent of this drawing is that of an illustrative planning tool. Source: Artifacts Consulting, Inc. 2008.



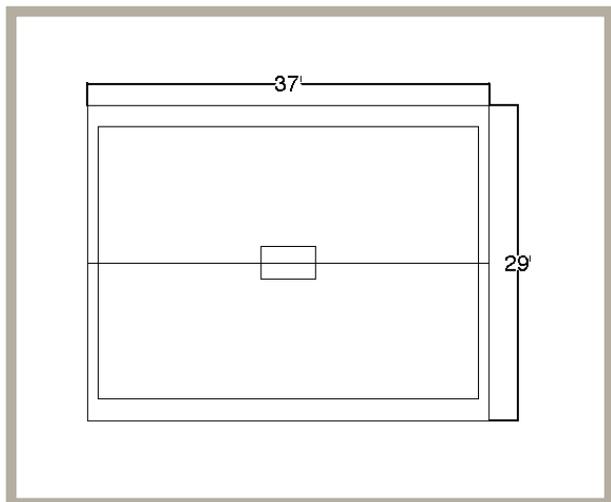
Large barn foundation plan. This basic foundation plan illustrates the footing layout which corresponds to the seven framing sections. All heights and dimensions are approximate based upon rough field estimates and digital photographs. The intent of this drawing is that of an illustrative planning tool. Source: Artifacts Consulting, Inc. 2008.



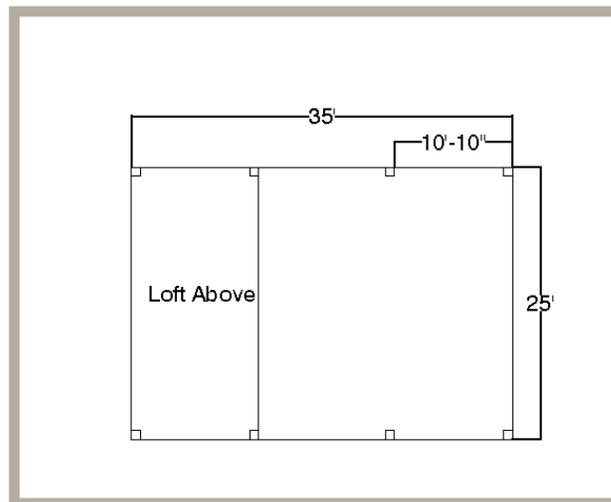
Large barn typical side wall elevation. Not shown are missing and deteriorated siding areas or windows and doors. All heights and dimensions are approximate based upon rough field estimates and digital photographs. The intent of this drawing is that of an illustrative planning tool. Source: Artifacts Consulting, Inc. 2008.



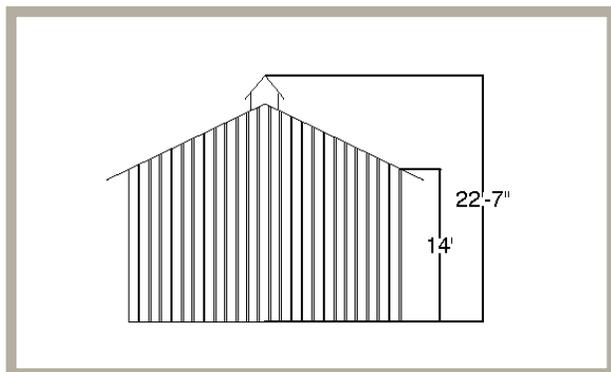
Large barn roof plan. This roof plan illustrates the general surface area. Not shown are missing roofing sections and cupolas. All heights and dimensions are approximate based upon rough field estimates and digital photographs. The intent of this drawing is that of an illustrative planning tool. Source: Artifacts Consulting, Inc. 2008.



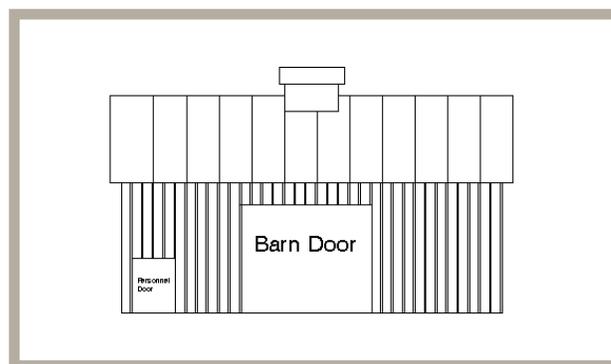
Small barn foundation plan. All heights and dimensions are approximate based upon rough field estimates and digital photographs. The intent of this drawing is that of an illustrative planning tool. Source: Artifacts Consulting, Inc. 2008.



Small barn floor plan. All heights and dimensions are approximate based upon rough field estimates and digital photographs. The intent of this drawing is that of an illustrative planning tool. Source: Artifacts Consulting, Inc. 2008.



Small barn typical end wall elevation. Not shown are missing and deteriorated siding areas or additional doors and windows. All heights and dimensions are approximate based upon rough field estimates and digital photographs. The intent of this drawing is that of an illustrative planning tool. Source: Artifacts Consulting, Inc. 2008.

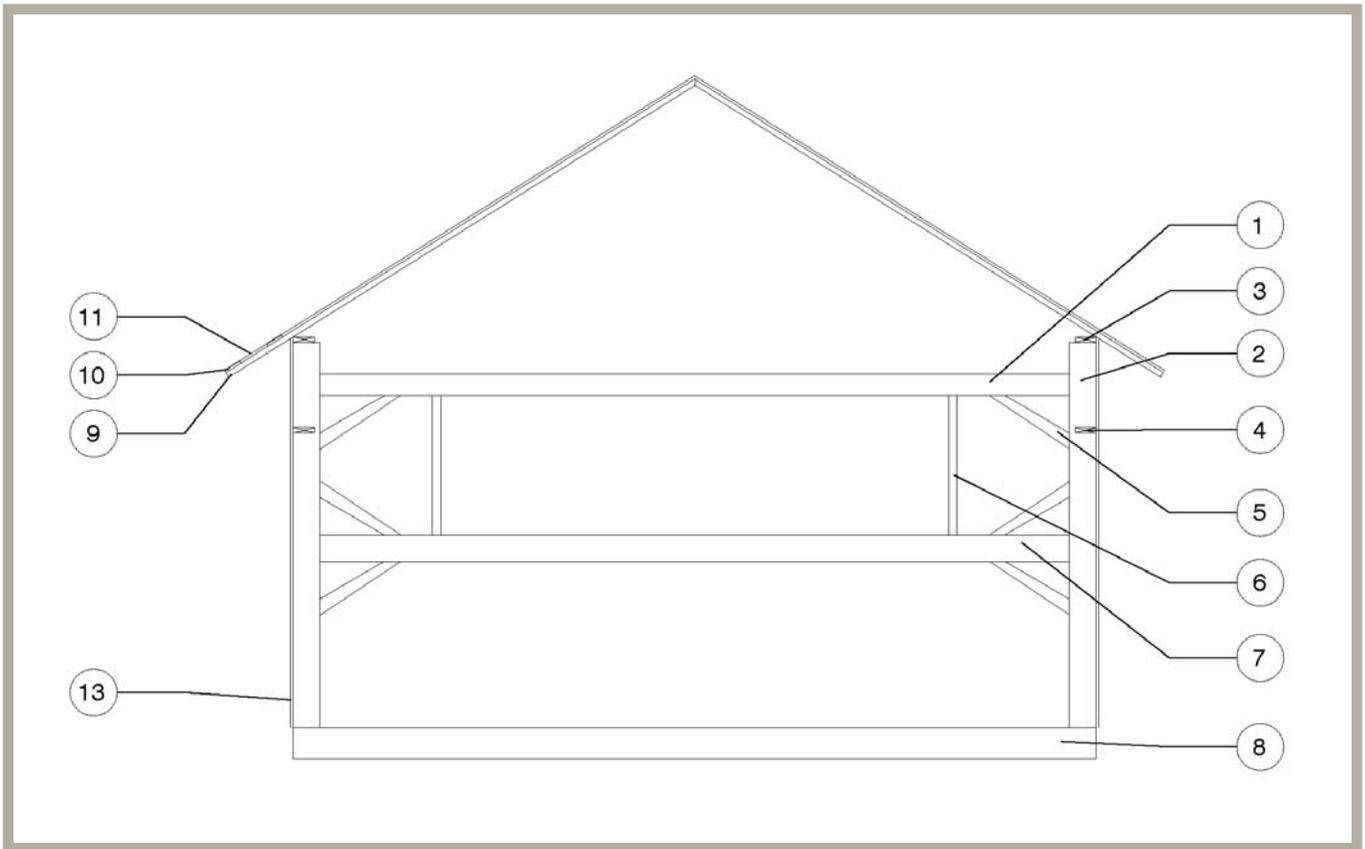


Small barn typical side wall elevation. Not shown are missing and deteriorated siding areas or additional windows and doors. All heights and dimensions are approximate based upon rough field estimates and digital photographs. The intent of this drawing is that of an illustrative planning tool. Source: Artifacts Consulting, Inc. 2008.

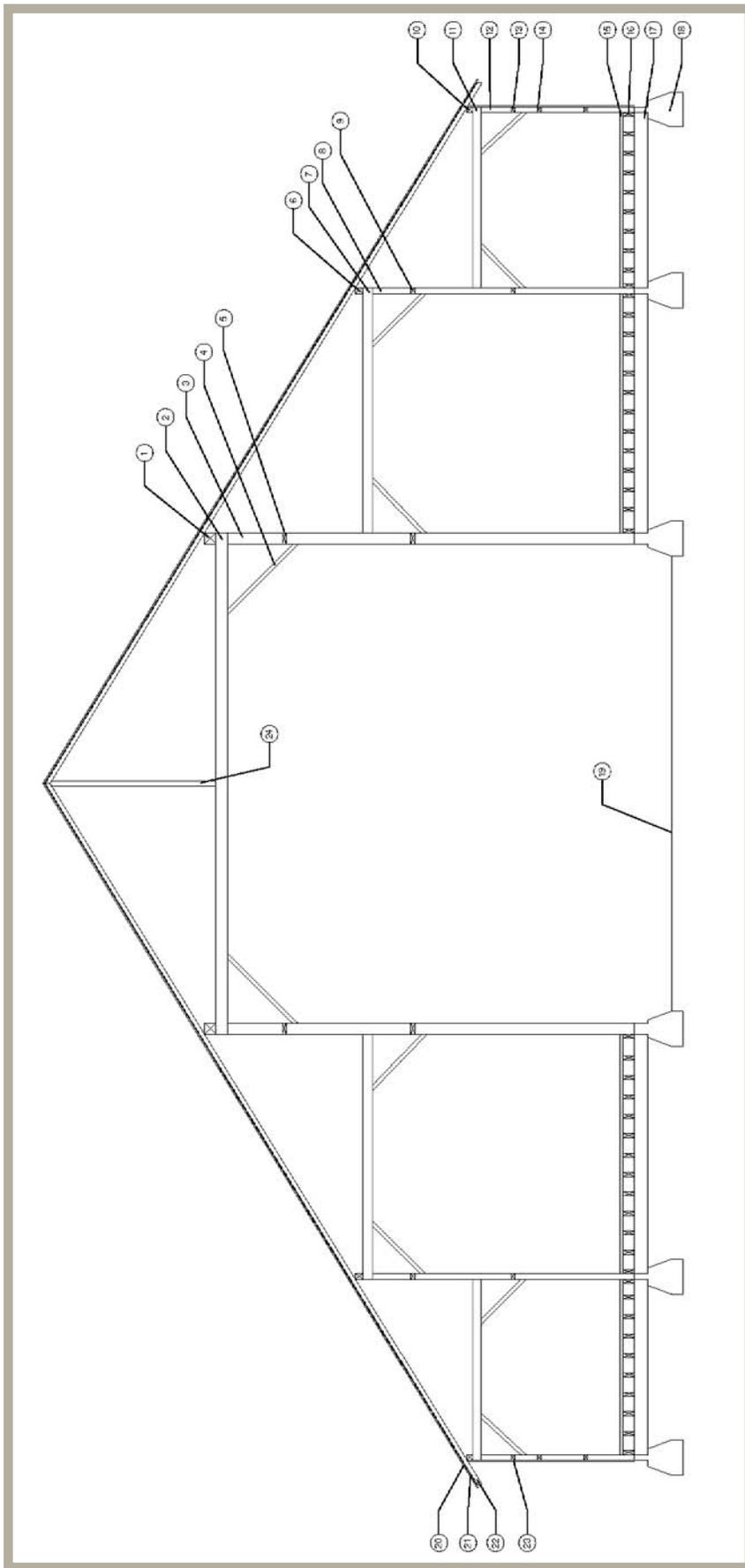
TABLE 1.3.4.3.1 SMALL MODEL MATERIAL LIST

ID	COMPONENT	WIDTH	HEIGHT	LENGTH	NUMBER	QUANTITY	UNITS
1	Cross Beam (upper)	8	8	280	4	498	FBM
2	Post	10	10	144	8	800	FBM
3	Purlin	8	2	420	2	93	FBM
4	Wall Brace	8	2	120	6	80	FBM
	Wall Brace	8	2	280	2	62	FBM
5	Knee Brace	4	6	36	24	144	FBM
6	Vertical Brace	3	3	52	8	26	FBM
7	Cross Beam (lower)	10	10	280	4	778	FBM
8	Sill (end wall)	12	12	300	4	1200	FBM
	Sill (side wall)	12	12	420	2	840	FBM
9	Rafter	2	4	204	36	408	FBM
10	Skip Sheathing	6	1	420	34	595	FBM
11	Corrugated Metal Roofing	408	NA	444	NA	1258	sq ft
13	Siding	12	1	168	NA	1490	sq ft
##	Concrete Footings	36	36	36	10	10	cubic yards

All dimensions for width, height, and length given in inches unless otherwise noted. The model barn did not have a concrete foundation or footings so these were estimated based upon the existing post and pier system. FBM is foot board measure.



Small barn section detail with material numbers keyed to Table 1.3.4.3.1. Source: Artifacts Consulting, Inc. 2008.



Small barn section detail with material numbers keyed to Table 1.3.4.3.2. Source: Artifacts Consulting, Inc. 2008.

TABLE 1.3.4.3.2 LARGE MODEL MATERIAL LIST

ID	COMPONENT	WIDTH	HEIGHT	LENGTH	NUMBER	QUANTITY	UNITS
1	Purlin (main)	12	12	2244	2	4488	FBM
2	Cross Beam (main)	12	12	516	7	3612	FBM
3	Post (main)	12	12	417	14	5838	FBM
4	Knee Brace (N/S)	4	12	72	70	1680	FBM
5	Knee Brace (E/W)	4	12	72	24	576	FBM
6	Purlin (secondary)	6	8	2244	2	1496	FBM
7	Cross Beam (secondary)	6	8	252	14	1176	FBM
8	Post (secondary)	6	8	268	14	1251	FBM
9	Knee Brace (E/W)	6	4	72	48	576	FBM
10	Purlin (terciary)	6	6	2244	2	1122	FBM
11	Cross Beam (terciary)	6	8	186	7	434	FBM
12	Post (terciary)	6	6	158	14	553	FBM
13	Knee Brace (E/W)	6	4	72	48	576	FBM
14	Wall Brace	6	4	369	34	2091	FBM
15	Plank Flooring	12	3	186	150	6975	FBM
16	Floor Joists	4	12	360	50	6000	FBM
17	Sills	14	14	186	45	11393	FBM
18	Concrete Footings	36	36	36	42	42	cubic yards
19	Concrete Slab	468	6	2244	1	135	cubic yards
20	Corrugated Metal Roofing	850	NA	2268	2	26774	sq ft
21	Skip Sheathing	6	1	2268	340	32130	FBM
22	Rafters	2	4	850	190	8972	FBM
23	Vertical Board Siding	12	1	185	NA	12618	FBM
24	Uprights	1	6	14	7	4	FBM

All dimensions for width, height, and length given in inches unless otherwise noted. The model barn did not have a concrete foundation or footings so these were estimated based upon the existing post and pier system. FBM is foot board measure. For efficiency purposes the corrugated metal roofing was measured per roof slope as a single unit rather than counting individual sheets. There is some overlap at the top and bottom and sides of sheets, but the number provides an overall representation. N/S and E/W indicate north/south and east/west axis, respectively.

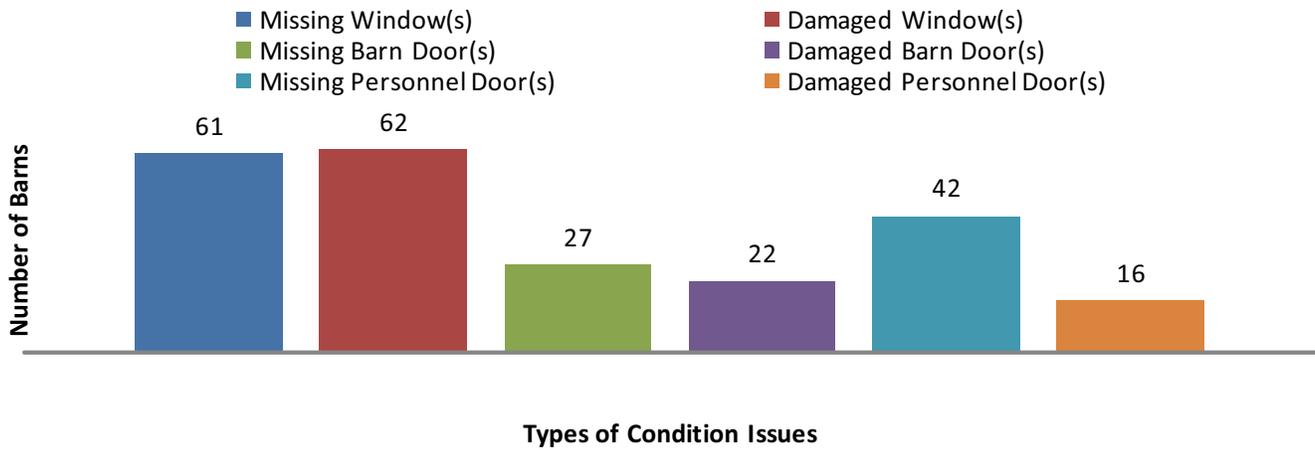
### 1.3.4.4 COST DATA DETAILS

The following tables present an overview of the data gathered and patterns that started to emerge in terms of prevailing levels of deterioration within barns. Used in conjunction with the cost data figures from the preceding section these tables help users to understand how the costs were dispersed within each category. Of particular importance is the trend that the severity of condition issues tended to be in the low to mid-range percentiles, rather than at the extremes. This demonstrates both a high need for repairs, but also that there is a corresponding high level of intact building elements and materials in the barns surveyed to warrant these repairs and not have efforts fall into the category of replication.

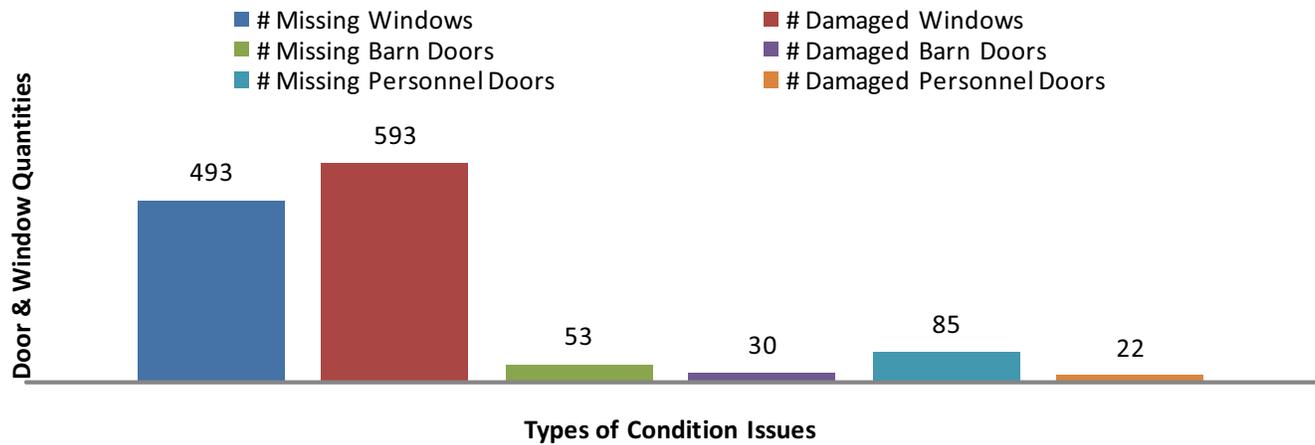
List of tables in this section:

- *1.3.4.4 Doors and Windows Frequency*
- *1.3.4.4.1 Door and Window Quantities*
- *1.3.4.4.2 Foundation Wood Deterioration*
- *1.3.4.4.3 Foundation Concrete Deterioration*
- *1.3.4.4.4 Frame Wood Deterioration*
- *1.3.4.4.5 Failed Roofing*
- *1.3.4.4.6 Failed Roof Framing*
- *1.3.4.4.7 Failed Flashing*
- *1.3.4.4.8 Paint Failure*
- *1.3.4.4.9 Flooring Deterioration*
- *1.3.4.4.10 Siding Deterioration*
- *1.3.4.4.11 Uneven Settlement*
- *1.3.4.4.12 Insect Activity*
- *1.3.4.4.13 Failed Ventilation Element(s)*
- *1.3.4.4.14 Wracking*
- *1.3.4.4.15 Overloading*
- *1.3.4.4.16 Water Management Problem*

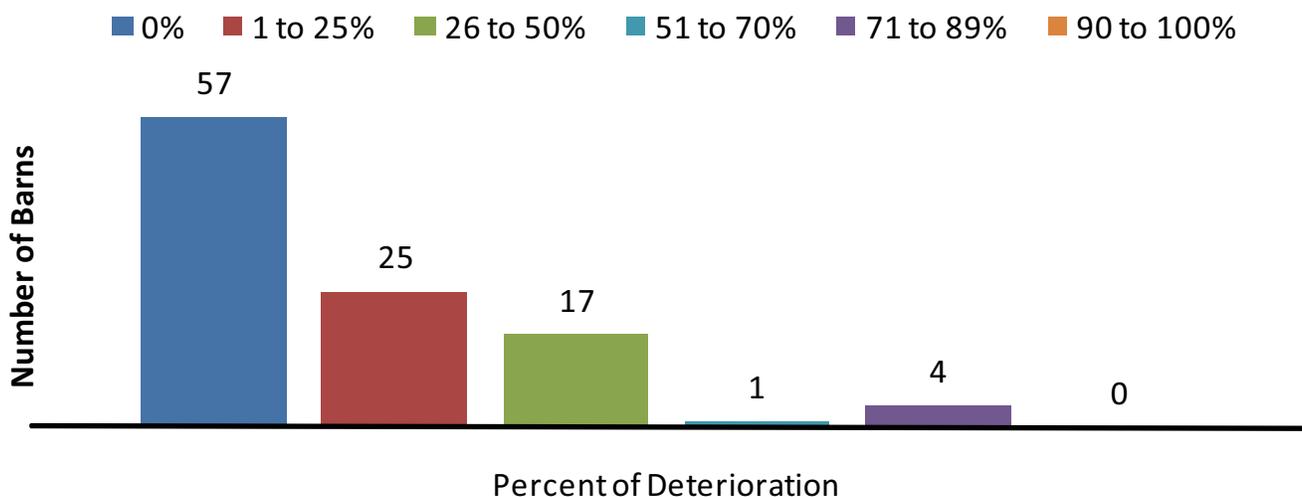
**Table 1.3.4.4 Doors and Windows Frequency**



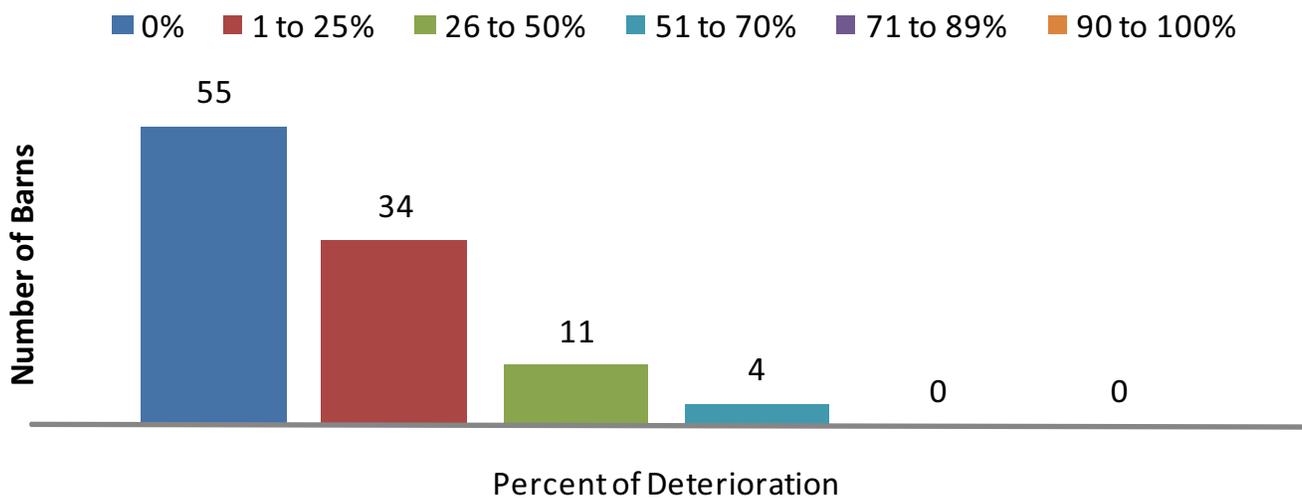
**Table 1.3.4.4.1 Door and Window Quantities**



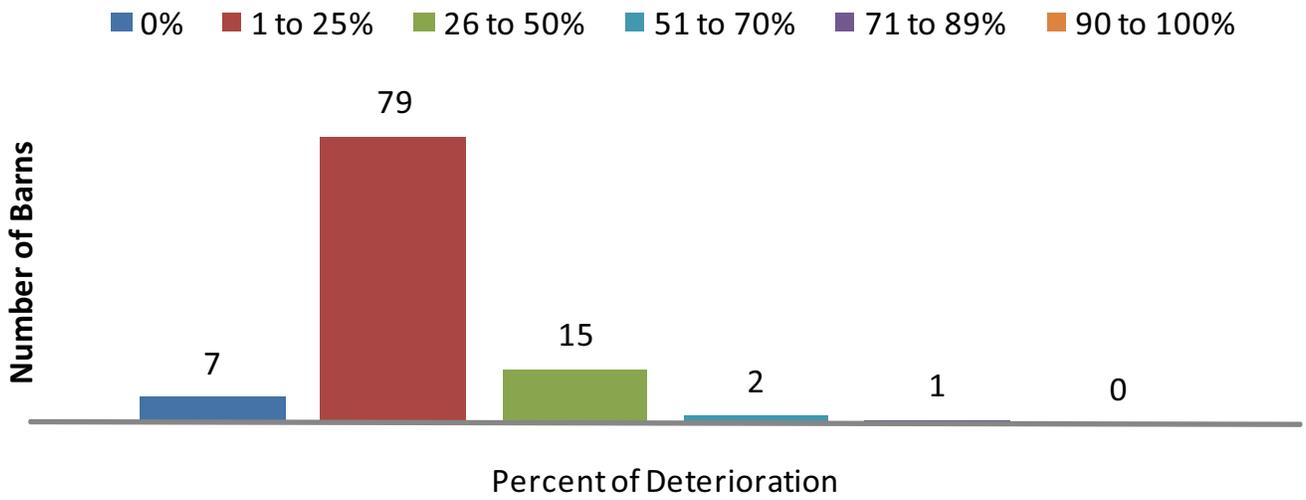
**Table 1.3.4.4.2 Foundation Wood Deterioration**



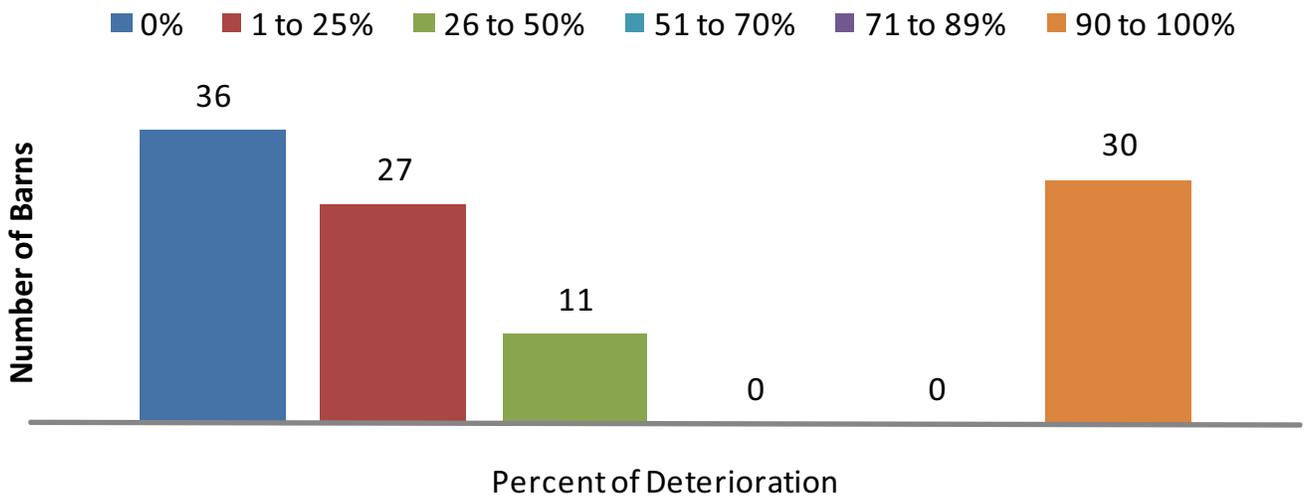
**Table 1.3.4.4.3 Foundation Concrete Deterioration**



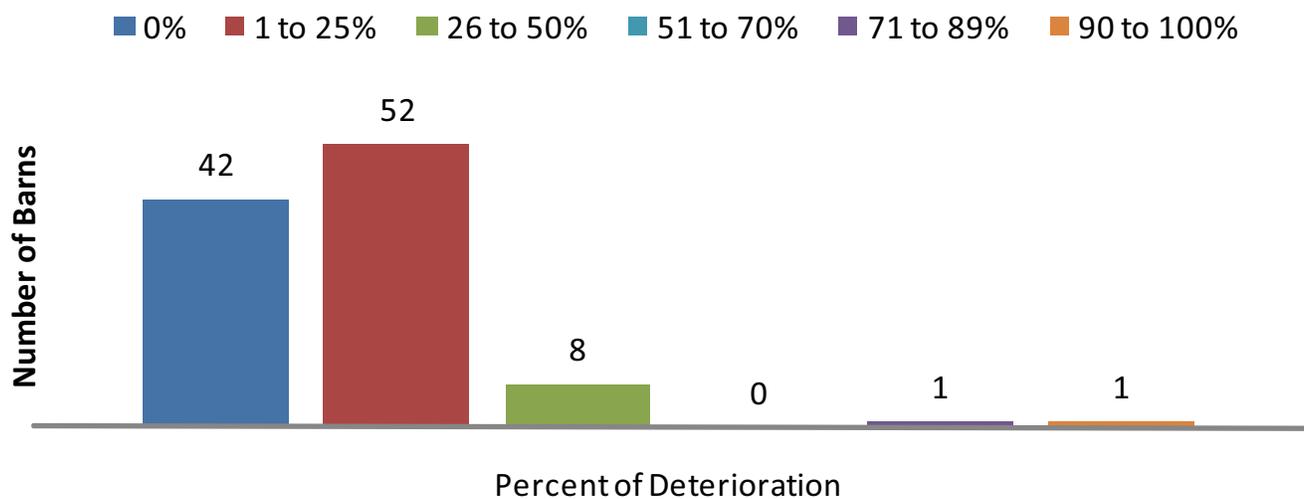
**Table 1.3.4.4.4 Frame Wood Deterioration**



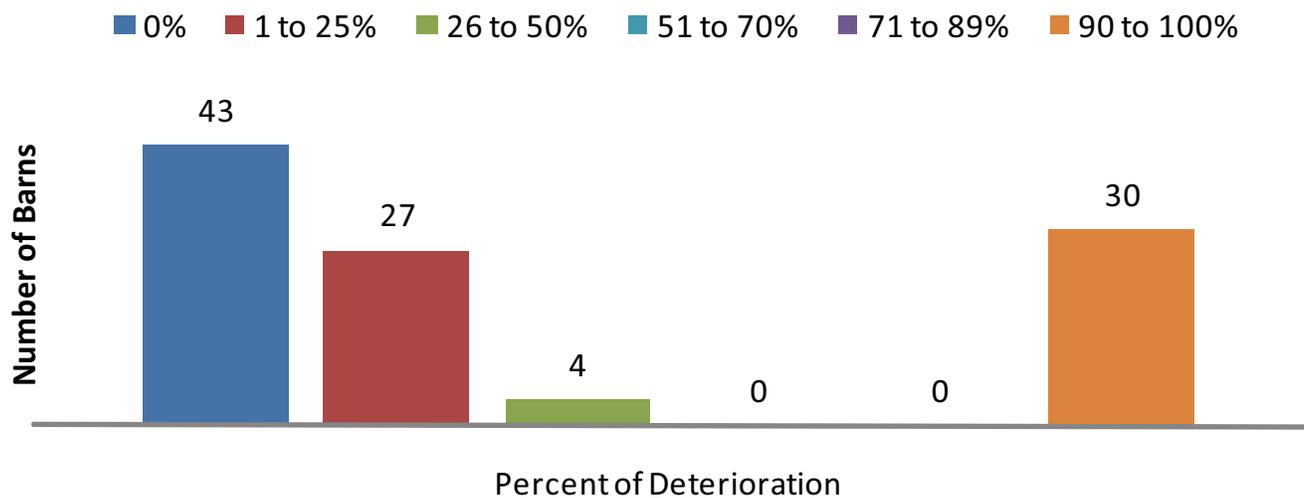
**Table 1.3.4.4.5 Failed Roofing**



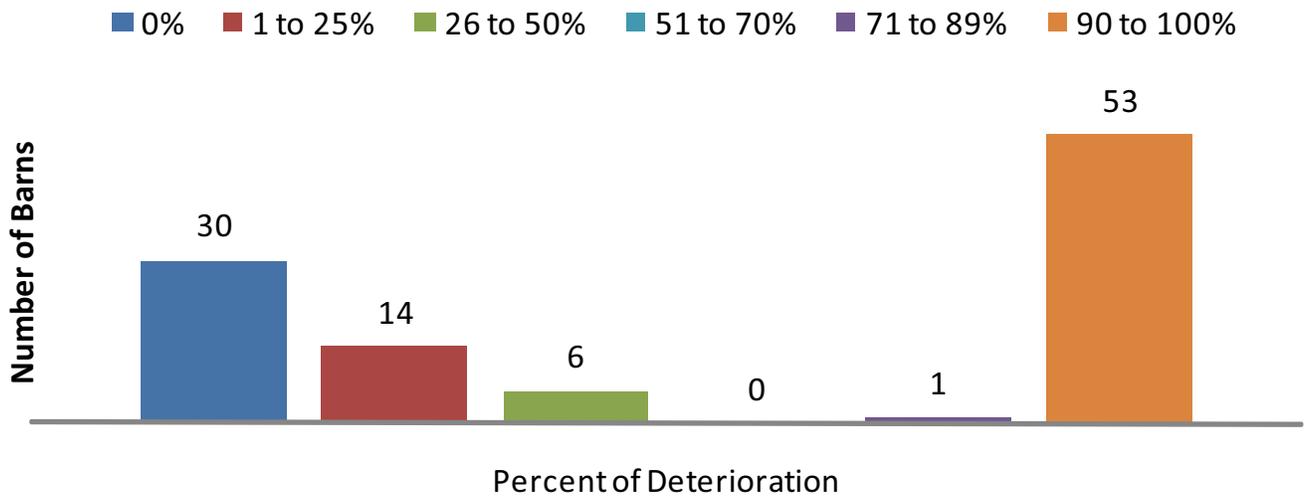
**Table 1.3.4.4.6 Failed Roof Framing**



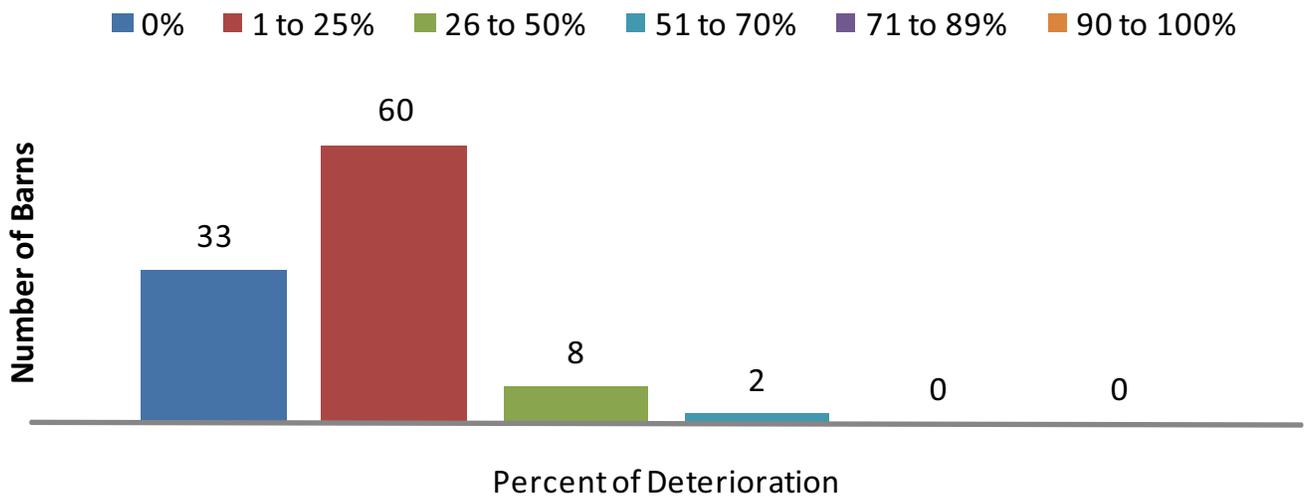
**Table 1.3.4.4.7 Failed Flashing**



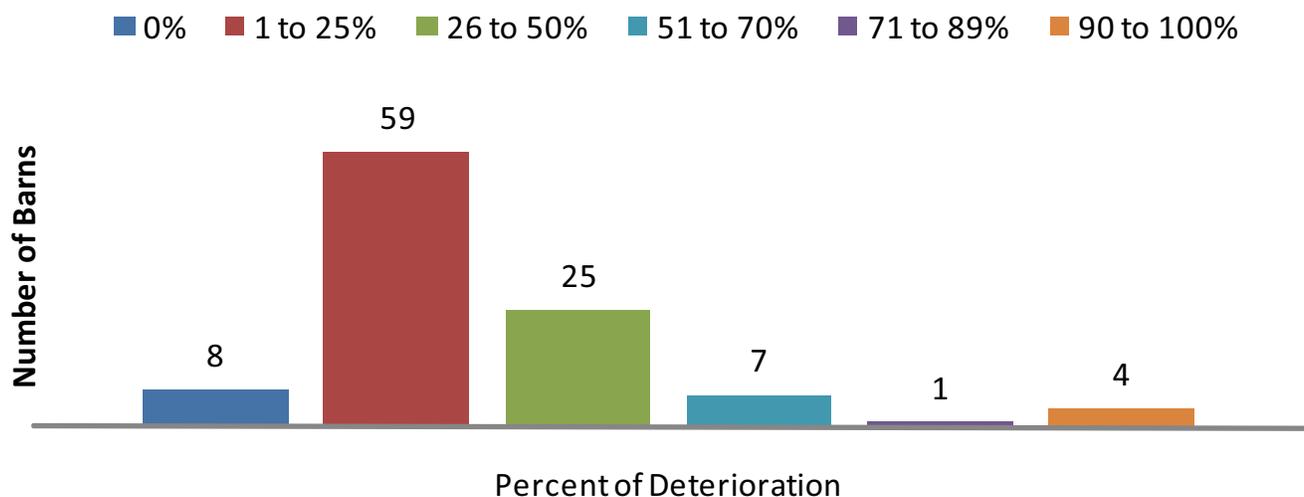
**Table 1.3.4.4.8 Paint Failure**



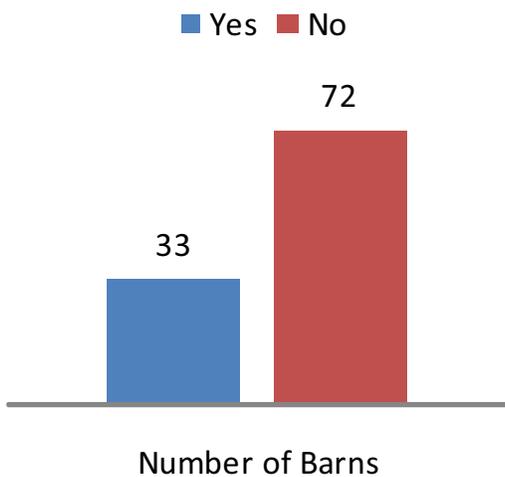
**Table 1.3.4.4.9 Flooring Deterioration**



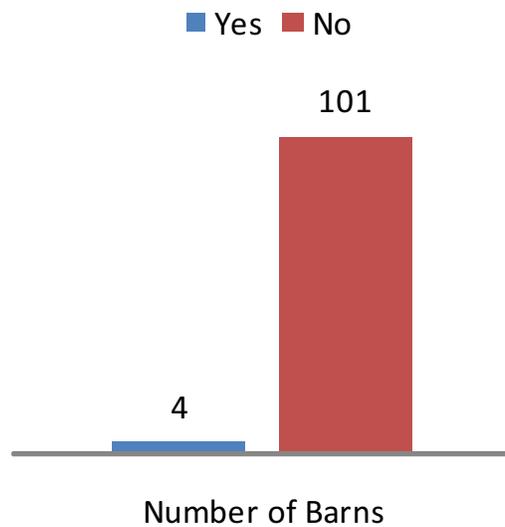
**Table 1.3.4.4.10 Siding Deterioration**



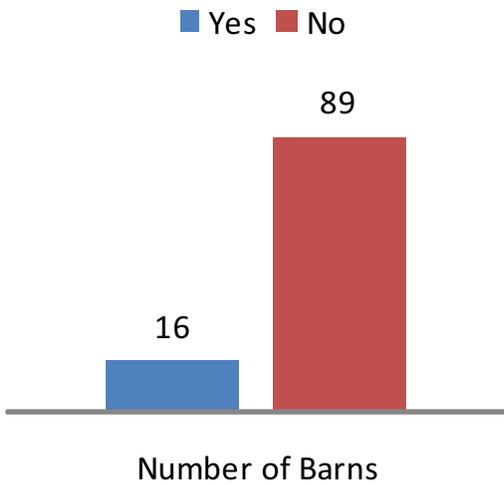
**Table 1.3.4.4.11 Uneven Settlement**



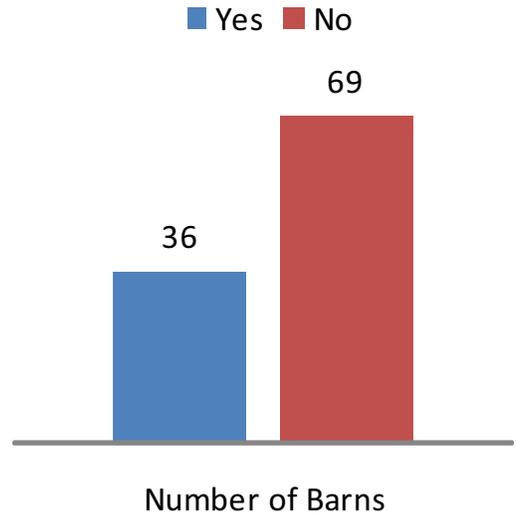
**Table 1.3.4.4.12 Insect Activity**



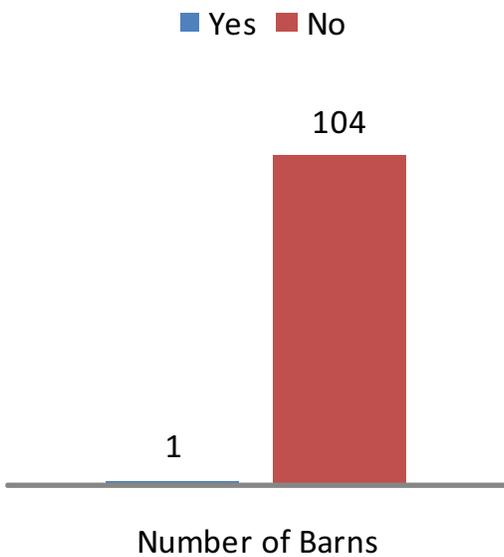
**Table 1.3.4.4.13 Failed Ventilation Element(s)**



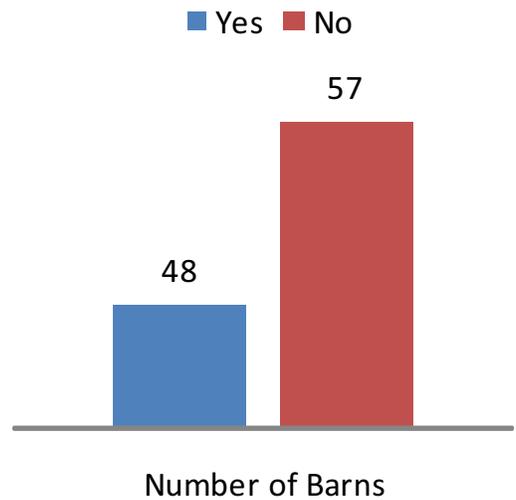
**Table 1.3.4.4.14 Wracking**



**Table 1.3.4.4.15 Overloading**



**Table 1.3.4.4.16 Water Management Problem**



## 1.4 RECLAMATION & MATERIAL REINVESTMENT

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Reclamation and material reinvestment efforts attempt to address the disappearance of historic barns due to the gradual erosion of historic materials and assemblies with contemporary materials. The goal is to redirect the flow of collapsed and demolished barn materials from landfills and non-agricultural uses to stockpiles available for Heritage Barn owners to use in repairing their barns.

Currently, the vast majority of barn recycling consists of simply knocking down the frame, pulling out intact sections of the large timbers, and sending the rest to the landfill. The timbers are then sold for high-end residential and commercial construction use. The reclamation of material from the Oakville Barn as part of this project, for example, presents an alternative method that is environmentally responsible and actively facilitates the stabilization and preservation of Heritage Barns. Barn deconstruction is technically demanding and requires skilled professionals to undertake the process safely.

The issue of gradual replacement of original barn materials with contemporary elements tends to start with exterior components, such as window and siding replacements, as old-growth materials are exchanged for vinyl and Hardy Board. This erosion proceeds inward to the frame as heavy timbers are replaced with steel and pressure treated lumber. This is a complex issue because, at the onset of these changes, the overall value of keeping the barn standing and in use is undeniable. Over time, however, the accrual of these changes can unexpectedly leave a well-intentioned barn owner with a different barn than when s/he started. Often this transition erodes the basic integrity of the barn until it lacks sufficient materials to be classified as historic.

The method for avoiding this erosion is the use of in-kind materials when undertaking repairs. In the case of barns, this often involves expensive old growth lumber that far exceeds in cost what the farmer can expect to gain in return through the continued operation of the barn. Reclamation of old growth timber from failed barns for the reuse in Heritage Barns presents a promising method for historical preservation..

The Oakville Barn reclamation model sought to salvage closer to 100 percent of the barn in order to provide siding, flooring, joists, rafters, and skip sheathing, as well as heavy timbers for reuse in other Heritage Barns. The following steps that were taken during this process outline the general process of carefully pulling apart the barn to maximize the amount of reuseable materials:

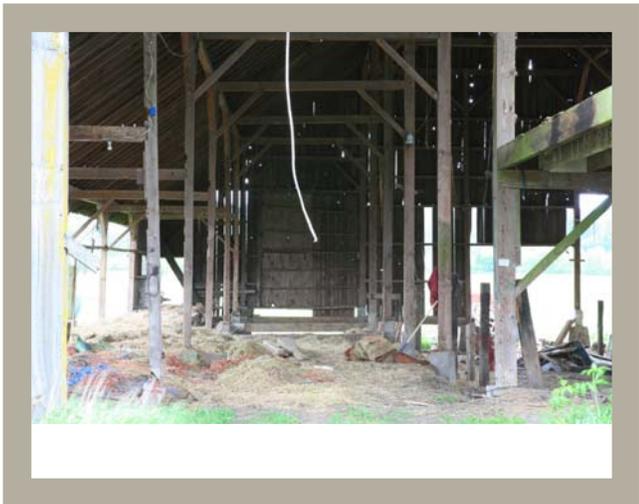
- *Pulled off the building's exterior siding, plank floor and floor joists, and interior partitions;*
- *Cut roofing into sections and allowed the sections to drop down;*
- *Installed temporary diagonal bracing on the main heavy timber bents;*
- *Dismantled the heavy timber side bay assemblies;*
- *Detached and hoisted out the individual heavy timber bents, setting each down flat on the ground for disassembly;*
- *Pulled apart the roofing sections lying on the ground in order to separate usable rafters and skip sheathing from roofing;*
- *Broke apart and ground up residual roofing materials and transferred to recycling containers for separation of asphalt, wood, concrete, and metal components;*
- *Pulled nails from all reusable wood lengths, then sorted and stacked the materials for future use in Heritage Barns; and,*
- *Cleaned the site of any residual debris and nails, with the salvaged materials stacked within the footprint of the former barn.*

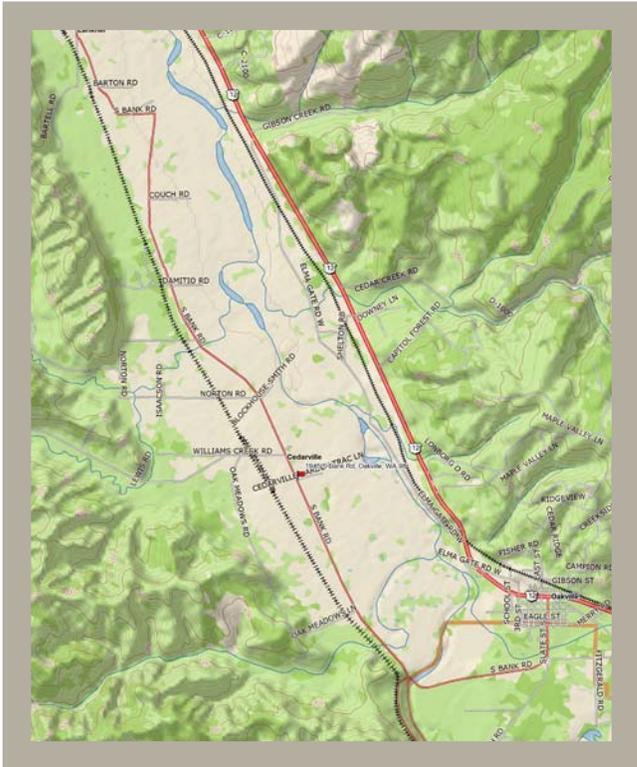
Overall the project reclaimed a significant amount of high-grade old-growth lumber and made important advances towards offsetting the carbon impact of the deconstruction efforts through reuse and recycling of the barn materials. The following fuel consumption report provides an inventory of the project's direct carbon

impact (some items, such as the carbon release from the processing of ground wood at the electrical generation facility, are not included). The report from Lemay totals the material quantities recycled versus land-filled. The Grays Harbor Paper Company's electrical generation facility received all ground wood from the project for electricity generation to supply their facility, as well as put back on the grid any unused power. The material list inventories the wood salvaged from the barn.

The images on the following pages illustrate the existing conditions of the barn prior to deconstruction and images taken during the process.







Map showing the Oakville Barn location (red flag) near Oakville.  
Source: Artifacts Consulting, Inc. 2008.



Bellingham Bay Builders  
 2215 Midway Lane #205  
 Bellingham, WA 98226  
 360.733.7500  
 Timber Takeoff Sheet

<b>Project:</b>	Oakville Barn Salvage Timber list							
<b>Date:</b>	Tuesday, June 03, 2008							
<b>Revised:</b>								
<b>Specs:</b>								
			Nominal					
Location	ID	Type	W	D	L	Qty	Nominal BF	NOTES
wall purlins			3	6	8	10	120	
wall purlins			3	6	10	12	180	
wall purlins			3	6	20	8	240	
Misc.			4	4	8	1	11	
Misc.			4	4	16	4	85	
concrete forms			2	10	16	40	1067	
fencing			4	12	22	8	704	
planks and joists			3	12	22	48	3168	
planks and joists			3	12	18	72	3888	
planks and joists			3	12	18	72	3888	
planks and joists			3	12	8	5	120	
planks and joists			3	12	10	2	60	
special			2	18	14	1	42	
creosote ties			7	9	9	5	236	
braces			4	7	5	138	1610	
beams and plates			6	8	12	33	1584	
beams and plates			6	8	18	35	2520	
posts			8	8	14	14	1045	
beams and posts			10	10	32	24	6400	
floor beams			12	12	11	10	1320	
floor beams			12	12	15	10	1800	
rafters			2	6	18	216	3888	
rafters			2	6	18	90	1620	
beams and plates			6	6	12	15	540	
floor joists			4	10	14	21	980	
siding			1	12	12	48	576	
siding			1	12	12	162	1944	
<b>Totals</b>						1,104	(39,636)	

1 1 6/3/2008 10:23 PM Oakville timlist.xls Takeoff


OWNER: Dept. of Fish and Wildlife  
2009 South Park Rd.  
Oakville, WA

PROJECT: Oakville Dam Removal  
report for  
Artifacts Consulting, Inc.

BELLINGHAM BAY BUILDERS  
A Workers' Cooperative  
2215 Midway Lane #205 Bellingham, WA 98226 360.733.7500

# List of Drawings

- 1 Cover Sheet
- 2 Site Plan
- 3 Site Plan Detail
- 4 Site Plan Detail
- 5 Site Plan Detail
- 6 Site Plan Detail

# Raising Notes:

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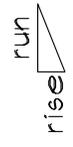
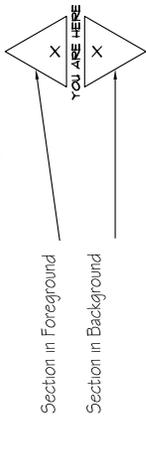
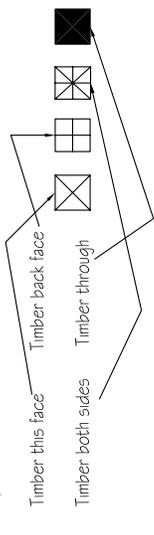
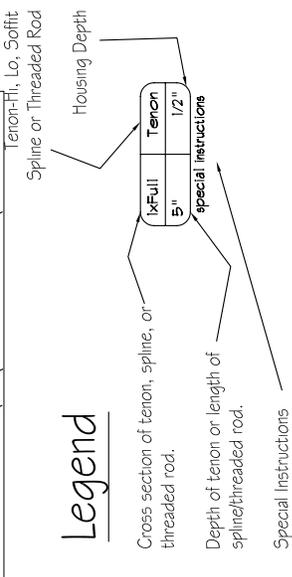
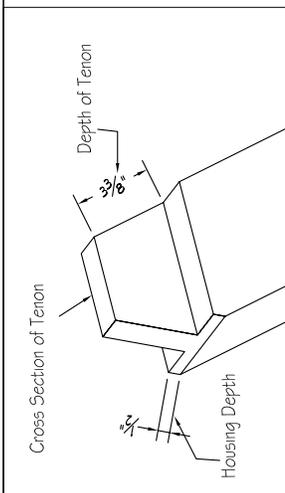
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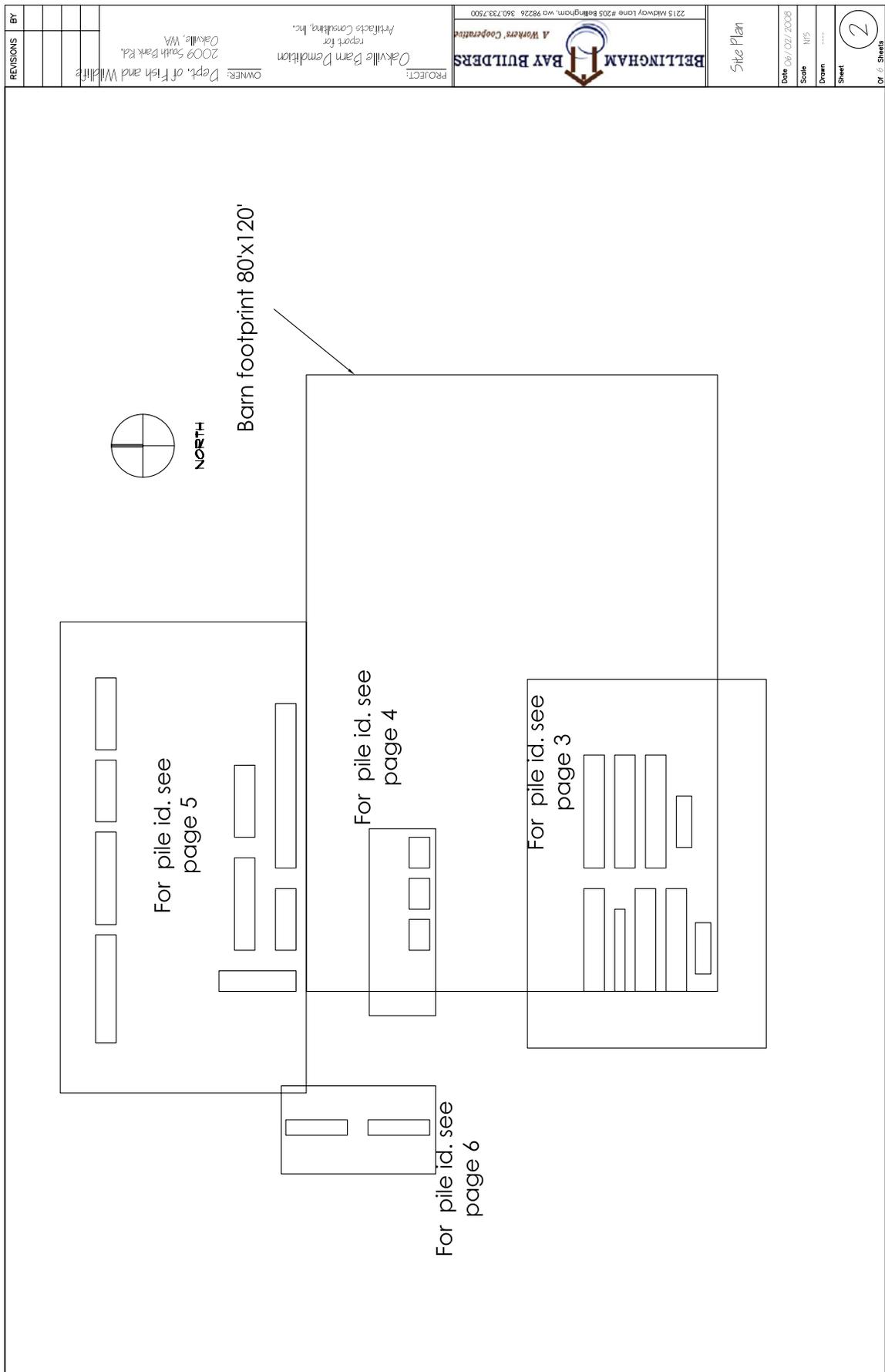
# General Notes:

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REVISIONS BY


OWNER: Dept. of Fish and Wildlife  
2009 South Bak Rd.  
Oakville, WA

PROJECT: Oakville Dam Renovation  
report for  
Architects Consulting, Inc.

BELLINGHAM BAY BUILDERS  
A Workers' Cooperative  
2215 Midway Lane #205 Bellingham, WA 98226 360.733.7500



Site Plan  
Detail

Date 06/02/2008

Scale 1/4"=1'

Drawn

Sheet

Of 6 Sheets  
3

One special board on top of  
this pile 2" x 18" x 13'6".  
Approx. board footage 42

3" x 12" 21'6"/48  
Approx. board footage 3168  
**Primo Planks and Joists**

3" x 12" avg. 18'/72  
Approx. board footage 3888  
**Planks and Joists**

3" x 12" avg. 18'/72  
Approx. board footage 3888  
**Planks and Joists**

3" x 12" 8'/5, 10'/2  
Approx. board footage 180  
**Planks and Joists**

3" x 5 1/2" 8'/10, 10'/12, 20'/8  
Approx. board footage 540  
**Wall Purlins**

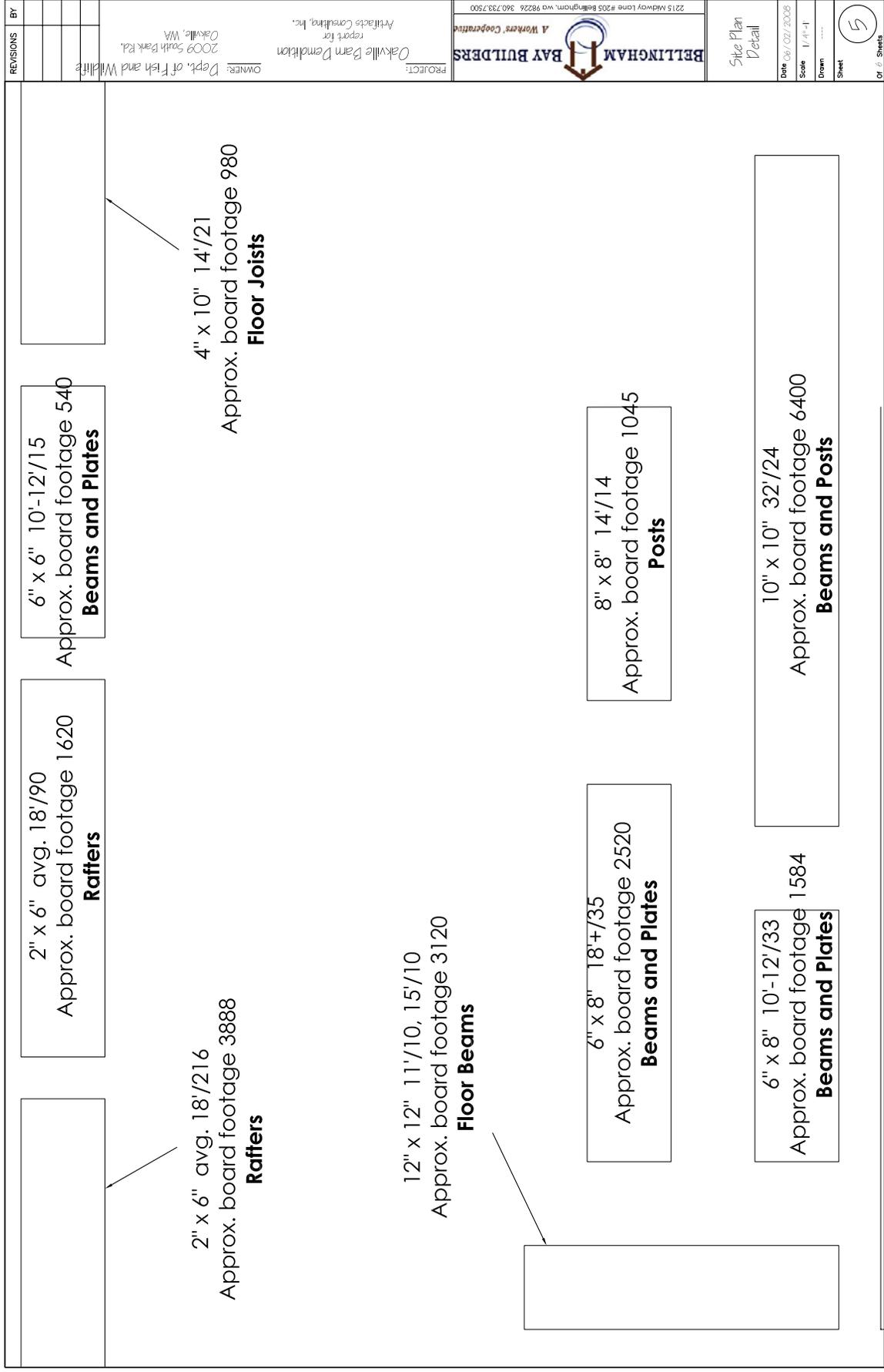
4" x 4" 8'/1, 16'/4  
Approx. board footage 96

1 1/2" to 2" x 5 1/2" to 12" avg. 16'/40  
Approx. board footage 1067  
**Concrete Forms**

4" x 12" 21'6"/8  
Approx. board footage 704  
**Misc. Fencing**

7" x 9" 8'6"/5  
Approx. board footage 236  
**Creosote Ties**

<p>REVISIONS BY</p>	<p>OWNER: Dept. of Fish and Wildlife 2009 South Bak Rd. Oakville, WA</p> <p>PROJECT: Oakville Dam Renovation report for Artifacts Consulting, Inc.</p>	<p>2215 Midway Lane #205 Bellingham, WA 98226 360.733.7900</p> <p><b>BELLINGHAM</b> A Workers' Cooperative <b>BAY BUILDERS</b></p>	<p>Date: 06/02/2008 Scale: 1/4"=1' Drawn: Sheet: Of 45 Sheets</p>			
<p>2 1/2" to 4" x 5 3/4" to 8" avg. 5'/138 Approx. board footage 1610 <b>Braces</b></p> <table style="margin-left: auto; margin-right: auto; border: none;"> <tr> <td style="border: 1px solid black; padding: 10px; text-align: center;">54</td> <td style="border: 1px solid black; padding: 10px; text-align: center;">36</td> <td style="border: 1px solid black; padding: 10px; text-align: center;">48</td> </tr> </table>				54	36	48
54	36	48				



REVISIONS	BY

OWNER: Dept. of Fish and Wildlife  
2009 South Park Rd.  
Okanwa, WA

PROJECT: Okanwa Dam Remediation  
report for  
Architects Consulting, Inc.

**BELLINGHAM**  
A Workers' Cooperative  
2215 Midway Lane #205 Bellingham, WA 98226 360.733.7500

Site Plan  
Detail

Date: 06/02/2008  
Scale: 1/4"=1'-0"  
Drawn: [blank]  
Sheet: [blank]

Of 5 Sheets

5

<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 50%;">REVISIONS</th> <th style="width: 50%;">BY</th> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> </table>	REVISIONS	BY							<div style="text-align: center;">  <p><b>BELLINGHAM BAY BUILDERS</b> A Workers' Cooperative 2215 Midway Lane #205 Bellingham, WA 98226 360.733.7900</p> </div> <p>PROJECT: Oakville Barn Renovation report for Artifacts Consulting, Inc. OWNER: Dept. of Fish and Wildlife 2009 South Bak Rd. Oakville, WA</p> <p>DATE: 06/02/2008 SCALE: 1/4"=1' DRAWN: [blank] SHEET: <span style="border: 1px solid black; border-radius: 50%; padding: 2px 5px;">6</span> OF 65 SHEETS</p> <p style="text-align: right;">Site Plan Detail</p>
REVISIONS	BY								
	<div style="display: flex; justify-content: space-around; margin-top: 100px;"> <div style="text-align: center;"> <p>1" x 12" random length 4'-12" Approx. board footage 576 <b>Siding</b></p> </div> <div style="text-align: center;"> <p>1" x 12" random length 4'-12" Approx. board footage 1944 <b>Siding</b></p> </div> </div>								



# HAROLD LeMAY ENTERPRISES, INC.

4201 OLYMPIC HIGHWAY EAST  
 ABERDEEN, WASHINGTON 98520  
 Phone 360-533-1251

JUNE 6, 2008

**BELLINGHAM BAY BUILDERS**  
 2215 MIDWAY LANE # 205  
 BELLINGHAM, WA 98226  
 (360) 733-7500

**JOB: 2009 SOUTH BANK RD**  
**OAKVILLE, WA**

LeMay	40 Yard Drop Box	Time	Rate HR	Tons	disp/recy	ton chg	total chg
✓ 1-40 yd	Delivery	5/21/2008	1.5	75.00			\$ 112.50
✓ 2-40 yd	Delivery	5/21/2008	1.5	85.00			\$ 127.50

LeMay  
Clean Wood Recycled

✓ 4041 2-40 yd	1-C-wood	5/26/2008	3.25	42.50	3.85	35	134.75	\$ 272.88
4041 2-40 yd	Haul	5/29/2008	3.5	85.00	6.58	35	230.30	\$ 527.80
4041 2-40 YD	Haul	5/29/2008	3.25	85.00	4.03	35	141.05	\$ 417.30
4041 2-40 yd	Haul	5/30/2008	3.25	85.00	6.31	35	220.85	\$ 497.10
4041 2-40 yd	Haul	5/30/2008	3.5	85.00	6.44	35	225.40	\$ 42.50
				Tons Recycled	27.21	Cost	\$ 1,757.58	

LeMay  
Metal Recycled

✓ 4041 1-40 yd	1-Metal	5/26/2008	3.25	42.50	4.63	-150	-894.50	\$ (556.38)
4041 1-40 yd	1-Metal	6/3/2008	3.25	42.50	2.64	-150	-396.00	\$ (257.88)
				Tons Recycled	7.27	Cost	\$ (814.25)	

Recovery I  
Mix Recycle

4059 2-40 yd	Co-Recy	5/29/2008	7.6	85.00	11.98		0.00	\$ 846.00
4039 1-40 yd	Co-Recy	5/29/2008	8.55	75.00	4.83		0.00	\$ 641.25
4059 2-40 yd	Co-Recy	5/30/2008	6.75	85.00	21.46		0.00	\$ 573.75
				Tons Recycled	38.27	Cost	\$ 1,861.00	

NOTE: Mixed Recycle dose not include Recovery One processing charges which would be another \$2143.12 in additional to LeMay charges.

LeMay  
Waste

4041 1-40 yd	Waste	6/3/2008	3.25	42.5	5.83	83	483.89	\$ 622.02
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NOTE: 50% of waste was recycled

**TOTAL BALANCE DUE \$ 3,044.33**

Total tons recycled: 75.67 Total tons waste: 2.91

**DIVISION OF HAROLD LeMAY ENTERPRISES, INC.**

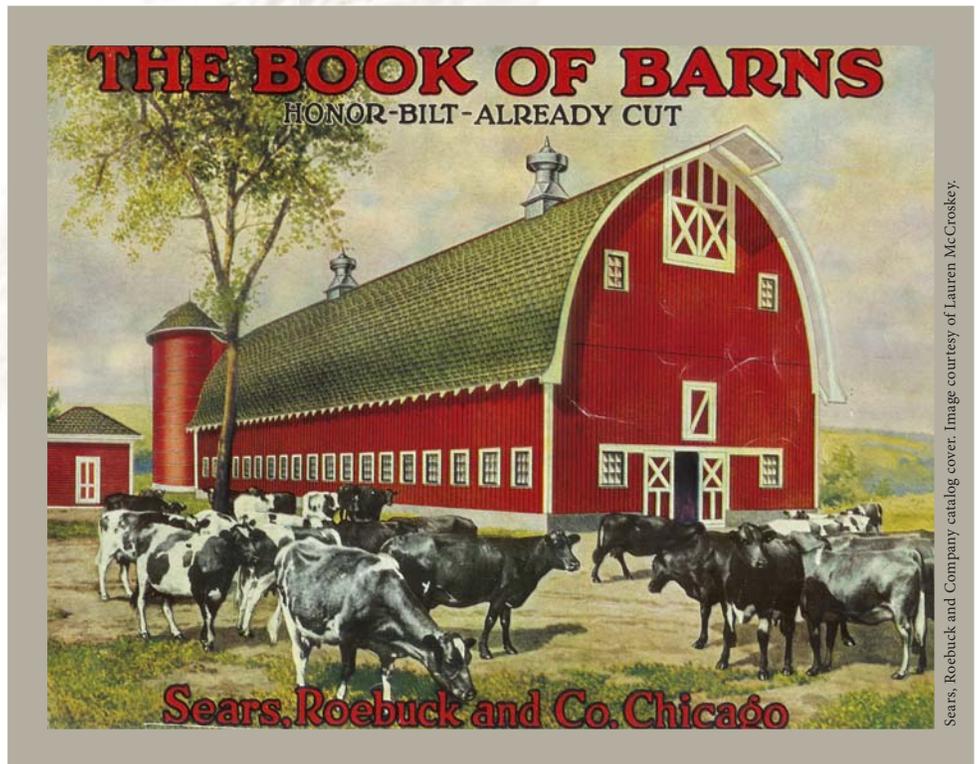
Member of:  
 National Solid Waste Management Association  
 Washington Refuse and Recycling Association

## Oakville Barn Demolition Fuel Consumption Report

Date	Activity	Vendor	Miles/ Gallon	Miles	Gallons	Fuel type	Notes
05/21/08	Debris hauler	Lemay	5	137.52	27.51	Diesel	Two trucks to Aberdeen
05/21/08	Equip. Delivery	Hertz	9	64.3	7.15	Diesel	One truck from Tumwater
05/22/08	Equip. Delivery	Hertz	9	64.3	7.15	Diesel	One truck from Tumwater
05/23/08	BBB commuter miles	BBB employee	12	422.75	35.23	Gas	Commute down and back plus misc. job-related trips
05/23/08	BBB commuter miles	BBB employee	12	459	38.25	Gas	Commute down and back plus misc. job-related trips
05/26/08	Debris hauler	Lemay	5	68.76	13.76	Diesel	One truck to Aberdeen
05/28/08	Crane	Chris Johnson Crane Service			22	Diesel	Delivery and working fuel
05/29/08	Debris hauler	Lemay	5	137.52	27.51	Diesel	Two trucks to Aberdeen
05/29/08	Debris hauler	Lemay	5	252.48	50.5	Diesel	Two trucks to Recovery 1
05/29/08	Equip. Delivery	Hertz	9	64.3	7.15	Diesel	One truck from Tumwater
05/30/08	Debris hauler	Lemay	5	137.52	27.51	Diesel	Two trucks to Aberdeen
05/30/08	Debris hauler	Lemay	5	126.24	25.25	Diesel	One truck to Recovery 1
05/30/08	Equip. Fuel	Highline Excavation and Tree Service			55	Diesel	Fuel for excavator to load recycle containers
05/30/08	Equip. Delivery	Highline Excavation and Tree Service			10.2	Diesel	One truck from Olympia
06/01/08	BBB commuter miles	BBB employee	12	405	33.75	Gas	Commute down and back plus misc. job-related trips
06/01/08	BBB commuter miles	BBB employee	15	405	27	Gas	Commute down and back plus misc. job-related trips
06/02/08	BBB commuter miles	BBB employee	12	405	33.75	Gas	Commute down and back plus misc. job-related trips
06/03/08	Debris hauler	Lemay	5	68.76	13.76	Diesel	One truck to Aberdeen
06/03/08	Equip. Delivery	Hertz	9	64.3	7.15	Diesel	One truck from Tumwater
06/03/08	Equip. Fuel	BBB/Hertz			84.7	Diesel	Fuel consumed by equip.
06/03/08	Equip. Fuel	BBB			2.25	2-cycle gas	Fuel for saws & weed eaters



## 2.0 TAX INCENTIVES & POLICY

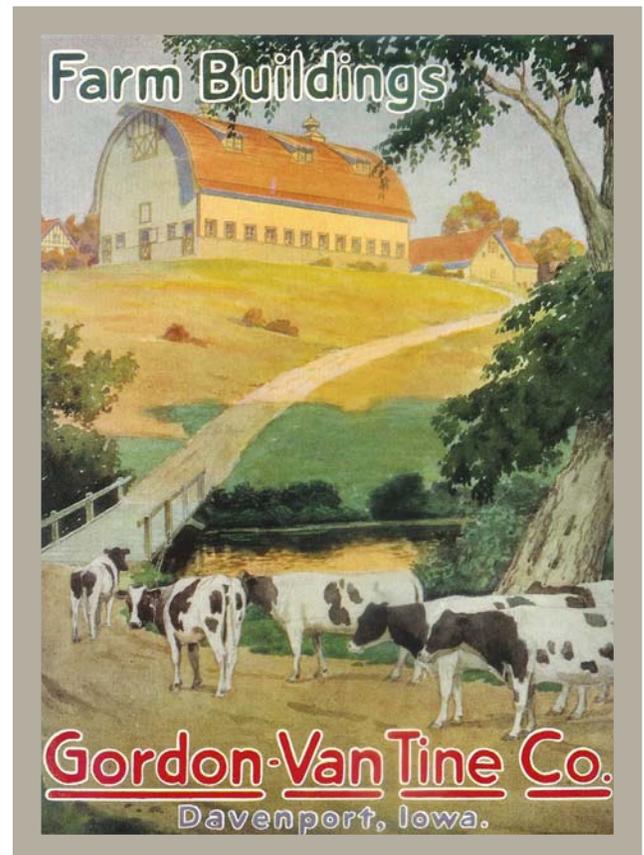


This chapter covers the key topics of the effects of tax incentives and policy on barn preservation. The first two sections, [2.1 State Policy Overview](#) and [2.2 Agricultural Land Use Trends in Washington](#) provide a summary of existing policies including Governor Gregoire’s Executive Order 05-05 and Working Lands Initiative, as well as land use trends affecting Heritage Barns. The third section, [2.3 Taxation](#), addresses open space and real estate excise taxes as well as special valuation for historic properties and a summary of other tax incentives employed across the nation to assist in barn preservation. The effects of building codes and permits on barn preservation are dealt with in [section 2.4](#). Land use planning topics addressing the role of the Growth Management Act relative to agricultural lands, agricultural zoning and historic preservation are covered in [section 2.5 Land Use Planning](#). Refer to chapter 5.0, [section 5.2](#) for ideas generated from the above research and analysis for further evaluation.

The goal of the Heritage Barn Program is to help farmers maintain an essential element of the working farm. It alone cannot rehabilitate or protect all historic barns, however. Owners of historic working farms must take advantage of a multitude of tools in order to continue farming and giving purposeful life to the barns so treasured by the public. The following sections discuss some of the issues in land use, tax policy, and building codes that can affect working historic barns and farmsteads. It is not intended to be a comprehensive compilation of issues or legislation. It is presented from an historic preservation perspective, with an eye toward protecting not only the iconic barns of Washington, but also the cultural landscapes and communities created by the network of historic family farms.

Throughout this chapter there is a close intertwining of terminology relative to preservation. [Heritage Barn](#) refers only to those barns formally listed to the Heritage Barn register. [Historic](#) refers inclusively to all barns, buildings and structures over fifty-years of age, regardless of whether they are listed as Heritage Barns or to national, state or local registers of historic properties.

[Certified historic](#) denotes a formal determination of a building’s (over fifty-years of age) architectural and historical significance resulting in its determination of eligibility or listing to a national, state or local register of historic places.



Catalog cover. Image courtesy of Lauren McCroskey.

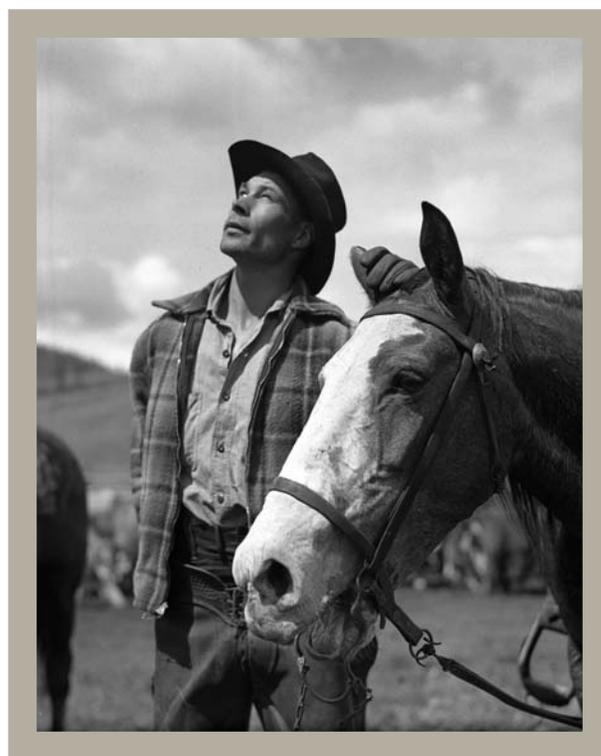
## 2.1 STATE POLICY OVERVIEW

Farming is an integral part of our heritage and our identity as a people. American democracy is rooted in an agricultural past and founded on the principle that all people can own property and earn a living from the land. The ongoing relationship with the agricultural landscape connects Americans to history and to the natural world. Our land is our legacy, both as we look back to the past and as we consider what we have of value to pass on to future generations.

The connection of Americans to historic farms is deep and emotional, and historic barns seem to be the focus of that attachment. The man-made, hand-hewn, simple grace of an old barn strikes chords of nostalgia even in urban dwellers that are inexplicable but tangible. Although the old barn with the faded advertisement enjoys great sentimental popularity, the truth is that they are not stage props. They are testaments to the trends in agricultural markets and policy. Barns are working buildings and continue to have useful purposes. They are, in fact, best protected by remaining working buildings. Working buildings require working farms—generally small and family-owned. Working farms depend upon a web of national and state policy that is immensely complicated. State farm policy concentrates on preserving farmland, but opportunities may exist to more closely link farmland and farmstead protection.

It is beyond the scope of this report to comment on the breadth of state farm policy. Instead, this section highlights some key state and local policies that apply to historic preservation planning and incentives to protecting barns, as well as the most significant planning, land-use, and tax policies supporting working farms.

Discussing specific state programs and policies related to historic barns and farms begins with understanding the broader policy backdrop around historic preservation and farm policy, including the [Heritage Barn program](#), [Executive Order 05-05](#), and [Governor Gregoire's Working Land Initiative](#).



1930s photograph of a rancher and horse. Photograph courtesy of the Washington State Archives.

## 2.1.1 HERITAGE BARN PROGRAM

In 2007, SHB 2115 – the State Heritage Barn Preservation Program, passed the state legislature and was signed by Governor Gregoire. Housed within the Department of Archaeology and Historic Preservation (DAHP) with administrative support from the Washington Trust for Historic Preservation (WTHP), the bill acknowledges the practical and emotional significance of historic barns as,

*. . . essential symbols of Washington's heritage representing a pioneering spirit of industriousness . . . historic barns serve as highly visible icons for local residents and visitors alike. The legislature acknowledges that factors such as changes in the agricultural economy and farming technologies, prohibitive rehabilitation costs, development pressures, and regulations restricting new uses collectively work to endanger historic barns statewide and contribute to their falling into decay or being demolished altogether.*

As historic barns represent irreplaceable resources, and recognizing that barn preservation will work to retain these structures as functional and economically viable elements of working lands, the purpose of this act is to create a system acknowledging Heritage Barns statewide that provides emergency assistance to Heritage Barn owners through matching grants, assesses the need for long-term barn preservation, and considers additional incentives and regulatory revisions that work toward the preservation of Heritage Barns as integral components of Washington's historic landscapes.

The bill received extraordinary support across party and geographic lines. With the bill DAHP received a \$500,000 appropriation to fund the grants and assessment element. As of this report, response to the program has been overwhelming with over 300 applications for Heritage Barn status (of which 292 have been listed to date) and over \$2 million in grant requests received from 105 applicants. Eighteen barns were selected to receive \$460,000 in grants in 2008.



1930s photograph of an irrigation canal used to supply water for irrigation in central Washington. Photograph courtesy of the Department of Interior.

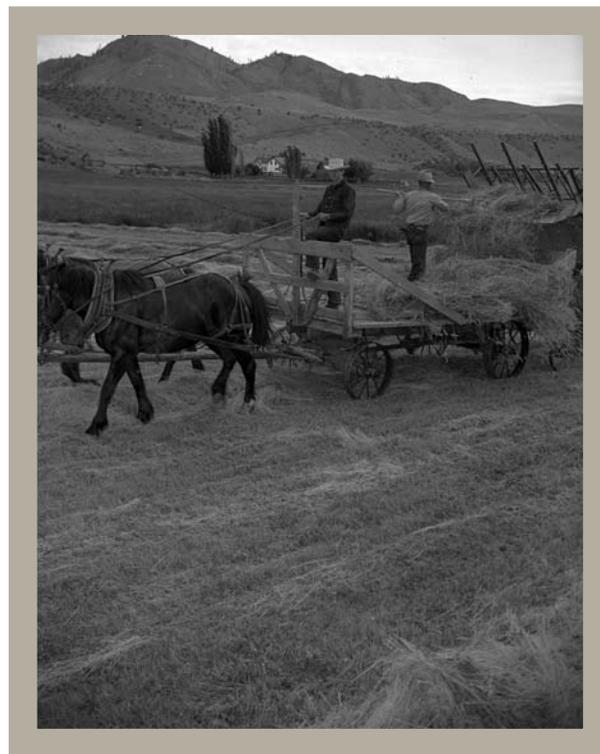
## 2.1.2 EXECUTIVE ORDER 05-05

Signed in 2005 by Governor Gregoire, Executive Order 05-05 on Archaeological and Cultural Resources requires all state funded capital projects and acquisitions for the purpose of capital projects be reviewed by the Department of Archaeology and Historic Preservation (DAHP) and affected tribes for their impact on cultural resources. In the event resources are endangered by capital projects, negotiations must ensue to develop a plan to avoid, minimize, or mitigate damage. State-funded grants programs must also comply with this order, thus grants awarded through the Heritage Barn program must be reviewed for compliance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties* (1995). Programs providing conservation easements, that do not affect structures under fifty years old, or do not include any ground-disturbing activity, are exempt from review.

The order affects historic barns in a number of ways. First, it creates a standard for state-owned property. Several state agencies, including the Department of Fish and Wildlife, Parks and Recreation Commission, the Department of Social and Health Services, and the Department of Natural Resources own property containing historic buildings and barns. Until 2005, agencies were free to alter or dispose of these historic buildings without any challenge. Executive Order (EO) 05-05 now requires agencies to look at alternatives that will protect historic buildings, and to devise mitigation strategies if substantial changes or demolition occurs.

Reclamation of barn materials for reuse by barn owners to repair their Heritage Barns may be an acceptable mitigation strategy. The Department of Fish and Wildlife worked with DAHP to reclaim a sizable, partially failed barn near Oakville. Barn elements, including massive old growth Douglas fir beams, siding, and cedar planking could be made available to Heritage Barn owners undertaking rehabilitation work. This reclamation and reuse strategy preserves materials for in-kind replacement, is likely no more expensive than demolition, and fulfills the intent behind EO 05-05. The concern is that reclamation not be used simply as a way to remove unwanted buildings, but as a means of last resort for barns that cannot be saved.

A second way EO 05-05 affects Heritage Barns is through the review of state-sponsored grant awards. All awards that do not also contain federal funds are subject to review. The programs of the state's Recreation and Conservation Office (RCO), which assists farmland and open space preservation by funding conservation easements, may be the most directly affected. Projects sponsored by local governments and land trusts must avoid, protect, or mitigate adverse affects on historic properties, but the order may have an unintended negative effect on historic barns and farmsteads. Project sponsors may deliberately avoid including historic buildings in a project scope to avoid review, thereby leaving them unprotected while the farmland surrounding is under easement. Policies already in place at RCO seem to support this approach. The result is that there is little incentive for local governments and land trusts to actively accept and plan for historic properties; and, more often than not they will be carved out of easement deals.



1930s photograph of a rancher loading a hay wagon. Photograph courtesy of the Washington State Archives.

## 2.1.3 WORKING LANDS INITIATIVE

Farming and forest management are vital to our economy and to the continued well-being of many communities. The Working Lands Initiative presents a comprehensive approach to protecting working farms, ranches, and forestlands. The proposed \$81.1 million project focuses on a core group of issues:

- *Creating an Office of Working Farms and Forests;*
- *Investing in technical assistance to landowners, particularly focused on developing farm and forest land management plans;*
- *Supporting innovation in university, extension, and private sector research;*
- *Researching alternative fuels and energy efficiency;*
- *Promoting Washington products worldwide; and,*
- *Meeting pressing water needs.*

While the initiative does not specifically address protecting farmland or farmsteads, it does create a foundation for discussing the pressures on modern farming, including dealing with encroaching growth and development.

Several parts of the initiative have been implemented, including creating the Office of Farmland Protection. The office is housed in the state's Conservation Commission, which supports the state's conservation districts. Legislation creating the office calls for an eighteen-member task force to provide statewide policy guidance on farmland protection and the ongoing viability of farming. The task force may address the following issues:

- *Developing credible, broadly supported recommendations for the use of agricultural easements;*
- *Identifying the factors needing correction to reverse declines in agriculture;*
- *Developing programs and incentives to help keep farms viable and retain land in agriculture;*
- *Developing a process for grants to local communities for farmland protection;*
- *Providing technical assistance to local communities in developing their own farmland programs;*
- *Analysis for implementation of a farm transition program; and,*
- *Serving as a clearinghouse for incentive programs to help make them more accessible to landowners and to the implementation community.*

The task force has held only a few meetings to date, and program staff anticipates that recommendations will not be forthcoming until 2009. The Heritage Barns program and the results of this report could inform or even be adopted within that scheduled report to the Governor and legislature.

Another part of the Working Lands Initiative, which has been implemented, is the Farmland Preservation Program. In 2005, the Washington Wildlife and Recreation Program (WWRP), housed in the state's Recreation and Conservation Office and funded by state general obligation bonds, expanded its mission to include farmland protection. The program funds straight land acquisitions and/or projects that combine land acquisition with restoration or enhancement of ecological functions.

Cities and counties are eligible applicants, and funding may be used to purchase development rights and conservation easements. The program distributed \$9 million in matching funds in the 2005-2007 biennium. Most of those projects involved partnerships with land trusts. This is a large potential source of funding for easements that might include historic barns. While farm structures are eligible projects, other issues as mentioned above may preclude this as an option.

## 2.2 AGRICULTURAL LAND USE TRENDS

Washington is a farming state. In 2006, about 15.1 million acres, or 35 percent of the state’s total land area, was in agricultural production. Washington produces more than 250 different crops, making it the second most diversified agricultural industry in the country. It’s the nation’s third largest exporter of food and agricultural products and the largest producer of apples, pears, sweet cherries, and other fruits. Farmers earned \$5.6 billion from sales of their crops in 2002, and the food and agriculture industry generates more than \$28 billion each year—about 13 percent of the gross state product. This section explores the General Trends, Impact of Agricultural Trends on historic barns, and Promising Trends for Agriculture in Washington (see also [sections 2.4.2, 2.5, and 3.2](#)).

**TABLE 2.2.1 WASHINGTON AGRICULTURAL STATISTICS**  
**FARM NUMBERS**

YEAR	NUMBER OF FARMS	LAND IN FARMS (ACRES)	AVERAGE FARM SIZE
1910	57,500	Not available	Not available
1920	66,300	13,245,000	200
1937	84,800	14,680,000	174
1950	73,600	18,000,000	245
1960	56,000	18,000,000	321
1970	41,000	16,600,000	405
1980	38,000	16,300,000	429
1990	37,000	16,000,000	432
1996	39,000	15,700,000	403
2000	37,000	15,550,000	420
2006	34,000	15,100,000	444

## 2.2.1 GENERAL TRENDS

Washington’s 34,000 farms do more than contribute to the state’s economy. The working landscape of orchards, pasture and crop land preserves open space and contributes to the natural beauty of the state. Farming is part of our history and culture, and nothing symbolizes that better than historic farm structures, including the most iconic of them all—the barn. Washington, like most of America, has a love affair with its barns. They dot our scenic byways and anchor us to the practices of working the land. But, just as farming as a way of life is disappearing, our historic barns are vanishing—victims of deferred maintenance and changing farming practices, as well as the overall decline in number of farms and acreage in production.

Just fifty years ago there were twice as many farms in Washington as there are today. In fact, the state reached its peak number of farms, 84,800, in 1937. Since then, the number of farms in the state has steadily declined, and by 2006 only 40 percent of those farms remained (see [Table 2.2.1](#)).

Barns are part of a whole farming landscape that is rapidly changing. Since 1950, Washington has lost 17 percent of its farmland. About 23,000 acres of farmland disappear from agriculture each year—an area about the size of Lake Washington. No one knows how many barns and historic farmsteads have also disappeared, since no comprehensive inventory of these structures exists. In addition to the overall loss of farmland, farm consolidation has created fewer and larger farms, with the average farm size doubling since the 1930s (see [Table 2.2.1.1](#)).

These trends are not unique to Washington. National statistics show that the number of farms in the United States peaked with 6.8 million farms in 1935, and dropped by 30 percent to 2 million by 2006. Total acreage in farms nationwide has dropped by 22 percent since 1950, while the average farm size has more than doubled.

Within these statistics are some interesting trends. The greatest loss in farms both nationwide and in Washington state has been in the mid-sized farms, with the number of small and large farms actually increasing. For example, in the 1970s, farms of less than 50 acres made up about 40 percent of total farms in Washington. Census figures from 2002 show that the percentage has increased to 57 percent. Likewise, in terms of value of farm sales, farms with less than \$2,500 in annual sales—so-called “hobby farms”—have shown a dramatic increase, comprising 42 percent of total farms in Washington, up from 25 percent in 1978. The largest farms, those with more than \$100,000 in annual sales, have increased by 3 percent since 1978, while those in the middle have decreased (see [Table 2.2.1.2](#)).

SIZE IN ACRES	2002	1997	1992*	1987*	1978*	1974*
1-49	20,669	14,922	15,523	17,402	14,057	12,069
50-179	7,223	6,250	6,536	7,216	7,433	7,626
180-499	3,439	3,138	3,336	3,796	4,136	4,287
500-999	1,635	1,618	1,699	1,855	2,000	2,051
1,000-1,999	1,364	1,502	1,461	1,626	1,673	1,720
2,000+	1,609	1,660	1,709	1,664	1,688	1,657
Total number of farms	35,939	40,113	36,963	38,000	36,000	37,962

The type of farming has also changed considerably, from an emphasis on dairy and livestock to fruit orchards and crops, such as wheat and other grains. While milk and other dairy products still rank in the top five agricultural products in the state, the number of dairy operations has declined significantly, from as many as 25,000 in the 1950s to 1,208 in 2002. This indicates a change from diversified farms, which had a few dairy cows as well as crops and other livestock, to larger, monoculture operations, with large herds and increased per cow production. Likewise beef cattle operations have declined in number but still rank high in terms of market value (see [Table 2.2.1.4](#)).

Washington is the nation's top producer of apples. While the number of orchards has held steady over the past forty years (approximately 6,000), the acreage devoted to orchards has doubled, from 154,000 in 1969 to 311,000 in 2002.

Another growing agricultural industry is wine production. Acreage devoted to growing wine grapes has almost tripled in the last fifteen years, from 11,100 acres in 1993 to 31,000 acres in 2006. During the same time period, the value of wine grape production in Washington increased from \$38.6 million to \$113 million. In 2006, the state had 350 grape wine growers and 534 wineries (up from 160 in 1999). A statewide economic impact study of the wine industry in 2007 found that Washington is the "second largest producer of premium wine in the United States," and that the industry contributes \$3 billion to the state economy each year. The high yield per acre of these crops, as compared to more traditional crops such as grains, livestock, and dairy, means that this trend is likely to continue.

**TABLE 2.2.1.2 WASHINGTON AGRICULTURAL STATISTICS  
FARMS BY VALUE OF ANNUAL SALES**

VALUE OF SALES	2002	1997	1992*	1987	1978
Less than \$2,500	15,005	16,290	10,978	11,970	9,000
\$2,500-\$4,999	3,244	4,617	4,251	4,712	4,644
\$5,000-\$9,999	3,106	3,674	3,770	3,990	3,924
\$10,000-\$24,999	3,454	3,805	4,066	4,180	4,644
\$25,000-\$49,999	2,378	2,294	2,809	3,040	3,888
\$50,000-\$99,999	2,157	2,343	2,957	3,420	4,248
\$100,000+	6,595	7,090	8,132	6,688	5,652
Total number of farms	35,939	40,113	36,963	38,000	36,000

While still a small percentage of Washington's (and the nation's) farm economy, the organic farming sector has shown remarkable growth in the past decade and holds great potential for future growth. Washington's certified organic farming acreage has jumped from 2,000 acres in 1988 to 74,925 acres in 2006. From 2002 to 2006 alone, organic acreage increased by more than 60 percent. In 2006, there were 634 organic farms in the state. The average farm size of an organic farm in Washington in 2006 was 118 acres (see [Table 2.2.1.4](#)). The above referenced tables stem from the 2002 [Census of Agriculture](#) - Volume 1, Geographic Area Series: Census, US - State Data (Washington): Historical Highlights: 2002 and Earlier Census Years. Those years marked with an (\*) had their actual figures adjusted for changes in census coverage.

**TABLE 2.2.1.3 WASHINGTON AGRICULTURAL STATISTICS:  
FARM PRODUCTS BY NUMBER OF FARMS, NUMBER OF HEAD OF LIVESTOCK AND ACREAGE**

FARM PRODUCT	2002	1997	1992	1987	1978	1969	1959	1950	1930	1920
Beef Cows (# farms)	9,128	8,627	9,555	10,799	11,294	18,258	NA	NA	NA	NA
Beef Cows (# cows)	248,664	304,473	310,554	334,966	335,701	323,984	267,159	NA	NA	NA
Milk Cows (# farms)	1,208	1,302	1,842	2,410	3,737	5,583	23,306	26,550	36,752	NA
Milk Cows (# cows)	246,753	247,191	242,787	220,849	190,693	149,514	217,967	NA	NA	NA
Hogs and Pigs (# farms)	961	978	1,407	1,525	2,258	1,944	9,376	14,317	NA	NA
Wheat (# farms)	3,414	4,097	5,032	5,562	6,498	7,512	8,755	NA	NA	NA
Wheat (acres)	2,355,451	2,422,506	2,495,940	2,160,641	2,842,436	2,272,782	1,911,207	2,640,376	2,295,042	2,494,159
Hay (# farms)	10,473	10,108	10,396	12,435	13,388	14,916	NA	39,747	NA	NA
Hay (acres)	914,054	800,677	740,586	772,618	782,520	791,340	856,410	778,344	822,851	1,008,871
Vegetables (# farms)	1,804	1,506	1,605	1,724	2,029	2,363	2,907	4,435	7,435	4,906
Vegetables (acres)	215,135	209,456	172,057	144,097	167,875	166,313	112,710	165,613	NA	NA
Orchards (# farms)	6,108	5,700	6,220	6,839	6,262	6,102	9,900	42,336	31,508	NA
Orchards (acres)	311,194	301,376	256,282	241,423	173,958	153,951	132,351	125,476	158,508	NA

## 2.2.2 IMPACT OF AGRICULTURAL TRENDS ON HISTORIC BARNs

The overall decline in number of farms and land in farming has an obvious negative effect on the number of historic barns that remain in the state. As farmland is converted for development, barns are either torn down or, occasionally, incorporated into the new development with a non-farm use such as community center. However, without the surrounding farmland, barns lose their context and meaning. Likewise, when farms are consolidated, the farm operator, who rarely has a need for more than one large barn (if that), will usually destroy the redundant farm buildings in order to maximize use of the land for crops and minimize building maintenance costs and liability.

Farmers who have an historic barn may be hard pressed to know what to do with it today. Most traditional, multi-story barns accommodated multiple uses, sheltering livestock and draft animals, storage of hay and grain, and milking and feeding space for dairy cows. The upper story usually provided storage space for loose hay. The hay baler dramatically changed the way hay was stored, creating dense bales that took up less space than the loose hay, thus creating a strain on the barn timbers. More recently, the conversion to large rolled hay bales makes it virtually impossible to use the upper story of the barn for hay storage.

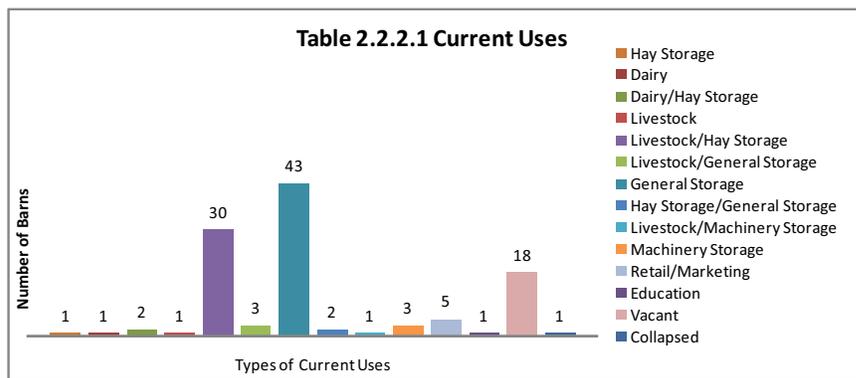
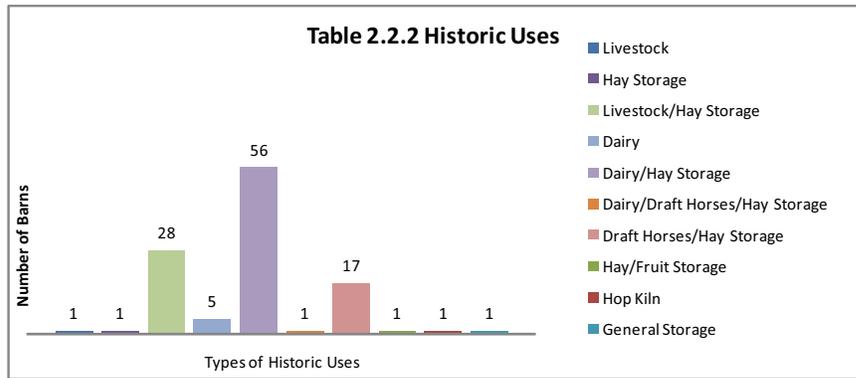
The ground story space traditionally divided into stalls for work horses and for dairy cows depending on the farm. When machines replaced the draft horses and mechanized feeding, milking, and waste removal systems were introduced, the barn with its low clearance and small openings was no longer useful. While some barns have been adapted with larger openings and open spaces created by replacing the haymow floor with trusses, many have remained in their original configuration, and are now relegated to a minor use, such as storage or 4-H projects.

The conversion of most farms from multiple crops to monoculture, as well as the ever increasing scale of agriculture, makes historic barns difficult to use. Barns that were designed for small, general farms have no useful place on operations with livestock numbering in the thousands. In 2002, there were only 270 dairy operations in Washington with less than 50 head of cows—the size of operation that might be most apt to use a historic barn.

The survey of 112 Heritage Barns conducted for this report illustrates the problem facing barn owners. Of the 112 barns surveyed, twenty-eight (25 percent) were originally used for livestock and/or hay storage, fifty-six (50 percent) were originally used for dairy and/or hay storage, and seventeen (15

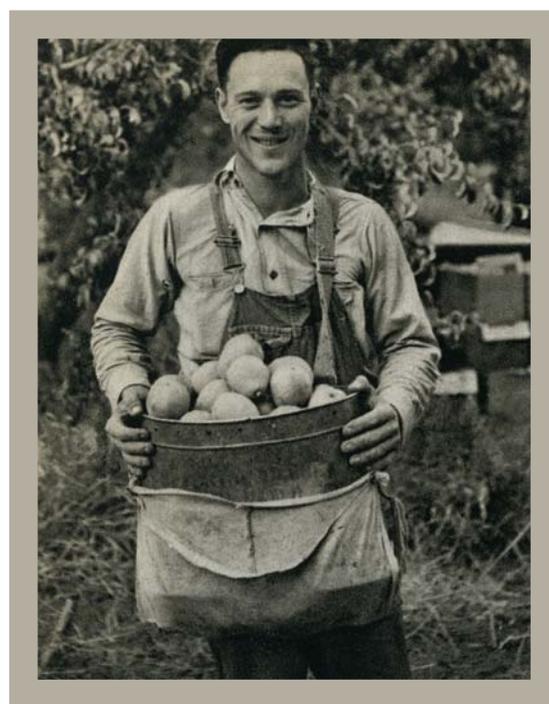
**TABLE 2.2.1.4 WASHINGTON AGRICULTURAL STATISTICS: NUMBER AND ACREAGE OF ORGANIC FARMS**

ORGANIC FARMS	2006	2002	1997	1988
# Farms	634	560	290	63
Total Acreage	74,925	46,000	12,000	2,000



percent) were originally used for draft horses and hay storage (see [tables 2.2.2 and 2.2.2.1](#)). Today general storage (forty-three barns, 38 percent) and livestock (beef cattle, riding horses and other animals) and hay storage (thirty, 27 percent) are the predominant uses with vacancy close behind accounting for 16 percent (eighteen) of the barns surveyed.

Farm demographics also impact the fate of historic farm buildings. Principal operators who are trying to farm while holding down a full or part-time job make up 42 percent of all farmers in Washington. While their expendable income may be higher, they are likely to have little time to devote to maintenance of farm buildings. For buildings that are not an absolute necessity, maintenance is often deferred indefinitely.



1930s photograph of a fruit picker. Photograph courtesy of the Department of Interior.

## 2.2.3 PROMISING TRENDS

While changes in Washington's agriculture over the past several decades have had a negative impact on the state's historic barns, the recent growth of small farms means that some outdated barns may become useful once again. Almost 28,000 of Washington farms are less than 180 acres in size—comparable in size to a typical early twentieth century farm. Farms of this size can usually make good use of a traditional barn, whereas an average-size mainstream agriculture operation could not. Looking ahead at potential effects of this pattern author Edward Hoogterp writes in a recently published [bulletin](#) produced by the BARN AGAIN! program,

*“The continued agricultural use of historic farm buildings may depend on policies that encourage the growth of sustainable agriculture.”*

Organic farming and the interest in the farm-to-market, local food and slow food movements, not to mention agri-tourism, offer additional opportunities within the existing farming base. Across the state, farmers are catering to a small but growing population that seeks out organic and farm-direct produce. More and more, these farmers are reclaiming long underutilized barns for new agricultural purposes. With an average farm size of 118 acres, Washington's organic farms are well-suited to using traditional barns.

Organic and sustainable farming practices are often based on traditional farming methods that lend themselves to use of historic farm buildings. A 2005 national survey of local farm producers conducted by the National Trust's BARN AGAIN! program found that 90 percent were using historic buildings in their farming operations. Using existing buildings is often less expensive than building new, and the built-in energy efficiency of these buildings helps to keep down production costs. Furthermore, historic barns and farmsteads have been found to be effective marketing tools for both on-site and off-site farm sales.

## 2.3 TAXATION

The iconic image of a weathered red barn standing solitary in a field is well known and loved. It is the quintessential rural scene, adding beauty and character to rural roads and busy highways alike. It can be argued that this enjoyment alone provides a public service and a legitimate public purpose for grants and other incentives to retain and rehabilitate these rural landmarks.

It is easy to forget that barns are utility buildings, and many that remain still retain a function—to house animals or machinery for the farm. Those barns without a function slowly give way to the ravages of the elements and deferred maintenance. While “our” barns add immeasurably to our visual enjoyment, barn lovers and preservationists must always understand that a barn’s purpose is more than aesthetic. Barns are working buildings, and their utility and rehabilitation potential are affected by land use and tax policy. While it is impossible in this section to carefully examine all of the various business, property, inheritance, and sales tax issues that affect the viability of farms and historic barns, a few state provisions are worth noting. Such provisions provide incentives for farm owners to continue farming and, by extension, maintain the life and usefulness of historic barns.

Open space and current use taxation, conservation futures, real estate excise taxes, and special valuation for historic properties and (see [Section 3.3](#)) are all land-based tools available to communities to help preserve their rural, agricultural heritage. While none are directed specifically at retaining historic barns, they can all be used to do so, although some may require local policy changes or new local actions to implement. All are available.

This section includes a brief description of each of these incentives, a discussion of their relevance. Refer to [Section 5.3](#) for ideas about how each can be used to better protect historic barns.



1930s scenic view with Mount Rainier visible through the branches. Photograph courtesy of the Washington State Archives.

## 2.3.1 OPEN SPACE TAXATION

The Open Space Taxation Act, enacted in 1970, allows open space, farm and agricultural, and timber lands to be valued at their current use rather than at their highest and best use as long as the property maintains its open space character. The Act states that:

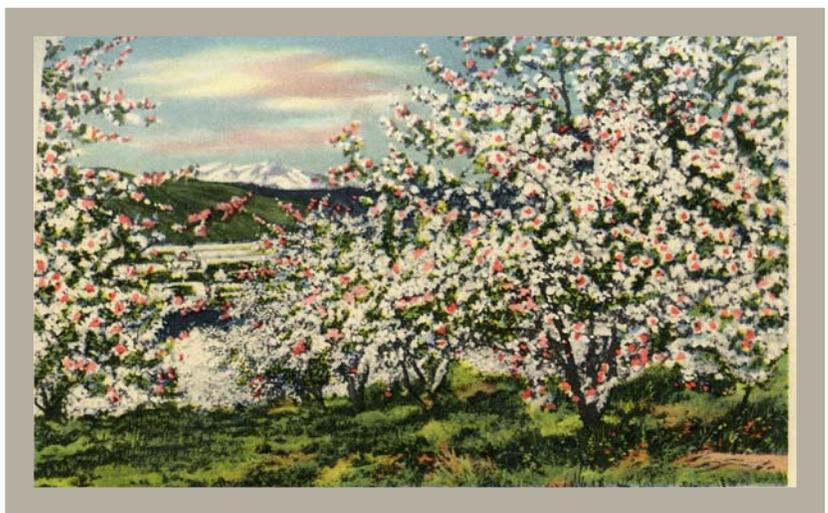
*“it is in the best interest of the state to maintain, preserve, conserve, and otherwise continue in existence adequate open space lands for the production of food, fiber, and forest crops and to assure the use and enjoyment of natural resources and scenic beauty for the economic and social well-being of the state and its citizens.”*

Preserving historic sites is an eligible purpose of the act, as is enhancing scenic resources and preserving “visual quality” and scenic vistas. While data exists on the amount of acreage in each county classified as open space, no specific information is available on the number of historic farmsteads and barns that are currently enrolled in this classification. In order to qualify as agricultural land, property must be devoted primarily to farming. Parcels of less than twenty acres must meet certain income requirements in three of the five years preceding application. Property classified as agricultural must remain so for a ten year period or face taxes equivalent to those reduced by virtue of the designation. Notice must be given to county assessors two years prior to withdrawing land from the classification.

Although the act primarily focuses on land preservation, property on which “appurtenances” necessary for agricultural production (i.e. barns) and primary residences are located may also take advantage of the incentive, provided that residences are part of a contiguous property of at least twenty acres. Improvements on the land are not eligible for the open space valuation and are assessed at market value. The legislation permits counties to create open space plans, public benefit rating systems, and percentage valuation schedules to guide program implementation by prioritizing conservation values.

Several counties, including most of the more populous, have adopted public benefit rating systems (PBRs). These rank resource lands by priority and assign points for other values, such as public access. Upon application to the county assessor, properties are evaluated against these weighted criteria. Point totals correspond to a sliding scale of market value reductions. Upon approval, a percentage reduction is applied to each property based on the overall ranking. County review and approval processes often require evaluation by technical experts, local task forces, and ultimately the county commission.

Counties have much discretion in developing public benefit rating systems. Some counties require that properties embody multiple conservation values in order to qualify, while others require only one value be present. Multiple values obviously contribute to a higher score. Qualifying historic and archaeological sites are usually defined as those listed on the National Register, the state Heritage Register, or a local register of historic places, and are generally, but not always, listed as high priority values. Pierce County, for example, currently considers historic and archaeological sites a low priority. Public benefit ratings systems often grant addi-



Undated post card of a fruit orchard. Courtesy of Michael Sullivan.

tional points to properties that are already protected by conservation easements. A copy of the San Juan County PBRS is attached (see [Section 5.5.2](#)).

Many less populous counties, and those not experiencing extensive development pressures, do not rely on public benefit rating systems. In those cases, applications are filed with the county assessor, and are then reviewed by the local jurisdiction—either a county, if in an unincorporated area, or a joint city/county authority, if located within a city or town. Legislative intent is used as evaluation criteria.

## 2.3.2 REAL ESTATE EXCISE TAX

RCW 82.46 allows counties to impose a real estate excise tax of up to 1 percent of the gross sales price of property for the purpose of acquiring and maintaining conservation areas. The tax may only be imposed upon an affirmative vote of the public. The tax is paid by the buyer. This real estate excise tax offers another option for funding farmland and farmstead preservation. In many counties, this may be a more appealing option than conservation futures, as the tax burden falls to purchasers (see also [sections 3.1 and 4.4.2](#)).

San Juan County adopted this tool in 1990 and remains the only county in Washington to do so. The tax was extended in 1999 by a 73 percent majority vote, and is set to expire in 2014. In 2007, the tax generated \$843,330 in revenue set aside for the San Juan County Land Bank. The local implementing ordinance stipulates that the funds are to be used to preserve the natural heritage of the San Juan Islands and to “. . . preserve in perpetuity, areas in the County that have environmental, agricultural, aesthetic, cultural, scientific, historic, scenic, or low-intensity recreational value, and to protect existing and future sources of potable water.”

The Land Bank acquires land and development rights, and administers conservation easements (see [Section 3.1.3](#)). The properties acquired embody traditional environmental values, particularly public access to shorelines, recreational opportunities, and protection of species and habitat; but, the program also acquires historic properties, particularly those threatened with development or that can provide a buffer to development. Currently, the Land Bank protects about 2,985 acres through its programs. Historic sites include Orcas Artworks, a former strawberry barreling plant in Olga on Orcas Island, the historic Roark House on San Juan Island, and the Tharald Homestead/Farm on Shaw Island.

A seven-member county-appointed board directs the activities of the Land Bank. The open space segment of the county comprehensive plan provides guidance around acquisition priorities.

## 2.3.3 SPECIAL VALUATION FOR HISTORIC PROPERTIES

Adopted in 1985, this legislation revises the assessed value of certain historic properties such that approved rehabilitation expenses are deducted for a period of ten years if the work is performed within twenty-four months of application. RCW 84.26 states, “. . . The legislature finds and declares that it is in the public interest of the people of the state of Washington to encourage maintenance, improvement, and preservation of privately owned historic landmarks.” It is Washington state’s primary historic preservation incentive, and it reduces the tax penalty for undertaking substantial rehabilitation.

Special valuation is a local option and pertains only to classes of properties approved by county authorities. Eligible properties must either be listed on the National Register of Historic Places individually or as contributing properties to a historic district, or must be listed on the local register of historic places established by a Certified Local Government (CLG). Applicants must undertake substantial, approved rehabilitation work, which must be equal in cost to at least 25 percent of the assessed value of the structure before rehabilitation. Applicants must also agree to maintain the property, and receive approval from a local review board, prior to making any additional changes.

The incentive is important to barn owners, as the assessed value on these structures is generally low and minimal rehabilitation work could easily meet the 25 percent threshold of the assessed value of improvements (i.e. building) exclusive of the landvalue. The subsequent special valuation, applied to the property tax obligation of the whole parcel, could substantially reduce a barn owner’s property tax bill.

The requirement for listing on either the National or local registers currently restricts the number of barns eligible for the incentive. Only a handful of barns are individually listed on the National Register of Historic Places. Local governments may choose to become a CLG and adopt special valuation, thereby qualifying National Register properties for the incentive.

Few rural counties and communities qualify as CLGs. Those CLG counties that have adopted special valuation include Clark, King, Mason, Pierce, Snohomish, Spokane, and Thurston. Several rural communities within Clark, King, Pierce, and Spokane Counties have interlocal agreements with their county CLG that provide them with historic preservation services. Barns located within the limits of participating towns could be eligible for special valuation. Apart from the issues regarding listing, the requirement to obtain historic preservation review board permission for changes to working buildings, like barns, likely deters potential applicants

The state’s Department of Archaeology and Historic Preservation reports, that between 2000 and 2004, 189 buildings statewide qualified for special valuation, generating \$342 million in rehabilitation activity. However only 6 percent of those projects were located outside Seattle, Tacoma, and Spokane, and a high percentage of those were commercial buildings.



Undated historic photograph of the Bolick Barn (field site 97), Asotin County. Photograph courtesy of the Jack Bolick Trust.

## 2.3.4 SUMMARY OF TAX INCENTIVES NATIONWIDE

The following section explores some of the nation's more successful examples of providing tax incentives to barn owners to encourage preservation in the form of property tax abatements, freezes and credits and state income tax credits. Examples of property tax abatements, freezes and credits include programs in Michigan, Iowa, New York, and New Hampshire. Income tax examples originate from Iowa and New York.

### 2.3.4.1 PROPERTY TAX ABATEMENTS, FREEZES AND CREDITS

A common complaint about preserving historic barns is property tax liability. However, no study has proven that this is really a serious issue for barn owners or that owners will take advantage of property tax incentives when available. An assessment of barn preservation in the United States prepared for the National Trust for Historic Preservation (NTHP) in 2001 reported that not one barn owner surveyed had decided against improving a historic barn for fear that property taxes would increase, and only 22 percent said income/property tax relief would be helpful in preserving their barns. However, this and an earlier study commissioned by the NTHP in 1980 found that, although actual taxes paid on farm buildings are probably too low for a tax abatement to make much difference, the fact that these buildings appear on the property assessment at all is a concern to barn owners. It is this perception of a problem that has prompted several states to enact tax relief for barn owners. However, in most cases, results of these measures have been disappointing.

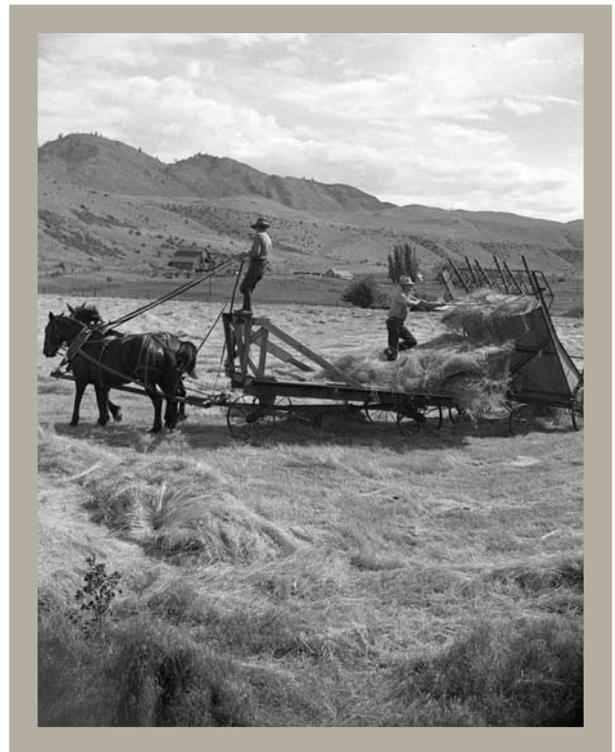
Because every state has a different system for assessing property taxes and providing property tax relief, it is difficult to summarize tax abatement programs. Four programs in Michigan, Iowa, New York, and New Hampshire are included here as examples.

#### *Michigan*

Several programs and policies in Michigan combine to give the state's barn owners significant relief from [property taxes](#). Proposal A (1994) cut property taxes on homes and farms by more than one half, and prevents property tax increases in excess of the yearly cost of living change (or 5 percent, whichever is less). The Farmland Preservation Program (1974) refunds all property taxes in excess of 7 percent of household income for participating property owners. The Mathieu-Gast Act (1976) provides that the assessor shall not consider any increase in true cash value resulting from normal repairs, replacement, and maintenance of property, including roof repair and replacement, painting, repairs to windows and doors, etc. Finally, historic barns in Michigan are generally given a flat, rather than a square footage, value for purposes of taxation, resulting in a much lower assessed valuation than a new pole farm building of comparable size. No statistics have been collected to analyze the impact of these programs on barn preservation.

#### *Iowa*

In a bill enacted in 2000, the Iowa legislature decreed that the increase in assessed value added to a farm structure "for purposes of preserving the integrity of the internal and external features of the structure as a barn" is exempt from property tax. To be eligible, the structure must have been



1930s photograph of crews loading hay onto a wagon. Photograph courtesy of the Washington State Archives.

first placed in service as a barn prior to 1937. The exemption applies to the assessment year beginning after the completion of the improvements to preserve the structure as a barn. A “barn” is defined in this statute as “an agricultural structure, in whatever shape or design, which is used for the storage of farm products or feed or for the housing of farm animals, poultry, or farm equipment.” Applications for exemption are filed with the county assessor’s office. Once the exemption is granted, it continues to be granted for subsequent assessment years without further action as long as the structure continues to be used as a barn. No statistics on the use of this exemption have been collected. An amendment being considered in 2008 would allow any barn put in service fifty or more years ago to qualify for the exemption.

Iowa also has a “temporary” [property tax exemption](#) for historic buildings, which is available for substantial, sensitive rehabilitation of designated historic buildings. To qualify for this exemption, rehabilitation work must be approved by the State Historic Preservation Office (SHPO), which certifies that the property is eligible, the work meets historic preservation standards, and the project meets the requirements for “substantial rehabilitation” (same as those for the state income tax credit). According to the Iowa SHPO, no applications for temporary property tax exemption for barns have been approved.

### *New York*

Local municipal governments are enabled to enact property tax abatement programs to phase in the increased assessed value of barns that have been rehabilitated. In order for a structure to be considered a historic barn eligible for this exemption, the structure must have been at least partially constructed prior to 1936, and must have been originally designed and used for storing farm equipment or agricultural products, or for housing livestock. Barns used for residential purposes are explicitly excluded from this program, as are barns whose historic appearance has been materially altered by the rehabilitation. No certification by state or local government is required. There is a ten-year exemption phase in the increase in assessed valuation, with a 100 percent exemption in year one and a 10 percent exemption in year ten. According to county government reports, there was one exemption granted in 2005 and one in 2006. Reports from other years are not available.

### *New Hampshire*

A state law passed in 2002 ([RSA 79-D](#)) creates a mechanism to encourage the preservation of historic New Hampshire barns and other agricultural buildings by authorizing municipalities to grant property tax relief to barn owners who (a) can demonstrate the public benefit of preserving their barns or other historic farm buildings, and (b) agree to maintain their structures throughout a minimum ten-year preservation easement period.

Any owner of a historic barn or other farm building may seek relief by applying to their local governing body to grant a discretionary preservation easement to the municipality and by agreeing to maintain the structure in keeping with its historic integrity and character during the term of the easement. If the municipality determines that the proposed preservation of the structure is consistent with the purpose of the law, it may acquire an easement on the structure for a minimum of ten years and grant tax relief within a range of a 25 percent to 75 percent reduction of the structure’s full assessed value. Maintaining and repairing the building will not result in an increase in its assessed value for property tax purposes. For this program, “historic agricultural structure” is defined as a barn or other structure, including the land on which it is built, which currently or formerly was used for agricultural purposes, and is at least seventy-five years old. The test of demonstrated public benefit is considered to have been met if the structure complies with one or more of the following: (1) provides scenic enjoyment to the general public from a public road or waterway; (2) is historically important on a local, regional, state, or national level; (3) contributes to the historic or cultural integrity of a property listed on or eligible for the New Hampshire State or National Registers of Historic Places, or is in a locally designated historic district.

A report compiled five years after initiation of the program finds that use of the tax incentive has been growing. As of the end of 2007, the local-option program was in effect in sixty-eight communities (about one-third

of total), with at least 295 structures enrolled in the program. The report says that the most active use of the incentives is in areas with the best agricultural soils.

#### 2.3.4.2 STATE INCOME TAX CREDITS

Many states offer state tax income credits for preservation of historic buildings, including agricultural buildings (e.g. VT, MD, MI). These tend not to be used for barn rehabilitation, because properties must be on the national or state registers to be eligible for the state credit, and barns are generally underrepresented on these lists. Also, many barn projects are just not large enough to justify the cost and time required for the application process. The following quote from Bryan Lijewski, MI, summarizes well this issue:

*“We have many calls and inquiries about barn rehabilitation projects and the use of the state tax credits... [However] We have only had a handful of successful applications for barn rehabilitation since the program came into effect in 1999.”*

A few states also offer special tax incentives for barns and other agricultural buildings; however, these too are rarely used by barn owners. The following examples are from Iowa and New York.

##### *Iowa*

In a [bill](#) enacted in 2000, the Iowa legislature provided for a state income tax credit for rehabilitation that included a special consideration for barns. A barn built before 1937 is considered an “eligible property” for a tax credit, whether or not it is a certified historic building. Barns are the only building type exempted from the historic certification requirement. Owners may take a tax credit for 25 percent of the “qualified rehabilitation costs.” To qualify, projects must meet a minimum requirement of \$25,000 or 25 percent of the fair market value of the structure excluding the land. Projects must be approved in advance by the State Historic Preservation Officer (SHPO).

The Iowa legislature has limited the amount that can be expended each year on all rehabilitation tax credits to \$15 million for fiscal year 2009 and \$20 million each year thereafter. Ten percent of this total is allocated for projects of \$500,000 or less, which includes most barn projects.



Panache Hackney Horse Farm, Wahkiakum County (field site 58). Lay out of the foundation ca. 1941. Photograph courtesy of the Singleton family.

While this credit appears to be an attractive incentive, the Iowa SHPO reports that only two tax credit applications have been submitted (both for the same barn). Both of the applications were approved.

*New York*

In 1997, New York enacted a [bill](#) providing for an income tax credit equal to 25 percent of the cost of rehabilitating historic barns. The program defines a barn as a structure “built to house farm equipment, livestock or agricultural products” and specifically excludes buildings converted to residential use. The barn must have been built or placed in agricultural service before 1936, and must currently meet the tax definition of income-producing (farming, rental, office, commercial). Certified historic barns built after 1936 do not qualify for the New York State Historic Barns Tax Credit, even though they are officially designated as historic. The rehabilitation must be “substantial” and cannot “materially alter the historic appearance” of the barn. Tax credits are not transferable, and can only be used to offset income from the rehabilitated property.

If the barn is listed in the National Register of Historic Places (and built before 1936), work must be approved by the SHPO. If the barn is not listed, taxpayers simply certify on their tax return that their work has not materially altered the barn’s historic appearance. While this streamlines the process for the barn owner, the trade off is less control over the actual quality of work completed.

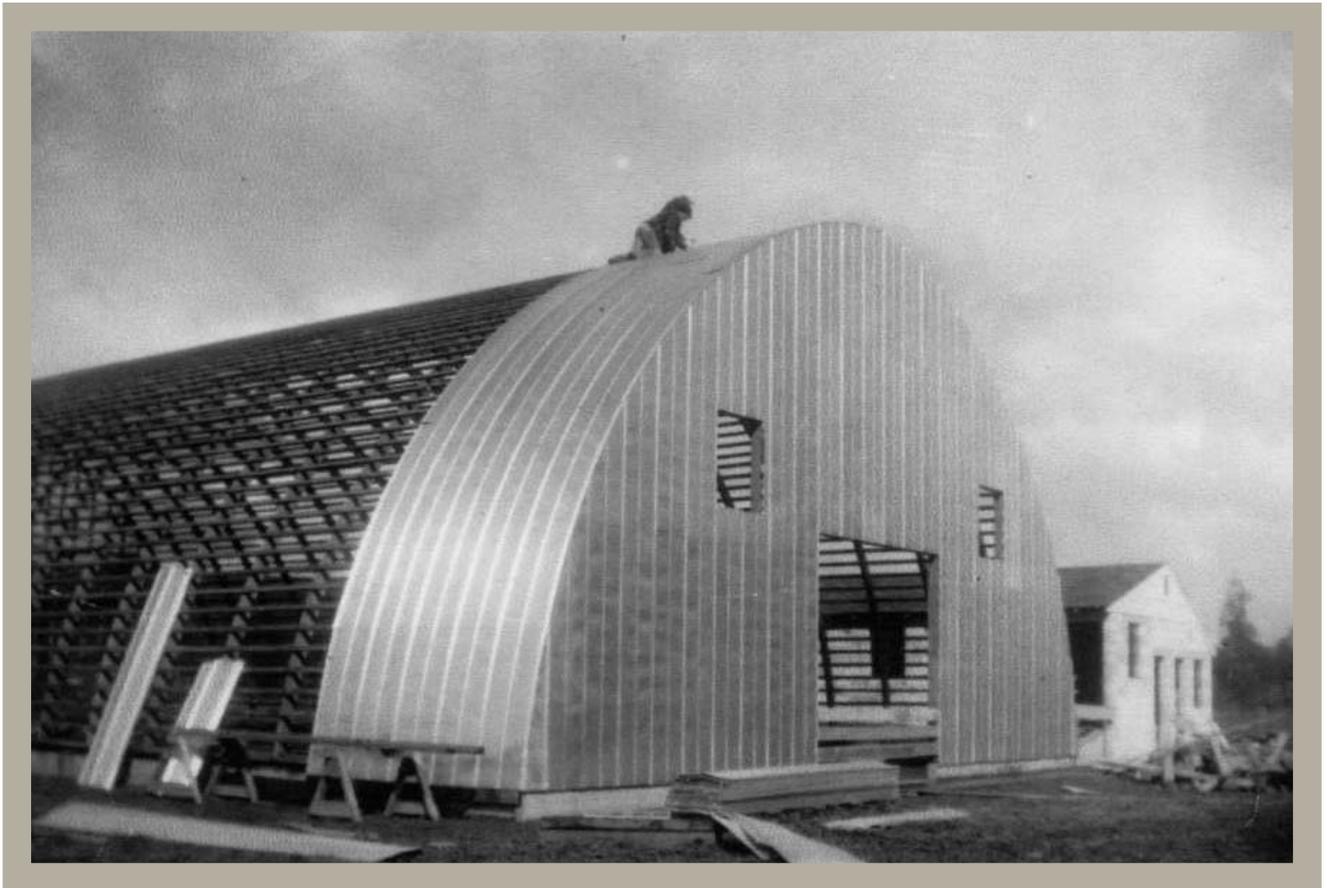
Individual tax credit claims for the two years that statistics are available show an average tax credit of \$6,000. In 2005, there were thirty-five tax credit claims, totaling \$216,000; and, in 2006, there were twenty-eight claims, totaling \$175,000.



Panache Hackney Horse Farm, Wahkiakum County (field site 58). Glue laminated ribs being raised ca. 1941. Photograph courtesy of the Singleton family.



Glue laminated ribs in place. Photograph courtesy of the Singleton family.



Roofing and endwalls being intalled. Photograph courtesy of the Singleton family.

## 2.4 BUILDING CODES & PERMITS

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Code and building permit issues are becoming more frequent concerns as both residential development encroaches upon farmland and barns and barns start changing use categories to include more occupants than just the farmer and his/her livestock. Instead of standing in an open field with the nearest neighbor several miles distant, suburban and urban settings can have neighbors immediately adjacent. As such in these instances the use and work on barns and its effect on adjacent property owners moves to the forefront.

## 2.4.1 BUILDING CODES

The International Building Code (IBC) is the adopted building code in Washington State. Its sister code—the International Existing Building Code (IEBC)—has been adopted in some jurisdictions. Both codes provide for flexible approaches to historic properties, including barns that allow character-defining features to be retained while still meeting modern fire and life safety standards. Some states—notably Florida, Iowa, and Idaho—exempt farm buildings from compliance with buildings codes. This has also occurred in some jurisdictions in Washington. Jefferson County, for example, exempts farm buildings from building code requirements if they are used for storage or animal shelter, are freestanding, and have no plumbing or heating source. Structures that include plumbing or heating must comply with electrical and plumbing codes.

Code issues become more complicated when barns become markets or are converted to other non-traditional uses. Most counties require that permanent buildings that serve the public, even on a seasonal basis, comply with life safety, structural, and accessibility code provisions. Some may also require on-site parking. Any change in barn use from agriculture to commercial operations or residential, for example, triggers full code compliance, but Chapter 34 of the IBC provides the necessary flexibility for working with historic buildings.

The provisions of this code relating to the construction, repair, alteration, addition, restoration, and movement of structures, and changes of occupancy shall not be mandatory for historic buildings where such buildings are judged by the building official to not constitute a distinct life safety hazard.

The process of obtaining the necessary permits and meeting code standards can be daunting if local officials are unfamiliar with historic buildings and the allowances available for them in the IBC/IEBC. Code issues may be the single biggest disincentive for barn re-use and rehabilitation. Ongoing education is necessary to ensure that local building officials understand the peculiarities of historic buildings and apply the appropriate standard when issuing building permits for barns undergoing extensive rehabilitation or change in use.

### 2.4.1.1 WASHINGTON HISTORIC BUILDING CODE

Another option for local government adoption is the Washington Historic Building Code (WAC 51-19). Although the code was adopted in 1991, it may still be appropriate in some jurisdictions. Its purpose is:

*. . . to provide alternatives, when authorized by the appropriate building official, to conformance to all the requirements of the codes adopted under RCW 19.27.031, for the repairs, alterations, and additions necessary for the preservation, restoration and related reconstruction, rehabilitation, strengthening, or relocation of buildings or structures designated as historic buildings. . . . Such regulations are intended to preserve original, or restored architectural elements and features, to encourage energy conservation, barrier-free access and a cost-effective approach to preservation, and to provide a historic building or structure that will be less hazardous, based on accepted life and fire safety practices, than the existing building.*

With the adoption of the IBC, fewer communities are utilizing the Historic Building Code. However, it remains in force in several jurisdictions.

## 2.4.2 PERMITS

In addition to building permits, barn owners may require permits for changes in land use or for farming practices. Each county has its own set of rules and procedures. Permitting can be time-consuming and costly, and every effort should be made to streamline processes (see also [Section 3.2](#)).

A number of uses are allowed on agricultural lands that potentially affect the viability of historic barns and do not require permits. The accessory use provisions enabled in the Growth Management Act in 2004, in particular, give wide latitude to farmers to engage in agriculture-related activities that can support and sustain farming practices. RCW 36.70A.177 defines accessory uses as:

*(i) . . . including but not limited to the storage, distribution, and marketing of regional agricultural products from one or more producers, agriculturally related experiences, or the production, marketing, and distribution of value-added agricultural products, including support services that facilitate these activities; and*

*(ii) Nonagricultural accessory uses and activities as long as they are consistent with the size, scale, and intensity of the existing agricultural use of the property and the existing buildings on the site.*

Counties have the right to limit or exclude accessory uses on those lands designated agricultural lands of long-term commercial significance. Counties concerned about the potential for non-farm practices to overtake agricultural uses may wish to limit these uses; but, in general, counties and farmers see these as ways to educate the public, and provide locally-grown products and experiences.

Jefferson County allows a host of accessory uses on designated agricultural lands that do not require permits, some of which include:

- *Individually or cooperatively processing and packing agricultural products if at least 50 percent of the product was raised or produced on the farm or on other Jefferson County land (includes making jams, cheese, wine, beer, decorative materials, packaged compost, etc.)*
- *Sale of agricultural products from existing or new farm stands and farm buildings, including cooperative sales, subject to the following provision: 50 percent of square footage of the under-cover, retail display area is comprised of products from the farm on which the stand is located or from land owned by the owner of the stand; or, if less than 50 percent of products sold comes from farm on which the sale occurs, all the products sold must primarily supply local agricultural activities and the sales must be accessory to the prime function of the land as a farm (examples are: sale of livestock equipment, horticulture supplies, special feed, etc.).*



Undated historic photograph of the Bolick Barn (field site 97), Asotin County. Photograph courtesy of the Jack Bolick Trust.

- *Agri-tourism such as U-Pick sales, farm mazes, wine or cheese tasting, retail sales, hay rides, etc. provided all the activities are closely related to normal agricultural activities.*
- *Classes that are, clearly, accessory to the primary function of the farm and that are no longer than four weeks for any one class. Longer classes, and those which include housing students, are subject to additional regulations.*

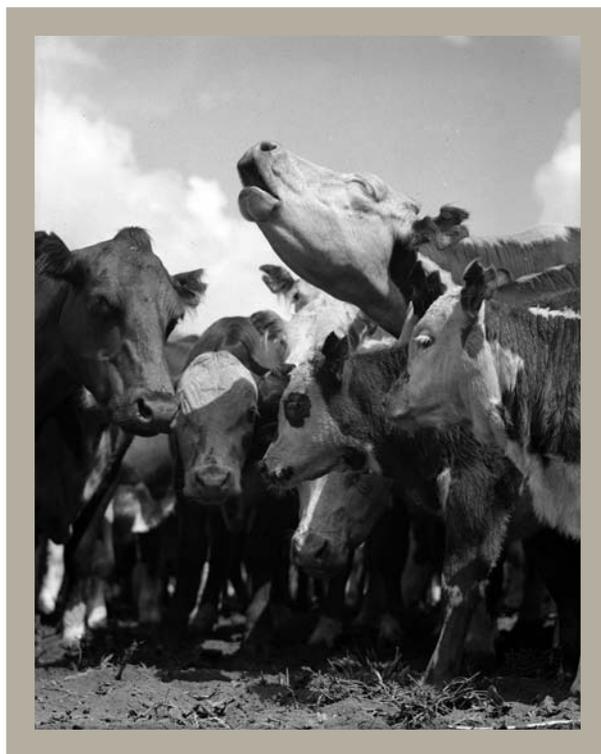
Accessory uses provide new life for barns as markets, event centers, and tasting rooms. Jefferson County takes full advantage of the discretion granted by the state to help farms prosper in ways that remain true to their agricultural heritage. Many other counties in the state have also adopted similar measures that help promote agri-tourism and direct buying opportunities.

## 2.5 LAND USE PLANNING

Historic barns function best as agriculturally-based working buildings. Their ongoing value to farming activity is the single most important factor to their long-term protection. Farmland preservation and the policies that promote agricultural use are, therefore, important to the future of historic barns. Land use planning and zoning are the traditional tools that protect both productive farmland and historic properties. The 1990 Growth Management Act (GMA) (RCW 36.70A) provides a mandate for local jurisdictions to plan, and articulates a series of goals that are intended to be addressed through planning. The fourteen growth management goals include the following two that are relevant to historic barns:

- *Maintaining and enhancing natural resource-based industries, including productive timber, agricultural, and fisheries industries. Encourage the conservation of productive forest lands and productive agricultural lands; and, discourage incompatible uses.*
- *Identifying and encouraging the preservation of lands, sites, and structures that have historical, cultural, and archaeological significance.*

Of Washington's thirty-nine counties, eighteen were required to produce comprehensive plans. Eleven counties voluntarily produced plans. The remaining ten counties are required to develop plans for natural resource lands and critical areas (see also [sections 2.2 and 3.2](#)).



1930s photograph of beef cattle. Photograph courtesy of the Washington State Archives.

## 2.5.1 GMA & AGRICULTURAL LANDS

All counties and incorporated areas are required to plan for natural resource-based industries and lands, which include forestry, mining, fisheries, and agriculture. Lands that “. . . are not already characterized by urban growth and that have long-term significance for the commercial production of food or other agricultural products” are required to be identified and designated. Counties may create agricultural designations at their discretion to best reflect the distinctive crops and farming practices in their regions. The goal is to continue natural resource production activities on these designated lands by avoiding interference from other land uses. Agricultural activities within urban growth boundaries are particularly vulnerable to residential and commercial development. In an effort to encourage their conservation, GMA requires that jurisdictions designating agricultural lands of long-term commercial significance within these boundaries also establish programs to transfer or purchase development rights.

In 2004, the state’s Department of Community, Trade and Economic Development conducted a study in Chelan, King, Lewis, and Yakima Counties that examined the effects of designating agricultural lands with long-term commercial significance under GMA on tax revenues. The study also looked at threats to maintaining the agricultural land base, and measured what local governments could adopt to maintain agricultural lands and industry vitality. Working with five study committees and representatives from the agricultural community, the study developed a series of recommendations to enhance agricultural production and conserve farmland. Some of those recommendations are also important to barn preservation. They include:

- *Creating programs for land banking, selling, and leasing farmland at both state and county levels;*
- *Adapting and updating state right-to-farm laws;*
- *Enacting or continuing purchase of development rights programs at the state and county levels;*
- *Allowing accessory and commercial uses on farms; and,*
- *Expanding the Open Space tax incentive program to include agricultural structures and improvements.*

All of these recommendations are relevant to barn preservation, as they could help keep agricultural land in production, and give barns an economic purpose. The open space taxation program, if expanded to include improvements, could be an especially valuable incentive.

### 2.5.1.1 RIGHT-TO-FARM

Nearby residential uses are particularly concerning for farmers. Farm activities and the associated noise, smells, and management practices are potentially undesirable to nearby residential development. When this occurs, pressure is often mounted on local governments to restrain farming activities or re-designate lands to prohibit operations altogether. GMA clearly supports continued agricultural practices by emphasizing that uses adjacent to designated agricultural lands should not interfere with their continued use for production, and it requires that ample notice be given to inform new residential developments that adjacent agricultural uses might be incompatible and uncomfortable.

## 2.5.2 GMA & AGRICULTURAL ZONING

The Growth Management Act (GMA) acknowledges, however, that some residential activity might be acceptable in agricultural areas and may allow farm owners to profit from new development. It encourages jurisdictions to adopt zoning techniques that retain as much agricultural land as possible while reducing the pressure to demolish farm structures for multiple subdivided lots (see also [Section 3.2](#)). Suggestions include:

- *Agricultural zoning, which limits non-agricultural uses and densities, provides for large minimum lots, but allows accessory uses;*
- *Cluster zoning, which concentrates housing development in small areas, leaving the majority of land in agricultural use;*
- *Large lot zoning, which establishes minimum lot sizes based on the amount of land necessary for successful farming;*
- *Quarter/quarter zoning, which allows one one-acre residential parcel on each one-sixteenth of a section of land; and,*
- *Sliding scale zoning, which allows the number of one-acre minimum parcels to increase inversely as the size of the total acreage increases.*

### 2.5.2.1 ACCESSORY USES

Zoning for accessory uses may be particularly important to the ongoing maintenance of barns. Amendments to the GMA in 2004 acknowledge that accessory uses can play important roles in supporting, promoting and sustaining farm operations. Accessory uses are those associated with the storage, distribution, and marketing of agricultural products, including such things as farm stands that sell regional produce and products directly to consumers, as well as agricultural experiences such as U-pick fields, corn mazes, hayrides, and farm festivals. Counties may deny or restrict accessory uses on lands of long-term commercial significance, but allowing them can help preserve historic barns. Many farmers are discovering that barns can be important marketing images and that the barn experience is a great strategy to enhance direct sales of farm products and to promote events. Accessory uses draw people to farms and help them understand and appreciate both the agricultural and the historic values present.

## 2.5.3 GMA & HISTORIC PRESERVATION

Historic preservation planning involves identifying significant buildings and sites, and developing policies and strategies to support the long-term protection of the places is important in local history. Planning to protect historic and archaeological sites is a goal of the GMA, but it is not a required planning element. Local jurisdictions must only “consider and incorporate” the goal. Many local governments have opted to include historic preservation in their planning efforts; but, because it is not mandatory, its application into comprehensive plans around the state is uneven.

Certified Local Governments (CLGs)—those that have adopted a preservation ordinance, have a local register of historic places, and a historic review commission—generally have more complete preservation elements in their plans. However, only seven Washington counties are CLGs. The largest agriculturally-oriented counties, including Grant, Franklin, Skagit, Lewis, and Walla Walla, do not currently have active preservation programs. Many more cities and towns are CLGs, and some of the smaller communities work closely with counties through an inter-governmental agreement. Preservation of farms and open space are generally high priorities for these communities.

Preservation can be an important tool in supporting broader goals, such as open space conservation and agricultural protection. Through grants from the Department of Archaeology and Historic Preservation (DAHP), CLG programs conduct surveys of historic resources, and many communities have utilized these funds to identify important rural features, including farms and barns. Survey information can be used to help guide local policies related to conservation futures, easement programs, and open space taxation in addition to historic preservation. They can also give more predictability to the development process by providing local officials and developers with advance knowledge of the location of historic and archaeological sites. With this understanding, sites can often be avoided or incorporated into development plans, thereby avoiding potentially costly construction delays.

Identifying historic sites through survey and planning work triggers state and federal laws designed to protect these resources, including the State Environmental Protection Act (SEPA), Section 106 of the National Historic Preservation Act (NHPA), and Section 4(f) of the Federal Highways Act. The Governor’s Executive Order 05-05 also requires DAHP review all capital projects utilizing state funding for their effect on historic and archaeological sites. Placing historically significant properties on local heritage registers is another proven method to protect structures from demolition and inappropriate alterations.

Incentives play a key role in historic and archaeological site-protection. The special valuation provision for historic properties is the prime incentive for historic rehabilitation. Special valuation reduces the property tax burden on owners that are rehabilitating historic buildings. Qualified rehabilitation expenses may offset property tax obligations for a period of ten years. Although available to all jurisdictions as a local option, CLG programs are most likely to adopt special valuation, as they have the technical expertise available to administer the program. Historic and archaeological sites are also eligible to apply for the state’s open space incentive, which values land at its current use rather than its highest use, thereby reducing property tax obligations.

## 3.0 EASEMENTS



1930s photograph, courtesy of the Washington State Archives.

This chapter explores the relation between land conservation and barn preservation, which holds implications for not only barn preservation but the agricultural context in which they exist. The first section [3.1 PDF/TDR & Conservation Easement Programs](#) looks at the purchase and transfer of development rights (PDR and TDR, respectively), use of conservation and historic preservation easements, land trusts, financing tools for PDR and conservation easements, as well as how all this might work together with barn preservation. Historic preservation zoning and conservation futures comprise the following two sections [3.2 Zoning](#) and [3.3 Conservation Futures](#). Refer to chapter 5.0, section, [5.3 Easement Ideas & Conservations](#) presents some thoughts for further consideration.



1930s photograph of a beef cattle ranch in south central Washington (Klickitat County). Photograph courtesy of the Library of Congress, Dorothea Lange Collection (Neg. no. 8b15472u).

## 3.1 PDR/TDR & CONSERVATION EASEMENT PROGRAMS

The planning and zoning tools represent the regulatory side of the conservation toolbox. The incentives side is characterized by programs that encourage voluntary landowner participation. These programs control large amounts of acreage in support of wildlife habitat, recreational opportunities, and farming by working with private owners to secure long-term, mutually beneficial outcomes. Washington state enables the creation of incentive-based conservation programs in RCW 84.34.200.

The legislature finds that the haphazard growth and spread of urban development is encroaching upon, or eliminating, numerous open areas and spaces of varied size and character, including many devoted to agriculture, the cultivation of timber, and other productive activities, and many others having significant recreational, social, scenic, or esthetic values. Such areas and spaces, if preserved and maintained in their present open state, would constitute important assets to existing and impending urban and metropolitan development, at the same time that they would continue to contribute to the welfare and well-being of the citizens of the state as a whole. The acquisition of interests or rights in real property for the preservation of such open spaces and areas constitutes a public purpose for which public funds may properly be expended or advanced.

Programs that purchase development rights (PDR), transfer development rights between areas (TDR), and purchase agricultural conservation easements (PACE) are administered by both public and private entities—often in partnership. Historic barns are part of the portfolio of properties that have been protected through these measures. While, rarely the principal target for protection programs, some notable saves have occurred. The ability to develop public/private partnerships, to nurture long-term relationships with landowners, and to act quickly when necessary makes these programs indispensable in the effort to save farmland and historic farmsteads (see also [Section 3.3](#)).



1930s photograph of an abandoned farmhouse in Grant County one mile east of Quincy. Photograph courtesy of the Library of Congress, Dorothea Lange Collection (Neg. no. 8b15481u).

### 3.1.1 PURCHASE OF DEVELOPMENT RIGHTS (PDR)

All these programs involve the voluntary surrender of some development rights in exchange for compensation. This enables far more acreage to be protected than through fee simple acquisition. In PDR programs, public or private entities purchase and hold development rights, negotiating and enforcing restrictions through conservation easements. Most public PDR programs are funded through the Conservation Futures Program, which is an optional levy on the county portion of property tax. The San Juan County Land Bank is a public PDR program that purchases property and development rights through a 1 percent real estate excise tax paid by purchasers of property in the county (see [Section 2.3](#)). In most cases, counties look to partner with local non-profit land trusts to hold and enforce easements. Local governments are required by the Growth Management Act to initiate PDR programs when designated agricultural lands fall within urban growth areas. King County's Farmland Preservation Program, started in 1978, has the distinction of being the first PDR program established in the western United States.



1930s photograph of hops three weeks before picking. The two-stacked building in the background is a hop kiln. Photograph courtesy of the Library of Congress, Dorothea Lange Collection (Neg. no. 8b15485u).

### 3.1.2 TRANSFER OF DEVELOPMENT RIGHTS (TDR)

TDR programs are created by local governments, but they are market-driven programs. A TDR programs transfer development rights from areas where communities wish to discourage development (sending sites) to areas where they wish to focus development (receiving sites). Those rights are available for purchase by developers to build at greater heights and densities than normally allowed. The transaction is a private deal between sending and receiving parties. As with TDRs, development restrictions are enforced through conservation easements. The attraction of TDRs lies in their voluntary, market-based approach. TDRs are used for more than land conservation. They can also be used to support low-income housing development and historic preservation. Seattle and Clark County's TDR programs include historic preservation as TDR objectives.

Washington state jurisdictions that have established TDR programs include Bainbridge Island, Black Diamond, Clallam County, Issaquah, King County, Pierce County, Redmond, Seattle, Snohomish County, Thurston County, Vancouver, and Whatcom County. Only about half of these have completed transactions. This tool clearly works best when enough development activity exists to make the TDRs valuable. Rapidly urbanizing areas, such as Seattle, and Pierce and Clark counties, are most likely to see successful deals, but problems often arise in designating appropriate areas to receive growth.

In 2007, the Legislature passed SHB 1636, which directs the Department of Community, Trade and Economic Development (CTED) to fund a process to develop a regional TDR marketplace in central Puget Sound, including King, Pierce, Snohomish, and Kitsap Counties, as well as the seventy-one cities and towns within them. It will focus on protecting rural, agricultural, and forested lands and developing supporting strategies to finance infrastructure and conservation. The advisory committee is meeting on a regular basis and is expected to report back to the Legislature by December 1, 2008 with its recommendations for implementation.

### 3.1.3 CONSERVATION EASEMENTS

Conservation easements are voluntary deed restrictions used to enforce terms negotiated through PDR/TDR agreements and through donations to organizations legally allowed to accept them, including state and local governments, non-profit historic preservation organizations, and non-profit nature conservancy associations. Easements spell out the development rights being surrendered and the types of acceptable uses that may continue or occur in the future on subject properties. They rarely affect underlying land use. Agricultural conservation easements generally limit subdivision of farmland and restrict non-farm related activities. Provisions may also require certain environmental protections or specific soil and water conservation measures be taken. Properties with conservation easements remain on the tax rolls and are subject to all local land use and zoning regulations. They are usually held in perpetuity, but can also be held for specific time periods.

Easements are valued by determining the fair market value of property before restrictions and then subtracting the amount by which the easement reduces the value of the parcel. Agricultural conservation easements donated in perpetuity may qualify for federal tax exemptions as charitable gifts. They may also reduce property tax assessments and favorably impact estate taxes.

Land trusts frequently partner with publicly funded PDR programs to hold, manage, and defend conservation easements when necessary.

### 3.1.4 HISTORIC PRESERVATION EASEMENTS

Historic preservation easements have a long history, pre-dating most of the existing regulations protecting historic resources. In many cases, they remain the most flexible and effective mechanism for historic preservation because they are tailored to individual properties. Unlike agricultural conservation easements, historic preservation easements are generally donated rather than purchased. Like agricultural conservation easements, donated historic preservation easements may qualify for federal tax deductions as charitable gifts. However, properties must be listed on the National Register of Historic Places, and easements must be granted in perpetuity.

Although they can be negotiated to protect only a facade or a significant feature, modern historic preservation easements seek to protect the overall values that make historic properties significant. In this, they can be ideal vehicles for working with land trusts to protect entire farm complexes. In addition, the Washington state Department of Archaeology and Historic Preservation can carry easements.



1930s photograph of farmer and horse near Outlook on the Myers Farm. Photograph courtesy of the Library of Congress, Dorothea Lange Collection (Neg. no. 8b34335u).

### 3.1.5 LAND TRUSTS

The Land Trust Alliance defines land trusts as, “. . . nonprofit organizations that, as all or part of their mission, actively works to conserve land by undertaking or assisting in land or conservation easement acquisition, or by their stewardship of such land or easements.” The number of land trusts has grown exponentially over the past twenty-five years, and they play an increasingly crucial role in farmland conservation. They can act quickly when necessary; and, because they are non-profits, they can provide tax benefits for donations of land, easements, and cash. They have access to a variety of public funding sources, and they benefit from being non-governmental voices for conservation. This allows them to oftentimes work more effectively with landowners who distrust government programs.

Land trusts are focused on land, and each has its own acquisition priorities. Buildings are generally not sought out, but some land trusts will accept easements on historic structures as part of a larger land deal or when important properties are threatened. Trusts tend to avoid the responsibilities for maintaining and managing structures. The Marsh Farm in Pierce County, however, is an example of how land trusts can work to protect both historic and conservation values, and a short case study later in this section discusses the details of that transaction (see [Section 3.1](#)).

Over thirty land trusts operate throughout Washington. Most operated in the past by accepting donated conservation easements and by partnering with public entities to manage conservation easements acquired through PDR programs. Increasingly, land trusts are purchasing development rights themselves, with the assistance of federal and state grants and private donors. The largest Washington-based land trust is the Cascade Land Conservancy (Conservancy). Founded in 1989, the Conservancy works in King, Pierce, Kittitas, Mason, and Snohomish Counties. It has negotiated 163 land transactions protecting over 140,000 acres through a combination of outright purchase, donations, and easements; it is currently working to secure an additional 200,000 acres. The Conservancy owns 8,000 acres outright and holds easements on 5,700 additional acres. In 2004, the Conservancy created the Conservation Investment Fund, a \$4 million privately-placed investment vehicle designed to finance purchases.



1930s photograph of a migrant worker in the Yakima Valley. Photograph courtesy of the Library of Congress, Dorothea Lange Collection (Neg. no. 8b34678u).

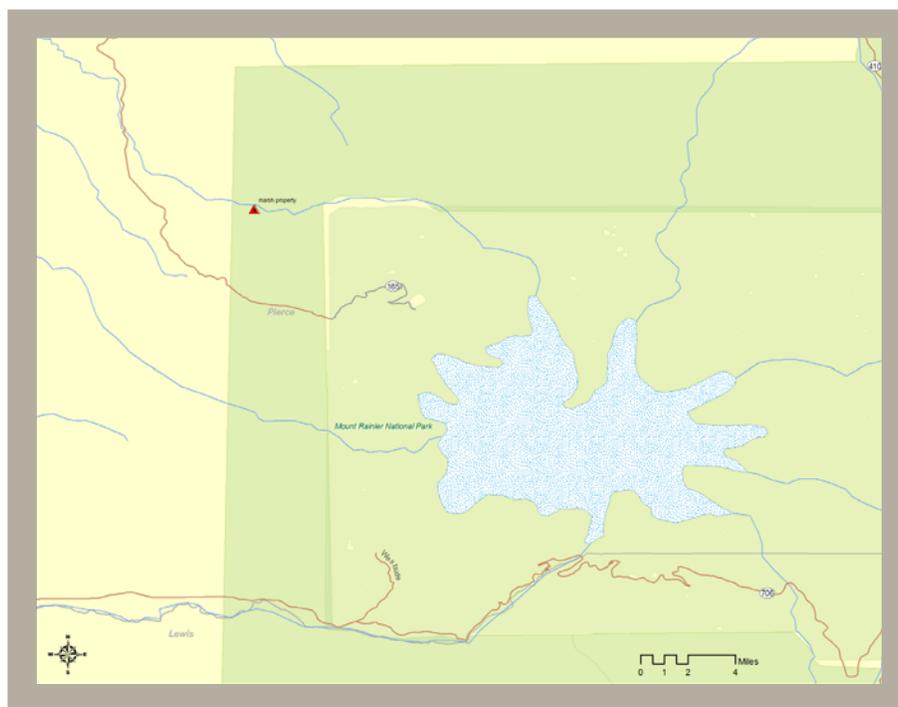
### 3.1.6 FINANCING TOOLS FOR PDR & CONSERVATION EASEMENTS

A variety of funding tools exist to support PDR, TDR, and conservation easement work. On the public side, the federal Farm and Ranchland Protection Program—part of the National Resource Conservation Service—provides matching grants to tribal, state, and local governments, as well as non-profits for easement acquisitions. In 2007, it provided \$1,128,714 to nine easement projects in Washington that protected 419 acres. Since its inception in 1996, it has provided funding for seventy-nine projects and enrolled 6,330 acres into easements.

On the state side, a relatively new program is targeting farmland preservation. In 2005, the Washington Wildlife and Recreation Program expanded its mission to fund the Farmland Protection Program. This program, capitalized by state general obligation bonds, provides matching grant funding to local governments and tribes for the voluntary purchase of development rights and conservation easements. Easements to protect barns and other historic structures may be eligible under the program. Projects are evaluated and selected by the Recreation and Conservation Funding Board and then submitted to the Governor and Legislature for final approval and funding. In its first biennium (2005-2007), the program had \$9 million available in grants. In its first grant round, \$4 million was distributed to eleven projects around the state, including two projects at Ebey's Landing National Historic Reserve.

Locally, PDR programs are generally funded through conservation futures (see [Section 3.3](#)). Counties may also adopt a real estate excise tax to support conservation activities (see [Section 2.3.2](#)). These funding sources are discussed in more detail in the preceding Tax Policy section of this report (see [Section 2.3](#)).

In addition to public support, several foundations provide grants for the purchase of development rights and conservation easements, including the Bullitt Foundation, the Kongsgaard-Goldman Foundation, and the Brainerd Foundation.



Marsh Barn location shown as the red triangle off the northwest corner of Mount Rainier National Park. Source: Artifacts Consulting, Inc. 2008.

### 3.1.7 HOW THEY WORK TOGETHER –THE MARSH FARM

The Marsh Farm lies in the Carbon River Valley, abutting Mount Rainier National Park, in Pierce County. The 203-acre farm includes a historic saltbox-style barn, built in 1902, that has been added to the Heritage Barn register. In 2004, the Cascade Land Conservancy (Conservancy) agreed to purchase the property for \$1.9 million. The farm's significance to the Conservancy was its proximity to the national park, and its potential to be incorporated as a new northwest gateway. The purchase was made to protect that potential in anticipation that the property would eventually be transferred to public ownership.

The Marsh family owned the property for forty-five years and was anxious that their beloved farm remain intact and become a part of the national park. In 2005, the Conservancy's new private financing vehicle, the Conservation Investment Fund, finalized the property purchase, freeing Conservancy resources. With a conservation easement placed on the property, the Marsh Farm was sold to Pierce County Parks through the county's Conservation Futures program (a PDR program) for \$2.1 million, replenishing the Conservation Investment Fund. Pierce County is expected to hold the property until such time that it can be sold or exchanged to the National Park Service. Congress approved an appropriation for this purchase in 2007.

The final disposition of the Heritage Barn is not yet clear, but it is anticipated it will survive to become an element of the new gateway design.



Marsh Barn, exterior view. Source: Artifacts Consulting, Inc. 2008.

## 3.2 ZONING

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Zoning is a tool that enforces the values expressed in comprehensive plans, and protects historic farms and barns from inappropriate development. Agricultural zoning is focused on maintaining an adequate land base for farming, which is important in maintaining the utility of barns. Depending on the level of threat from encroaching development, agricultural zoning can be extremely strict in limiting non-farm uses, or it can accept some uses in ways that minimize impact (see also [sections 2.2, 2.4.2, and 2.5](#)). Most agricultural zoning regulations share a few goals:

- *Limiting residential densities;*
- *Restricting non-agricultural based uses;*
- *Supporting right-to-farm provisions;*
- *Curbing land speculation;*
- *Controlling acceptable accessory uses; and*
- *Specifying minimum lot sizes.*

Agricultural zoning may also regulate site design and enforce design review guidelines, often to protect open space as well as historic sites and scenic landscapes.

Designating minimum lot sizes is one of the basic ways zoning works to protect farmland. The purpose is to maintain lots large enough to farm and that would be infeasible for single-family development. Acreage requirements range widely depending on whether an area is urbanizing or is still largely rural. Minimum lot sizes in agricultural districts of King County, for example, are one dwelling unit per ten acres (1:10) or one unit per thirty-five acres (1:35). In Clark County, an area experiencing high growth, the ratio is one unit per twenty acres. In Grant County, the largest agricultural producing county in Washington, the ratio is one dwelling per forty acres (1:40). In urbanizing counties, agricultural zoning allowing minimum lot sizes of 1:10 or 1:20 are often used to support specialty and organic crops. These smaller farms act as buffers against encroaching development, and are close enough to population centers to capitalize on the growing interest in fresh and organic foods.

Large minimum lot sizes are important to retaining historic barns because smaller lots may not accommodate these large structures. Additionally, with smaller lots and less agricultural activity per lot, barns tend to lose their purpose.

Zoning techniques have been designed to accommodate some growth on agricultural lands while maintaining lots large enough to farm. Cluster zoning is one technique that is widely used. It allows multiple dwelling units on a large parcel, but confines and clusters those units into small lots so that the majority of the parcel remains open and capable of production. Sliding scale zoning is also often utilized. Under this zoning, fewer dwellings are allowed on larger tracts than might be allowed on smaller parcels. For example, if zoning allows 1:10, a 100-acre parcel might be allowed only five dwelling units per acre instead of ten. The Growth Management Act encourages counties to adopt these and other creative zoning techniques.

Agricultural zoning can be very effective in protecting farmland; but, as with all zoning, it is subject to change depending on a variety of circumstances. New political leadership that is anxious for development may easily re-zone large swaths of land. Agricultural zoning may be difficult for rural counties with small staffs to monitor. And agricultural zoning may suppress the value of farmland, particularly in urbanizing areas, making it unpopular with landowners.

### 3.2.1 HISTORIC PRESERVATION ZONING

In Washington, historic buildings are generally protected through an overlay onto existing zoning. Individual historic sites listed on local registers of historic places administered by Certified Local Governments (CLGs) are generally required to have their plans reviewed by an historic preservation commission when exterior changes that are more significant than simple maintenance are planned. In some CLGs, this review is mandatory, but compliance is voluntary. In others, the applicant is required to receive a certificate of appropriateness (COA) from the local preservation commission approving the proposed work before a building permit is issued.

Several individual farms and farmsteads are listed in local registers, including the Mary Olson Farm in Auburn, the Hjertoos Farm near Carnation, and the Pomeroy Living History Farm in Clark County. No agricultural historic districts containing multiple properties exist in the state.



1930s photograph of a “stump farm” in Lewis County. Photograph courtesy of the Library of Congress, Dorothea Lange Collection (Neg. no. 8b15526u).

### 3.3 CONSERVATION FUTURES

Conservation futures (futures), refer to a self-imposed levy on the county portion of property taxes. The purpose of the tax is to:

*“ . . . acquire by purchase, gift, grant, bequest, devise, lease, or otherwise, except by eminent domain, the fee simple or any lesser interest, development right, easement, covenant, or other contractual right necessary to protect, preserve, maintain, improve, restore, limit the future use of, or otherwise conserve, selected open space land, farm and agricultural land, and timber land as such are defined in chapter 84.34 RCW for public use or enjoyment.”*

Futures are primarily used to fund programs that purchase development rights (PDR) or agricultural conservation easements (PACE), (see [Section 3.1](#)). Futures are also used to finance bonds. King County uses a portion of its futures revenues to retire a \$50 million parks and open space bond issued in 1979. Up to 15 percent of the collected revenues may be used for maintenance and administrative purposes, which could be applied to maintain Heritage Barns on land acquired using futures. Futures may be used to obtain historic structures, such as farmsteads and barns, as well as land. The Mary Olson Farm in King County and the Marsh Farm in Pierce County are examples of historic farms that were purchased through conservation futures programs (see [Section 3.1.7](#)). The Marsh Farm’s barn is listed as a Heritage Barn.

RCW 84.34 sets a levy limit of 0.625 per \$1,000 of assessed property valuation. Counties may assess any rate up to that limit. The following table lists those Washington counties that have implemented futures, their levy rates, and 2005 levy revenues (see [Table 3.3.1](#)).

Counties that have adopted conservation futures levies generally use advisory committees to help set local priorities for acquisition. Some counties use the public benefit rating system developed for the open space tax incentive as a guide (see [Section 2.3.1](#)).

Futures are often coupled with grants from the USDA Farm and Ranchland Protection Program, or with funding from non-profit land trusts. Counties and land trusts partner in a variety of ways. Land trusts often hold easements purchased by futures programs, or contract with counties to monitor and manage easements. In 2006, the state’s Farmland Protection Program—a new element of the Washington Wildlife and Recreation Program—began providing state funded matching grants for farmland acquisitions, further expanding the available pool of funding for conservation purposes.



1930s photograph of an abandoned dryland farm in Grant County. Photograph courtesy of the Library of Congress, Dorothea Lange Collection (Neg. no. 8b15487u).

These programs, and the partners that use them, are focused on acquiring land, with historic barns and farmsteads being lower priorities. Most land trusts will not hold easements on structures, fearing liability and maintenance costs; therefore, county programs that rely on partnerships with land trusts see few historic farmsteads protected through conservation futures. Counties are more likely to buy historic farms outright for use as parks, museums, and development buffers. Many more historic farmsteads could be protected, however, through PDR and PACE programs (see [Section 3.1](#)).

COUNTY	RATE	REVENUE
Clallam	0.0625	\$540,059
Clark	0.0625	\$1,849,500
Ferry	0.0625	\$23,476
Jefferson	0.0538	\$169,061
King	0.0579	\$14,350,636
Kitsap	0.0524	\$1,016,222
Pierce	0.0572	\$3,042,984
San Juan	0.0483	\$236,082
Skagit	0.0576	\$588,766
Snohomish	0.0477	\$2,904,712
Spokane	0.0595	\$1,371,759
Thurston	0.0517	\$895,982

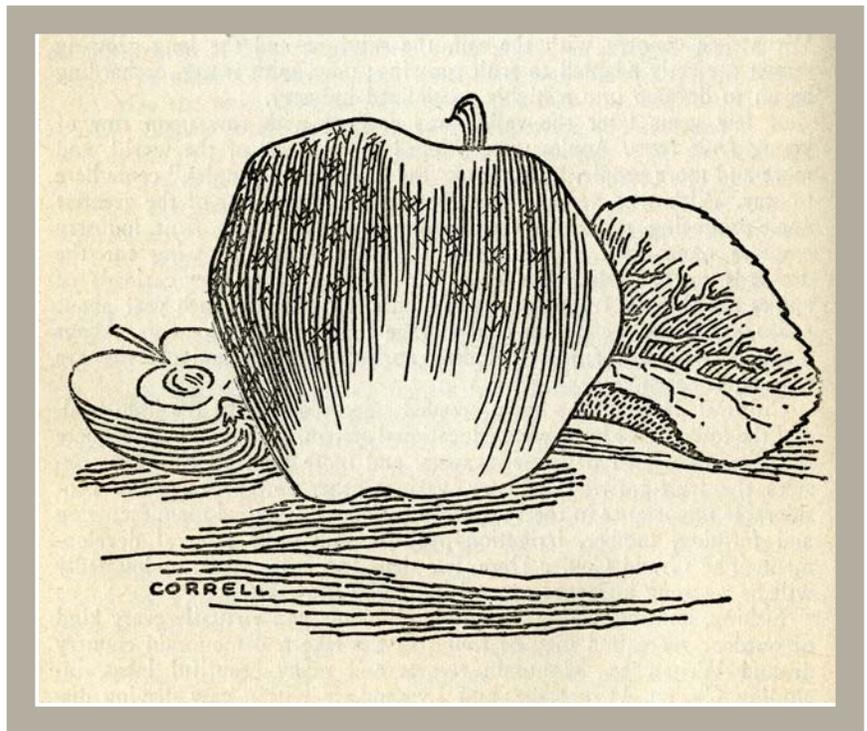


1930s photograph of one of the early Caterpillar tractors that replaced the mule and draft horse drawn wheat combines. Source: *Washington, A Guide to the Evergreen State*.

# 4.0 PUBLIC AWARENESS & EDUCATION



This chapter focuses upon the role of public education and awareness for promoting and continuing Heritage Barn preservation. The first section, [4.1 Partnerships](#) contains an overview of current state-wide and national partnerships engaged in barn preservation. The second section, [4.2 Education & Public Awareness](#), looks at the role of public involvement and how to disseminate information to inform and excite people about preserving barns. Section [4.3 Technical Support](#) provides a summary of mechanisms to educate barn owners on best practices for barn preservation. Agri-tourism has assumed an increasingly prominent role, this section, [4.4 Agri-Tourism](#) looks at the roles of the state tourism office, local tourism activities, and the Washington Scenic Byways Program in Heritage Barn preservation and interpretation. Section [4.5 National Barn Preservation Programs](#) provides an overview of other barn preservation programs in existence throughout the nation. Refer to chapter 5.0, section [5.4 Public Education Ideas & Considerations](#) provides additional thoughts for consideration on potential education and partnership avenues.



1930s graphic illustration. Source: *Washington, A Guide to the Evergreen State*.

## 4.1 PARTNERSHIPS

The nexus of historic preservation and barns opens conversation and cooperation on a number of fronts. Each can support the other in the overall goal of protecting Washington's historic farming resources. The following section looks at existing partners within Washington state and at the national level, as well as to potential future partnerships (see also [Table 6.3.1](#))



Undated postcard of an apple orchard. Courtesy of Michael Sullivan.

## 4.1.1 STATEWIDE PARTNERSHIPS

A variety of organizations within Washington state work to inform the general public about farming issues, including the large traditional ones like Farm Bureau and the Grange, as well as regionally based groups such as the Cascade Harvest Coalition, which coordinates and builds partnerships amongst a diverse set of agricultural allies. All provide opportunities to disseminate information on Heritage Barns and rehabilitation techniques to both barn owners and more diverse audiences than might be reached through traditional historic preservation channels. The county extension services of Washington State University have education as their primary mission, and partner with a wide variety of interests to organize educational opportunities and events that promote farming. Groups like Whatcom Farm Friends and Friends of the Fields in Clallam County are non-profit groups through which local partnerships with heritage organizations might be established to identify and recognize historic farms. Statewide organizations like the Washington State Department of Archaeology and Historic Preservation (DAHP) and Washington Trust for Historic Preservation (WTHP) should take the lead in developing strategic partnerships with the statewide farming organizations that can help promote the Heritage Barn program to their constituencies.

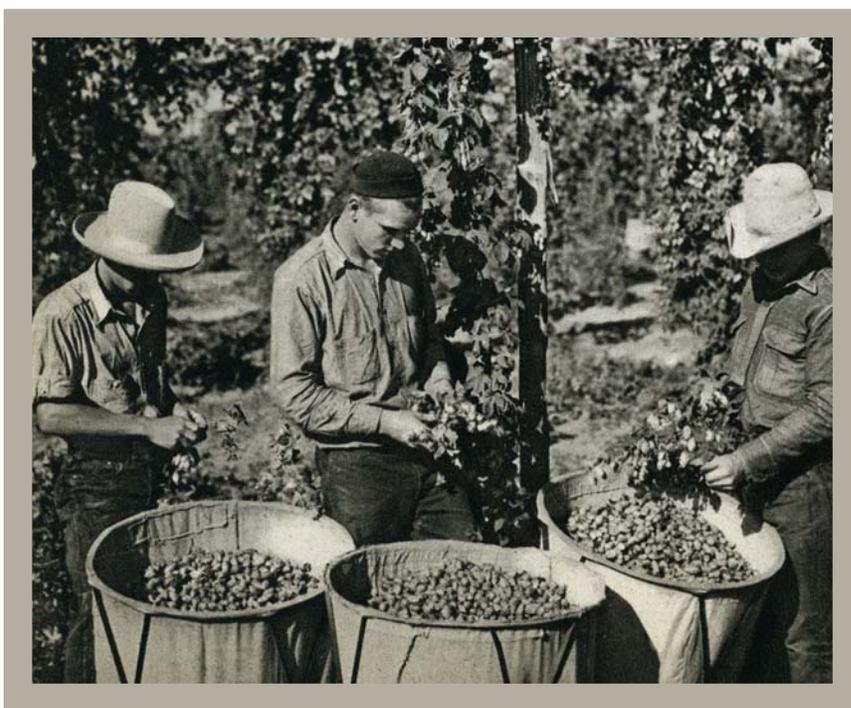


1930s photograph of farm workers adjusting a horse's bridle. Photograph courtesy of Library of Congress, Dorothea Lange Collection (Neg no. 8b34336u).

## 4.1.2 NATIONAL PARTNERSHIPS

Almost all of the nineteen state barn preservation programs are partnerships among one or more of the following: state historic preservation office (SHPO), statewide historic preservation organization, state department of agriculture and cooperative extension service and/or a land grant university. No formal state-to-state partnerships were identified, however communication amongst SHPOs, particularly within geographic areas, is assumed. Vermont's program, for example, is a loose association among several agencies, with the Preservation Trust of Vermont providing technical assistance grants, the Vermont Division for Historic Preservation conducting surveys and providing bricks-and-mortar grants, and the Vermont Department of Agriculture providing the link to the state's farmers. Iowa, Kansas, Michigan, Minnesota, New York, Ohio, and Wisconsin have established statewide, nonprofit membership organizations specifically dedicated to preserving older barns within their states. In the rest of the states, the statewide nonprofit preservation organization participates in barn preservation activities as part of its on-going preservation programs.

The National Barn Alliance serves as a clearinghouse of sorts for state barn preservation programs. They sponsor a BARN AGAIN! breakfast or lunch at the National Preservation Conference each year, and hold an annual meeting in the spring. The national BARN AGAIN! Program is a partnership between the National Trust for Historic Preservation and Successful Farming, a national farm magazine published by the Meredith Corporation.



1930s photograph of workers picking hops. Photograph courtesy of the Department of Interior.



Undated postcard of wheat farming in Eastern Washington. Courtesy of Michael Sullivan.

## 4.2 EDUCATION & PUBLIC AWARENESS

Educating and generating awareness for the cultural importance of Heritage Barns helps engage the state’s population in preserving the remaining historic barns. Barn preservation is not a process that should be faced alone by our state’s farmers, rather it should engage people from all walks of life because the cultural heritage component benefits all of us to varying degrees. This section addresses public involvement, information analysis and dissemination mechanisms that have been used to engage and inform statewide audiences. These two components go hand in hand as a well informed audience is also a constructive and responsive audience.



*Successful Farming* (Mid-February, 1994) article on Farm Heritage winners. Courtesy of Mary Humstone.

## 4.2.1 PUBLIC INVOLVEMENT

Involving the public in barn preservation can occur simultaneously on several levels and serves to both educate and raise general awareness for issues and solutions for barn preservation. The community-wide benefits derived from barn preservation include not only retention of a community's connection with its agricultural heritage, but also the associated avenue this affords future generations to continue these established farming and ranching practices as an active living heritage. The following section explores several methods including education, tours, awards and programs currently employed across the nation.

Education is a critical component of any barn preservation program. Programs strive to 1) raise awareness about the importance of barns; 2) encourage barn preservation; and, 3) provide useful information to barn owners. Most programs communicate with barn owners and the public through their websites, which offer information about barn preservation, including grants and other incentives; information about events, such as tours and workshops; and, case studies, photographs and histories of individual barns. Many websites also contain substantive information of immediate use to barn owners, such as state barn typologies, barn construction history, rehabilitation tips, and lists of qualified contractors.

Barn tours are popular with the public, and meet all three of the education goals outlined above. Tours help to engender pride in ownership and interest in historic barns, demonstrate how barns can be preserved, and encourage and inspire others to preserve their barns. Most tours are organized locally, often in conjunction with a workshop or conference. A particularly innovative model is Iowa's "All-State Barn Tour," which has been an annual event since 2001. According to the Iowa Barn Foundation [website](#), "The All-State Barn Tour has been organized to encourage barn preservation in Iowa, to teach young people about Iowa's rich agricultural heritage, and to renew pride in this heritage." The tour features barns that have received grants from the Iowa Barn Foundation and those that have received "Awards of Distinction," given to barn owners who restore their barns on their own. The free, self-guided tour takes place on one September weekend each year. A clickable [map](#) on the Foundation's website leads to lists of barns in about half of the state's ninety-nine counties that can be toured during the All-State Barn Tour. The tour attracts visitors from around the country.

Like tours, barn preservation awards raise the visibility of historic barns, engender pride, and inspire others. Awards reward barn owners for taking the initiative to preserve their barns on their own, without the help of grants. Programs award cash and/or a plaque, honor recipients at award ceremonies, and provide extensive coverage in newspapers and magazines. The national BARN AGAIN! Program has been giving six awards per year for national models for barn preservation since 1988. Iowa, Indiana, Michigan, New York, and Ohio also have active barn preservation award programs. In addition to the publicity, an awards program in which owners self-nominate can help identify excellent examples of historic barns and barn preservation, which can in turn contribute to state survey data and development of useful case studies to share with other barn owners. In that respect, awards can be considered a research, as well as an awareness-building tool.

The Iowa Barn Foundation gives "Awards of Distinction" for barns that have been maintained and/or rehabilitated without the use of grant funds. Barns must meet certain eligibility criteria, and owners are asked to commit to maintaining the structure in its current condition in perpetuity. Barns receiving the "Award of Distinction" are featured in the annual All-State Barn Tour. The Michigan Barn Preservation Network and the Friends of Ohio Barns each presents a "Barn of the Year" award at its annual conference. The Preservation League of



Preparation for a BARNAGAIN! University of Wyoming field workshop. Courtesy of Mary Humstone.

New York State has an Annual Barn Awards program for outstanding examples of restoration, repair, long-term maintenance, and sensitive reuse.

Many states have Centennial Farms Programs, honoring families who have kept their farms for more than 100 years. Colorado and Oklahoma offer a special “Historic Structures Award” for preservation of at least four buildings or structures more than fifty years old. Qualifying farms in Colorado receive a special sign with a small red barn signifying the Historic Structures Award.

To draw special attention to barns, several states have declared a “Year of the Barn,” highlighting special programs such as tours, workshops, conferences, and exhibits.



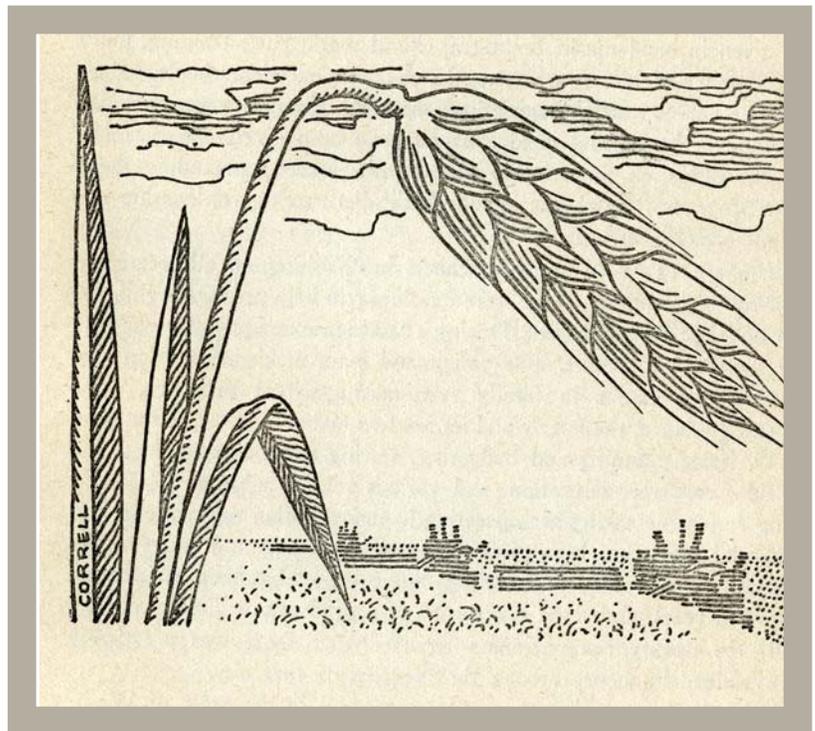
1930s photograph of a dairy operation in the Yakima Valley. Photograph courtesy of the Department of Interior.

## 4.2.2 INFORMATION ANALYSIS & DISSEMINATION

Most state barn preservation programs provide information and analysis on barn history and preservation on their websites. Several publish a newsletter which is sent out to members and also posted on line (e.g. Ohio). The Preservation League of New York State (PLNYS) publishes an article on barn preservation in each issue of its regular newsletter. The Iowa Barn Foundation publishes a magazine, which is sent to members and friends of the organization twice a year. The magazine contains news about barn grants and other programs, reports on tours and awards, and human-interest stories about barns and barn history. Organization president Jacqueline Schmeal claims that the magazine is the organizations most important barn preservation tool.

The Connecticut Trust for Historic Preservation has posted at least some of its barn survey on line, and allows barn owners to submit their own survey forms via their website. Websites also provide barn bibliographies, information on historic designation and easements, and links to state agricultural organizations, land trusts, and other related organizations and programs.

On the national level, the BARN AGAIN! Program has been publishing one or more articles on barn preservation in *Successful Farming* magazine every year since 1987. Each year, the program's top award winner is featured in a three-page article, which describes the farm operation, the history of the barn, the barn rehabilitation project, and the results. Articles about demonstration projects, barn preservation programs, workshops, and useful publications have also been published in the magazine. Articles are archived on the program website ([www.barnagain.org](http://www.barnagain.org)).



1930s graphic illustration. Source: *Washington, A Guide to the Evergreen State*.

## 4.3 TECHNICAL SUPPORT

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Conferences and workshops specifically designed for barn owners are effective training venues. Workshops generally provide practical information to help owners date their barns and assess their significance, as well as tips on how to recognize and correct problems, how to adapt a historic barn for a new use, and how to utilize financial incentives, etc. On-site workshops, in which an experienced contractor leads participants through the rehabilitation process, or even allows them to help, are particularly useful. Workshops and conferences usually include a tour. In the 1990s, Ohio State University's Cooperative Extension Service prepared a manual of how to put on a barn preservation workshop, and distributed a copy to each county extension agent in the state. In addition to Ohio, other states—Massachusetts, Michigan, New Hampshire, and New York—all present regular, hands-on workshops for barn owners. Michigan holds an annual conference drawing barn owners and enthusiasts from throughout the state. New Hampshire's "Old House and Barn Expo" drew more than 3,000 attendees in 2001.

The Connecticut Trust for Historic Preservation conducts workshops to help owners survey their historic barns.

Several university historic preservation programs offer field schools to train students in historic preservation techniques. The University of Wyoming (UW) American Studies Program offers one- to three-week field courses, many of which involve stabilization and repair of historic buildings. In recent years, UW students have stabilized log barns and other buildings on both privately owned and federally owned properties.

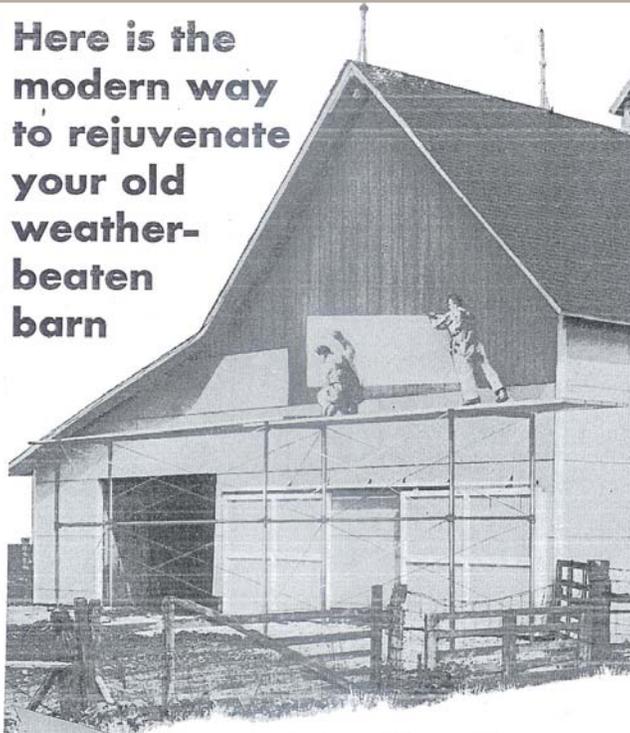
### *Website Information*

Finding an experienced contractor can be a challenge for barn owners. Most state programs provide lists on their websites of contractors, engineers, and architects with experience in barn rehabilitation.

Some websites (e.g. MA, IA) also provide a place where barn owners can offer barns and barn materials for sale, and prospective buyers can also advertise their needs. (Ref: <http://www.preservemassbarns.org/pmbexchangeshed.htm>; <http://www.iowabarnfoundation.org/materials.htm>)

Vermont has published a comprehensive barn preservation guide, "Taking Care of your Old Barn," which is available on the Vermont Division for Historic Preservation Website <http://www.uvm.edu/%7Evhnet/hpres/publ/barnb/bbtit.html>. Other states provide their own rehabilitation and/or maintenance tips, and/or links to publications and resources from other states.

<sup>14</sup> Here is the modern way to rejuvenate your old weather-beaten barn



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1955 *Better Farming* advertisement. Image courtesy of Mary Humstone.

## 4.4 AGRI-TOURISM

Agri-tourism is a term that broadly describes travel to agriculturally oriented places and attractions. Also known as farm-based recreation, it includes day trips to local farms to purchase produce, interacting with farm animals, attending a festival, watching a farm machinery demonstration, or wandering a corn maze, as well as longer trips to camps, dude ranches, and other experiential opportunities. Agri-tourism is a way for farming communities to educate the population about farming, to celebrate cultural heritage, and to provide new sources of revenue to support traditional farming practices. In 2004, over 52,000 American farms—2.5 percent of all farms—participated in some form of agri-tourism. Although recent statistics for Washington have not been compiled, according to the 2002 USDA Agricultural Census, 250 Washington farms received farm income from recreational services, totaling about \$2.28 million. The virtual symbol of agri-tourism is the historic barn, which may be the center of visitor activities and the principal marketing tool. In its short section on agri-tourism, the Washington State Department of Agriculture’s “Handbook of Regulations for Direct Farm Marketing” (“The Green Book”) notes that,

*“people are often attracted to nostalgic images of farming and activities in which they can participate. It is to your advantage to ‘set the stage’ of a stereotypical farm, complete with red barn, livestock and an old tractor out front.”*



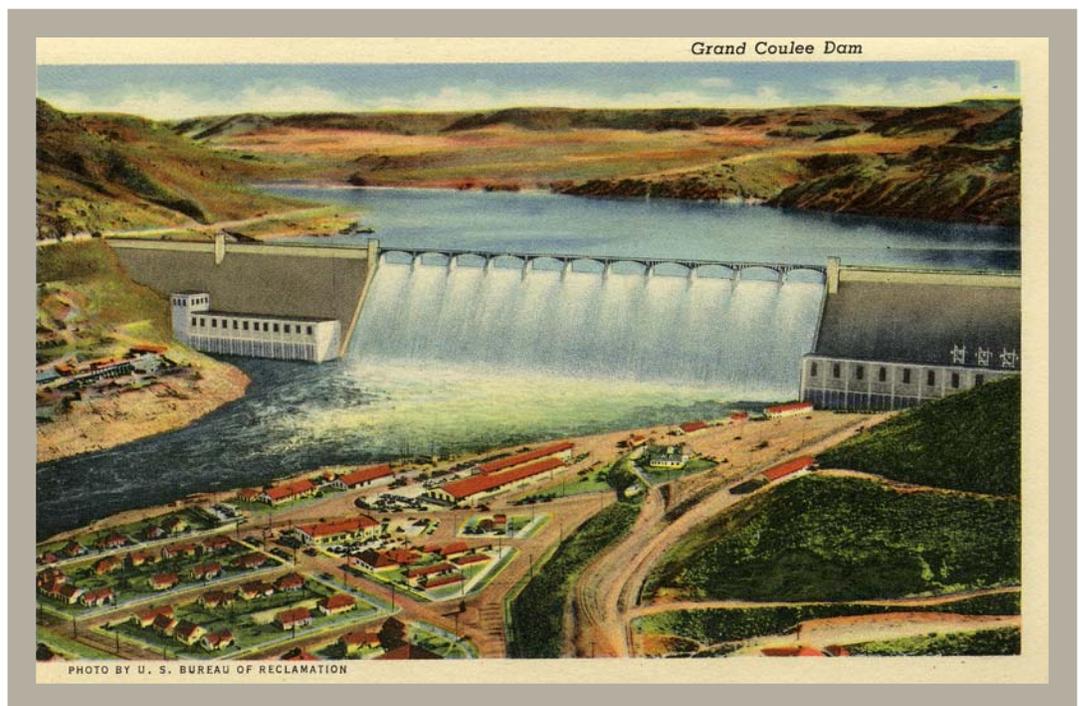
1930s photograph of workers picking pears at Pleasant Hill Orchards, Yakima Valley. Photograph courtesy of Library of Congress, Dorothea Lange Collection (Neg no. 8b34765v).

## 4.4.1 STATE TOURISM OFFICE

The number of historic barns in Washington that contribute to agri-tourism is unknown. Most of the state's agri-tourism marketing activities are conducted at the local level. The state's Tourism Office's [website](#) offers potential travelers a portal to more specific local information. The state concentrates its efforts on four main travel themes:

- *Wine and cuisine*
- *Arts, culture, and heritage*
- *Natural beauty*
- *Outdoor activities*

The wine and cuisine section is the principal state agri-tourism site. It includes lists of Washington wineries, farmer's markets, and fruit and vegetable stands. The arts, culture, and heritage section provides information on farm museums, such as the Mary Olson Farm in Auburn and the Pioneer Farm Museum in Eatonville, festivals, state and county fairs. The [Washington Festivals and Events Association](#) also maintains a website that provides listings for these activities. Dozens of agricultural based festivals occur every year in Washington, from the Lavender Festival in Sequim to the Apple Blossom Festival in Wenatchee to the National Lentil Festival in Pullman.



Undated postcard of Grand Coulee Dam. Courtesy of Michael Sullivan.

## 4.4.2 LOCAL TOURISM ACTIVITIES

At the local level, numerous county tourism offices, convention and visitor bureaus, and attraction websites exist to guide travelers to rural, farm destinations. Programs like crop signs, roadside interpretive markers, farm tours and tourism-based radio programming are common. King County, in cooperation with Washington State University, the King Conservation District, and other organizations, sponsors an annual Harvest Celebration Farm Tour that attracted over 8,000 visitors in 2004. The goals of the farm tour are:

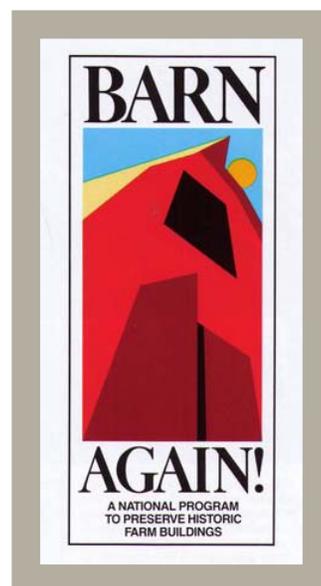
- *Increase public awareness and appreciation for local agriculture and food systems;*
- *Highlight the productivity of small-acreage, diversified farms in King County for the urban population;*
- *Raise awareness of the threatened state of agricultural lands in King County; and,*
- *Educate the public to vote for local farms with their food dollars.*

The tour allows the largely urban attendees to buy local produce and participate in numerous activities, including cooking classes, wine tastings and food pairings, music, harvesting, contests and games, and demonstrations. A collection of heritage farms is a major component of the tour. Through 4Culture and the King County Historic Preservation Program, the history and architectural values of selected farms are included in the tour's guide. Over 100,000 copies of this guide are printed, and the tour enjoys widespread publicity through the local media.

Increasingly, barns and farms are being converted into arts and community centers that attract a slightly different type of tourist. The Dahmen Barn near Pullman, the Crockett Barn and Greenbank Farm—both on Whidbey Island—are all examples of farms with barns that are now used as events facilities, artist incubators and galleries, and wineries.

Another issue with regard to agri-tourism is the number of products that include photographs of historic barns. Calendars and framed prints for sale have been common for years, but the new trend is the proliferation of internet sites that include historic barn photos. Many travelers post photos of their journeys, and historic barns enjoy a wide audience. Professional and amateur photos are easily obtained off the web. This builds interest in barn preservation, but also begs a question about whether barn owners who maintain the buildings can or should enjoy some proceeds from the images that are then made into commercial products.

One potential source of funding for barn-related tourism activities is the surcharge on documents recorded by county auditors (HB 1386), which was enacted in 2005. One dollar for each transaction is to be placed in a fund to promote historic preservation or programming. Although not as yet well-known, this new source has the potential to produce significant funding for preservation education, as well as bricks-and-mortar projects.



BARNAGAIN! logo. Courtesy of Mary Humstone.

## 4.4.3 WASHINGTON SCENIC BYWAYS PROGRAM

The Scenic Byways [Program](#) of the Washington State Department of Transportation (WSDOT) also offers a form of cultural and agri-tourism promotion. Scenic byways are described as,

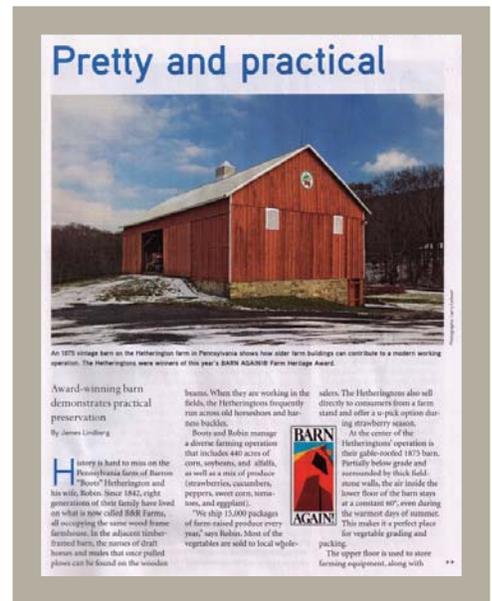
*. . . roads that are distinct and recognized for their scenic, recreational, historic, Cultural, and archaeological qualities. . . a scenic byway is typically a corridor that has unique character and evokes a sense of place.*

Scenic byways fall into three categories: All-American Roads, National Scenic Byways, and State Scenic Byways. Washington is criss-crossed with designated roads. Currently, the Selkirk Loop in the northeastern corner of the state and the Chinook Byway from Enumclaw to Naches have All-American road status, meaning they are recognized internationally for their qualities and are “destinations unto themselves.” Four routes are National Scenic Byways, and another twenty-one are state-designated. The majority of these routes are based on Washington’s earliest roads; they take travelers through the rural areas of the state. The scenic resources, including historic barns, which are viewable from the roads, are considered essential to the visitor experience. Nearly all of these routes are included in the “Revisiting Washington” CD and [website](#), which is an update of the original 1941 Works Progress Administration (WPA) Guide to the Evergreen State.

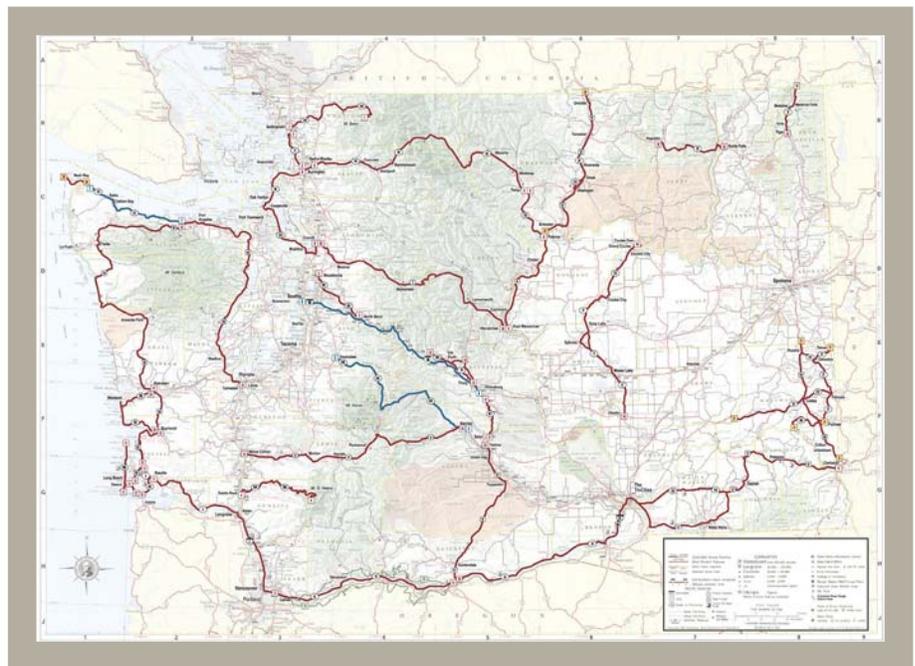
No land-use regulations are triggered by designation; however, corridor management plans that identify historic and scenic resources and plan for protection and interpretation are required. Outdoor advertising controls are implemented according to federal laws.

Each byway is organized and promoted by a local organization through websites and printed materials. WSDOT provides information on its [website](#) and via a full color Scenic Byways map that describes each of the routes. The byways are also listed on the State Tourism Office website.

Some federal grant funding is available to byway organizations and local governments to plan, implement interpretive programs, and even purchase conservation easements in order to protect important resources and views.



Successful Farming (2008) article by James Lindberg on the 2008 Farm Heritage winners. Courtesy of Mary Humstone.



Washington state scenic byways. Map courtesy of the Washington state Department of Transportation ([maplink](#)).

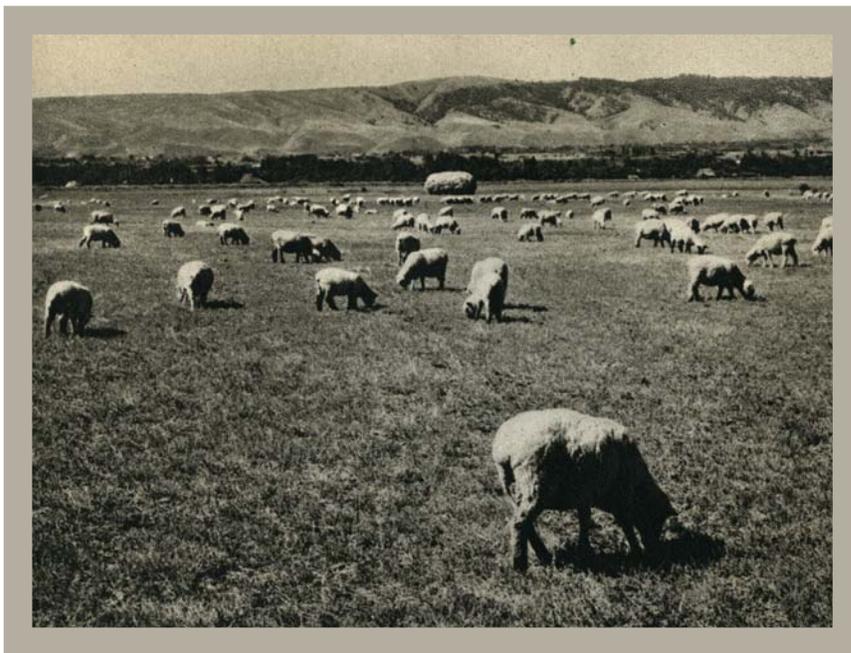
## 4.5 NATIONAL BARN PRESERVATION PROGRAMS

Preservation of historic barns is supported nationwide at the national, state, and local level. The national BARN AGAIN! Program, founded in 1986, provides technical assistance to barn owners, develops technical information and publications about barn rehabilitation and reuse, presents awards for exemplary barn preservation projects, and helps statewide and local organizations develop their own barn preservation programs. Recently the program has been exploring the relationship between sustainable agriculture and barn preservation, and promoting the concept of barn preservation to the sustainable agriculture community. BARN AGAIN! is managed by the National Trust for Historic Preservation, in cooperation with *Successful Farming* magazine, and is focused on preservation and continued use of barns in agriculture.

The National Barn Alliance (NBA), incorporated as a membership organization in 1995, is an affiliation of state and local barn preservation programs with a mission to provide “national leadership for the preservation of America’s historic barns and their rural heritage.” NBA serves as a clearinghouse for programmatic information, such as surveys, workshops, conferences, and grant and loan programs. NBA’s goals are various: to encourage the documentation, through surveys and photography, of historic barns and other rural structures; to encourage and support the creation of statewide and local barn preservation organizations and programs; and, to facilitate the sharing of information on barns, their history, and their maintenance. The NBA hosts an annual meeting of its members.

Nineteen states from all regions of the country have initiated programs to preserve their historic barns. These programs vary broadly in their organization, administration, and programming, ranging from small nonprofit education and advocacy organizations to state agencies administering extensive grant programs. Many programs comprise a partnership between the public and private sector. Numerous counties have also initiated their own programs and, at least one organization, the Dutch Barn Preservation Society of New York, is dedicated to preservation of a specific barn type.

Most state barn preservation programs are partnerships among one or more of the following: state historic preservation office (SHPO), statewide historic preservation organization, state department of agriculture, and cooperative extension service. Vermont’s program, for example, is a loose association among several agencies, with the Preservation Trust of Vermont providing technical assistance grants, the Vermont Division for Historic Preservation conducting surveys and providing bricks-and-mortar grants, and the Vermont Department of Agriculture providing the link to the state’s farmers. Seven states (Iowa, Kansas, Michigan, Minnesota, New York, Ohio



1930s photograph of sheep grazing. Photograph courtesy of the Department of Interior.

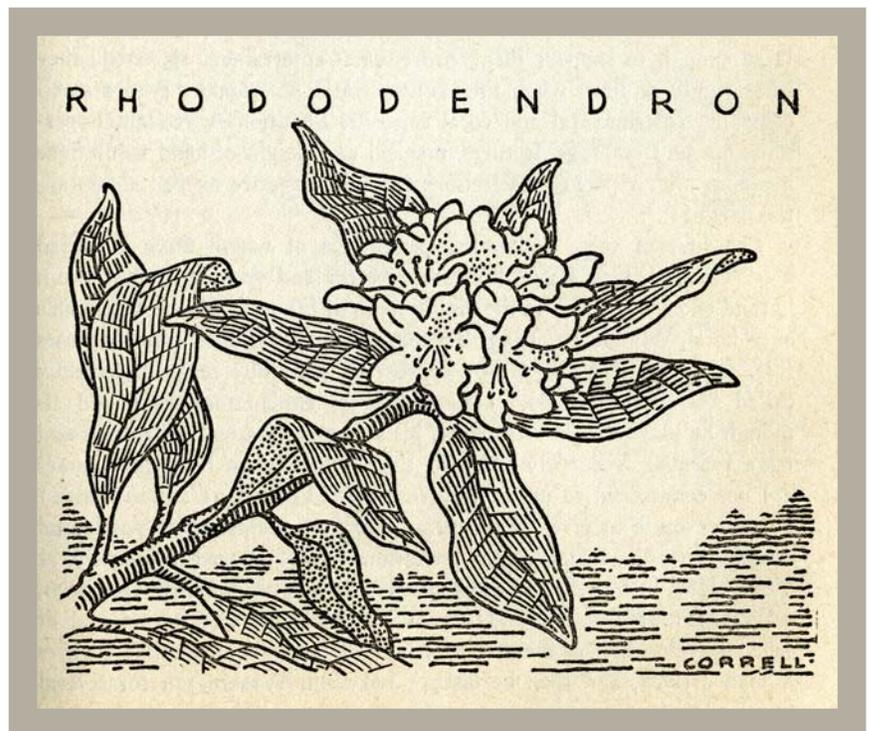
and Wisconsin) have established statewide, nonprofit membership organizations specifically dedicated to preserving older barns within their states.

Many states lack specific funding for their barn preservation education and advocacy programs; however, states carry out the programs as part of the mission of the sponsoring organizations. Exceptions are Iowa, Kansas, Michigan, Minnesota, New York, Ohio and Wisconsin, whose separate organizations are funded by memberships and individual, corporate, and foundation contributions. Often the services provided by state barn preservation programs depend on the interests, expertise, and time of the participating partners.

State barn preservation programs provide a variety of services ranging from education and awareness-building to direct grants to barn owners. Most programs provide education and technical assistance through their websites and through conferences and workshops. Most states target their programs to all types of barn owners (non-farm as well as farm), although most give priority for grants and other assistance to barns that are part of an agricultural operation.

Iowa, Maryland, Montana, Vermont, and Washington are the only states that currently provide direct, bricks-and-mortar grants to private barn owners. Grant programs in Maine and New York have been discontinued. Grant programs in Montana, Vermont and Washington are funded by the state legislature. Maryland's program for rehabilitation of tobacco barns is funded with a Save America's Treasures grant from the National Park Service and a grant from the Maryland Historical Trust (SHPO). Only Iowa's program is totally supported by private contributions. Connecticut, New Hampshire, and Vermont provide grants for assessments of older barns. These are standard reports on the condition of the barn, with prioritized recommendations for repair (see [Section 1.1.4](#)).

Most state programs communicate with constituents through a regular newsletter, a website and/or an annual conference. Exhibits at state fairs, barn tours, press releases, and speaker bureaus also help to get the word out.



1930s graphic illustration. Source: *Washington, A Guide to the Evergreen State*.

# 5.0 IDEAS & CONSIDERATIONS



Photograph courtesy of the Washington state Archives.

This chapter provides a collection of ideas for further consideration. These ideas stemmed from the field work, research and analysis undertaken in the preceding chapters. Ideas and considerations are organized according to chapter, following the precedent chapter subject divisions. These ideas are not prioritized, rather they are intended to be drawn from and utilized as needed.



Allen Farm, King County. The only barn surveyed constructed originally on piers to prevent flooding of the barn during high water in the valley. Photograph courtesy of Pearl Platt Bown (daughter of Stephen Frazer Platt and Mary Francis Alexander, inset photograph, 1908), the last living of the Steve Platt family to have grown up on this farm.

## 5.1 CURRENT PRACTICES LIST

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States that have had the most success with barn preservation have initiated comprehensive programs that include partnerships, education and awareness-building, awards, and technical assistance, as well as grants and other financial incentives. Following is a list of current practices from national and state barn preservation programs.

### 5.1.1 GRANTS AND OTHER FINANCIAL INCENTIVES

**Barn assessment grants:** Assessment grants are small matching grants to help barn owners evaluate their historic structures. Grants pay for an assessment report which addresses the architectural significance of the barn, immediate stabilization issues, general care and upkeep, reuse strategies, and budgeting, and includes a prioritized, long-term revitalization plan. These grants are cost-effective, helpful to barn owners, and lead to more effective use of bricks-and-mortar grants. Good examples are grant programs managed by the Preservation Trust of Vermont and the New Hampshire Preservation Alliance.

- *Both organizations use a standard format, pre-approved contractors and set price (\$500).*
- *Grant recipients usually complete at least some of the recommended barn repairs, either on their own or with the help of a grant.*

**Barn rehabilitation grants:** Most states with bricks-and-mortar grant programs offer competitive matching grants of at least \$10,000. Projects must be matched with cash, and barns must meet certain eligibility requirements and rehabilitation standards. While Vermont uses the National Register eligibility requirement and the Secretary of the Interior's Standards for Rehabilitation, Iowa sets its own, less stringent requirements. Most programs favor barns that are in agricultural use. A good example is the Vermont Division for Historic Preservation, whose 17-year-old program has awarded about 175 matching grants.

- *Five-year covenants are common to protect the public investment in the barn, although Iowa has successfully required a perpetual easement for grant recipients.*
- *Grant funding should allow funds for administration including analysis and write up of completed projects as case studies to share with others.*
- *Grant recipients should be required to complete survey forms so that barns are added to state survey data.*

**Tax incentives:** State income tax credits have not been used successfully for preservation of historic barns. States with general rehabilitation tax credit programs, as well as those with special barn rehabilitation tax credit programs all report minimal use of these incentives. Several states also offer property tax incentives, which are either available statewide or as a local option. New Hampshire's program appears to be the best example of a tax incentive program for barns.

- *Local option has been approved in 68 communities (about one-third of total in state).*
- *Barn owners must demonstrate public benefit and agree to 10-year easement.*
- *Local assessor may reduce assessed value 25% to 75%, and assessment will not increase due to maintenance or repair during easement period.*
- *In a five-year period, 295 structures were enrolled in the program.*

## 5.1.2 PARTNERSHIPS/ORGANIZATION

While many statewide barn preservation programs are partnerships between state agencies and nonprofit organizations, several states have created separate nonprofit barn preservation organizations. The Iowa Barn Foundation has a 23-member, statewide board of directors and county representatives from most of the state's 99 counties. The organization offers a wide range of services and incentives for barn owners, including:

- *Tours and other educational activities*
- *A website, newsletter, and magazine*
- *Grants to barn owners*
- *Barn owner services such as a contractors list and discount paint program awards*
- *A legislative advocacy program*

## 5.1.3 EDUCATION

Barn preservation education programs strive to 1) raise awareness about the importance of barns; 2) encourage barn preservation; and 3) provide useful information to barn owners. Following are some examples of successful educational programs.

**Demonstration projects:** Demonstration projects are excellent ways to document exactly how to rehabilitate a barn, and what it will cost. Projects can be selected to address the most common structural problems and adaptive use solutions. The BARN AGAIN! program sponsored four demonstration projects in 1988, and continues to use the resulting case studies to inspire barn owners to preserve their barns, and demonstrate how it is done.

- *BARN AGAIN! provided funding for materials; owners provided the labor.*
- *BARN AGAIN! approved the plans to ensure sound historic preservation practices.*
- *Projects were documented by professional photographers.*
- *Rehab techniques and costs were carefully documented.*
- *Each project was written up as an illustrated case study.*

**Awards programs:** Barn preservation awards reward barn owners for taking the initiative to preserve their barns on their own, without the help of grants. Awards raise the visibility of historic barns, engender pride, and inspire others. An awards program can also help identify excellent examples of barn preservation, which can be used as case studies to share with other barn owners. The national BARN AGAIN! program gives six awards per year for national models for barn preservation. Many states also offer barn preservation awards.

- *Award winners receive cash and/or a plaque or yard sign.*
- *Award recipients are honored at award ceremonies, press conferences and conferences.*
- *Award-winning projects are featured in newspapers and magazines, and on websites.*

Barn tours: Barn tours help to engender pride in ownership and interest in historic barns, demonstrate how barns can be preserved, and encourage and inspire others to preserve their barns. Tours are festive events that often include picnics, craft and food sales and barn dances. A particularly innovative model is the Iowa Barn Foundation’s “All-State Barn Tour,” which has been an annual event since 2001.

- *The free, self-guided tour takes place on one September weekend each year.*
- *Tour goers use a clickable map on the Foundation’s website to identify barns to tour in their area.*
- *Barns that have received grants and “Awards of Distinction” are included on the tour, which covers about half of the state’s 99 counties.*
- *Additional self-guided tours, such as the “Lincoln Highway Barn Tour” are held at other times during the year.*

Workshops: Workshops provide practical information for barn owners, covering topics from identifying the date and construction type to recognizing and correcting problems or adapting an older barn for a new use. Most effective are on-site, participatory workshops, in which an experienced contractor supervises volunteers in the rehabilitation process. A good example is a series of workshops sponsored by the Utah State Historical Society and the Bear River Heritage Area.

- *Workshops were designed to help barn owners repair their barns while teaching participants specialized building skills.*
- *Participants repaired a traditional stone wall, built and hung a new barn door, rebuilt and re-glazed windows and stabilized and covered a roof.*
- *Costs were covered by grants, and by a \$5 per person donation.*

## 5.1.4 SUSTAINABLE AGRICULTURE CONNECTION

There is a natural connection between sustainable agriculture and preservation of historic barns. Preservation fits with the philosophy of sustainability, and traditional barns work well for sustainable farming operations which are usually much smaller in scale than commercial farms. The National Trust for Historic Preservation’s BARN AGAIN! program has recently focused on making the connection between sustainable farming and historic preservation.

- *National BARN AGAIN! Awards honor sustainable farmers who are using older barns.*
- *A recent publication by the BARN AGAIN! program features many case studies of historic barns used in sustainable farming operations, and touts the economic benefits of barn preservation.*

## 5.1.5 SURVEY

Although many states and counties have undertaken barn surveys, to date there has been no definitive survey of barns in the United States. The 2009 Census of Agriculture will include barns for the first time in history. The National Barn Alliance has encouraged its members to undertake county-by-county surveys, and has developed a standard survey form which is available on the NBA website. On the state level, Vermont is planning a comprehensive Barn Census in 2008-2009, funded in part by a Preserve America grant.

Volunteers in all of Vermont's 251 towns will identify barns and other agricultural outbuildings in their communities, using a web-based barn survey form

- *Forms will be compiled in a publically accessible database.*
- *The Barn Census will occur mainly over several highly publicized weekends.*
- *Local coordinators will help organize and support teams of volunteers*
- *A kickoff conference will be held in the spring of 2008, and a wrap-up celebration in the fall of 2009.*
- *The Barn Census will help answer these and other questions about Vermont's barns.*
  - How many barns are there in Vermont?*
  - What kind of condition are they in?*
  - Are we losing significant numbers each year?*
  - What can be done to preserve these icons of our history and landscape?*

## 5.2 PHYSICAL NEED IDEAS & CONSIDERATIONS

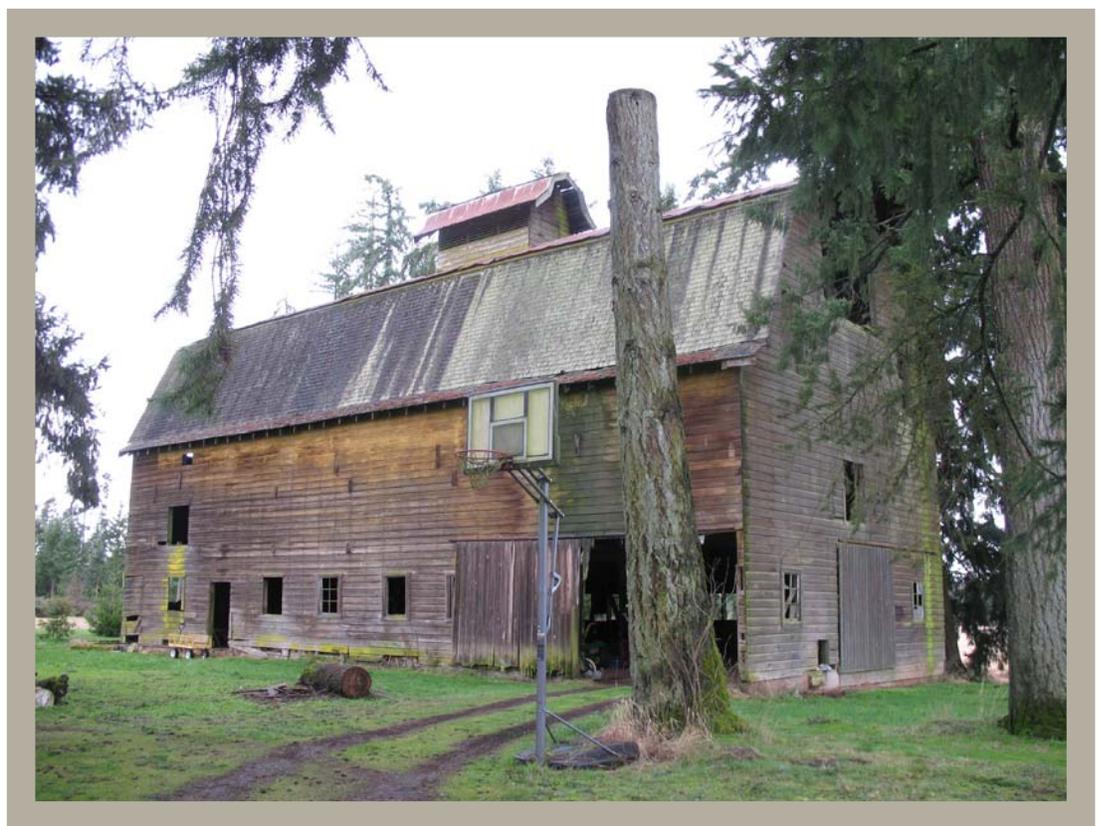
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The following ideas and considerations stemmed from the research and analysis undertaken to write Chapter 1.0 and from staff field experience gained through the course of this project. The intent of these is to provide the Washington state Department of Archaeology and Historic Preservation (DAHP), Barn Advisory Committee and Washington state Legislature with a selection of successful examples and potential action items.

### 5.2.1 PHYSICAL NEEDS

The barns surveyed exhibited a wide ranging set of physical issues, overall though they maintained a high level of integrity of original materials and assemblies. Ideas for stabilizing and preserving Heritage Barns:

- *Continue the Heritage Barn register program. This repository of self-nominated barns proved invaluable for identifying those barn owners actively interested in recognizing and maintaining their historic barns.*
- *Explore the reuse of barn building materials for repairing other Heritage Barns. In-kind material costs present a significant hurdle for barn owners skilled enough to undertake repairs themselves but lacking the cash needed to purchase expensive in-kind materials.*



Old Schwartz Farm, Clark County. Source: Artifacts Consulting, Inc.

## 5.3 POLICY IDEAS & CONSIDERATIONS

The following ideas and considerations stemmed from the research and analysis undertaken to write Chapter 2.0 and from staff field experience gained through the course of this project. The intent of these is to provide the Washington state Department of Archaeology and Historic Preservation (DAHP), Barn Advisory Committee and Washington state Legislature with a selection of successful examples and potential action items.

### 5.3.1 PROPERTY TAX INCENTIVES

Special valuation is an important tool supporting historic preservation in Washington state, but its applicability to historic barn owners is somewhat limited. If opportunities are to expand under the current statute, considerable effort will be required to list more barns on local and national registers and to recruit more Certified Local Government (CLG) communities (see [sections 2.3.2 and 2.3.3](#)).

Alternatively, a new incentive could provide property tax relief to barns listed on the Washington state Department of Archaeology and Historic Preservation's (DAHP's) Historic Barn register. Historic barns in Iowa, for example, are exempt from all property tax increases resulting from improvements. Other ideas might include a specific special valuation deducting qualified rehabilitation expenditures on barns listed on DAHP's Historic Barns register

- *Initiate a statewide barn survey through DAHP to determine those eligible for the National Register of Historic Places. Provide survey to current CLGs to assist.*
- *Actively promote the benefits of CLG designation and special valuation in rural counties and communities.*
- *Study the fiscal impacts of adopting a specific historic barn rehabilitation property tax incentive in Washington state.*

### 5.3.2 OPEN SPACE TAX PROGRAM

Since the open space tax program was established in 1970, it has become the primary tax incentive used to promote farmland preservation. Historic barns and farmsteads benefit from the open space assessment on the land beneath improvements, but the improvements themselves are not eligible for property tax relief under the classification (see [Section 2.3.1](#)).

- *Consider expanding the Open Space Act to include structures, providing added inducement to retain historic farmsteads as well as farmland.*
- *Review local public benefit ratings systems to determine the priority ranking given to historic and archaeological sites. Provide additional weight within the ranking systems to properties with historic farmsteads and barns.*

### 5.3.3 BUILDING CODES & PERMITS

Many historic barns were built well before building codes were established and, if still used strictly for agricultural purposes, should not be compelled to comply with current standards for life safety and structural soundness. Barns that are used by the public—for markets or tasting rooms for example—or that are converted into other commercial or residential uses are another story. In these cases, it is important that local building officials recognize the historic values of these buildings and apply building codes appropriately and flexibly so that both those values and life safety are protected (see [sections 2.4.1 and 2.4.2](#)).

These code issues are particularly important given the range of permitted accessory uses on designated agricultural lands. The purpose of accessory uses is to provide additional sources of revenue to farmers. Counties have ultimate discretion on allowing or limiting such uses, and must be aware that if codes are too rigidly applied, then costs to comply may defeat the original purpose. Ample room exists within the IBC/IEBC to allow for both public safety and public enjoyment of historic barns.

- *Support the statewide adoption of the International Existing Building Code and its flexible approach to historic buildings.*
- *Consider a bill in the legislature exempting barns used strictly for agricultural purposes from building codes, using examples from other states and Jefferson County.*
- *Support exempting barns used exclusively for agricultural purposes from local building codes.*
- *Consider updating the Historic Building Code with a particular emphasis on sustainability and life safety issues.*
- *Provide ongoing educational opportunities for code officials to learn more about applying the historic preservation measures of the IBC/IEBC to historic buildings.*

### 5.3.4 LAND USE PLANNING

The following are some considerations for land use planning (see [Section 2.5](#)).

- *Support implementing the recommendations of the 2004 CTED study referenced in [Section 2.5.1](#).*
- *Encourage a statewide survey to identify historically significant farms and barns.*
- *Continue to provide local governments with historic planning materials and workshops to encourage more historic preservation elements in comprehensive plans.*

## 5.4 EASEMENT IDEAS & CONSIDERATIONS

The following ideas and considerations stemmed from the research and analysis undertaken to write Chapter 3.0 and from staff field experience conversing with farm owners through the course of this project. The intent of these is to provide the Washington state Department of Archaeology and Historic Preservation (DAHP), Barn Advisory Committee and Washington state Legislature with a selection of ideas and considerations relative to land use that could be beneficial for both the preservation and continued agricultural use of heritage barns.

### 5.4.1 PARTNERSHIPS & OPPORTUNITIES

PDR, TDR, and conservation easement programs focus their activities on protecting open space, important habitat, and farmland with an eye toward the potential recreational and environmental values they possess. Historic structures, particularly farmsteads and barns, are often not considered or included in negotiations with landowners. In most cases involving historic farms, while land is protected, the buildings making up the historic farm complexes are not. Millions of public dollars are spent annually to protect important historic farming landscapes. The challenges for historic preservation is to channel some of that funding into protecting historic structures, and to find additional funding sources to develop partnerships with local governments and land trusts that will allow the whole story of the land and its people to be told (see sections 3.1.3, 3.3 and 4.1).

Historic preservation tends to look at places with an eye toward the impact that people have had on the landscape rather than the environmental values the land may embody. Land trusts and PDR programs are first and foremost focused on those values and are understandably leery of the issues associated with historic buildings. They do not usually possess the expertise required to evaluate historic significance and may not understand how all the elements of a farmstead contribute to a property's overall importance. That lack of access to expertise extends to understanding the concepts around historic rehabilitation and the Secretary of Interior Standards. Maintenance costs of historic structures and liability issues concern both land trusts and PDR programs. Additionally, unfamiliarity with regulations surrounding the listing of barns and farm complexes on the National Register or local register of historic places contribute to an overall aversion to working with historic structures.

Opportunities exist, however, for land trusts, PDR programs, and historic preservation groups to work more closely and effectively.

- *Develop working relationships between statewide and local land trusts and historic preservation groups. Informal meetings, workshops, and tours of historic buildings all help to build understanding of priorities and productive partnerships. A joint statewide conference would move discussions to a new level.*
- *Provide land trusts and PDR programs with survey information on historic sites so that they have up-front knowledge of identified historic properties. Local heritage groups can assist land trusts with the development of management plans for acquired properties and monitoring plans for properties under easement.*
- *Develop model historic preservation easement instruments that can be used side-by-side with agricultural conservation easements by land trusts and PDR programs. Create informational materials for property owners on how separate easements on land and on buildings might work together.*
- *Build a statewide historic preservation easement program that can partner with land trusts and PDR programs. The Washington Trust for Historic Preservation is the logical vehicle to sponsor such a program,*

*but other organizational models should be explored. Access to existing funding sources is critical and new funding sources must be identified.*

- *Work with the Farmland Protection Program of the Washington Wildlife and Recreation Program to add new criteria favoring historic barns and farmsteads to their grant evaluation process. Extra points could be awarded to those applicants that include protection of historic resources as part of the overall project.*
- *Include easements protecting historic barns and farmsteads into the deliberations of the state's Office of Farmland Protection. Legislation passed in 2007 created this office and calls on an 18-member task force to provide statewide policy guidance on farmland protection and the ongoing viability of farming by 2009.*

The above referenced task force charge includes:

- *Developing credible, broadly supported recommendations for the use of agricultural easements;*
- *Identifying the factors needing correction to reverse declines in agriculture;*
- *Developing programs and incentives to help keep farms viable and retain land in agriculture;*
- *Developing a process for grants to local communities for farmland protection;*
- *Providing technical assistance to local communities in developing their own farmland programs;*
- *Analysis for implementation of a farm transition program; and,*
- *Serving as a clearinghouse for incentive programs to help make them more accessible to landowners and to the implementation community.*

Additional study may be needed to flesh out these recommendations, but it is clear that working in partnership, conservation and historic preservation advocates can creatively protect far more farms and barns than they can individually.

## 5.4.2 ZONING

Zoning is a complex tool that is subject to political change but can be effective when there is a commonly held goal (see [Section 3.2](#)). The following are zoning considerations:

- *Consider situational zoning efforts in conjunction with Heritage Barn and historic farmstead operations to provide a mechanism to encourage retention of these cultural assets when there is owner interest and support.*
- *Explore historic preservation zoning and lot size options for heritage barns and ultimately for heritage farmsteads and incorporated into master planning efforts at city and county levels to identify means to balance residential growth with barn retention and complimentary farmstead operations to transition out to larger agricultural land use.*
- *Explore potential for agricultural historic districts containing multiple properties within the state and how this could compliment open space and land conservation, agri-tourism and sustainable agriculture efforts.*

## 5.4.3 CONSERVATION FUTURES

Conservation futures are extremely important sources of revenue for protecting open space and farmland. While they can and have been used to protect barns and farmsteads, new partnerships must be developed with the conservation community to address the long-term needs of historic structures (see [Section 3.3](#)).

- *Certified Local Government (CLG) staff should work closely with their county colleagues administering conservation programs in order to develop policies and influence acquisition strategies around historic farm properties.*
- *Local preservation supporters should participate in the county advisory committees responsible for establishing conservation futures priorities.*



Rocky Mountain Dairy, Whatcom County. Source: Artifacts Consulting, Inc.

## 5.5 PUBLIC EDUCATION IDEAS & CONSIDERATIONS

The following ideas and considerations stemmed from the research and analysis undertaken to write Chapter 4.0 and from staff field experience gained through the course of this project. The intent of these is to provide the Washington state Department of Archaeology and Historic Preservation (DAHP), Barn Advisory Committee and Washington state Legislature with a selection of successful examples and potential action items.

### 5.5.1 PARTNERSHIPS

Promising partnerships have begun, with the state's program, and within a few counties (see [Section 4.1](#)). Other potential partners for barn preservation programs include:

- *Land trusts and other easement-holding organizations;*
- *Farm organizations (Farm Bureau, Farmers Union, sustainable farming, organic farming, Community Supported Agriculture, local foods networks, etc.);*
- *County governments (including Certified Local Governments (CLGs) and county historical societies);*
- *Local preservation organizations;*
- *Washington state University School of Agriculture;*
- *WSU Cooperative Extension Service;*
- *State agencies (State Fair, State Parks, Department of Natural Resources, Fish and Wildlife);*
- *National organizations, such as the National Trust for Historic Preservation and the National Barn Alliance;*
- *Sustainable farming organizations;*
- *Agricultural-tourism organizations; and*
- *Scenic by-way programs.*

### 5.5.2 PUBLIC AWARENESS & EDUCATION

Public awareness and education benefited tremendously from the Heritage Barn program and associated public meetings including the Governor's Advisory Council on Historic Preservation for Heritage Barn designations, and workshops held throughout the state by DAHP and the Washington Trust for Historic Preservation (WTHP), (see [Section 4.2](#)). Potential continued efforts include:

- *Continued public education and awareness efforts around the Heritage Barn program to encourage additional Heritage Barn nominations and owner participation and education.*
- *Resource posting on DAHP and the WTHP websites to inform barn owners of the continuing process and how to become involved.*
- *Develop local school curriculums, field trips, and contests around Centennial Farms and heritage barns.*
- *Create a Centennial Farms oral history program.*

## 5.5.3 TECHNICAL SUPPORT

Technical support for barn owners has seen a sharp upswing in the availability of resources and information. One of the advantages of the Heritage Barn register and grant programs has been the consolidation of skilled contractor contact information and technical information by DAHP and the WTHP (see [Section 4.3](#)). Potential continued efforts include:

- *Continued maintenance of an online listing of experienced contractors by the WTHP*
- *Hosting of field schools or technical workshops by the WTHP and DAHP, potentially in partnership with such entities as Washington state Parks and Recreation, the National Park Service, and the University of Oregon Field School to educate Heritage Barn owners on best practice repair methods and bring them in contact with skilled contractors for large scale undertakings.*
- *Development of a barn triage team through DAHP or the WTHP in conjunction with skilled contractors that could assist Heritage Barn owners in assessing and prioritizing barn repairs.*
- *Investigate partnership opportunities with the Washington State University Cooperative Extension Service. Workshops and written materials on the state Heritage Barn Register and a series on appropriate rehabilitation techniques, including web seminars, could be explored.*

## 5.5.4 AGRI-TOURISM

Agri-tourism is greatly assisted by the growing interest in local, quality, small-lot food production. Adding an entertainment aspect to the traditional farm stand is a newer development, which holds some promise for supporting small farms and the barns on which they rely. While agri-tourism is not right in every situation, the emotional tug barns evoke from visitors opens up opportunities for rural communities to attract additional visitors and pump outside dollars into their economies. Listings on the Heritage Barn Register can be another asset to state and local groups in their efforts (see [Section 4.4](#)).

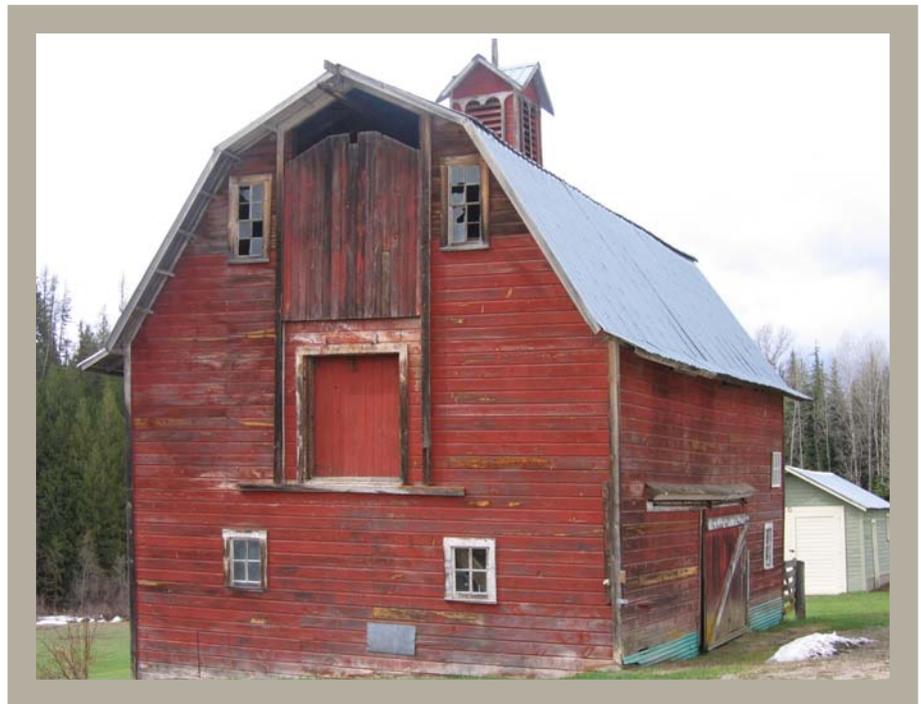
- *Provide Heritage Barn Register information to the Tourism Office, and create a Heritage Barn section on the website or links to the DAHP or WTHP websites where more information can be found.*
- *Provide Heritage Barn Register information to WSDOT's Scenic Byway Program and have them disseminate it to local byway organizations.*
- *Develop regional tours of listed Heritage Barns in conjunction with local byway organizations, tourism offices, or fair boards.*
- *Consider applying for a Scenic Byway grant to develop an easement program to protect listed Heritage Barns located along these routes.*
- *Encourage agricultural-related festivals to include barn tours in their programming.*
- *Add listed Heritage Barns as a new layer to the "Revisiting Washington" CD and website. Scenic Byway funds may be a possible funding source.*
- *Promote Heritage Barns in cooperation with agricultural-related organizations. Produce case studies on barn rehabilitation and stewardship. Produce vignettes that spotlight Heritage Barns stories for inclusion in newsletters and websites.*

## 6.0 SUPPLEMENTAL MATERIAL



Eiseman Barn, Snohomish County. Source: Artifacts Consulting, Inc..

This chapter serves as an appendix for the report. The first section, [6.1 Maps](#), contains maps of the barns surveyed and Washington's agriculture regions. Section [6.2 Photographs](#) provides an album of historic photographs collected digitally from barn owners during the field survey work. A listing of barns surveyed as well as a thumbnail image of each is provided in section [6.3 Listing](#). The fourth section, [6.4 Case Studies](#), provides background data on the two case studies (reclamation and cost estimating) employed as part of this project. Section [6.5 Resources](#) provides a reference tool for barn owners and interested parties for barn preservation resources. The last section, [6.6 Bibliography](#) contains the resources consulted during the research conducted for this report.



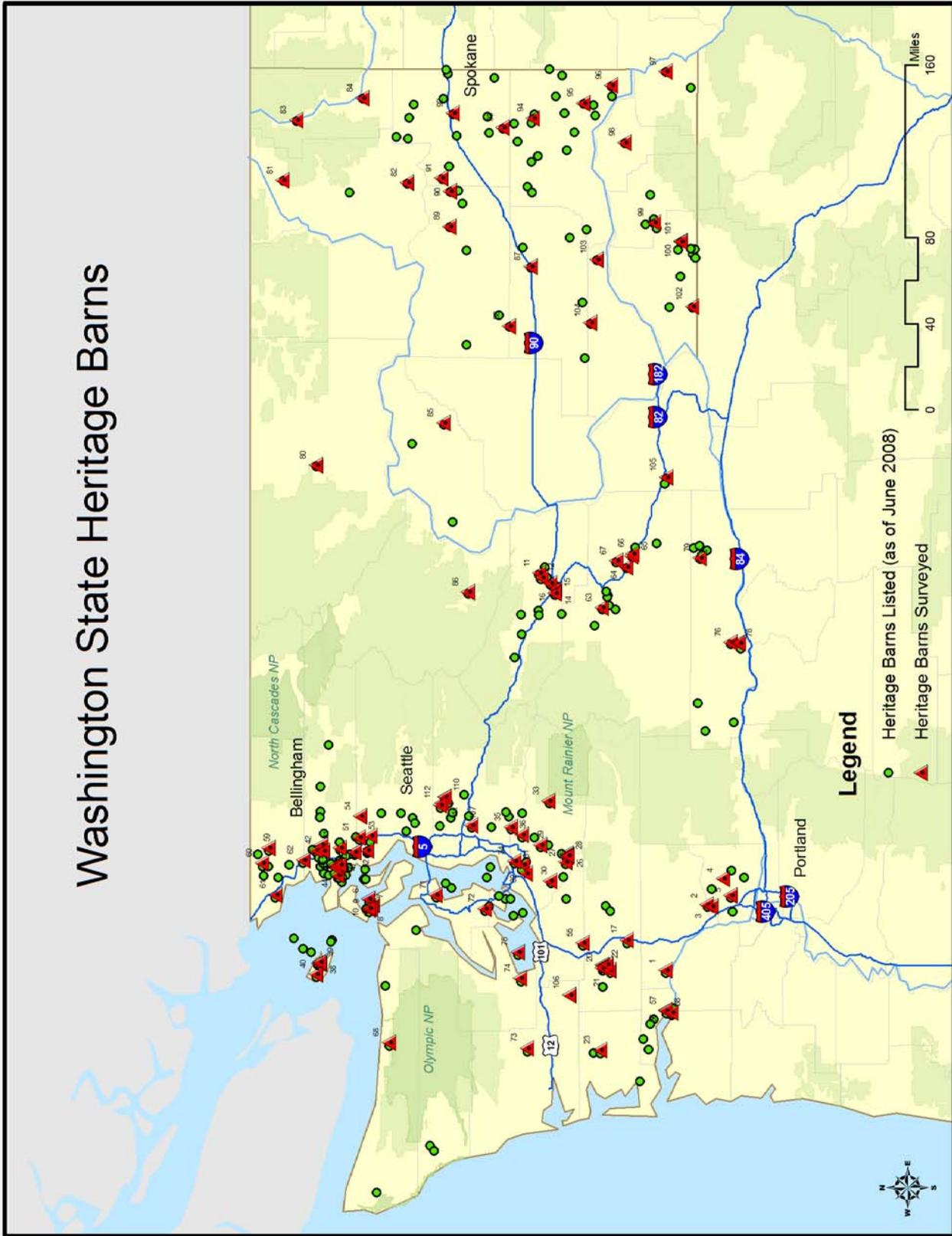
LaPorte Barn, Pend Orielle County. Source: Artifacts Consulting, Inc. 2008.

# 6.1 MAPS

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The following first maps presents a compilation of GIS data obtained from the Washington State Department of Archaeology and Historic Preservation plotting the 292 Heritage Barns throughout the state and waypoints taken in the field during the survey of the 112 Heritage Barns.

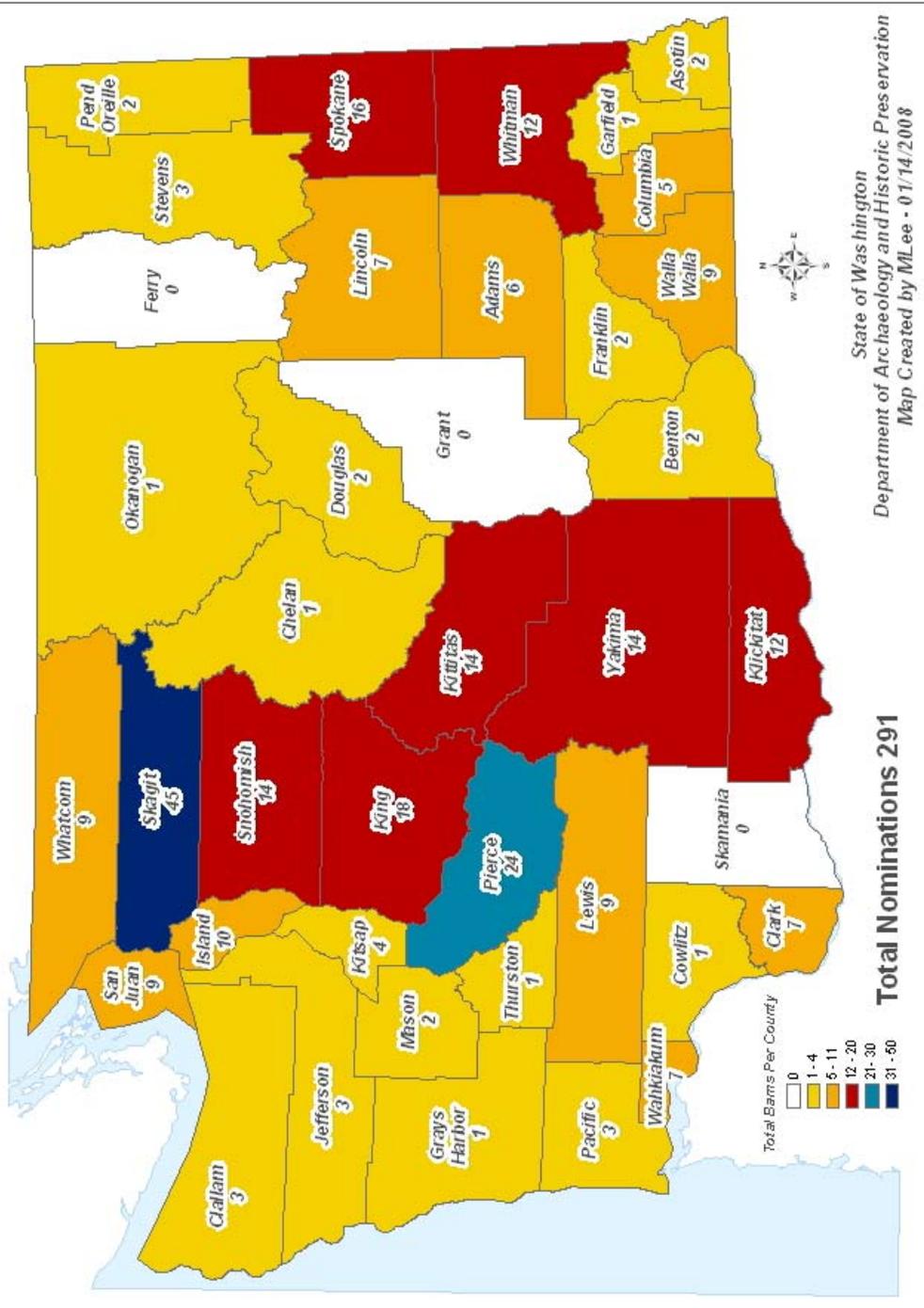
# Washington State Heritage Barns



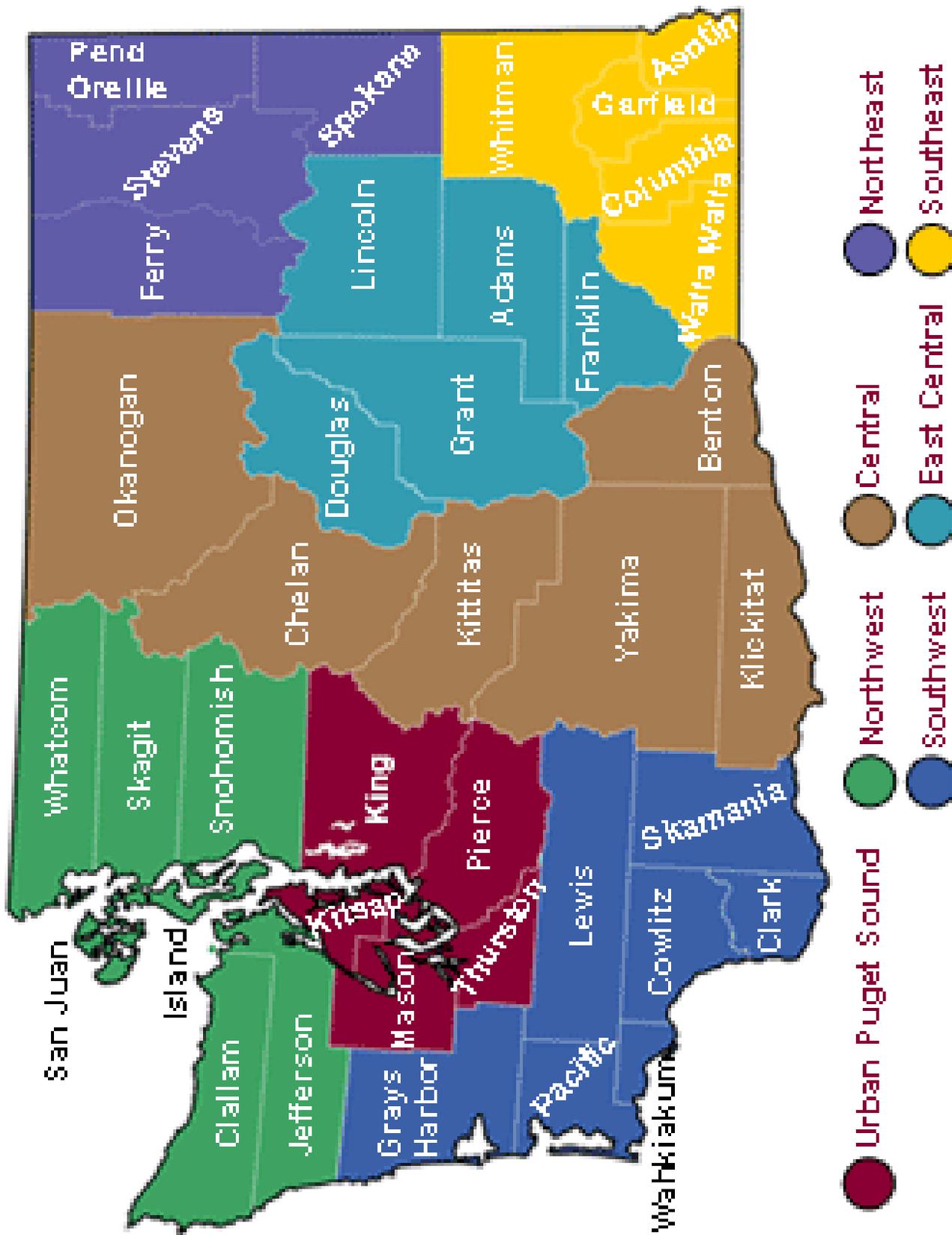
Map showing the locations of listed and surveyed Heritage Barns. Basemap and surveyed barn location data by Artifacts Consulting, Inc. 2008. Listed Heritage barn locations courtesy of the Washington State Department of Archaeology and Historic Preservation GIS services.



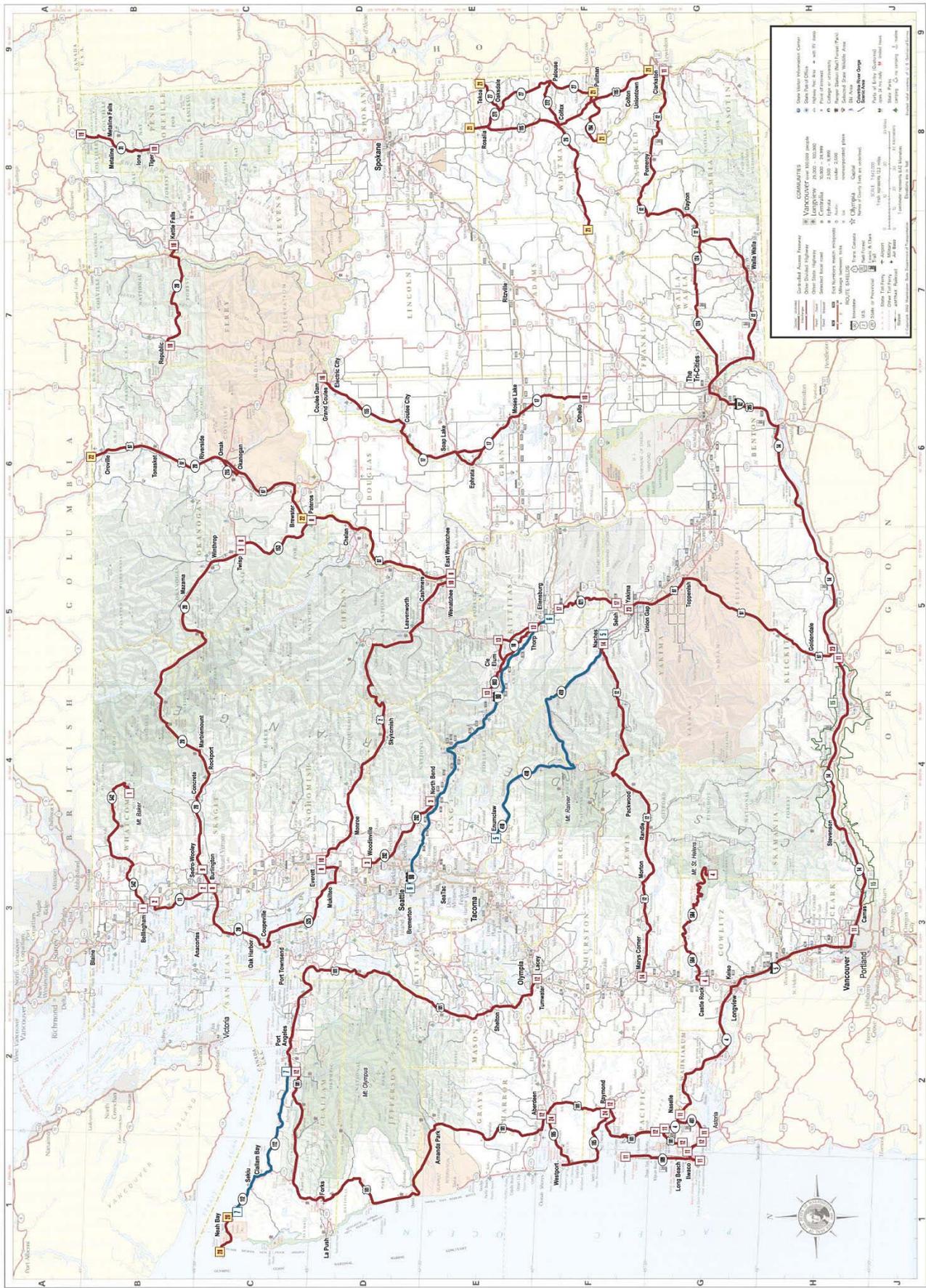
# Heritage Register Barn Applicants Per County Round 1 & Round 2 Totals



Heritage Barn register listings by county for rounds one and two. Map courtesy of the Washington State Department of Archaeology and Historic Preservation.



Washington state agricultural regions. Source: Washington State Department of Agriculture.



Washington state scenic byways map. Source: Washington State Department of Transportation.

## 6.2 LISTING

The following list (see [Table 6.2.1](#)) those 112 Heritage Barns (out of a total of 292 listed) surveyed as part of the field work for the physical needs assessment. The field site numbers correspond with the the Washington State Department of Archaeology and Historic Preservation (DAHP) Historic Property Inventory forms completed for each barn surveyed. These forms are entered into DAHP’s electronic database with accompanying photographs and physical descriptions. Current and historic use classifications stem from previous survey terminology utilized by the National BarnAgain! Program to facilitate future comparative efforts.

The map below shows the Heritage Barns surveyed and their corresponding field site number. This field site number cross references with the [Table 6.2.1](#) and the DAHP Historic Property Inventory Forms.

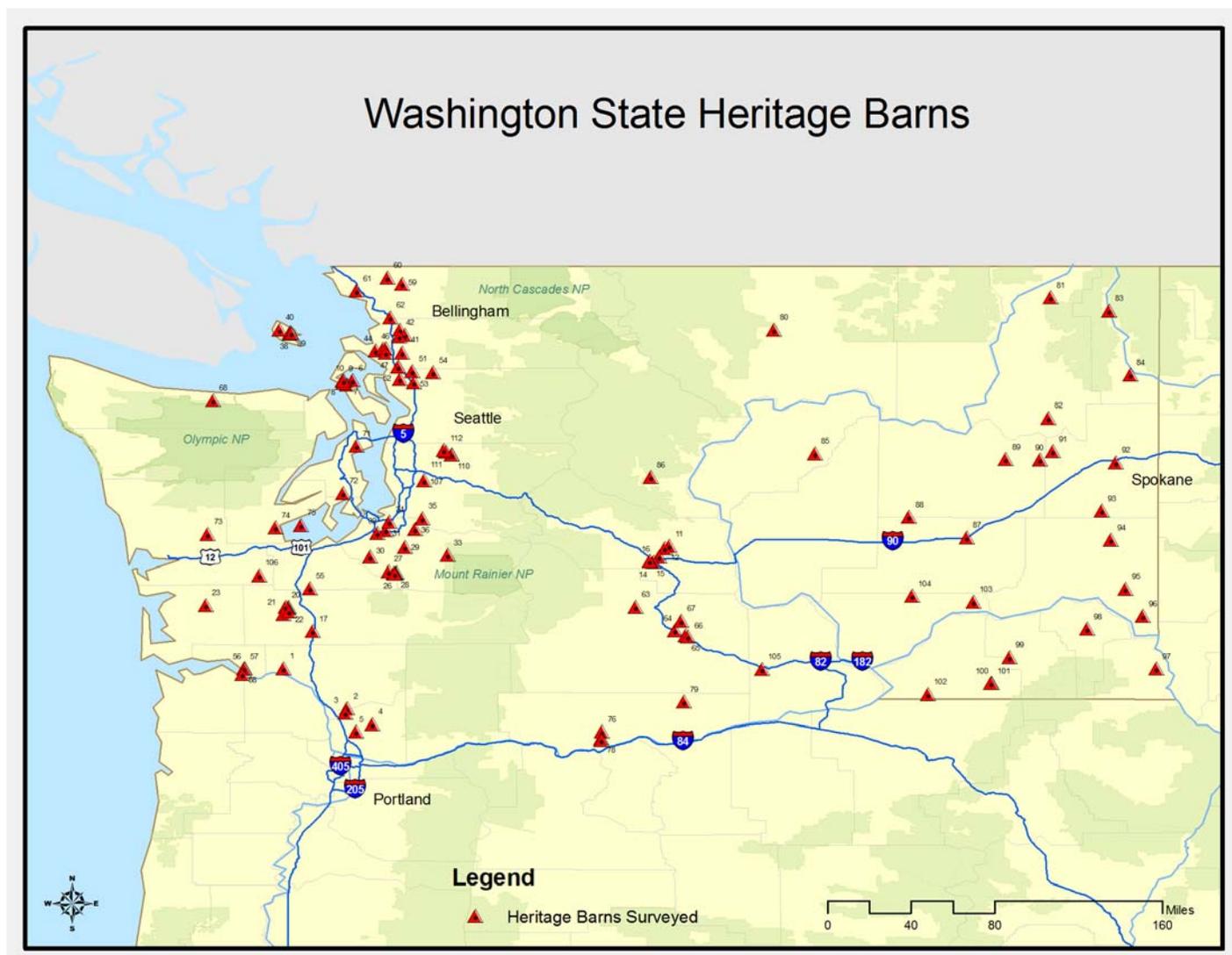


TABLE 6.2.1 HERITAGE BARNs SURVEYED

<u>FIELD SITE NO.</u>	<u>INTENSIVE</u>	<u>COUNTY</u>	<u>FARM NAME</u>	<u>DOC</u>	<u>BARN TYPE</u>	<u>HISTORIC USE</u>	<u>CURRENT USE</u>	<u>IMAGE</u>
1	No	Cowlitz	Sudar Farm	1930	Dutch Gambrel	Livestock/Hay Storage	Livestock/General Storage	
2	No	Clark	Carlson Farm	1941	Dutch Gambrel	Dairy	Dairy	
3	No	Clark	MacPherson Farm	1940s	Dutch Gambrel	Dairy	General Storage	
4	No	Clark	Heisen Farm	1898	Gable	Livestock/Hay Storage	Vacant	
5	No	Clark	Old Schwartz Farm	1917	Dutch Gambrel	Dairy	Vacant	
6	Yes	Island	Kineth Farm	1903	Gable	Livestock/Hay Storage	Retail/Marketing	

TABLE 6.2.1 HERITAGE BARNs SURVEYED

FIELD SITE NO.	INTENSIVE	COUNTY	FARM NAME	DOC	BARN TYPE	HISTORIC USE	CURRENT USE	IMAGE
7	Yes	Island	Colonel Walter Crockett Farm	1895	Hip	Livestock/Hay Storage	General Storage	
8	No	Island	Sherhill Vista Farms	1942	Monitor	Livestock/Hay Storage	Livestock/Hay Storage	
9	No	Island	Willowood Farm	1880	Gable-on-hip	Hay Storage	Education	
10	Yes	Island	Ebey Road Farm - Barn & Granary	1899, 1923	Gable with Lean-to-Addition	Dairy/Hay Storage	Dairy/Hay Storage	
11	No	Kittitas	Borin - Bullock Barn	1910	Gable-on-Hip with Cross Gable	Livestock/Hay Storage	General Storage	
12	No	Kittitas	Hanson Farm	1927	Gambrel	Dairy/Hay Storage	General Storage	

TABLE 6.2.1 HERITAGE BARNs SURVEYED

<u>FIELD SITE NO.</u>	<u>INTENSIVE</u>	<u>COUNTY</u>	<u>FARM NAME</u>	<u>DOC</u>	<u>BARN TYPE</u>	<u>HISTORIC USE</u>	<u>CURRENT USE</u>	<u>IMAGE</u>
13	No	Kittitas	U Lazy U Farms	1895	Gable	Dairy/Hay Storage	Livestock/Hay Storage	
14	No	Kittitas	Acheson Ranch	1890	Gable	Dairy/Hay Storage	General Storage	
15	No	Kittitas	Old McNeil Ranch	1906	Gambrel	Dairy/Hay Storage	General Storage	
16	No	Kittitas	Flying Pig	1916	Broken Gable	Livestock/Hay Storage	Commercial	
17	No	Lewis	Roth Family Farm	1917	Gable	Dairy/Hay Storage	General Storage	
18	No	Lewis	Gregory Farms	1894	Broken Gable	Dairy/Hay Storage	Livestock/Hay Storage	

TABLE 6.2.1 HERITAGE BARN SURVEYED

FIELD SITE NO.	INTENSIVE	COUNTY	FARM NAME	DOC	BARN TYPE	HISTORIC USE	CURRENT USE	IMAGE
19	No	Lewis	VT Farm	1900	Dutch Gambrel	Dairy/Hay Storage	Livestock/Hay Storage	
20	No	Lewis	Rosecrest Farm	1914	Dutch Gambrel	Dairy/Hay Storage	Dairy/Hay Storage	
21	Yes	Lewis	Boistfort Valley Farm	1913	Dutch Gambrel	Livestock/Hay Storage	General Storage	
22	No	Lewis	Homestead Farm	1915	Gable	Dairy/Hay Storage	Livestock/Hay Storage	
23	No	Pacific	Sleepy Meadows Farm	1900	Varied: Western Monitor & Gable with Lean-to-Addition	Dairy/Hay Storage	Vacant	
24	No	Pierce	Hillside Organic Farm	1930	Dutch Gambrel	Dairy/Hay Storage	Vacant	

TABLE 6.2.1 HERITAGE BARNs SURVEYED

<u>FIELD SITE NO.</u>	<u>INTENSIVE</u>	<u>COUNTY</u>	<u>FARM NAME</u>	<u>DOC</u>	<u>BARN TYPE</u>	<u>HISTORIC USE</u>	<u>CURRENT USE</u>	<u>IMAGE</u>
25	No	Pierce	Ohop Valley Equestrian Center	1920	Gable	Dairy/Hay Storage	Livestock/Hay Storage	
26	Yes	Pierce	Klumpar Ohop Valley Ranch	1935	Dutch Gambrel	Dairy/Hay Storage	Livestock/Hay Storage	
27	No	Pierce	Run Amok Farm	1940	Western Monitor	Dairy/Hay Storage	Livestock/Hay Storage	
28	No	Pierce	Ohop Milk Farm	1940	Dutch Gambrel	Dairy/Hay Storage	Vacant	
29	Yes	Pierce	Castlegate Farm	1941	Varied: Broken Gable & Gable	Livestock/Hay Storage	Livestock/Hay Storage	
30	No	Pierce	Ledford Ranch	1938	Gable with Lean-to-Addition	Dairy/Hay Storage	Vacant	

TABLE 6.2.1 HERITAGE BARNs SURVEYED

FIELD SITE NO.	INTENSIVE	COUNTY	FARM NAME	DOC	BARN TYPE	HISTORIC USE	CURRENT USE	IMAGE
31	Yes	Pierce	Cox Farm	1902	Gothic Arch	Dairy/Hay Storage	General Storage	
32	No	Pierce	Lakeview Dairy	1900	Gable	Dairy/Hay Storage	Collapsed	
33	Yes	Pierce	Marsh Property	1902	Varied: Saltbox & Gable	Dairy/Hay Storage	General Storage	
34	No	Pierce	Eagles Acres	1900	Gothic Arch	Dairy/Hay Storage	General Storage	
35	No	Pierce	Hummel Barn	1909	Gambrel	Dairy/Hay Storage	Vacant	
36	No	Pierce	Narnia Farm	1913	Varied: Gambrel & Gable	Dairy/Hay Storage	Livestock/Hay Storage	

TABLE 6.2.1 HERITAGE BARNs SURVEYED

<u>FIELD SITE NO.</u>	<u>INTENSIVE</u>	<u>COUNTY</u>	<u>FARM NAME</u>	<u>DOC</u>	<u>BARN TYPE</u>	<u>HISTORIC USE</u>	<u>CURRENT USE</u>	<u>IMAGE</u>
37	No	San Juan	Barnswallow Farm	1899	Broken Gable	Dairy/Hay Storage	Vacant	
38	Yes	San Juan	Lazy G Ranch	1890	Gable-on-Hip with Cross Gable	Livestock/Hay Storage	Livestock/Hay Storage	
39	No	San Juan	Valley View Farm	1933	Broken Gable	Dairy/Hay Storage	Machinery Storage	
40	No	San Juan	Sweetwater Farm	1900	Gable with Lean-to-Addition	Livestock/Hay Storage	Livestock/Hay Storage	
41	No	Skagit	McCloud Barn	1904	Gable with Lean-to-Addition	Dairy/Hay Storage	General Storage	
42	No	Skagit	Ephriam Shassay Barn	1909	Gable	Dairy/Hay Storage	General Storage	

TABLE 6.2.1 HERITAGE BARNs SURVEYED

FIELD SITE NO.	INTENSIVE	COUNTY	FARM NAME	DOC	BARN TYPE	HISTORIC USE	CURRENT USE	IMAGE
43	No	Skagit	Lagerwood Farms	1900	Broken Gable	Dairy/Hay Storage	Livestock/Hay Storage	
44	Yes	Skagit	Michael J. Sullivan Barn	1885	Gable	Livestock/Hay Storage	General Storage	
45	No	Skagit	Prater Barn	1900	Gambrel with Lean-to-Addition	Dairy/Hay Storage	General Storage	
46	No	Skagit	Jaquith Family Farm	1927	Gothic Arch	Dairy/Hay Storage	General Storage	
47	No	Skagit	Andrew Johnson Farm	1906	Broken Gable with Gable-on-Hip rear	Livestock/Hay Storage	Vacant	
48	No	Skagit	Weaver Barn	1933	Broken Gable	Dairy/Hay Storage	General Storage	

TABLE 6.2.1 HERITAGE BARNs SURVEYED

<u>FIELD SITE NO.</u>	<u>INTENSIVE</u>	<u>COUNTY</u>	<u>FARM NAME</u>	<u>DOC</u>	<u>BARN TYPE</u>	<u>HISTORIC USE</u>	<u>CURRENT USE</u>	<u>IMAGE</u>
49	No	Skagit	Jensen Barn	1902	Gable with Lean-to-Addition	Dairy/Hay Storage	General Storage	
50	No	Snohomish	Fourflips Farm	1935	Dutch Gambrel	Livestock/Hay Storage	Livestock/Hay Storage	
51	No	Snohomish	Old Gust Olson Farm	1925	Broken Gambrel	Dairy/Hay Storage	General Storage	
52	No	Snohomish	Whispering Winds Farms	1935	Dutch Gambrel	Dairy/Hay Storage	General Storage	
53	Yes	Snohomish	Grimm-Jensen Farm	1932	Broken Gable	Dairy/Hay Storage	Vacant	
54	No	Snohomish	Eiseman Barn	1918	Gable with Lean-to-Addition	Livestock	General Storage	

TABLE 6.2.1 HERITAGE BARNs SURVEYED

FIELD SITE NO.	INTENSIVE	COUNTY	FARM NAME	DOC	BARN TYPE	HISTORIC USE	CURRENT USE	IMAGE
55	No	Thurston	Townsend Family Farm	1930	Varied: Gambrel & Gable	Dairy/Hay Storage	General Storage	
56	Yes	Wahkiakum	Nutter Barn	1872	Octagonal	Dairy/Hay Storage	General Storage	
57	No	Wahkiakum	Ostervold Farm	1915	Gable with Lean-to-Additions	Livestock/Hay Storage	Vacant	
58	Yes	Wahkiakum	Panche Hackney House Farm	1940	Arch	Dairy/Hay Storage	Livestock	
59	No	Whatcom	Helgeson Barn	1890	Broken Gable	Dairy/Hay Storage	General Storage	
60	Yes	Whatcom	Rocky Mountain Dairy	1932	Gothic Arch	Dairy/Hay Storage	General Storage	

TABLE 6.2.1 HERITAGE BARNs SURVEYED

<u>FIELD SITE NO.</u>	<u>INTENSIVE</u>	<u>COUNTY</u>	<u>FARM NAME</u>	<u>DOC</u>	<u>BARN TYPE</u>	<u>HISTORIC USE</u>	<u>CURRENT USE</u>	<u>IMAGE</u>
61	No	Whatcom	Hovander Farms	1910	Dutch Gambrel	Dairy/Hay Storage	General Storage	
62	No	Whatcom	Old Samish Farm	1935	Broken Gable	Livestock/Hay Storage	General Storage	
63	No	Yakima	Schneider Black Angus Cattle Co.	1930	Western Monitor	Dairy/Hay Storage	Livestock/Hay Storage	
64	Yes	Yakima	Herke Hop Kiln	1915	Varied: Hip & Gable	Hop Kiln	Vacant	
65	No	Yakima	Lightning J. Ranch	1915	Broken Gable	Livestock/Hay Storage	Livestock/Hay Storage	
66	No	Yakima	Barbee Orchards	1915	Gable with Lean-to-Addition	Hay/Cherry Storage	General Storage	

TABLE 6.2.1 HERITAGE BARNs SURVEYED

FIELD SITE NO.	INTENSIVE	COUNTY	FARM NAME	DOC	BARN TYPE	HISTORIC USE	CURRENT USE	IMAGE
67	No	Yakima	Rumble Ranch	1910	Western Monitor	Dairy/Hay Storage	General Storage	
68	No	Clallam	Mountain View Farm	1937	Gable	Dairy	Livestock/Hay Storage	
69	No	Clallam	Cedarfield Shires & Gypsy Horses	1937	Dutch Gambrel	Dairy	Hay storage/general storage	
70	No	Jefferson	Yarr Barn	1948	Dutch Gambrel	Dairy/Hay Storage	General Storage	
71	Yes	Kitsap	Stottlemyer Farm	1922	Varied: Gable & Lean-to-Additions	Livestock/Hay Storage	General Storage	
72	No	Kitsap	Glenwood Farm	1920	Broken Gable	Dairy/Hay Storage	General Storage	

TABLE 6.2.1 HERITAGE BARNs SURVEYED

<u>FIELD SITE NO.</u>	<u>INTENSIVE</u>	<u>COUNTY</u>	<u>FARM NAME</u>	<u>DOC</u>	<u>BARN TYPE</u>	<u>HISTORIC USE</u>	<u>CURRENT USE</u>	<u>IMAGE</u>
73	Yes	Grays Harbor	Cloverdale Farm	1931	Gothic Arch with Cross Gothic Arch	Dairy/Hay Storage	General Storage	
74	Yes	Mason	Alderbrook Farm	1885	Gable	Dairy/Hay Storage	Livestock/Hay Storage	
75	No	Mason	Libby Farm	1914	Gable	Agricultural Storage	General Storage	
76	Yes	Klickitat	Crocker Ranch	1915	Other: 14 sided	Livestock/Hay Storage	General Storage	
77	No	Klickitat	Sarsfield Farm	1914	Gable	Livestock/Hay Storage	Hay storage	
78	No	Klickitat	Kayser Ranch	1900	Broken Gable with Lean-to-Addition	Livestock/Hay Storage	Livestock/Hay Storage	

TABLE 6.2.1 HERITAGE BARNs SURVEYED

FIELD SITE NO.	INTENSIVE	COUNTY	FARM NAME	DOC	BARN TYPE	HISTORIC USE	CURRENT USE	IMAGE
79	No	Klickitat	Lasley Ranch	1917	Broken Gable	Livestock/Hay Storage	Machinery Storage	
80	Yes	Okanogan	Olson Long Ranch	1890	Varied: Gable with Lean-to-Addition & Gable-on-Hip	Livestock/Hay Storage	Livestock/Hay Storage	
81	Yes	Stevens	Han Shan Farm	1921	Gable	Livestock/Hay Storage	Vacant	
82	No	Stevens	Schaffner Farm	1926	Gable	Dairy/Draft Horses/Hay Storage	Livestock/Hay Storage	
83	No	Pend Oreille	To Honor Community Farm	1912	Gable with Lean-to-Addition	Livestock/Hay Storage	Hay/General Storage	
84	Yes	Pend Oreille	LaPorte Barn	1916	Dutch Gambrel	Livestock/Hay Storage	General Storage	

TABLE 6.2.1 HERITAGE BARNs SURVEYED

<u>FIELD SITE NO.</u>	<u>INTENSIVE</u>	<u>COUNTY</u>	<u>FARM NAME</u>	<u>DOC</u>	<u>BARN TYPE</u>	<u>HISTORIC USE</u>	<u>CURRENT USE</u>	<u>IMAGE</u>
85	No	Douglas	Syth Barn	1925	Dutch Gambrel	Livestock/Hay Storage	General Storage	
86	Yes	Chelan	Remley Orchards	1910	Broken Gable	Draft Horse/Hay Storage	General Storage	
87	No	Adams	Galbreath Land & Livestock	1905	Arch	Draft Horse/Hay Storage	Livestock/General Storage	
88	No	Adams	Red Goose Inc. Farm	1915	Broken Gable	Draft Horse/Hay Storage	Livestock/Equipment Storage	
89	No	Lincoln	Straub Farm	1902	Gable with Lean-to-Addition	Draft Horse/Hay Storage	Personal Storage	
90	No	Lincoln	Nelson Barn	1915	Gothic Arch	Draft Horse/Hay Storage	Livestock/Storage	

TABLE 6.2.1 HERITAGE BARNs SURVEYED

FIELD SITE NO.	INTENSIVE	COUNTY	FARM NAME	DOC	BARN TYPE	HISTORIC USE	CURRENT USE	IMAGE
91	No	Spokane	Hyslop Farm	1926	Gothic Arch	Draft Horse/Hay Storage	Livestock/Hay Storage	
92	Yes	Spokane	Long Barn Farm	1903	Gable	Dairy/Hay Storage	Livestock/Hay Storage	
93	No	Spokane	Norm Paulson Farm	1927	Gothic Arch	Draft Horse/Hay Storage	Livestock/Hay Storage	
94	No	Whitman	George Comegys Farm	1926	Gable with Lean-to-Addition	Draft Horse/Hay Storage	Vacant	
95	No	Whitman	Old Bush Place	1922	Gothic Arch	Draft Horse/Hay Storage	Livestock/Hay Storage	
96	No	Whitman	Red Barn Farms	1903	Gambrel with Lean-to-Addition	Dairy/Hay Storage	Retail/Marketing	

TABLE 6.2.1 HERITAGE BARNs SURVEYED

<u>FIELD SITE NO.</u>	<u>INTENSIVE</u>	<u>COUNTY</u>	<u>FARM NAME</u>	<u>DOC</u>	<u>BARN TYPE</u>	<u>HISTORIC USE</u>	<u>CURRENT USE</u>	<u>IMAGE</u>
97	Yes	Asotin	Bolick Barn	1895	Broken Gable with Lean-to-Addition	Draft Horse/Hay Storage	Equipment Storage	
98	No	Garfield	Van Vogt Family Farm	1910	Gothic Arch	Draft Horse/Hay Storage	Vacant	
99	No	Columbia	Shiloh Farm	1908	Gambrel	Draft Horse/Hay Storage	Vacant	
100	Yes	Walla Walla	Kibler Family Farm	1918	Dutch Gambrel with Cross Gable	Draft Horse/Hay Storage	Livestock/Hay Storage	
101	No	Walla Walla	Kibler Family Farm	1890	Broken Gable	Draft Horse/Hay Storage	Livestock/Hay Storage	
102	Yes	Walla Walla	Weary Farm	1880	Broken Gable	Draft Horse/Hay Storage	Vacant	

TABLE 6.2.1 HERITAGE BARNs SURVEYED

FIELD SITE NO.	INTENSIVE	COUNTY	FARM NAME	DOC	BARN TYPE	HISTORIC USE	CURRENT USE	IMAGE
103	No	Franklin	Jo-So Stock Farm	1912	Broken Gable	Draft Horse/Hay Storage	Livestock/Hay Storage	
104	No	Franklin	Hart Farm	1915	Gothic Arch	Draft Horse/Hay Storage	Shop/Grain Storage	
105	No	Benton	Hand Print Farms	1908	Broken Gable	Dairy/Hay Storage	Horses/Hay Storage	
106	No	Grays Harbor	Oakville Barn	1930s	Gable	Livestock/Hay Storage	Vacant	
107	No	King	Red Barn (Colasurdo Barn)	1949	Dutch Gambrel	Dairy	Horses/Hay Storage	
108	No	King	Stuart Landing Barn A	1930s	Gable	Dairy	General Storage	

TABLE 6.2.1 HERITAGE BARNs SURVEYED

<u>FIELD SITE NO.</u>	<u>INTENSIVE</u>	<u>COUNTY</u>	<u>FARM NAME</u>	<u>DOC</u>	<u>BARN TYPE</u>	<u>HISTORIC USE</u>	<u>CURRENT USE</u>	<u>IMAGE</u>
109	No	King	Stuart Landing Barn B	1940s	Gable	Dairy	General Storage/Shop	
110	No	King	Stuart Landing Barn C	1950s	Gable	Dairy/Hay Storage	Commercial	
111	No	King	The Farm at Novelty (Novelty Hill Farm)	1932	Dutch Gambrel	Dairy/Hay Storage	Veterinary/Living Space	
112	No	King	Allen Farm	1916	Gambrel	Dairy	Chickens/Hay Storage/General Storage	

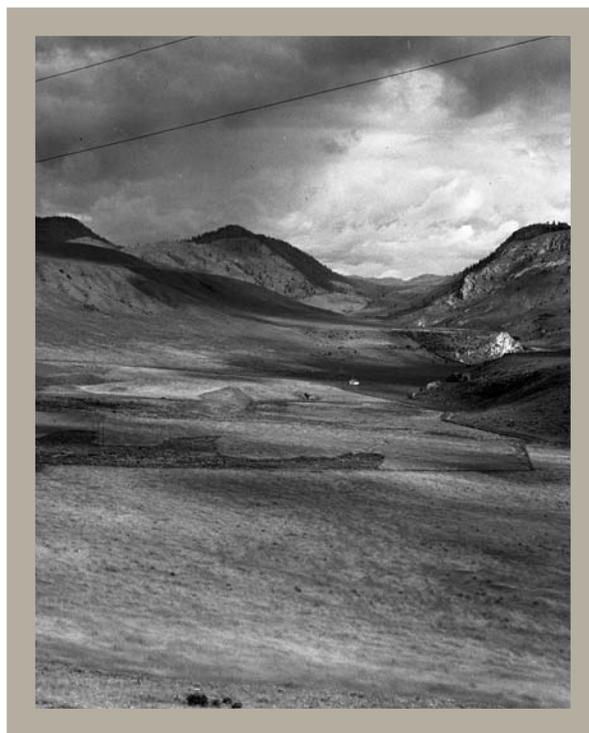




## 6.3 RESOURCES

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The following section provides a summary of resource information collected during the research phase of this project. While this list is not exhaustive, it does contain those information sources that yielded some of the best information relative to barn preservation.



1930s countryside view in Eastern Washington. Photograph courtesy of the Washington State Archives.

## 6.3.1 INFORMATION RESOURCES

### 5.3.1.1 ORGANIZATIONS

- *BARN AGAIN!* – National barn preservation program sponsored by the National Trust for Historic Preservation and *Successful Farming* magazine. Website, technical assistance, awards, research, publications. Contact: Jim Lindberg; 303 623-1504; [www.barnagain.org](http://www.barnagain.org)
- National Barn Alliance – National organization of barn preservation programs. Encourages documentation of historic barns, creation of state and local barn preservation programs, sharing of information about barn rehabilitation. [www.barnalliance.org](http://www.barnalliance.org)
- American Farmland Trust – National organization dedicated to conservation of farmland. [www.farmland.org](http://www.farmland.org)
- Iowa Barn Foundation – Statewide nonprofit organization dedicated to preservation of Iowa's barns. Website, grants, awards, tours and other events, resources for barn owners. [www.iowabarnfoundation.org](http://www.iowabarnfoundation.org)
- Vermont Division for Historic Preservation – State Historic Preservation Office has had an active barn preservation program since 1991, including a grants program. Contact: Nancy Boone; 802 828-3045; [www.historicvermont.org](http://www.historicvermont.org)

### 5.3.1.2 WEBSITES

- *BARN AGAIN!* ([www.barnagain.org](http://www.barnagain.org)) – Articles and video clips on barn preservation from *Successful Farming*; “Barn Talk” interactive forum; recommended reading; publications list/order form; awards application.
- Historic Barns ([www.heartlandscience.org/barns/barns](http://www.heartlandscience.org/barns/barns)) – Illustrated history of barn types.
- National Barn Alliance ([www.barnalliance.org](http://www.barnalliance.org)) – Standard barn and farmstead survey form, with volunteer training information; “Barn Rehabilitation Case Study Form;” barn photo gallery; information on state barn preservation programs.
- The Barn Journal ([www.thebarnjournal.org](http://www.thebarnjournal.org)) - Reader-supported website with general information about barns: history, preservation, barn people, barn stories, book reviews.
- USDA Census of Agriculture ([www.agcensus.usda.gov](http://www.agcensus.usda.gov)) - Agriculture statistics; in 2009, will include county-by-county data on barns.
- USDA Economic Research Service: State Fact Sheets: Washington ([www.ers.usda.gov/StateFacts/WA.htm](http://www.ers.usda.gov/StateFacts/WA.htm)) - Washington agricultural statistics.
- Washington State University Center for Sustaining Agriculture and Natural Resources (CSANR) ([www.csanr.wsu.edu](http://www.csanr.wsu.edu)) – Information about sustainable agriculture, organic farming and small farms in Washington State.
- Washington State University Small Farms Team ([www.smallfarms.wsu.edu](http://www.smallfarms.wsu.edu)) - Information about small farms in Washington, including “Buy Direct” and farmers market directory.

### 5.3.1.3 PUBLICATIONS

- Auer, Michael J. *The Preservation of Historic Barns. Preservation Briefs 20.* U.S. Department of the Interior National Park Service, Preservation Assistance Division, 1989. (Available online: <http://www.nps.gov/history/hps/tps/briefs/brief20.htm>)
- Goodall, Harrison. *Log Structures: Preservation and Problem Solving.* Nashville: American Association for State and Local History, 1980.
- Herron, John and Andrew Kirk. *Barn Aid Series Number 2: New Spaces for Old Spaces.* Denver: National Trust for Historic Preservation, Mountain/Plains Regional Office, 1996.
- Hoogterp, Edward. *Historic Barns: Working Assets for Sustainable Farms.* Denver, CO: National Trust for Historic Preservation, 2007. (Available online: <http://www.preservationnation.org/issues/rural-heritage/additional-resources/Historic-Barns-Sustainable-Farms.pdf>)

- *Humstone, Mary. BARN AGAIN!: A Guide to Rehabilitation of Older Farm Buildings. Meredith Corporation and The National Trust for Historic Preservation, 1988.*
- *Johnson, Curtis D. and Thomas Visser. Taking Care of Your Barn. Montpelier, VT: Vermont Division for Historic Preservation, 1995. (Available on line: <http://www.uvm.edu/%7Evhnet/hpres/publ/barnb/bbtit.html>)*
- *Johnson, Dexter W. Using Old Farm Buildings. Forum Information Series, No. 46. Washington, DC: National Trust for Historic Preservation, 1989.*
- *Kirk, Andrew. Barn Aid Series Number 1: Barn Foundations. Denver: National Trust for Historic Preservation, Mountain/Plains Regional Office, 1996.*
- *Kirk, Andrew. Barn Aid Series Number 3: Barn Exteriors and Painting. Denver: National Trust for Historic Preservation, Mountain/Plains Regional Office, 1996.*
- *Porter, John and Francis Gilman. Preserving Old Barns. New Hampshire Preservation Alliance, n.d.*

#### 5.3.1.4 VIDEOS

- “Barn Again!: Celebrating the Restoration of Historic Farm Buildings.” Available from GPN, P.O. Box 80669, Lincoln, Nebraska, 68501. (402)472-3611.

## 6.3.2 SAN JUAN COUNTY OPEN SPACE PROGRAM

The following code chapter originates from the San Juan County Code and is available through the Municipal Research Service Council. This chapter is provided as a reference tool as an example of a local open space program.

Code Sections:

*16.50.010 Purpose.*

*16.50.020 Goals.*

*16.50.030 Authority.*

*16.50.040 Applicability.*

*16.50.050 Program review.*

*16.50.100 Definitions.*

*16.50.200 Designation categories and conditions.*

*16.50.210 Resource category – Natural and scenic resources.*

*16.50.220 Resource category – Water resources.*

*16.50.230 Resource category – Fragile resources.*

*16.50.240 Resource category – Lands abutting property of public value.*

*16.50.250 Resource categories – Compatible recreational use areas.*

*16.50.260 Historic sites.*

*16.50.270 Resource category – Open space within communities.*

*16.50.275 Public access category – Level of access.*

*16.50.280 Resource protection category.*

*16.50.300 Public benefit rating system.*

*16.50.310 Open space classification questionnaire.*

*16.50.320 Valuation criteria – Point score and public benefit rating.*

*16.50.330 Assessed valuation schedule.*

*16.50.340 Addition of property to existing open space agreement.*

*16.50.350 Noxious weeds.*

*16.50.400 Administration roles.*

*16.50.410 Board of County commissioners.*

*16.50.420 County assessor.*

*16.50.430 Open space advisory team.*

- 16.50.440 Administrator.
- 16.50.450 Planning commission.
- 16.50.500 Application processing.
- 16.50.510 Submittal and fee.
- 16.50.520 Eligibility for review.
- 16.50.530 Application review.
- 16.50.540 Public notice.
- 16.50.550 Public hearing.
- 16.50.560 Board decision.
- 16.50.570 Procedures on approval.
- 16.50.580 Procedures on denial.
- 16.50.590 Processing time.
- 16.50.600 Open space taxation agreement.
- 16.50.610 Transfer of ownership.
- 16.50.620 Revision of conditions.
- 16.50.630 Increasing public benefit commitment.
- 16.50.700 Change in use/withdrawal.

16.50.800 Removal from classification.

\* Prior legislation: Ords. 6-1996, 3-1991, 41-1990 and Res. 2-1988.

16.50.010 Purpose.

The purpose of the open space program is to encourage landowners to dedicate land containing valued resources/features to open space classification, and to

- A. Rate the public benefit of land so dedicated;
- B. Provide for proportionate abatement of assessed value on land so dedicated; and
- C. Regulate the use of land so dedicated. (Ord. 5-1998)

16.50.020 Goals.

The open space program intent is to preserve systems essential to the quality of life on the islands and to the enjoyment and nurture of current and future generations. The open space goals are as follows:

- A. To conserve and enhance natural or scenic resources;
- B. To protect streams or water supply;
- C. To create and enhance recreational opportunities for public use and enjoyment;

- D. To promote conservation of soils, wetlands, beaches, or tidal marshes;
- E. To enhance the value to the public of abutting or neighboring parks, forests, wildlife preserves, nature reservations or sanctuaries, or other open space;
- F. To reduce residential density;
- G. To preserve historic sites;
- H. To preserve visual quality along public roads, ferry corridors, and scenic vistas;
- I. To retain in their natural state those tracts of land not less than one acre that are situated in urban areas and open to public use on such conditions as may be reasonably required by the legislative body granting the open space classification; and
- J. To preserve farm and agricultural conservation land. (Ord. 5-1998)

#### 16.50.030 Authority.

San Juan County adopts the ordinance codified in this chapter under the authority of Chapter 84.34 RCW on Open Space Current Use Assessment. (Ord. 5-1998)

#### 16.50.040 Applicability.

The open space program applies to all taxable properties within San Juan County. The provisions of the program shall prevail over any conflicting provision of other portions of the Comprehensive Plan, Shoreline Master Plan, and other currently existing sub-area plans. (Ord. 5-1998)

#### 16.50.050 Program review.

The open space program shall be reviewed at least once every three years by the planning commission, who will advise the board of County commissioners of their findings. (Ord. 5-1998)

#### 16.50.100 Definitions.

The following definitions apply only to the open space program:

1. "Archaeological site" means a documented area of ancestral human use such as middens, burial grounds, earthworks, etc.
2. "Assessed valuation schedule" means the conversion of point scores to percentage of assessment abatement under the public benefit rating system.
3. "Critical habitat" means an area or type of environment that is of limited quantity, and is therefore of crucial importance to the perpetuation of the organism or biological population that normally lives or occurs there.
4. "Cultural area" means a site or item of symbolic significance to a cultural group, community, and/or society, such as a religious site, a national boundary marker, a legendary site, etc.
5. "Current use" means the use to which land is presently being put.
6. "Ecological balance" means the pattern of relations between organisms and their environment when left in their natural state.
7. "Endangered" means a species that is in danger of extinction throughout all or a significant portion of its range (classified by the State Department of Wildlife, WAC 232-12-014 and the Department of Natural Resources, State of Washington Natural Heritage Plan).

8. “Management conditions” are conditions the County may impose for developing, managing, and maintaining land classified as open space.
9. “Monitor species” means species of special interest at the state level because they have, for example, significant popular appeal, require limited habitat during some portion of their life cycle, are indicators of environmental quality, require further field investigations to determine population status, have unresolved taxonomic problems that may bear upon status classifications, or were justifiably removed from endangered, threatened, or sensitive classifications (Washington Department of Wildlife, Nongame Program definition).
10. “Noxious weed” means a plant that when established is highly destructive, competitive, or difficult to control by cultural or chemical practices.
11. “Noxious weed list” means a list of noxious weeds adopted by the State Noxious Weed Control Board. The list is divided into three classes:
- Class A consists of those noxious weeds not native to the state that are of limited distribution or are unrecorded in a region of the state and that pose a serious threat to the state; and
  - Class B consists of those noxious weeds not native to the state that are of limited distribution or are unrecorded in a region of the state and that pose a serious threat to that region; and
  - Class C consists of any other noxious weeds.
12. “Passive recreation” means non-motorized recreational uses, such as hiking, biking, or picnicking, with the exception of motorized wheelchairs or similar modes of transportation for mobility-impaired individuals.
13. “Public benefit” means for the good or the improvement of the general welfare of the community, in keeping with the goals set forth in SJCC 16.50.020.
14. “Public benefit rating” means the relative value to the public of resources/features existing on the land, as determined by the public benefit rating (a point value assignment) system.
15. “Public benefit rating system” means the process by which the relative value of resources, features on application lands, are evaluated.
16. “Sanctuaries” are places of refuge for plants and animals.
17. “Sensitive species” are species that could become threatened if current water, land, and environmental practices continue (classified by the Department of Wildlife, Nongame Program, and the Department of Natural Resources, State of Washington Natural Heritage Plan).
18. “Threatened” means a species that is likely to become an endangered species within the foreseeable future (classified by the Department of Wildlife, Wildlife Policy No. 602, and the Department of Natural Resources, State of Washington Natural Heritage Plan).
19. “Unique habitat” means an area or type of environment supporting an organism or population that is rare, endemic, or limited within San Juan County.
20. “Valuation criteria” means the standards which will be applied during the review of resources/features to determine the point value assignment score.
21. “Wetlands” are lands transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered by shallow water. Wetlands must have one or more of the following three attributes: (a) at least periodically, the land supports predominantly hydrophytes; (b) the substrate is

predominantly un-drained hydric soil; and (c) the substrate is non-soil and is saturated with water or covered by shallow water at some time during the growing season of each year (Cowardin et al., 1979). (Ord. 5-1998)

#### 16.50.200 Designation categories and conditions.

The categories designated in this section describe the resources and/or features that may be considered in evaluating land eligibility for open space classification under the public benefit rating system. The categories define these resources/features and provide criteria for eligibility. The development restrictions and public access are recommendations for appropriate use on land having the particular resource/feature. These recommendations are to be considered in determining appropriate conditions to be placed on land classified as open space. When more than one resource/feature appears on the land, the discrete recommendations are to be reasonably weighed with appropriate overall use(s) in determining management conditions.

Most of the resources/features are weighted with a priority multiplier. The priority multiplier reflects the level of importance of a given resource/feature and is identified in brackets at the end of the criteria section in most of the resource/feature categories, i.e. [3]. The priority multiplier is used in conjunction with the resource point-value to determine the total value of a resource/feature (see SJCC 16.50.320). Priority multipliers are not added to public access or resource protection categories. The point allocation for public access and resource protection is identified in the criteria section of the respective categories. The resources/features are divided into three broad categories: resources, resource protection, and public access. No more than forty points shall be granted for the resource category, and no more than a total of seventy points shall be granted for any one application. The number of points awarded for the resource protection and public access categories are not restricted by a cap. A minimum of thirty total points is required to qualify for open space classification. (Ord. 5-1998)

#### 16.50.210 Resource category – Natural and scenic resources.

A. Definition/Purpose. Conserves and enhances natural and scenic resources, such as sanctuary lands providing habitat for flora and fauna, natural shorelines, and vistas.

#### B. Criteria.

1. “Natural” designations as described under SJCC 18.20.140, 18.30.010(D) and 18.50.070(D), [2]. Points shall be awarded as follows:

a. Three points where more than two-thirds of the shoreline, the uplands, or a combination thereof, is located within a natural designation.

b. Two points where one-third to two-thirds of the shoreline, the uplands, or a combination thereof, is located within a natural designation.

c. One point where a portion of the property totaling less than one-third of the shoreline, the uplands, or a combination thereof, is located within a natural designation.

2. Visual Quality of the Site. This category addresses the visual quality of the site as seen from roads and/or ferry routes. One-half point shall be awarded for each of the resources noted below that are visible from public arterial roads/ferry routes, public collector roads and waterways, and from public access roads. Those resources visible from public major or minor arterial roads or ferry routes shall be multiplied by three for a maximum of nine points; those resources visible from public collector roads shall be multiplied by two for a maximum of six points; and, those resources visible from public access roads or waterways shall be multiplied by one for a maximum of three points. Road classifications shall be as noted in the Transportation Element of the SJC Comprehensive Plan:

Visible Resources X Visibility Multiplier

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Pasture land (0.5 pts) 3 – Major or minor arterial roads or ferry routes

Steep slopes (0.5 pts) 2 – Collector roads

Wetlands or 1 – Access roads or shoreline (.5 pts) waterways

Forest lands (0.5 pts)

Compatible development

(barns or other agriculturally related structures, or historical structures that add to the visual quality of the site; 0.5 pts)

No or minimal visible

development (except compatible development; 0.5 pts)

3. Significant wildlife area that provides habitat for numerous species of flora and fauna [3]. Points shall be awarded as follows:

- a. Three points where there is evidence of at least three undisturbed and separate habitats.
- b. Two points where there is evidence of at least two undisturbed and separate habitats, or a variety of disturbed habitats.
- c. One point where there is evidence of at least one habitat, or lower quality habitats.

C. Development Restrictions. No further development.

D. Public Access. Limited to those activities that will not threaten or destroy the resource/feature. (Ord. 14-2000 § 7(OO); Ord. 5-1998)

16.50.220 Resource category – Water resources.

A. Definition/Purpose. Protects functional watersheds, streams, stream corridors, aquifers, supporting wetlands, and other ground water recharge areas.

B. Criteria.

1. Lands within a priority watershed and aquifer recharge area are identified on the San Juan County Shoreline Master Program Designated Environments Map, or recognized in the San Juan County Watershed Ranking report, or identified in the Environmentally Sensitive Areas Overlay District, SJCC 18.30.140(A), [3]. Points shall be awarded as follows:

- a. Three points where the entire property is within a priority watershed or an aquifer recharge area.

- b. Two points where two-thirds or more of the property is within a priority watershed or an aquifer recharge area.
  - c. One point where one-third or more of the property is within a priority watershed or an aquifer recharge area.
2. Fresh water such as wetlands, lakes, and/or streams/stream corridors, as determined by San Juan County wetland maps, a qualified wetland specialist, and/or DNR stream types [3]. Points shall be awarded as follows:
- a. Three points where a category I wetland is located on the property.
  - b. Two points where a category II wetland and/or a type III or IV stream is located on the property.
  - c. One point where a category III or IV wetland and/or a type V stream are located on the property.
3. Salt water, such as tidal marshes and estuaries [3]. Points shall be awarded as follows:
- a. Three points where a wide variety of salt water resources exist, such as salt water marshes, tide pools, estuaries, coves, and beaches.
  - b. Two points where the variety and size of resources are limited but the quality is high.
  - c. One point where the resources are uniform and without unique features.
- C. Development Restrictions. No subdivision, no additional construction.
- D. Public Access. Limited to those activities that will not threaten or destroy the resource/feature. (Ord. 14-2000 § 7(PP); Ord. 5-1998)

16.50.230 Resource category – Fragile resources.

A. Definition/Purpose. Resources that are fragile and therefore more susceptible to degradation/loss. These include unique or critical wildlife and native plant habitat (species and their habitat that are classified “endangered”, “threatened”, “sensitive,” or “monitor”); delicate geological features, such as feeder bluffs and accretion shoreforms; and, other fragile and unique areas crucial to the ecological balance of the island environments.

B. Criteria.

- 1. Special animal sites (designated by State Department of Natural Resources Natural Heritage Program as having state significance, designated sites of “endangered,” “threatened,” “sensitive,” or otherwise “listed” species under the State Department of Wildlife Nongame Program (WAC 232-12-011 and 232-12-014), other species that may be locally rare or otherwise deemed of importance to San Juan County, or determined to be eligible for the above programs by a qualified professional and substantiated by the affected agency) [3]. Three points shall be granted where it is documented that a special animal inhabits the property.
- 2. Special plant sites (designated by State Department of Natural Resources Natural Heritage Program as having state significance, other species that may be locally rare or otherwise deemed of importance to San Juan County, or determined to be eligible for the above programs by a qualified professional and substantiated by the affected agency) [3]. Three points shall be granted where it is documented that a special plant exists upon the property.
- 3. Hazard prone sites are identified by the Coastal Zone Atlas of Washington, FEMA Flood Hazard Boundary Maps, state or County databases, or by a qualified professional) [1]. Three points shall be granted where it is documented that the entire property is within a hazard prone site and will remain unimproved while classified open space. To obtain points in this category, the entire property must be located in a hazard prone site.

4. Geological/geomorphological features, such as fossils, waterfalls, unique works of glaciation, or accretion shoreforms, such as spits, points, and barrier berms (documented by Washington Interagency Committee for Outdoor Recreation, inventory by state or local databases, San Juan County, or by a qualified professional) [2]. Points shall be awarded as follows:

- a. Three points where the property contains a minimum of three geological features, or a single unusual or unique geological feature, or is a significant part of a prominent geomorphical feature or landmark.
- b. Two points where the property contains at least two geological features, or encompasses a lesser portion of a prominent geomorphical feature.
- c. One point where the property contains one geological feature or is a small part of a prominent geomorphical feature.

C. Development Restrictions. No development in sensitive ecosystems, or near endangered/threatened species habitat. Otherwise, residential development, in species habitat, may be subject to limitations imposed by state and federal guidelines/recommendations. Residential development limited to one residence. Commercial development prohibited.

D. Public Access. Limited to educational opportunities and wildlife study in areas sensitive to human disturbance. Less sensitive areas (e.g. accretion beaches) may be open to public recreational use as deemed appropriate for the resource. (Ord. 5-1998)

16.50.240 Resource category – Lands abutting property of public value.

A. Definition/Purpose. Enhances the value to the public of abutting or neighboring parks, forests, wildlife preserves, natural reservations or sanctuaries, or other open space.

B. Criteria. Lands adjacent to federal, state, or other publicly owned properties, and/or lands held in trust for the public benefit by a duly authorized organization, such as a land preservation trust. Points shall be based on the extent to which the property proposed for open space classification would enhance the adjacent property in regard to public access, size, and resource values. Points shall be awarded as follows (maximum of six points possible):

High Medium Low None

Category (2 pts) (1.5 pts) (1 pt) (0)

Public Access

Size of Property

Variety and Quality

of Resources

C. Development Restrictions. No subdivision and no commercial development. Residential development limited to one residence.

D. Public Access. Limited or general access. (Ord. 5-1998)

16.50.250 Resource categories – Compatible recreational use areas.

A. Definition/Purpose. Enhances recreational opportunities by opening access to beaches, rural open spaces, and other areas for compatible recreational uses.

B. Criteria. Provides opportunities for passive and recreational enjoyment compatible with the resource, such as hiking, biking, boating, fishing, picnicking, and nature study. To receive points in the category, applicants must allow public access and, if group access is proposed, must designate groups that have a high likelihood of using the recreational values of the property (typically, other than research and education groups). Points shall be awarded as follows (maximum of nine points possible):

High Medium Low None

Category (3 pts) (2 pts) (1 pt) (0)

Public Access (Unlimited) (With (Group)

Notification)

Variety of

Activities

Variety and

Quality of

Resources

C. Development Restrictions. No subdivision or further development of the land. Construction limited to facilities desirable for passive recreational needs, as determined at the time of land classification.

D. Public Access. General public access available. (Ord. 5-1998)

16.50.260 Historic sites.

A. Definition/Purpose. Archaeological sites, cultural areas, historic farms, historic buildings, and improvements of local historic/cultural significance.

B. Criteria.

1. Archaeological sites (documented by the Washington State Office of Archaeology and Historic Preservation or San Juan County, or identified by a qualified professional and substantiated by the affected agency) [3]. Points shall be awarded as follows:

a. Three points where the property contains one or more significant archaeological resources recognized by the State Archaeologist or a qualified professional.

b. Two points where the property contains less important archaeological resources recognized by the State Archaeologist or a qualified professional.

c. One point where the property contains midden material or other features of archaeological interest.

2. Historical sites include buildings, property, informative markers, interpretive trails, and/or literature. Historical buildings and properties must be documented and recognized by federal, state, or local registers or historical societies. Interpretive information or trails must provide information about a documented historical site, building, or event [3]. Points shall be awarded as follows:

a. Three points where the property encompasses all or most of a significant historical site or historical structures registered by the federal or state governments; structures must be well preserved and in excellent condi-

tion. Points may also be awarded for well-placed informative and compatible historical markers, including educational materials, such as interpretive trails, literature, or markers available on site.

b. Two points where the property contains less significant historical sites or structures registered by the federal or state governments, or recognized by a local historical society; structures must be in good condition. Points may also be awarded for historical markers and interpretive information that are less detailed than noted above.

c. One point where the property contains a historical site or structures of minor historical significance, and is recognized by a local historical society, or where a historical marker is located on the site.

3. Historical Farms. Includes land that was previously classified as Farm and Agricultural land but no longer meets the criteria for Farm and Agricultural land; or, land that is traditional farmland that is not classified as Farm and Agricultural land under Chapters 84.33 or 84.34 RCW, that has not been irrevocably devoted to a use inconsistent with agricultural uses, and that has a high potential for returning to commercial agriculture. Applicants shall demonstrate that the above-mentioned criteria are met and shall provide a farm management plan addressing how the farmland will be maintained while in open space [3]. Variations within the high, medium, and low ratings shall depend on the quality of the farmland. Points shall be awarded as follows:

a. Three points where the farmland is larger than twenty-five acres.

b. Two points where the farmland is between six to twenty-five acres.

c. One point where the farmland is between one to five acres.

C. Development Restrictions. Development restricted as necessary to preserve the integrity of the archaeological, historic, cultural, and historic farm resource.

D. Public Access. General access available when such access will not endanger the feature being preserved. (Ord. 5-1998)

16.50.270 Resource category – Open space within communities.

A. Definition/Purpose. Retain in its natural state tracts of land not less than one acre situated in an urban area and open to public use.

B. Criteria. Within an “Urban” designation or similar classification in a subarea plan [1]. Three points shall be granted for any parcel that meets this criteria.

C. Development Restrictions. As appropriate for resource.

D. Public Access. General access available. (Ord. 5-1998)

16.50.275 Public access category – Level of access.

A. Definition/Purpose. Provide public access to land classified as open space.

B. Criteria. A minimum of twenty resource points is required to qualify for public access points. The level of public access allowed by the landowner and appropriate for the resources. Points awarded for public access shall vary within each category according to the ease of physical access. Properties that are easily accessible shall be awarded the highest points.

1. No access (0).

2. Group access (limited to appropriate use groups; permission from landowner required. The County shall notify the appropriate use groups that access to the property is available; a minimum of five San Juan County based groups is required, of which San Juan County public and private schools must be one of the groups).

Points will be based on a sliding scale from one to ten according to how accessible the property is, the types of groups that are being granted public access (number of members, proximity of the group to the site, is the group specialized or general interest), the type of restrictions proposed (severity of the restrictions and effect on the accessibility of the property), and the variety of resources:

High Medium Low None

Category (2.5 pts) (1.5 pts) (1 pt) (0)

Accessibility

Type of Groups

Restrictions

Resource Variety

3. Access with notification to landowner (access cannot be denied if the request is compatible with the open space agreement and would not endanger open space resources). Points will be based on a sliding scale from eleven to twenty according to how accessible the property is, the types of restrictions proposed (severity of the restrictions and effect on the accessibility of the property), and the variety of resources:

High Medium Low None

Category (6.66 pts) (5.66 pts) (4.66 pts) (0)

Accessibility

Restrictions

Resource Variety

4. Unlimited access (no permission required from the landowner). Use of the property shall be limited to passive recreation that is compatible with the open space agreement). Points will be based on a sliding scale from twenty-one to thirty according to how accessible the property is, the type of restrictions proposed (severity of the restrictions and effect on the accessibility of the property), and the variety of resources:

High Medium Low None

Category (10 pts) (9 pts) (8 pts) (0)

Accessibility

Restrictions

Resource Variety

C. The permit center shall publish a booklet identifying open space parcels with unlimited access and access with notification, and describing how to locate the parcels. The booklet shall be available to the general public. The applicant may be required to provide property and vicinity maps for the booklet. (Ord. 5-1998)

16.50.280 Resource protection category.

A. Definition/Purpose. Maintain the integrity of open space resources by encouraging landowners to classify large tracts of land as open space, by protecting resources in perpetuity with a conservation easement or other appropriate instrument, and by reducing the density associated with the parcel.

B. Criteria.

1. Conservation Easement Bonus. Provide a conservation easement or other appropriate instrument that protects open space resources in perpetuity. The conservation easement or other appropriate instrument should limit development to the less sensitive areas of the site and restrict development and other activities that would impact the open space resources. Points given for resource categories protected by a conservation easement or other appropriate instrument shall be increased by twenty percent of the total points calculated for resources.

2. Density Reduction. Points shall be awarded for density units reduced in perpetuity by a conservation easement or other appropriate instrument as follows:

Number of Points

Units Reduced Awarded

a. 1 – 2 units = 3

b. 3 – 4 units = 6

c. 5 – 7 units = 9

d. 8 – 10 units = 12

e. 11+ units = 15

3. Parcel Size. Points shall be awarded for parcel size as follows:

Parcel Size Points Awarded

a. 0 – 5 ac .5

b. > 5 – 19 ac 1

c. > 19 – 49 ac 2

d. > 49 – 99 ac 3

e. > 99+ ac 4

(Ord. 5-1998)

16.50.300 Public benefit rating system.

All new applications and existing open space properties will be reviewed and rated under the public benefit rating system (PBRs) as provided in RCW 84.34.055. The PBRs is a process by which the relative value of a specific property’s resources/ features are evaluated, and an assessment abatement is applied in direct proportion to the public benefit received. (Ord. 5-1998)

16.50.310 Open space classification questionnaire.

An “open space classification questionnaire” shall be used for application to the open space program and subsequent evaluation under the PBRs. On the questionnaire, the applicant shall indicate the resources/features present on the land, and provide all accompanying materials and documentation requested. When completed, the questionnaire is used in conjunction with a site inspection, resource verification documents, and professional expertise to evaluate the property under established valuation criteria and point scoring system. (Ord. 5-1998)

16.50.320 Valuation criteria – Point score and public benefit rating.

A. The open space advisory team shall conduct a site inspection of properties proposed for open space classification, identify resource features as per SJCC 16.50.200, and rate the resources based on their value and/or condition. Point values are awarded either on a varying scale from zero (no value) to three (high value), or on an all-or-nothing basis (zero or three). Each of the resource features are weighted (priority multiplier) according to their importance to the public, and multiplied by the point value to determine the value of a resource. The sum total of the resource values, plus any additional points for public access, parcel size, or commitment, equals the public benefit rating points:

resource + resource + public access

points protection points

= Public Benefit Rating Points

A minimum of thirty points is necessary to qualify for open space classification. No more than forty points shall be granted for the total of the resource points, and no more than a total of seventy points shall be granted for any one application.

B. Applicants shall identify the location and area, in square feet, of all existing and proposed improvements. This shall include all areas of the site that are not a part of the natural environment, such as structures, pools, tennis courts, decks, paved areas, gardens, and lawns. The open space agreement shall limit improvements to those originally identified by the applicant. Any improvements not contemplated at the time of application and requested at a later date shall be reviewed by the administrator for compliance with the open space agreement (refer to SJCC 16.50.570). Improvements, as well as the land beneath and surrounding the improvements, shall be assessed at fair market value.

C. The board of County commissioners shall not approve any application for open space classification when, at the time of application, the landowner has failed to satisfy any judgment the County has obtained against the landowner, or where there is a violation of any state law or County ordinance on the property. (Ord. 5-1998)

16.50.330 Assessed valuation schedule.

The valuation criteria and point scoring shall be used to determine the land's public benefit rating percentage under the assessed valuation schedule. Public benefit rating points shall be converted to public benefit rating percentage at a 1:1 ratio. The public benefit rating percentage shall be applied by the assessor to land accepted into the open space program for reduction in the assessed value as follows:

$$V_{cu} = (100\% - PBR\%) \times V_{fm}$$

$V_{cu}$  = current use (as open space)

$V_{fm}$  = fair market value

PBR = public benefit rating percentage

(Ord. 5-1998)

16.50.340 Addition of property to existing open space agreement.

Additions of parcels to properties currently in open space shall be rated separately from the parent parcel and granted points only for those resources actually on the property proposed to be put into open space. (Ord. 5-1998)

#### 16.50.350 Noxious weeds.

No application for open space shall be approved until all Class A and Class B designated noxious weeds on the site are removed or a noxious weed abatement plan is approved by the County noxious weed coordinator. (Ord. 5-1998)

#### 16.50.400 Administration roles.

The purpose of this section and SJCC 16.50.410 through 16.50.450 is to clarify responsibilities under the open space program and to ensure that all persons affected by the program are treated in a fair and equitable manner. (Ord. 5-1998)

#### 16.50.410 Board of County commissioners.

The board of County commissioners shall have the authority to:

- A. Establish and amend the open space program, public benefit rating system, and assessed valuations schedule;
- B. Appoint the citizen members of the open space advisory team;
- C. Set the application fee (following provisions in RCW 84.34.030); and
- D. Approve or deny each open space application, establishing the land's public benefit rating, and attaching terms and/or management conditions as appropriate. (Ord. 5-1998)

#### 16.50.420 County assessor.

The County assessor shall implement open space current use assessment on classified lands and shall monitor, in conjunction with the administrator, whether compliance with the open space taxation agreement has been met. He/she shall:

- A. Submit notice of application approval and the signed open space taxation agreement to the County auditor for recording within ten days of the board's action;
- B. File notice of current use land value with the County treasurer, who shall record such notice;
- C. Adjust the land's assessment to current use value and maintain the appropriate current use assessment;
- D. Monitor classified open space land for compliance with open space taxation agreements by observing land status during normal re-evaluation cycles;
- E. Inform the administrator of changes in open space lands that may or would require administrative or legislative action;
- F. Remove land from open space classification as provided under Chapter 84.34 RCW and this chapter;
- G. Impose payment of additional taxes, penalties, and interest when necessary, as provided under Chapter 84.34 RCW and this chapter; and
- H. Develop the "assessed valuation schedule," which converts point scores to percentage of assessment abatement, for the public benefit rating system. (Ord. 5-1998)

#### 16.50.430 Open space advisory team.

A five-member open space advisory team shall be established, consisting of a balanced interest mix of local citizens appointed by the board of County commissioners. Members shall be appointed to a five-year reinstatable

term, with one member's term ending each year. In the selection of the citizen members, they preferably should have some professional expertise in fields relative to open space, such as environmental planning, hydrology, archaeology, biology, geology, etc. However, interested citizens without professional expertise in such fields are not excluded from consideration. The purpose of the advisory team is to provide an objective and diversified review and evaluation of the resources/features under consideration. Understanding this, the advisory team shall perform the following functions:

- A. Develop and recommend to the planning commission and board of County commissioners, with the professional assistance of the administrator, "valuation criteria" for open space resource/ feature scoring under the public benefit rating system;
- B. Conduct site inspections (following adequate notification of the applicant), review application materials and resource documents, and obtain professional expertise as needed to evaluate the land's relevant benefits to the general welfare;
- C. Apply the valuation criteria to review and evaluate the land's resources/features, assess all relative benefits associated with classification of the land, and obtain a total public benefit rating system point score;
- D. Summarize their findings regarding the land's eligibility, public benefit rating, and appropriate conditions of approval for inclusion in the staff report to the planning commission and board of County commissioners; and
- E. Advise the planning commission and board of County commissioners, as needed, on matters pertaining to the open space program and public benefit rating system process. (Ord. 5-1998)

#### 16.50.440 Administrator.

The County permit center director, or his/her appointee, shall be the administrator for the open space program and shall be vested with the responsibility of processing applications for open space classification. The duties of the administrator shall be to:

- A. Provide pre-application advice on property eligibility;
- B. Receive and compile all necessary materials for application review;
- C. Arrange necessary on-site inspections by the open space advisory team;
- D. Facilitate the open space advisory team's review of the application under the public benefit rating system;
- E. Provide professional advice to the open space advisory team, planning commission, and board of County commissioners as needed;
- F. Draft staff reports on the application and forward them in a timely manner to the applicant, planning commission, and/or board members;
- G. Advertise public hearings;
- H. Attend and present the staff report at public hearings before the planning commission and board of County commissioners;
- I. Complete follow up notifications of either denial or open space taxation agreement forms, as appropriate, on decisions of the granting body;
- J. Develop means to monitor compliance and notify the County assessor when noncompliance with conditions of open space taxation agreements is identified;

K. Advise and confer with the County assessor, open space advisory team, planning commission, and board of County commissioners on matters pertaining to general administration of the program and application processing;

L. Monitor the functioning of the open space program, and provide written recommendations to the planning commission and board of County commissioners as needed; and

M. Compile, review, and provide a map of open space properties, shade the different designations, provide copies to the public, and update information annually. (Ord. 5-1998)

#### 16.50.450 Planning commission.

The planning commission's duties shall be to:

A. Review the open space program at least once every three years, making written recommendation to the board of County commissioners on the following matters:

1. The functioning of the process itself, including such issues as administration, application processing, enforcement, etc.; and
2. The workability of the implementation elements of the public benefit rating system, including application questionnaire, resource/feature valuation criteria, point value assignment system, etc.

B. Conduct public hearings on specific applications, and make written recommendation to the granting body regarding application approval or denial, with terms and/or conditions as appropriate, and determined public benefit rating. (Ord. 5-1998)

#### 16.50.500 Application processing.

New applications for open space classification shall follow processing procedures outlined in this section and SJCC 16.50.510 through 16.50.590 and shall be acted upon in the same manner in which an amendment to the Comprehensive Plan is processed. (Ord. 5-1998)

#### 16.50.510 Submittal and fee.

A. Any property owner may complete and submit an application for open space land classification of his/her property. An application consists of the following materials:

1. Application form (supplied by the permit center);
2. Open space questionnaire (supplied by the permit center);
3. Filing fee, payable to the County permit center at the time of filing the application. The fee is not refundable;
4. Certification of a non-delinquent property tax account, issued by the San Juan County treasurer;
5. Supporting documentation. Attach a sketch map of the parcel(s). The sketch map shall be to scale and shall accurately identify the area, in square feet, of all existing and proposed improvements. This shall include all areas of the site that are not a part of the natural environment, such as structures, pools, tennis courts, decks, paved areas, gardens, and lawns. Attach a copy of the assessor's map showing the parcel(s). Attach any other maps, photographs, or information that helps substantiate the existence of resources on the property;
6. Legal description. After lands have been approved for classification by the board of County commissioners, the applicant shall provide a legal description of the subject property; and

7. No person may apply to have classified as open space any land that has previously been denied such classification until one year has elapsed from the date the initial application was received.

B. Application must be made during the calendar year preceding that in which classification as open space is to begin (RCW 84.34.030). Prior to applying, property owners expressing interest in open space classification would be advised to obtain a pre-application review at the permit center. (Ord. 5-1998)

#### 16.50.520 Eligibility for review.

The administrator, or his/her appointee, shall review the application materials for completeness, and shall determine whether the land meets the requirements of the open space program. Land that qualifies for further review must contain one or more of the resources/features identified in the program. The administrator shall advise the applicant that, if the land does not meet the minimum requirements, the application and fee will be returned unless the applicant submits further documentation demonstrating eligibility or requests continued processing of the application. (Ord. 5-1998)

#### 16.50.530 Application review.

The open space advisory team shall conduct a site inspection of land determined to be eligible for review and may consult with appropriate professionals for assistance in evaluating the land's resources/features. Should additional research become necessary to substantiate the existence or condition of resources/features on the land, the applicant shall be notified of this need and shall be responsible for its obtainment. Following review of the application and supporting documentation, site inspection, and any necessary professional consultation, the team shall summarize its findings regarding the land's eligibility for classification, its public benefit rating, and appropriate terms or conditions of approval for inclusion in the staff report prepared by the permit center. (Ord. 5-1998)

#### 16.50.540 Public notice.

At the expense of the applicant, the permit center shall cause to be published a legal notice stating by whom and when the application was submitted, the subject of the request, the time, date, and place at which the request will be heard by the planning commission, and advising all interested persons that timely comments on the proposal will be accepted. The notice of public hearing shall be published one time in a newspaper of general circulation within San Juan County at least ten days prior to the scheduled public hearing on the application. (Ord. 5-1998)

#### 16.50.550 Public hearing.

The planning commission and applicant shall receive the staff report ten days prior to the hearing date. At the hearing, public comment on the land's suitability for open space classification will be taken. Subsequently, the planning commission shall, in their statement of findings and decisions, recommend to the board of County commissioners approval (with determined public benefit rating, and with or without terms and/or management conditions attached) or denial of the application. (Ord. 5-1998)

#### 16.50.560 Board decision.

The board of County commissioners shall consider the planning commission's recommendation under RCW 36.70.400 and as required by RCW 84.34.037, and may conduct additional public hearings if necessary. Applications for classification of land in an incorporated area shall be acted upon by a determining authority composed of the three members of the board of County commissioners and three members of the city legislative body in which the land is located. They shall approve the application, with or without terms and/or conditions, and set the public benefit rating for assessment abatement, or deny the application. In so doing, the following provisions will apply:

- A. They shall rate the land subject for classification according to the public benefit rating system;
- B. They may approve the application with respect to only part of the land that is the subject of the application;
- C. If any part of the application is denied or has conditions attached, the applicant may withdraw the entire application;
- D. In approving any part or all of an application for classification of land, it may also be required that certain conditions be met, including but not limited to the granting of easements and opening of land to public access; and
- E. Denial of an application for classification of land to open space by the board may be appealed to the superior court (WAC 458-30-250). (Ord. 5-1998)

#### 16.50.570 Procedures on approval.

- A. Within five calendar days of the board of County commissioner's decision approving an application the administrator shall send the applicant an "open space taxation agreement" defining the terms and conditions for approval of the classification. The agreement shall be sent by certified mail, return receipt requested.
- B. The applicant, and all persons having a fee interest in the land, including, for community property, husband and wife, must sign the agreement. The applicant shall return the signed agreement to the permit center within thirty days of the date the permit center mailed it to the applicant, or the agreement shall be deemed rejected.
- C. Upon receipt of the "signed" open space taxation agreement form, the administrator shall within ten days obtain the board of County commissioners' signature and file notice of the approval with the County assessor (RCW 84.34.050(2)). The agreement shall become effective commencing upon the date the administrator receives the signed agreement from the property owner.
- D. The assessor shall note the land's open space assessed value on the tax roll. He/she shall submit notification of open space status to the County auditor for recording within ten days of notification from the administrator (RCW 84.34.050(3)). The assessor shall also file notice of classification with the County treasurer (RCW 84.34.050(4)) and send a reassessment notice to the landowner.
- E. The agreement shall apply to the parcel(s) of land described in the agreement and the conditions and requirements shall be binding upon the heirs, successors, and assignees of the parties thereto. (Ord. 5-1998)

#### 16.50.580 Procedures on denial.

The administrator shall within ten days of the board's action send written notice to the applicant explaining reasons for the denial. (Ord. 5-1998)

#### 16.50.590 Processing time.

The board of County commissioners must act on an open space application no later than six months from the date the complete application is received by the permit center. "Complete" applications must be received no later than December 31st of any year to receive a review and classification decision within the following year. (Ord. 5-1998)

#### 16.50.600 Open space taxation agreement.

- A. Lands receiving open space classification may be developed only under the terms and conditions contained in the open space taxation agreement.

B. Landholders shall abide by all terms and conditions of open space status that have been defined in the open space taxation agreement.

C. Failure to comply with the open space taxation agreement will cause the land to be removed from open space classification in accordance with RCW 84.34.080 and 84.34.108, and will result in imposition of all taxes, penalties, interest, and other sanctions authorized by law. (Ord. 5-1998)

#### 16.50.610 Transfer of ownership.

Open space land transferred to a new owner will be removed from open space classification if the County assessor does not, prior to sale or transfer, receive from the new owner a notice of continuance with the open space taxation agreement as provided in RCW 84.34.108 and WAC 458-30-275. The assessor shall consult with the administrator prior to acting on the notice of continuance in order to determine if the transfer would comply with the open space agreement. (Ord. 5-1998)

#### 16.50.620 Revision of conditions.

A landowner or the County may request to have the conditions on lands classified as open space revised. Such a request shall be made to the board of County commissioners. A notice of public hearing shall be published one time in a local newspaper at the expense of the requesting party ten days prior to the board's review. The board may approve a request for revised conditions if it determines that the proposed changes do not alter the purpose for which the classification was granted. (Ord. 5-1998)

#### 16.50.630 Increasing public benefit commitment.

A landowner may at any time ask to increase, but not decrease, the classified land's public benefit and/or commitment conditions, in which case the application will be reviewed and additional assessment benefits assigned if appropriate. When a landowner seeks to increase public benefit, the administrator shall request submittal of an additional open space classification questionnaire containing only the proposed public benefit additions and all supporting documentation, with descriptive text as needed, to explain the proposed change. Additional application fees will be charged and application processing will proceed in the same manner as outlined for new applications for classification, but shall be subject to the following stipulations:

A. The proposed change(s) must be complementary to the original classification.

B. "Complementary to the original classification" means all of the following:

1. All designated resources/features will remain so designated; and
2. The approval of proposed changes will cause no significant change in the protection of the resources/features on the land classified in open space.

C. Proposed changes that do not comply with the above "complementary" conditions shall not be eligible for consideration as an increase in public benefit commitment. (Ord. 5-1998)

#### 16.50.700 Change in use/withdrawal.

A. Change in Use. The owner of land classified as open space shall notify the County assessor, within sixty days, of any change in use of classified land. Change in use shall result in imposition of all taxes, penalties, interest, and other sanctions authorized by law (RCW 84.34.080).

B. Withdrawal. Once land has been classified as open space land, the owner may withdraw all or a part of it from classification only in accordance with RCW 84.37.070. Withdrawal from classification will result in the imposition of all taxes, penalties, interest, and other sanctions authorized by law. (Ord. 5-1998)

#### 16.50.800 Removal from classification.

A. The County assessor shall remove land classified as open space in accordance with RCW 84.34.108. The owner of land removed from open space classification shall be subject to imposition of all taxes, penalties, interest, and other sanctions authorized by law.

B. When, because of withdrawal by the owner, transfer to a new owner who does not accept compliance with the open space taxation agreement or change of use, land is removed from open space classification, the assessor shall determine the difference between the property tax paid as open space land and the amount of property tax otherwise due and payable for the past seven years had the land not been classified; plus, impose interest and a twenty percent penalty on the additional tax, as required by RCW 84.34.080 and 84.34.108.

C. When only part of a parcel classified in open space is removed from classification, the remainder of the parcel will be removed from open space classification unless it satisfies the requirements for original classification (WAC 458-30-285). This determination will be made by the administrator in a review of the public benefit rating. The remaining portion shall be reviewed and evaluated under the same procedures as for new applications.

D. The seller, transferor, or new owner may appeal the new assessed valuation to the County board of equalization (RCW 84.34.108). (Ord. 5-1998).

# 6.3.3 HERITAGE BARN PRESERVATION INITIATIVE (HB 2115)

## CERTIFICATION OF ENROLLMENT

### SUBSTITUTE HOUSE BILL 2115

60th Legislature  
2007 Regular Session

Passed by the House April 17, 2007  
Yeas 97 Nays 0

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**Speaker of the House of Representatives**

Passed by the Senate April 11, 2007  
Yeas 46 Nays 2

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**President of the Senate**

Approved

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**Governor of the State of Washington**

## CERTIFICATE

I, Richard Nafziger, Chief Clerk of the House of Representatives of the State of Washington, do hereby certify that the attached is **SUBSTITUTE HOUSE BILL 2115** as passed by the House of Representatives and the Senate on the dates hereon set forth.

---

**Chief Clerk**

FILED

**Secretary of State  
State of Washington**

**SUBSTITUTE HOUSE BILL 2115**

AS AMENDED BY THE SENATE

Passed Legislature - 2007 Regular Session

**State of Washington                      60th Legislature                      2007 Regular Session**

**By** House Committee on Capital Budget (originally sponsored by Representatives Newhouse, Lantz, B. Sullivan, Hailey, Grant, VanDeWege, Warnick, Kelley, Pedersen, Appleton, Quall, Seaquist, Hunt, Simpson, McDermott and Ormsby)

READ FIRST TIME 3/5/07.

1            AN ACT Relating to establishing the Washington state heritage barn  
2 preservation program; amending RCW 27.34.020; adding new sections to  
3 chapter 27.34 RCW; creating new sections; and providing an expiration  
4 date.

5 BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF WASHINGTON:

6            NEW SECTION.    **Sec. 1.** The legislature finds that historic barns  
7 are essential symbols of Washington's heritage representing a  
8 pioneering spirit of industriousness. Important for their association  
9 with broad patterns of agricultural history and community development  
10 and as examples of distinct architectural styles and methods of  
11 construction, historic barns serve as highly visible icons for local  
12 residents and visitors alike. The legislature acknowledges that  
13 factors such as changes in the agricultural economy and farming  
14 technologies, prohibitive rehabilitation costs, development pressures,  
15 and regulations restricting new uses, collectively work to endanger  
16 historic barns statewide and contribute to their falling into decay or  
17 being demolished altogether.

18            As historic barns represent irreplaceable resources, and  
19 recognizing that barn preservation will work to retain these structures

1 as functional and economically viable elements of working lands, the  
2 purpose of this act is to create a system acknowledging heritage barns  
3 statewide that provides emergency assistance to heritage barn owners  
4 through matching grants, assesses the need for long-term barn  
5 preservation, and considers additional incentives and regulatory  
6 revisions that work toward the preservation of heritage barns as  
7 integral components of Washington's historic landscapes.

8 NEW SECTION. **Sec. 2.** (1) The Washington state heritage barn  
9 preservation program is created in the department.

10 (2) The director, in consultation with the heritage barn  
11 preservation advisory board, shall conduct a thematic study of  
12 Washington state's barns. The study shall include a determination of  
13 types, an assessment of the most unique and significant barns in the  
14 state, and a condition and needs assessment of historic barns in the  
15 state.

16 (3)(a) The department, in consultation with the heritage barn  
17 preservation advisory board, shall establish a heritage barn  
18 recognition program. To apply for recognition as a heritage barn, the  
19 barn owner shall supply to the department photos of the barn, photos of  
20 the farm and surrounding landscape, a brief history of the farm, and a  
21 construction date for the barn.

22 (b) Three times a year, the governor's advisory council on historic  
23 places shall review the list of barns submitted by the department for  
24 formal recognition as a heritage barn.

25 (4) Eligible applicants for heritage barn preservation fund awards  
26 include property owners, nonprofit organizations, and local  
27 governments.

28 (5) To apply for support from the heritage barn preservation fund,  
29 an applicant must submit an application to the department in a form  
30 prescribed by the department. Applicants must provide at least fifty  
31 percent of the cost of the project through in-kind labor, the  
32 applicant's own moneys, or other funding sources.

33 (6) The following types of projects are eligible for funding:

34 (a) Stabilization of endangered heritage barns and related  
35 agricultural buildings, including but not limited to repairs to  
36 foundations, sills, windows, walls, structural framework, and the  
37 repair and replacement of roofs; and

1 (b) Work that preserves the historic character, features, and  
2 materials of a historic barn.

3 (7) In making awards, the advisory board shall consider the  
4 following criteria:

5 (a) Relative historical and cultural significance of the barn;

6 (b) Urgency of the threat and need for repair;

7 (c) Extent to which the project preserves historic character and  
8 extends the useful life of the barn or associated agricultural  
9 building;

10 (d) Visibility of the barn from a state designated scenic byway or  
11 other publicly traveled way;

12 (e) Extent to which the project leverages other sources of  
13 financial assistance;

14 (f) Provision for long-term preservation;

15 (g) Readiness of the applicant to initiate and complete the  
16 project; and

17 (h) Extent to which the project contributes to the equitable  
18 geographic distribution of heritage barn preservation fund awards  
19 across the state.

20 (8) In awarding funds, special consideration shall be given to  
21 barns that are:

22 (a) Still in agricultural use;

23 (b) Listed on the national register of historic places; or

24 (c) Outstanding examples of their type or era.

25 (9) The conditions in this subsection must be met by recipients of  
26 funding in order to satisfy the public benefit requirements of the  
27 heritage barn preservation program.

28 (a) Recipients must execute a contract with the department before  
29 commencing work. The contract must include a historic preservation  
30 easement for between five to fifteen years depending on the amount of  
31 the award. The contract must specify public benefit and minimum  
32 maintenance requirements.

33 (b) Recipients must proactively maintain their historic barn for a  
34 minimum of ten years.

35 (c) Public access to the exterior of properties that are not  
36 visible from a public right-of-way must be provided under reasonable  
37 terms and circumstances, including the requirement that visits by

1 nonprofit organizations or school groups must be offered at least one  
2 day per year.

3 (10) All work must comply with the United States secretary of the  
4 interior's standards for the rehabilitation of historic properties;  
5 however, exceptions may be made for the retention or installation of  
6 metal roofs on a case-by-case basis.

7 (11) The heritage barn preservation fund shall be acknowledged on  
8 any materials produced and in publicity for the project. A sign  
9 acknowledging the fund shall be posted at the worksite for the duration  
10 of the preservation agreement.

11 (12) Projects must be initiated within one year of funding approval  
12 and completed within two years, unless an extension is provided by the  
13 department in writing.

14 (13) If a recipient of a heritage barn preservation fund award, or  
15 subsequent owner of a property that was assisted by the fund, takes any  
16 action within ten years of the funding award with respect to the  
17 assisted property such as dismantlement, removal, or substantial  
18 alteration, which causes it to be no longer eligible for listing in the  
19 Washington heritage register, the fund shall be repaid in full within  
20 one year.

21 NEW SECTION. **Sec. 3.** (1) The director shall establish a  
22 Washington state heritage barn preservation advisory board that  
23 includes:

24 (a) Two members representing owners of heritage barns nominated by  
25 recognized agricultural organizations;

26 (b) The chair of the advisory council, or the chair's designee;

27 (c) A representative of a statewide historic preservation  
28 organization;

29 (d) A representative of a county heritage commission that is  
30 recognized by the department as a certified local government;

31 (e) Two elected county officials, one appointed by the Washington  
32 state association of counties and one appointed by the Washington  
33 association of county officials;

34 (f) A representative of a private foundation with an interest in  
35 the preservation of barns;

36 (g) A representative of a land trust that is experienced with  
37 easements; and

1 (h) At least one at-large member with appropriate expertise in barn  
2 architecture, architectural history, construction, engineering, or a  
3 related field.

4 (2) The director may invite representatives of federal agencies  
5 that have barn preservation programs or expertise to participate on the  
6 advisory board, who shall serve as ex-officio members.

7 (3) The director shall work to assure that the advisory board  
8 members are from diverse geographic regions of the state. The director  
9 may serve as chair, or appoint a person to serve as chair.

10 (4) The advisory board shall provide advice to the director  
11 regarding:

12 (a) The criteria for designation of heritage barns;

13 (b) The criteria for determining eligibility for grant funds  
14 including contracting provisions between the department and grant  
15 recipients. In developing this criteria, the department and the  
16 advisory board shall consult with the state attorney general; and

17 (c) The criteria for awarding grants for barn rehabilitation.

18 (5) The advisory board shall examine regulatory issues that impose  
19 constraints on the ability to use heritage barns for contemporary  
20 economically productive purposes including building and land use codes.

21 (6) By December 1, 2010, the department shall provide a final  
22 report to appropriate committees of the legislature that summarizes the  
23 accomplishments of the program, addresses regulatory issues examined  
24 under subsection (5) of this section, and makes final recommendations.

25 (7) This section expires December 31, 2010.

26 NEW SECTION. **Sec. 4.** (1) The heritage barn preservation fund is  
27 created as an account in the state treasury. All receipts from  
28 appropriations and private sources must be deposited into the account.  
29 Moneys in the account may be spent only after appropriation.  
30 Expenditures from the account may be used only to provide assistance to  
31 owners of heritage barns in Washington state in the stabilization and  
32 restoration of their barns so that these historic properties may  
33 continue to serve the community.

34 (2) The department shall minimize the amount of funds that are used  
35 for program administration, which shall include consultation with the  
36 department of general administration's barrier-free facilities program

1 for input regarding accessibility for people with disabilities where  
2 public access to historic barns is permitted.

3 (3) The primary public benefit of funding through the heritage barn  
4 preservation program is the preservation and enhancement of significant  
5 historic properties that provide economic benefit to the state's  
6 citizens and enrich communities throughout the state.

7 **Sec. 5.** RCW 27.34.020 and 2005 c 333 s 13 are each amended to read  
8 as follows:

9 Unless the context clearly requires otherwise, the definitions in  
10 this section apply throughout this chapter:

11 (1) "Advisory council" means the advisory council on historic  
12 preservation.

13 (2) "Department" means the department of archaeology and historic  
14 preservation.

15 (3) "Director" means the director of the department of archaeology  
16 and historic preservation.

17 (4) "Federal act" means the national historic preservation act of  
18 1966 (Public Law 89-655; 80 Stat. 915).

19 (5) "Heritage barn" means any large agricultural outbuilding used  
20 to house animals, crops, or farm equipment, that is over fifty years  
21 old and has been determined by the department to: (a) Be eligible for  
22 listing on the Washington heritage register or the national register of  
23 historic places; or (b) have been listed on a local historic register  
24 and approved by the advisory council. In addition to barns, "heritage  
25 barn" includes agricultural resources such as milk houses, sheds,  
26 silos, or other outbuildings, that are historically associated with the  
27 working life of the farm or ranch, if these outbuildings are on the  
28 same property as a heritage barn.

29 (6) "Heritage council" means the Washington state heritage council.

30 ~~((6))~~ (7) "Historic preservation" includes the protection,  
31 rehabilitation, restoration, identification, scientific excavation, and  
32 reconstruction of districts, sites, buildings, structures, and objects  
33 significant in American and Washington state history, architecture,  
34 archaeology, or culture.

35 ~~((7))~~ (8) "Preservation officer" means the state historic  
36 preservation officer as provided for in RCW 43.334.020.

1        ~~((8))~~ (9) "Project" means programs leading to the preservation  
 2 for public benefit of historical properties, whether by state and local  
 3 governments or other public bodies, or private organizations or  
 4 individuals, including the acquisition of title or interests in, and  
 5 the development of, any district, site, building, structure, or object  
 6 that is significant in American and Washington state history,  
 7 architecture, archaeology, or culture, and property used in connection  
 8 therewith, or for its development.

9        ~~((9))~~ (10) "State historical agencies" means the state historical  
 10 societies and the department.

11        ~~((10))~~ (11) "State historical societies" means the Washington  
 12 state historical society and the eastern Washington state historical  
 13 society.

14        ~~((11))~~ (12) "Cultural resource management plan" means a  
 15 comprehensive plan which identifies and organizes information on the  
 16 state of Washington's historic, archaeological, and architectural  
 17 resources into a set of management criteria, and which is to be used  
 18 for producing reliable decisions, recommendations, and advice relative  
 19 to the identification, evaluation, and protection of these resources.

20        NEW SECTION. **Sec. 6.** If specific funding for the purposes of this  
 21 act, referencing this act by bill or chapter number, is not provided by  
 22 June 30, 2007, in the omnibus appropriations act, this act is null and  
 23 void.

24        NEW SECTION. **Sec. 7.** Sections 2 through 4 of this act are each  
 25 added to chapter 27.34 RCW.

--- END ---



## 6.4 CASE STUDY

The following case study compared our planning-figure cost estimating model with the detailed cost estimate of a contractor. The intent of this comparison was to gauge how close our ranges came to an actual itemized construction cost estimate for an individual barn. Overall the planning-estimate ranges encompassed the construction estimate total; however the discrepancies between the planning and construction estimates (such as foundation, roof, and siding repairs) underscore the importance of a detailed construction estimate. The planning figure numbers serve well for broad conceptual efforts, however the approach of measuring percentage of repair needs does not always align with the most practical way of addressing condition issues in the field.



Boisfort Valley Farm, Lewis County. Source: Artifacts Consulting, Inc. 2008.

## 6.4.1 COST COMPARISON

In consultation with the barn owner, Artifacts Consulting, Inc. utilized a detailed construction cost estimate prepared by a contractor experienced with assessing and performing repair work on historic barns. The intent of this comparison was to supplement comparisons with cost figures included in the Heritage Barn grant applications to verify that our numbers reflected a reasonable range of cost values for the repair work needed. The grant applications, while providing good data on current costs, tended to focus on a few prioritized issues. This construction estimate however addressed the whole barn in a thorough manner. The barn owner graciously shared the cost estimate, which we then matched up with our field assessment and associated cost values (see [Table 6.4.1](#) below).

The total repair costs identified by the contractor's estimate totaled \$64,200. This included materials, equipment, profit and overhead. The scale of the barn compared most closely to the small model. The contractor's estimate fell within the range of \$44,974 to \$71,288 worth of repairs identified in our field assessment and projected through our cost estimating model. Not all of the line items within the assessment matched exactly. The difference in failed roofing repair costs is notable and reflects well the two approaches. Our field assessment looked at the percentage of an element needing repair, which as discussed in [section 1.3.4.1](#) does not always work the

TABLE 6.4.1 COST COMPARISON					
CONDITION ISSUE	SMALL MODEL		LARGE MODEL		CASE STUDY
	Low	High	Low	High	
Foundation					
Wood Deterioration	\$11,991	\$23,060	\$35,974	\$69,180	NA
Concrete Deterioration	\$0	\$0	\$0	\$0	\$14,515
Uneven Settlement	\$2,000	\$2,000	\$50,000	\$50,000	NA
Frame					
Wood Deterioration	\$14,421	\$27,734	\$59,426	\$114,281	NA
Wracking	\$5,000	\$5,000	\$30,000	\$30,000	NA
Overloading	\$0	\$0	\$0	\$0	NA
Insect Activity	\$0	\$0	\$0	\$0	NA
Roof					
Failed Roofing	\$42	\$1,038	\$884	\$22,089	\$14,780
Failed Flashing	\$28	\$697	\$60	\$1,497	Repair included in line item above.
Water Management Problem	\$2,000	\$2,000	\$30,000	\$30,000	NA
Failed Framing	\$71	\$1,782	\$2,409	\$60,233	\$12,915
Failed Ventilation Elements	\$0	\$0	\$0	\$0	Repair included in line item above.
Envelope					
Paint Failure	\$4,618	\$5,131	\$28,383	\$31,536	\$5,250
Siding Deterioration	\$1,480	\$2,847	\$9,147	\$17,590	\$12,430
Missing Windows	\$2,948	Same	Same	Same	Repair included in line item above.
Damaged Windows	\$374	Same	Same	Same	Repair included in line item above.
Missing Doors [personnel]	\$0	Same	Same	Same	NA
Missing Doors [barn]	\$0	Same	Same	Same	NA
Damaged Doors [personnel]	\$0	Same	Same	Same	Repair included in line item above.
Damaged Doors [barn]	\$0	Same	Same	Same	Repair included in line item above.
Use/Interior					
Flooring/Joist Deterioration	\$0	\$0	\$0	\$0	\$4,310
Cost Model Total (including windows & doors):	\$44,974	\$71,288	\$249,604	\$429,728	\$64,200

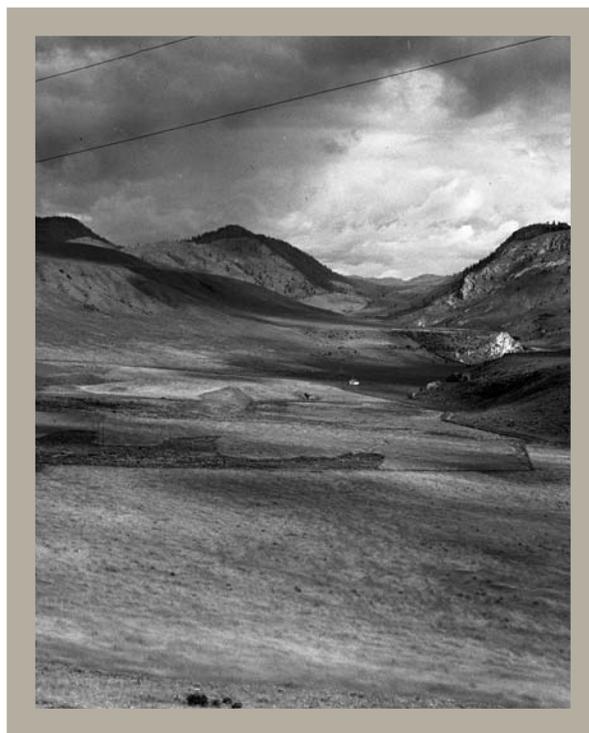
best in cases of roofing and exterior paint. The contractor also looked at providing a new concrete foundation to address settlement issues, whereas the survey measured the extent of damaged timber foundation components and their repair needs. The following photographs present views of existing conditions for the main barn at the Boisfort Valley Farm, Lewis County. Source: Artifacts Consulting, Inc. 2008.





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1930s countryside view in Eastern Washington. Photograph courtesy of the Washington State Archives.

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