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U.S. Department of the Interior

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Ebey's Landing National Historical Reserve
Volume II: Technical Supplement-Draft General Management Plan/Environmental Impact Statement

Ebey's Landing National Historical Reserve

Draft General Management Plan and Environmental Impact Statement
Volume II: Technical Supplement



As the nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering sound use of our land and water resources; protecting our fish, wildlife, and biological diversity; preserving the environmental and cultural values of our national parks and historical places; and providing for the enjoyment of life through outdoor recreation. The department assesses our energy and mineral resources and works to ensure that their development is in the best interests of all our people by encouraging stewardship and citizen participation in their care. The department also has a major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.



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Ebey's Landing National Historical Reserve

An Analysis of Land Use Change and Cultural Landscape Integrity





Ebey's Landing National Historical Reserve

An Analysis of Land Use Change and Cultural Landscape Integrity

Ebey's Landing
Coupeville, WA

May 2003

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Project Introduction

Ebey's Landing National Historical Reserve is an evolving landscape that is at once historical and contemporary. It is a rare landscape with unbroken vistas of active open farmland, views to water and mountain ranges east and west, an impressive collection of historic buildings and farm structures, a readable spatial structure of land division dating from the 1850s, and a mosaic of landscapes that include mature second-growth woodlands, prairie remnants, wetlands, beaches, bluffs and fertile agricultural land. From traveling through this landscape, the resident or visitor can read a Puget Sound settlement story, and appreciate the continuity of land use over the last two centuries.

The Reserve is unique in the National Park System in that most of the land is in private ownership and therefore is not fully protected by unilateral control of the Department of the Interior or the multi-agency Trustee Board entrusted with the preservation of the Park's resources. Because it is a living landscape with limited controls, it is vulnerable to loss of the very qualities that define its historical, cultural, and aesthetic integrity.

Over the last 20 years a number of strategies to preserve the historic and scenic qualities of the Reserve's landscapes and buildings have been employed. For example, the National Park Service has purchased scenic easements, the Reserve has been listed on the National Register of Historic Places, and the Trust Board advises Island County on matters of historic preservation and the compatibility of new structures. An extensive survey of the landscape and buildings was conducted shortly after the Reserve's inception in 1978, and a number of excellent cultural landscape preservation guidance documents have been developed. However, the apparent changes to the land in that same time period indicate that greater protective measures will be required if the qualities that led to its establishment as a landscape of national significance are to be sustained.

This report summarizes a tripartite study that was undertaken by Jones & Jones as part of the General Management Plan process, in order to build tools and answer questions that will assist in the planning for the Reserve's next 20 years. The project contains several components and objectives, with the overarching goal of retaining

the landscape's cultural values within the parameters of primarily privately -owned land.

The goals of the project were to answer the following questions:

- 1. What patterns of landscape change have taken place since the initial cultural landscape inventory in 1983, what contemporary pressures do these patterns suggest, and what forces might compromise the future integrity of the reserve's landscape?*
- 2. What characteristics of the historic landscape (from 50 years previous and earlier) still remain and contribute to the historic integrity of the Reserve, as defined in the Department of Interior's guidelines for evaluating historic and cultural landscapes?*
- 3. What are innovative preservation strategies used in other parts of the U. S., especially as applied to agricultural and forested working landscapes, and how might lessons from these precedents be applied to the Reserve?*

In addition, a major goal of the project has been to create a digital survey of land use and landscape characteristics existing in the year 2000, to be used as a management tool for the Reserve and to serve as a baseline against which future inventories can be compared.

This report describes the methods used to investigate questions 1 and 2, includes excerpts of the graphic analyses produced, and presents a brief analysis of the contemporary land use pressures on the Reserve, informed by historical patterns. Full graphic analyses of the changes between 1983-2000, and between 1950-2000 with assessment of cultural landscape integrity, are presented on large posters in hard copy and digital format. Agricultural land preservation case studies and strategies are detailed in two separate reports.

Methodology

See Appendix C “Metadata” for a more detailed description of the methodology, assumptions, and parameters used in the spatial inventory.

Baseline

To establish the year 2000 baseline, theme layers of selected categories of landscape features were drawn over aerial photographs using Arcview Geographic Information System (GIS) software. Land-use interpretations and questions regarding features or areas were field-checked if they were accessible by public roads. The theme layers were drawn over 1990 orthorectified photographs to ensure proper georeferencing, but 1999 aerial photographs were used as the information base.

1983 to 2000 Cultural Landscape Changes

The 1983 theme layers were informed by two primary sources. The Building and Landscape Inventory undertaken in 1983 by the Cultural Resources Division of the former Pacific Northwest regional National Park Service office (now Columbia Cascades support office) provided information on land use, historic buildings, circulation and hedgerows, and was interpretive in nature. 1983 infrared photographs supplied more thorough and accurate spatial documentation of the entire Reserve, and these were used extensively in determining the features in existence at that time. The cultural landscape categories in the 1983 inventory and the classification system in use at that time were used as a basis of comparison with the year-2000 baseline:

- Circulation Network (vehicular only)
- Land Use
- Vegetation Related to Land Use
- Structures (Historic and Non-historic)
- Boundaries (Hedgerows, Windbreaks, Reservation)
- Cluster Arrangements

Changes between 1983 and 2000 were determined for each category of landscape feature by generating polygons representing the changes on separate theme layers.

The inability to ground-truth every element due to property access restrictions provided limitations in data mapping, especially with regard to residential properties. As a result, only housing in subdivisions was considered “residential” land use,

though the increase in number of structures across the reserve indicate a substantial growth in residential land use. New homes on as many as 8 acres per residence followed subdivision spatial patterning.

Pre-1950s to 2000 Cultural Landscape Integrity Assessment

To assess the integrity of the Reserve’s historical landscape within the parameters of the National Register for Historic Places, eight landscape “characteristics” were evaluated for their continued existence since 1950 or before. The characteristics were selected and are defined according to the most recent guidelines for evaluating cultural landscapes. Those included were:

- Vegetation
- Circulation
- Spatial Organization
- Land Use
- Views and Vistas
- Building Sites (Buildings and Structures)
- Cluster Arrangements
- Natural Systems and Features

Because sources detailing pre-1950s conditions were limited and the resolution of aerial photographs poor, most of the comparisons between the historic landscape and year-2000 are more general than the 1983-2000 comparison. A 1941 aerial photograph, published in 1944 by the Army Corps of Engineers, and a 1936 USGS topographic map were the primary spatial sources. The 1983/1995 NPS building inventory and the 1997 National Register of Historic Places nomination provided valuable documentation on historic buildings and structures. Textual sources and an extensive study of historic photographs yielded general clues as to the historic landscape patterns and some specific building and landscape information. In addition, we obtained turn-of-the-century plat maps and Government Land Ordinance survey notes for that vicinity of Whidbey Island. Gretchen Luxenberg and Susan Dolan and of the National Park Service were knowledgeable resources who assisted with the process.

As in the 1983-2000 assessment, GIS theme layers were drawn over the historic maps or photographs, and compared with year-2000

conditions. In some cases, additional year-2000 data layers were created to be compatible with the more general historic layers. Where appropriate and possible, layers indicating the changes were generated. A judgment regarding the integrity of each landscape characteristic was made, based on the guideline that at least half of the historic resource existing before 1950 must remain on the Reserve for the characteristic to retain integrity. All characteristics retained integrity based on these criteria, with some qualifications; text regarding the conclusions regarding historic integrity can be found on the posters and on Figures 7 through 14.

Farm and Forest Preservation Strategies

For the third question involving strategies and recommendations for landscape preservation, the NPS planning team determined that in order to preserve the temporal and spatial continuity of the landscape, it is important to support the viability of agricultural enterprises and small-scale forestry on the Reserve. We therefore focused our research and recommendations on strategies to preserve those land uses, to preserve historic function as well as character. The results of the study are published in a two-part linked world-wide-web document, the first which lays out a structure of cooperating organizations with the three primary goals of:

- Protecting farmland
- Supporting farmers
- Cultivating agricultural markets

Specific strategies supporting these goals are described and linked to a second document, which details case studies in other parts of the country involving federal, state and county governments and non-governmental organizations. These documents are expected to be available through the NPS website: www.nps.gov.

Findings: Analysis of Land Use Changes 1983-2000

See Appendix A “List of Figures” for the figures mentioned in this section.

It was assumed that current and future pressures that threaten to change the overall character of the Reserve would be indicated by assessing the spatial patterns of change within the past two decades. The comparisons undertaken in this study reveal some of the structuring spatial patterns that could possibly be controlled through land-use management, zoning, economic programs, education and land-protection techniques. In some cases, sufficient information from pre-1950 sources allowed observation of longer patterns of change. The following land use change analysis takes into account each category of the 1983-2000 investigation, presenting the implications findings in each category have for the current land use directions of the Reserve.

Buildings and Structures

See Figures 1a and 1b, *Structures: 2000; and Structures: Gains 1983-2000* and Figure 7, *Historic Buildings and Structures*

See Also: *Structures Poster and Historic Buildings and Structures Poster*

Proliferating Structures

In a time period of just seventeen years, over 1000 new structures were built, an increase of 44%. These structures include residences and ancillary buildings, and have been built in Coupeville, in existing subdivisions, in new subdivisions, in woodlands and in open pastoral lands. 26% were built in Coupeville, 24% were in subdivisions, and 50% were built in other parts of the Reserve. New homes in Coupeville generally follow the traditional pattern of building in towns, affronting the public streets; likewise, addition of homes to subdivisions that were existing in 1983 has had little additional impact to the visual scene or to the loss of farmland, since the subdivision street layout has already converted the land to new uses. Structures placed in the open landscape and the addition of new subdivisions have had the most significant effect upon the cultural landscape of the Reserve, interrupting vistas of open farmland, defining the edges of hillsides with buildings instead of trees or open space against the skyline, dividing the landscape into smaller pieces, and changing the character of the ground plane from large continuous areas of vegetation to areas

dotted with large new homes. Structures concealed in woodlands have less visual impact than those in open areas; this division of parcel size and change in land use will most likely affect the viability of commercial forestry but might still allow sustainable woodlot management.

Historic Structures Lost

In this time period, fourteen historic structures were lost, despite efforts by NPS and the Trust Board to convey the value of these buildings to the historic integrity of the Reserve. Still, the majority of historic structures remain.

Land Use

See Figures 2a, 2b, and 2c, *Land Use: Residential Subdivisions, Land Use: Woodland, and Land Use: Agriculture*, Figures 8a, 8b, and 9, *Historic Land Use: Agriculture and Woodland, Historic Land Use: Residential/Commercial and Parks/Defense/Cemetery*, and *Historic Vegetation. Commercial Land Use and Parks Land Use* are shown on the full-size posters.

Methods

In the 1983 inventory, Reserve lands were categorized as Agriculture (cropland), Ranching (pasture), Natural Vegetation (grassland, forest, or wetland), Residential, Commercial, and Park. Mapping showed the location of cropland, pasture, grassland, woodland, commercial areas, and structures. For the 2000 inventory land use was assessed using aerial photographs and extensive field checks to test aerial interpretation techniques as well as to verify areas in question. Similar categories were used for the year-2000 inventory for purposes of comparison between the two inventories.

Patterns of Land Use Change - Agriculture versus Housing

In the 17-year time period, significant patterns of land use change appeared to emerge. Most notably, there was an increase in residential subdivisions of 41%, involving 233 acres and two new subdivisions. The categorization of new construction as “residential subdivisions” was estimated conservatively: to qualify as a subdivision a grouping of at least 10 new homes needed to follow suburban road layout patterns. New subdivisions that were judged as having

aesthetic, and undoubtedly functional, impacts to the landscape had parcel sizes as large as 8 acres (See Land Use, Residential Subdivisions, below). Dense housing areas that followed historic vacation cabin spatial patterning, affronting the beach, were not considered subdivisions because they did not follow suburban road layout patterns. The new housing areas that were counted as subdivisions are located on Grasser's Hill and near Fort Casey. Additionally, the visual impact of the new subdivisions is substantial as they are located in primarily open areas rather than in forested areas, although both are somewhat visually mitigated by screening and location. Approximately three-quarters of the subdivisions on the Reserve have been constructed or remain in open areas. It is important to note that several additional enclaves of residences exist that did not meet this criteria and therefore were not counted as subdivisions; additional subdivisions were in the planning or initial construction phases but did not yet meet the criteria.

It is also important to underscore that a large number of new homes were constructed outside of residential subdivisions, either in smaller groupings or spread out over the landscape of the Reserve. It was not possible to spatially delineate the land use area of each single residence on the Reserve, nor was there a 1983 baseline with which such mapping could be compared. Therefore, the Structures data, conveying a high number of new buildings since 1983, are particularly important to consider for residential land use growth.

The land area of the town of Coupeville, the County seat and only town in the Reserve, grew by 30% in this time period, totaling 63 acres of gain. This growth is represented on the maps as "Urban Growth", and spatially includes all residential and commercial areas that are inside Coupeville's city boundary. It is interesting to consider that in 1930s the town of Coupeville considered expanding its boundaries but felt that the quality of the agricultural land was too valuable to use for urban settlement. (Richard White, Land Use, Environment and Social Change, Seattle: University of Washington Press, 1980).

Concomitantly, agricultural land diminished by 4% (158 acres) and woodland by 2% (111 acres). Agricultural land tended to convert to residential and grassland uses, and it is important to note that lawns were categorized as grassland, hence overall most agricultural land loss was to subdivisions or rural residential uses. Mapping of changes from pre-1950 to present-day show conversion from "open fields" directly to housing subdivisions. A more detailed analysis of land-use conversions related to agricultural changes is described in the

Vegetation section below.

Commercial Land Use

Commercial land use grew by a total 22 acres, or 24%. Mussel beds in Penn Cove constitute a large portion of this category. Some growth in the total commercial gain was offset by a reduction in commercial area with the conversion of the landfill near Smith Prairie to a park.

Woodland

The general pattern in loss of woodland was conversion of the forest edge to residential and agricultural uses. This pattern of change was observed in the time period of pre-1950s to 2000 as well, with substantial areas of the East Woodlands having been converted to open land, including the airfield on Smith Prairie.

Parkland

The size and number of Parklands appears to have increased significantly, especially when assessing public ownership and zoning of several tracts of land in the West Woodlands near Fort Ebey State Park. However, the status of these lands in 1983 is unknown, and their current status and boundaries is unclear; it is therefore not possible to reliably quantify the amount of change in parklands. The state park at Keystone Spit has been added, and a former landfill has been converted to a small park. If the Pratt Preserve is included, which has been added since 2000, the figure is substantially increased as well.

Land Use Summary

To summarize, the most obvious pattern in land use change is capitulation of agricultural and resource lands from farming to new human uses, primarily homes in residential subdivisions and on "rural residential" parcels, the growth of the town of Coupeville, and new methods of aquaculture in Penn Cove. It should be noted that while the numbers of acres do not appear large, the visual effect of these changes is significant. The public acquisition of new state park and private lands is a use change primarily from forestry and beach area to recreation and conservation.

An analysis of the current zoning could be used to predict the likely future conversion of agricultural and natural lands to housing. This would be an important component in assessing continued threats to degradation of the cultural landscape within the life of the General Management Plan.

Vegetation

See *Vegetation Related to Land Use* Figures 3a, 3b, 3c, 3d, 3e, 3f, 3h: **Pasture 2000, Pasture Changes, Woodland 2000, Woodland Changes, Cropland 2000, Cropland Changes, Grassland 2000, Grassland Changes**

See also Figure 9, *Historic Vegetation*

Changes in vegetation between 1983 and 2000 give clues to patterns of land use change as well as describe alterations to the ecology and appearance of the landscape. It is important to note that vegetation categories do not exclude residential land use; many residences are located within forest and grassland categories, with more farm-related residences located within cropland and pasture categories.

Methods

The mapped 1983 vegetation inventory categories of Cropland, Pasture, Grassland, Woodland and Wetland were used as a baseline. These same categories were used in designating current vegetation patterns. Aerial photos from 1999 were interpreted and then field-checked. Cropland included all row-crops, whether in current production or fallow and recently plowed. Tree farms were included in Cropland but drawn on a separate GIS theme layer; these had been mapped on the 1983 inventory as well. Grassland included former farm fields now fallow and gone to grassland, lawns, and native prairie patches. Pasture was differentiated from grassland by the presence of animals, fences, or appearance of support for use by cows, sheep, horses or other grazing animals. Woodland boundaries were easily identified by aerial photograph; if forests had recently been cut they were included in the woodland category but drawn on a separate GIS theme layer. Wetlands present on the 1983 cards were field-checked for presence in 2000, and 1999 aerial photographs were searched for any additional open water areas.

Vegetation Changes 1983-2000

In assessing the vegetation changes over the last two decades, most significant is the conversion of active agriculture to grassland. There was an 11% gain in grassland (143 acres), a 14% loss of pasture (190 acres) and a 1% gain in cropland (32 acres). It is surmised that these changes can primarily be attributed to the decline of active farming, especially dairy grazing, with fields becoming fallow or converting to residential lawns. Large areas where cropland or pasture have been converted to grassland are in the eastern portion of Coupeville, on the hill north of Ebey's Prairie near the cemetery, on Grasser's Hill, and on the Fort Casey uplands. In the latter two, former agricultural croplands and pasture have been replaced by lawns and unfarmed open spaces in residential areas, including subdivisions. However,

both new subdivisions shown in the Land Use analysis were primarily grassland in 1983, indicating a progression from agriculture, to fallow land, to development. This sequence is not a rule: some areas previously in grassland are now actively farmed, including patches on Libby Bluff, near Smith Prairie, and a new tree farm on Smith Prairie.

In addition to the net percentages cited above and graphed in the Figures, more extensive changes in the agricultural land use are indicated by the gains and losses of each category, which can be seen by comparing the various vegetation categories on the aerial photographs with mapped overlays. Most notably, a visual/spatial analysis of vegetation changes reveals that a substantial amount of acreage has been exchanged between pasture and cropland: numerous lands that in 1983 were planted cropland now appear to be pastureland, and conversely, previous pastureland was planted crops in 2000. For example, pasture was plowed into crop use on Crockett and Ebey's Prairies, and on Smith Prairie, former cropland now appears to be used as pasture. It is therefore important to note that some of the changes in vegetation as related to land use may be attributed to the seasonal or annual rotation of crops, as well as to new directions that agriculture may be taking.

Crop Shifting on Whidbey Island—A Historical Practice

This phenomenon of crop rotation on the Reserve is in itself historical. In his history of Island County, Richard White observes that in the last half of the nineteenth century "abandonment of one crop and the planting of another was almost an annual occurrence" (White, p. 64). Farmers responded to national and local markets, weather, soil and labor parameters. "Island County agriculture swung from plantings of a regular annual crop to rapid shifts from one crop to another. The extremes dominated. There was rarely any middle ground" (White, 69).

Indeed, alternating uses of farmland in Island County in the past two centuries has been the dominant pattern. Salish tribes cultivated the fertile agriculture prairies of Whidbey Island to increase quantities of valued food plants such as camas and bracken fern, as well as to grow potatoes introduced to them by Europeans. Census data show that during the first 50 years of settlement by Euro-Americans, farmers in the county radically altered their farming practices between one decade and the next, responding to climate, technology, markets and the alteration of conditions precipitated by farming practices, such as loss of soil fertility. Cultivation of potatoes, oats and wheat and raising of hogs and cattle in the 1850s and early 1860s gave way to sheep farming in the late 1860s and early 1870s on both Ebey's

Prairie and San de Fuca—as competition from California saturated local vegetable and grain markets—where farmers grew timothy and clover to support their herds. However, by the turn of the century, sheep farming had declined and field crops as well as fruit orchards dominated agricultural production (White, chapters 1-3). Between 1900 and 1940 “small fruits” continued to play a significant role in the agricultural economy of Island County, and dairy and poultry products were produced in significant quantities (White, Appendix B in Land Use, Environment and Social Change). Contemporary use of Ebey’s Prairie has focused on seed production by Skagit Valley farmers, while several dairies on the Reserve have ceased operation in the last decade due to financial challenges.

Tree Farms

In keeping with this pattern of fluctuating crops, a tree farm was started on Smith Prairie in the 1970s. Since 1983 another large new tree farm has been planted on Smith Prairie. While the spatial changes in tree farm quantity or location are not especially significant, a comparison of photographs from the 1983 with the appearance of the tree farms today indicates that they have substantially altered the look of the landscape. The increased height and density due to growth of the trees creates barriers to views, especially since the tree farms in large part have not been harvested. Both tree farms are located on lands that appear to be mostly open in 1941.

Woodland

As stated above in the Land Use section, there has been a loss of 111 acres, or 2%, of woodland. Forests have been converted to pasture, grassland, residential and urban (in Coupeville) uses. There are also a small number of new forests since 1983, scattered about the Reserve.

Circulation

See Figures 4a and 4b, *Circulation Network 2000* and *Circulation Network Changes*

See also Figures 10a and 10b, *Historic Circulation: Roads Remaining from Pre-1950* and *Historic Circulation: Gains*

Methods

To assess changes in roads, a combination of 1983 infrared photos and the USGS-based maps used in the 1983 inventory were consulted to establish a GIS data base of highways, major roads, secondary roads and minor roads. Driveways longer than 100 feet were considered as minor roads. Year-2000 highways, major roads and secondary roads were field checked, however private drives were not ground-truthed. Footpaths were not included in the 1983 inventory or visible on aerial photographs so these were not mapped in 2000, however Park staff is working on the

establishment of a cross-reserve trail.

Miles of New Roads

Changes in circulation on the Reserve has been simple but dramatic; there has been an increase of approximately 24 miles of roads in the last two decades, a 20% increase. Nearly all of these were “minor roads”, a 36% increase in that category. While some of the minor roads appear to be farm roads, the vast majority serve new structures; this fact was ascertained by comparing the Circulation Change map with the Structures Gain map. These include new roads in subdivisions, and roads serving clusters of houses as well as single homes.

The proliferation of roads between pre-1950 and 2000 is even more dramatic, with the addition of many secondary and minor roads, conversion of minor roads to secondary and major roads, and the rerouting of Highway 20 through a substantial portion of the Reserve. New roads include those in the East Woodlands, along Keystone Spit, in Coupeville, at Snakelum Point, in the Western Woodlands, and in the San de Fuca Uplands; in the latter there has been a proliferation of subdivision roads and a number of conversions from minor to major and secondary roads.

Visually and ecologically, roads alter the “grain size” of the landscape. New roads in forested areas have more impact to short views, generally puncturing forest edges along existing major or secondary roads. New roads in open areas tend to be more subtle divisions in the landscape, though since they are visible from a distance and from several locations they generally have a large impact on the landscape scene overall. The proliferation of roads as land dividers may have impacts to the functioning of the agricultural landscape. In addition, the potential negative effects of roads on ecological integrity has been well-documented, as they can interrupt habitat continuity for small wildlife species and cause drainage changes and hence substantial alteration to wet and dry ecological communities.

Boundaries

See Figures 5a and 5b, *Boundaries: Hedgerows and Windbreaks, 2000* and *Boundaries: Hedgerows and Windbreaks, Changes*

Methods and Results

For this study, boundaries included only hedgerows and windbreaks. The 1983 inventory cards and 1983 IR photos were referenced to establish the 1983 baseline. The year-2000 layer was produced using aerial photos with ground-truthing. Overall, there was a slight gain in hedgerows (.2 miles) and a slightly greater gain in windbreaks (1.8 miles). In actuality almost five miles of hedgerows were lost in the 17 years

between the two surveys, however these were offset by an almost equal gain of hedgerows growing in other locations. Losses occurred primarily between farm fields, in new residential areas and in the town of Coupeville, while new hedgerows tended to be growing along roads and between agricultural patches. The addition of windbreaks occurs in two locations on Smith Prairie, one which surrounds the new tree farm. With apparent loss of hedgerows in new residential areas, implications for this land use analysis are tied with the growth in residential use of the Reserve. While it might be seen that these vegetative divisions further dissect the landscape, they also provide the scenic benefit of modulating the visual effects of building, continue a cultural landscape pattern, and provide habitat benefits.

Cluster Arrangements

See Figures 6 and 11: *Cluster Arrangements* and *Historic Cluster Arrangements*

See also full-size posters: *Cluster Arrangements*, and *Historic Cluster Arrangement*

All cluster arrangements remained between 1983 and 2000, with the addition or loss of individual structures within six farm clusters between the years of 1995 and 2000. Perhaps more importantly for land use analysis purposes, the active existence of these clusters suggests that an agricultural relationship to the land is still intact. However, it was informally observed that the majority of new structures built on the Reserve did not follow the historic pattern of clustering a residence with service buildings, indicating a direction change from the primarily agricultural relationship mode to a residential one.

Summary & Recommendations

Suburbanization—a Threat to the Cultural Landscape

While the landscape of Ebey's Landing still retains its stunning beauty, agricultural character and historic integrity, the patterns of growth since the Reserve was instituted indicate that pressure to use the land for single-family housing is a driving force in the landscape. Indeed, one could expect that it is the beauty of the landscape itself, cherished by tourists since the beginning of the 20th century, that attracts new settlers, pulling its own unraveling threads. Our analysis of past patterns of change indicates that urbanization, suburbanization, and rural residential pressures on the landscape of the Reserve are substantial. Key indicators are the dramatic rise in numbers of new structures and roads and the addition of new subdivisions. Concomitantly, there has been a subtle shift away from active agriculture, borne out by the loss of agricultural land to fallow grassland and a conversion of grasslands to residential subdivisions. The continuation of these forces lead towards a residential landscape and away from an agriculturally-based community. It is a pattern that builds on itself: residential pressures escalate land values and obstruct farming operations and economies, undermining the economic sustainability of agriculture. The pattern is classic in urbanizing areas, and without intervention will undoubtedly continue. Recent zoning changes in Island County appear to be less restrictive than they were previously, which may well accelerate the dissection and suburbanization of the Reserve's landscape.

The loss of the agricultural community will be significant in altering both the character and human relationship to the cultural landscape, and may undermine the purpose for which the Reserve was created: "to preserve and protect a rural community which provides an unbroken historic record from...19th century exploration and settlement...to the present time". This legislation recognized that a cultural landscape and the people that sustain it are interdependent. The nature of the human relationship to the land affects the land's historic significance as well as the scenes it produces; it is the basis of the cultural landscape. Pastoral and actively farmed land conveys a dramatically different message about that relationship than a "rural residential" landscape of contemporary single-family houses and subdivisions. The evolving human relationship

to the land of the Reserve is becoming less an agricultural one, moving towards one based on the views one might have from a residential domain. As the residential population expands, however, cherished public and private views of open farmland will gradually become replaced with houses and their accompanying residential appurtenances, destroying the visual resource that is so valued. Concurrently, farming will become increasingly challenged by conflicting interests, accelerating land values, and lack of support facilities.

A Shrinking "Grain Size"

While the assessment of landscape characteristics from pre-1950 indicates that the historic landscape still retains integrity, and the 4% loss of agricultural land since 1983 seems insignificant, this small percentage of change becomes alarming when considering the experience of today's suburbanizing Reserve landscape. Visually, the most striking pattern of change to the character of the Reserve is the reduction of landscape "grain size", with areas previously in large open spaces or affiliated with a single farmstead now divided into smaller perceivable units and studded with new buildings. This spatial effect is primarily effected by the proliferation of roads and the increased density of new structures, arranged in subdivisions as well as spread out over the Reserve. Historically, farmsteads and small communities were clustered, with large spaces between, creating a distinct landscape fabric. Agricultural markers such as barns, silos, crops, fences and active pastures with animals were conspicuous. The addition of new housing brings with it not only increased numbers of roads and non-historic visual elements, but also new property boundary demarcations, thereby dividing the open spaces into even smaller visual parcels (though it should be noted that photographs show that historically wooden fences were much more prevalent in the landscape than they are today). The effects are functional as well as visual; spaces that formerly could be used as large dairy, grazing or croplands may now be more suited to hobby farming, fallow pasture and lawns.

New and Old Agricultural Economies

As a corollary to these conditions, a critical question is how the changing economy of agriculture will affect the viability of the traditional resource-based relationship to the land.

As land values increase and parcels become smaller, can agriculture as a livelihood be sustained? Can new types of agriculture on smaller farms succeed? In the majority of agricultural areas across the nation, without outside support market forces often work against the vitality of traditional agriculture and the communities it supports. Proposed strategies for farm support, outlined in a separate document, and a recent trend towards small farms within market distance of major cities, may help to boost farming activities, thereby preserving the agricultural relationship to the land and community. An increasing number of people are interested in small-scale farming, and new programs such as the USDA's Community Food Security Initiative, aimed at providing food security through community farmer-to-consumer programs, can lend critical support.

Is small-farm agriculture within the local agricultural tradition, and will it significantly alter the historic appearance of the Reserve? An examination of the past reveals that early landowners, including the Ebeyes, leased their lands to tenant farmers. Chinese tenants in particular were noted for prolific potato production on small market plots in the latter part of the nineteenth century (White, 64-67). While the bucolic scene of today's large open prairie farmland might be altered by small-scale farming, if the landscape remains in agricultural production it can still vividly convey stories of the land's past. Moreover, maintenance of Reserve lands in agricultural production—as opposed to ever-infilling homes and roads—protects the fertile resource for the future, allowing the continuity of land use while retaining the historical pattern of shifting agricultural production practices.

Recommendations and Further Study

However, for the agricultural tradition to persist, the land must be protected from the obvious and relentless pressures of residential growth. Strategies are best a combination of controls such as zoning, designation of Agricultural Protection and Historic Overlay districts, and purchase of conservation easements; and “carrot” mechanisms that support and stimulate farming, such as land leasing programs, product marketing and community processing facilities.

To most effectively use funds for land protection such as the purchase of conservation easements, it is recommended that a study be made to identify the specific lands that contain the highest visual and historic integrity, but which are least protected by current controls—those lands most valuable and most vulnerable. The data generated by this project are the essential basis for such a study. A logical next step is to use these data generated for the Reserve as a whole to focus on specific landscape units that are most valued based upon

historic and scenic integrity, and those most pressured because of their high aesthetic value or ease of development; to identify areas that are vulnerable to future development based upon current zoning; and to overlay this information with spatial documentation of existing protections, in order to designate areas of greatest need.

It has been said that the most dramatic landscape changes are usually incremental; that is, the changes are small so that they are generally imperceptible. With the spatial documentation of the landscape at specific points in time that this project provides, changes can be monitored, recognized, and most importantly, be shaped or modulated before the Reserve's cultural, aesthetic and natural resources are significantly compromised. To preserve these values so treasured at Ebey's Landing National Historical Reserve, an ongoing program of education, protection, and proactive support of desired human and natural processes will most certainly be required.

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Appendix B: List of Posters

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Changes from Pre-1950-2000 and Assessment of Integrity

Historic Buildings and Structures
Historic Circulation
Historic Vegetation
Historic Land Use
Spatial Organization: Historic Changes 1936-2000
Views and Vistas
Natural Systems and Features: Historic and Modern Patterns
Historic Cluster Arrangements

Appendix C: Metadata

Posters 1983 – 2000

General notes:

All the GIS data generated for the Ebey's Landing National Historical Reserve project were drawn on 1990 orthophotos to ensure that they are properly georeferenced and orthorectified. The reason the 1990 orthophotos were used as a spatial reference for creation of all data was because they were the only orthorectified photos available. These data are recorded as UTM, Zone 10, NAD 27 (meters.)

Accurate drawing of information from the 1983 IR aerial photo or 1999 aerial photo image files onto the 1990 digital orthophotos was made possible through the use of the software TAS Basic (allows local georeferencing and scaling.) Thus, a zoomed in area of the 1983 or 1999 image file could be georeferenced to the same zoomed in area of the 1990 digital orthophoto.

The sources for all the data include the 1983 landscape inventory cards, the 1983 IR aerial photographs, the 1999 color aerial photographs, the 1990 digital orthophotos, field surveys, textual references, photos and discussions with Rob Harbour and Gretchen Luxenberg.

Gains and losses data layers were created either by drawing each new polygon onto a new data layer, copying polygons from other data layers and pasting onto a new data layer, or using an ArcView script that allows the user to subtract two themes (2000-1983 for gains and 1983-2000 for losses.) When the latter technique was used the areas within the associated database file are not correct (they reference the original polygon that was cut.)

For data layers where areas and perimeter are relevant, these values were added using the script, "calcapl.ave" from the ArcView website. The first area and perimeter columns are calculated in meters. New columns have been created that translate the area calculations to acres and the perimeter calculations to miles.

The .dbf file for the "Clusters 83" data layer includes the names of each cluster.

A complete listing of data layers for 1983 and 2000 is below:

Air park	Major roads
Boundary polygon	Military reserve
Boundary line	Minor roads
Buildings (and structures)	Mussel farms
Cemetery	Parks
Clearcuts	Pasture
Clusters	Pasturecoupe
Commercial	Penn Cove
Commercialcoupe (commercial in Coupeville)	Secondary roads
Coupe polygon (boundary of Coupeville as a polygon)	State game farm
Cropland	Subdivision wooded
Croplandcoupe (Cropland in Coupeville)	Subdivisions
Dump	Tree farm
Grassland	Urban
Grasslandcoupe (Grassland in Coupeville)	Utility right-of-way
Gravel pit	Water
Hedgerows	Wetland
Highway	Windbreaks
Historical buildings	Woodland
Logging roads	Woodlandcoupe

1995 – 2000 Clusters

Cluster contributing (contributing structures and buildings within clusters)

Cluster compatible (compatible structures and buildings within clusters)

Cluster non-contributing (non-contributing structures and buildings within clusters)

Circulation Network

The categorization of roads was established on the 1983 landscape cards. Roads were divided into highway, major roads, secondary roads, and minor roads. These same categories were used for the 2000 data.

For the 1983 road data layers in GIS, every road on the 1983 landscape inventory cards was

matched with the same road on the 1990 digital orthophotos. This allows the roads to be georeferenced and orthorectified in the same projection as all the other data. Logging roads (determined from the 1983 IR aerial photos) and utility right-of-ways were not included on the poster but exist as separate data layers. For the 2000 roads, I first checked to see if each 1983 road was still in existence by comparing the GIS 1983 road layers with the 1999 aerial photos. Next, all new roads found on the 1999 aerial were added to the 2000 road layers. The roads were not systematically field checked since most of the new roads are private, however major and secondary roads were included in field surveys. For both 1983 and 2000, “driveways” were included if they were over 100 feet.

Boundaries

Boundaries include hedgerows and windbreaks. A first attempt to transfer hedgerows from the 1983 landscape inventory cards to the 1990 digital orthophoto was made. The 1983 IR aerial photos were referenced for more accurate information on the placement of these hedgerows. During this data check new hedgerows were found on the 1983 IR aerial photos. As a result, a systematic scrutiny of all the 1983 IR aerial photos was made to find new hedgerows and to add them to the 1983 hedgerow layer that was drawn over the 1990 digital orthophoto. A systematic scan of the 1999 aerial photos was made to first identify if the hedgerows present in 1983 are still there and to, secondly, determine if there are any new hedgerows. These data were transferred to the new data layer placed over the 1990 digital orthophoto using surrounding reference points. A map was made of these potential 2000 hedgerows and it was checked in the field to the best of our ability staying on major and secondary roads. The 2000 hedgerow data layer was then updated with this field information. Windbreaks in this project are defined as large trees occurring in an axial alignment. These range from small strips of leftover forest to individually planted poplars. Since windbreaks were difficult to identify from the photos, there exists a bias towards more windbreaks in 2000. We started with a road survey of windbreaks. These were mapped referring to the 1999 aerial photos and the 1990 orthophotos. The 1983 IR photos were independently examined for windbreaks. The 1983 IR photos were then checked for the field surveyed 2000 windbreaks. If they were present, the windbreak was added to the “Windbreak 83” layer. As a result of this method, there is a “Windbreaks gain” layer but no “Windbreaks loss” layer.

Structures

All structures were identified on the 1983 IR aerial photos and transferred to an orthorectified GIS data layer (Buildings 83) by referencing the 1990 black and white orthophotos (UTM). Each of the historic buildings on the 1983 cards was then referenced to the 1990 orthophotos. If the cards indicated that a structure was historic, then that structure was moved from the “Buildings 83” data layer to the “Historic buildings 83” data layer. It was only noticed at the end of the work, that not all the historic buildings were drawn on the 1983 landscape inventory cards. Because of this, the historic buildings that are only referenced in the 1983 building inventory cards and are not marked on the 1983 landscape inventory cards are not included within the “Historic buildings 83” theme. To create the Buildings 2000 theme, the “Buildings 83” theme, placed on top of the 1990 orthophotos, was opened on one half of the computer screen. On the other half of the computer screen, the 1999 photos (not orthorectified) were open. The structures on the “Buildings 83” theme that appeared on the 1999 photos were copied onto the “Buildings 2000” theme. The same process was conducted for creating a theme for historic buildings in 2000. Then, by turning on the “Historic buildings 2000” theme and the “Buildings 2000” theme, all the remaining structures that were on the 1999 photos but not on either the “Historic buildings 2000” theme or the “Buildings 2000” theme were considered new structures in 2000. These were added to the “Buildings 2000” theme. No distinction was made between buildings and structures since a comprehensive field check of each structure was not within the scope of the project. The location of historic buildings on the 1983 layer may not be precisely accurate. A potential source of error for all the historic buildings that were transferred from the 1983 landscape inventory cards to data layers is that often the USGS map upon which the historical building icons were drawn contained very little spatial information. Therefore, because every historic building was not field checked, the actual structure marked on the GIS theme as historic may not be in exactly the correct location. For example, the actual historic building may be next door to the building marked historic on the GIS map. Note that there are many more historic structures on the “Historic buildings 2000” theme than the “Historic buildings 1983” theme. This is attributable to additional data that was gathered for the National Register nomination in 1997. More detailed explanation of this outcome can be found under “Cluster Arrangements,” below.

Cluster Arrangements

Information for structures within clusters for 1983 are contained on the “Historic buildings 83” theme and the “Buildings 83” theme. Distinctions between noncontributing and compatible buildings were not made for 1983 since such information was not available. The method used for determining historic vs. non-historic buildings within clusters was the same as for non-cluster buildings. Each cluster was identified on the 1983 IR photo and on the 1983 cards. Relative placement and designation of historic vs. non-historic buildings was made as accurately as possible transferring the spatial locations from the cards to the IR photos to the GIS theme (on the 1990 digital orthophotos). However, a potential source of error exists for the exact location of historic buildings within the cluster.

Individual data layers for contributing, noncontributing and compatible buildings were made for 1997 based on the drawings made for each cluster in the National Register nomination. This information was not always consistent with the National Registry reference in the 1983 building inventory books. When a discrepancy existed, we deferred to the drawings. The historic status for each noncontributing building was not possible because of a lack of spatial information in the 1983 books. Thus, distinctions were not made between noncontributing historic and noncontributing non-historic buildings.

For cluster information in 2000, we updated the 1997 themes for contributing, noncontributing and compatible buildings with 1999 orthophotos. Buildings that were lost or added in each cluster were marked on the drawings. Gretchen Luxenberg verified whether lost buildings were actually gone and determined whether new buildings were noncontributing or compatible. No effort was made to update other buildings not in clusters as to their acquisition or loss of contributing status.

By referencing the inventory books, we determined that those buildings that were noted as “historic” on the 1983 cards included noncontributing structures. Therefore, for the 2000 historic building layer, we included those structures that were deemed historic on the 1983 cards but were later noted as noncontributing on the 1997 drawings. If the noncontributing structures on the 1997 drawings were not listed as historic on the 1983 cards, they were added to the “Buildings 2000” theme (in addition to being on the 1997 noncontributing building cluster theme.) To summarize, the “Historic buildings 83” theme contains only those buildings noted as “historic” on the 1983 cards (to our best determination of location.) All other structures visible on the 1983 IR photos were placed on the “Buildings 83” theme.

The Ferry House and Fort Casey were added to the existing clusters layer. However, details about any changes within these clusters have not been imported in the data layers.

Note that there are many more historic structures on the “Historic buildings 2000” theme than the “Historic building 83” theme. The reason for this is that the 1997 cluster drawings thoroughly and specifically denoted contributing buildings and structures. These buildings were not always marked as historic on the 1983 cards or were not marked on the 1983 cards at all (see note above about structures not drawn on 1983 landscape inventory cards.) However, the gains and losses themes take these discrepancies into account and only include those structures actually gained or lost based on aerial photos and field checks.

Vegetation Related to Land Use

Vegetation related to land use includes cropland, pasture, grassland, woodland, and wetland.

There are several possible sources of error in the pasture, cropland, and grassland data layers for 2000 and the subsequent changes (gains and losses.) Distinctions between cropland, pasture, and grassland were often difficult using aerial photos. Therefore, we did incomplete windshield surveys (because of the request to use only main thoroughfares through the Reserve) to correct some data and to train our eyes to better interpret the aerial photos. Frequently, the same plot of land was rotated between cropland, pasture and grassland. This was particularly problematic by introducing the possibility that some tracts of cropland that were fallow may have been mistakenly identified as grassland or pasture.

The 1999 aerial photos were used to determine the parcels of pasture, cropland, and grassland that were inaccessible by the main roads. This technique is of course limited, however, features such as horse/cow barns, cows, horses and deteriorated ground served as adequate indicators for pasture from aerial photos.

The pasture, cropland, woodland, and grassland data layers were tested for overlapping.

Woodland data for 1983 were created by transferring the information from the 1983 IR aerial photos onto the 1990 digital orthophotos. Reference was made to the 1983 landscape inventory cards, however the 1983 IR aerial photos provided more location information.

Woodland 2000 data were created in the same manner as above only by using the 1999 aerial photos instead of the 1983 IR aerial photos. Clearcuts were placed on a separate layer as well as on both woodland data layers.

The 1983 wetland data layers were created by using the 1983 landscape inventory cards exclusively and transferring that information onto the 1990 digital orthophotos. Although we have other GIS data regarding wetland soils, those data were obtained over a long period of time and do

not provide us with the ability to make a comparison between 1983 and 2000. Thus, we field checked each wetland marked on the 1983 cards to create a 2000 wetland data layer. The 1999 aerial photos were searched for any evidence of other “open water” wetlands.

Land Use

Land use is comprised of the categories: residential subdivisions, urban, commercial, parks, agriculture, and woodland. Commercial includes gravel pits, the dump, the recycling center, mussel farms and the commercial airstrip. Parks includes the cemetery, state parks, city parks, and county parks. Agriculture includes cropland, pasture, and tree farms.

Urban boundaries for Coupeville were made by creating an image file of the boundary in Photoshop and adjusting the scale locally to fit the 1990 orthophoto using the software TAS Basic.

Residential subdivisions were classified based on their road layout, the relationship of the houses to the land, building siting, and to a small extent density. If the combination of these factors clearly indicated that the area is a subdivision it was classified as such. Aerial photographs were used to identify potential subdivisions, and each of these areas was field-checked. If a residential area was not clearly a subdivision it was not included in this category. Commercial data were found using the 1983 IR aerial photos, the 1983 landscape inventory cards, and the 1999 aerial photos. These data were drawn on the 1990 digital orthophotos in ArcView.

Parks for 2000 were determined using information from the Internet (park maps online) and the park parcels in the Island County parcel data layer (1998, updated in 1999.) This information was reviewed by looking at the land ownership map. Determination of the existence of these parks in 1983 was made by consulting with Rob Harbour.

Posters pre-1950 to 2000

General notes:

The data created for the pre-1950 to 2000 comparison are not intended to be considered as accurate as the 1983 to 2000 data. GIS was used only as a convenient tool but the maps should only be considered as diagrams. The data that were generated were recorded as UTM, Zone 10, NAD 27 (meters.)

For some of the comparisons, new 2000 data layers were created in order to be comparable with the more generalized nature of historic data. In most cases more specific data was merged to give a more generalized category for comparisons. There are indicated in the feet below.

Historic data sources include a 1936 USGS topo map, 1941 aerial photos of very low resolution covering all but the western edge of the Reserve, 1942 high resolution aerial photos of only about 1/10th of the Reserve (eastern edge), textual sources, historic photos, and the 1997 historic register nomination

Circulation

Data for historic roads were obtained from the 1936 USGS topo map that has been digitized and scaled to fit roughly in the same area as the 2000 data. The major 2000 roads were copied onto a new data layer for 1936 roads. Then the underlying 1936 USGS topo map was used to alter the “1936” roads appropriately. By using this method, the 1936 roads are approximately in the same georeferenced and orthorectified space as the 2000 road data layers.

The road gains layer was created by placing the 1936 road layers over the 2000 road layers. The 2000 roads that showed through (not overlapped by the 1936 roads) were copied and pasted onto a new layer. The road losses layer was created in the same manner except by placing the 2000 road layers over the 1936 data.

The 1936 USGS topo map may have underestimated roads within woodland as well as small roads.

Buildings and Structures

Due to lack of detailed pre-1950 data, building sites were mapped as sites instead of individual sites and structures.

The sources of data for the pre-1950 buildings and structures came from the 1983/1997 building inventory and the 1936 USGS topo map. In the 1983/1997 building inventory, all building sites (groups of related buildings and structures) within the Reserve were recorded including the dates of construction and whether they were still in existence in 1997. All of these sites were mapped onto the 1936 USGS topo map, excluding the individual buildings and structures within Coupeville and Fort Casey. Many sites were added from the 1983 building inventory that were not marked on the 1936 USGS topo map. Additionally, a number of buildings that were not listed in the building inventory were added to historic building layers by referencing the 1936 USGS topo map. A separate layer exclusively showing the buildings on the 1936 USGS topo map was also created. All buildings from the building inventory and

the 1936 USGS topo map were added to a new historic buildings data layer. Those buildings that were either on the 1936 USGS topo map and not in the building inventory or marked as demolished in the 1983/1997 building inventory update were considered buildings lost between 1936 and 2000. Entire building sites that were lost before 1983 do not show up as losses.

A separate rough sketch was drawn to estimate the number and approximate location of Coupeville buildings in order to estimate the numbers of historic buildings lost since 1936. This sketch also allowed us to estimate the error of buildings not drawn on the 1936 USGS topo map that were obviously older than 1936, and that were listed in the building inventory.

Cluster Arrangements

The sources of data for the historic clusters were the 1942 high resolution aerial photos of the eastern edge of the Reserve, the 1941 low resolution aerial photos, and the 1936 USGS topo map for the western edge. First, all the current historic clusters were found on the 1942 aerial photos and the 1941 aerial photos. This allowed us to train our eye for finding other clusters on the low resolution 1941 aerial photo. The candidate clusters were circled separately from the known clusters. To verify whether the candidate clusters were likely to have been historic clusters, we checked the buildings within each candidate cluster with the historic buildings mapped in the 1997 National Register nomination. If there was at least one building listed within the building inventory that was in that candidate cluster, and it appeared to be related to surrounding agricultural land use, the property was identified and a judgment was made by Park Historian and Superintendent Gretchen Luxenburg as "whether it would have been a farm cluster. Sites identified as such were designated "probable clusters that have been lost." Other areas that could have been clusters based upon aerial photography interpretation and the presence of a historic structure in the 1983 inventory, but for which there are no contributing historic structures remaining, were classified as "possible clusters" that have been lost. The final clusters are drawn on the 1941 aerial photo with the 1936 USGS topo map "pasted" onto the western edge.

Vegetation

The vegetation poster includes the categories open fields (including cropland, pasture, and grassland), woodland, and wetlands. Open fields include both cultivated and non-cultivated land in one category because it is not possible to distinguish between these categories with our low resolution aerial photos. These data were drawn on the 1941 aerial photo with the appended 1936 USGS topo map on the western edge. The 2000 open fields category was created by combining the cropland, pasture, and grassland data layers. The historic woodland layer was created by tracing polygons around the woodlands on the 1941 aerial photo (with the 1936 USGS topo map on the western edge.) The 2000 woodland layer was not altered from the 2000 woodland layer used in the 1983 to 2000 comparison. The historic wetland layer was created by looking for wetlands on the 1941 aerial photo that had been marked on the 2000 data layer. Once these wetlands were found, we looked for other open water wetlands on the 1941 aerial photo. Since the 1941 and the 2000 data layers were created on top of different maps (one projected and one not), an alternative method was used for generating the gains and losses data layers. For each data layer, the 1941 and 2000 data were traced separately. Then, the 1941 trace and the 2000 trace were lined up to the degree possible and gains and losses were traced from these overlapping polygons. These new traced maps were transferred roughly back to the 1990 digital orthophoto map so that comparisons could be made.

Land Use

The land use poster includes the categories: agriculture (including ranching and fallow grasslands but excluding native grasslands), residential/commercial, commercial/industrial, woodlands, coastal defense, cemetery, and parks. The agriculture category was created by taking the open fields categories for 1941 and 2000 and subtracting what seems reasonable to have been native grassland (e.g., around Perego's Lagoon.) The residential / commercial data layers were generated by including urban development (Coupeville and Prairies Center in 2000 and Coupeville, Prairie Center, Coveland, and San de Fuca prior to 1950), subdivisions, and loose polygons around homes that did not clearly involve working the land for sustenance. Information from various textual sources was used along with historical photos to make these assumptions. For 2000, the Island County parcel layer was used to find properties zoned as "rural residential," and these were added to residential. Vacation homes were included in residential.

The parks category was made by referencing maps and the 1998/1999 Island County parcel layer. Coastal defense borders were found on USGS topo maps.

Commercial/industrial includes commercial activities that were not intermixed with residential.

These were found through the use of the aerial photos (gravel pits) and textual descriptions (fishing.)

Timberlands were considered to be the same as the woodlands in the vegetation poster.

The cemetery is clear on the map and has remained relatively unchanged.

Natural Systems and Features

Because insufficient data existed regarding the existence and combination of ecological systems, only the existing natural features are mapped.

The natural systems and features data layers included all bluff vegetation, all wetlands, all woodlands, grassland around the lakes, much of the grassland at Fort Casey, and the areas that clearly show the presence of locally rare grassland species found in Steve Erikson's database (Au Sable Institute.) While aerial photos clarified changes in the bluff vegetation, wetlands, and woodlands between 1941 and 2000, we made the assumption that the areas that currently contain locally rare prairie species most likely also did in 1950. We do not have reliable data to include other areas that might have contained native prairie species before 1950.

Additionally on the natural systems and features poster, some of the species found in Steve Erikson's database that represent the range of existing native grassland species are mapped.

These data do not represent all prairie species on the Reserve, but are only sites where prairie species have been observed.

Information regarding existing vegetation that originated from the Department of Natural Resources is shown on the poster. However, permission was granted by the DNR for this single use only and therefore any further use of this data requires a new contractual agreement with DNR. Contact information is included in the digital files.

Views and Vistas

The original task for comparing historic and modern views and vistas was aimed at comparing views that were nominated in the National Register of Historic Places in 1997. The contributing views and vistas that were in the nomination are:

1. Ebey's Prairie from the cemetery, and from Engle Road
2. Entry to Coupeville (from Ebey's Prairie into Prairie Center, and along Main Street) and Front Street in Coupeville
3. View from Front Street and the Wharf, across Penn Cove
4. View to Crockett Prairie and Camp Casey from Wanamaker Road
5. View to Crockett Prairie and uplands from the top of Patmore Road
6. View to Crockett Prairie and the uplands from Keystone Spit
7. View to Grasser's Lagoon from Highway 20
8. Views to and across Penn Cove along Madrona Way
9. Views from the bluff trail to Ebey's Prairie and Coastal Strip
10. View of Smith Prairie from Highway 20, entering the Reserve
11. Views from Monroe's Landing across the cove to Coupeville
12. Views from Fort Casey across Keystone Spit and Crockett Lake
13. View from Highway 20 across Ebey's Prairie
14. Engle Road to Uplands and west coast
15. Views to Grasser's Hill from Madrona Way

Unfortunately historic photos were not available for all of these views and vistas. As a result, we chose a different method for deciding which views and vistas to compare. We collected all landscape photos within the Museum's collection and within the Board's collection. We sorted them by location. We then chose the widest range of photos that would cover the largest area of the Reserve, including any categories in the original nomination that were possible. Our new set of views and vistas are:

1. View of Keystone Spit and the current ferry landing from Fort Casey
2. View of Keystone Spit and Crockett Spit from a higher vantage point at Fort Casey
3. Western coastline from Hill Road looking towards Ebey's bluff
4. View of Gould Farm in Ebey's Prairie from the wayside
5. Ebey's Prairie from below the cemetery
6. View of Prairie Center from below the cemetery
7. View west along Terry Road
8. View towards Penn Cove along Main Street
9. View of Front Street looking east from the museum
10. View of the old San de Fuca from Madrona Way
11. Travelers along Madrona Way (the old highway)
12. Views of the northern shore of Penn Cove from Captain Whidbey's Inn
13. View of the old courthouse along Madrona Way

14. View of the coast of San de Fuca
15. View of Monroe farm along Penn Cove Road

Modern photos were taken to match as closely as possible the vantage point of the historic photos. For many historic photos, the comparable modern view is obscured by vegetation. These photos were excluded from the poster, though they provide insight into changes in the Reserve.

Spatial Organization

A combination of topography and vegetation were used to determine areas of spatial and visual continuity. Digital elevation models were built in Arc View, and GIS surface cover layers such as Woodlands, Agriculture Land, Roads, and Coupeville were draped onto the DEM. Boundaries of “landscape rooms” or units formed by topography and vegetation were drawn over 1990 orthorectified aerial photographs. These landscape units were given names based on historic and physical identifying features with the assistance of the NPS Planning Team. Boundaries of the landscape units were drawn in PhotoShop.

For 1936 Landscape Units, the 2000 boundaries were laid over the 1936 USGS map. Boundaries were maintained as they are in 2000 unless the 1936 map showed differences in vegetation. A 1941 aerial photograph was then used to verify or modify the historic vegetation and Landscape Unit boundaries.

Year 2000 parcels were derived from Island County GIS data. To find parcels remaining from 1899, the 1899 map was visually compared with year 2000 parcels. Parcels remaining intact were colored in PhotoShop on the scanned 1899 parcel map.

The circulation maps included ArcView layers of major and minor roads based on a 1936 USGS map and the 1999 aerial photograph. The maps were converted to .tifs or the poster.

Appendix D: Planning Team

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Structures

2000

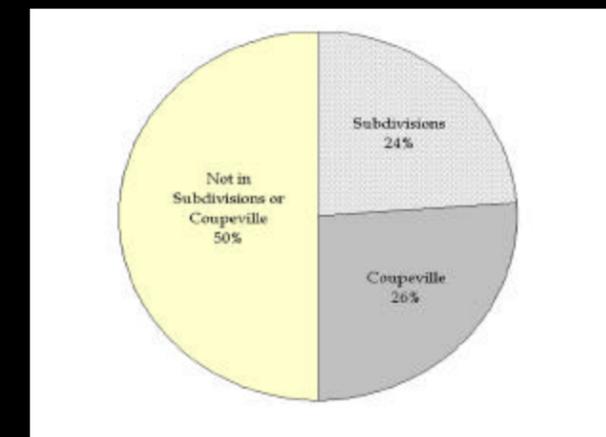
Changes from 1983 to 2000



Non-Historic Structures	3089 (90%)
Historic Structures	344 (10%)
All Structures	3433 (100%)

Spatial Distribution of Buildings in 2000

Buildings in Subdivisions	819 (24%)
Buildings in Coupeville	889 (26%)
Remaining Buildings	1725 (50%)



Three hundred and three historic buildings are not in Coupeville or in subdivisions. Three historic buildings are in subdivisions with 38 historic buildings in Coupeville.

Structures

Gains, 1983 to 2000

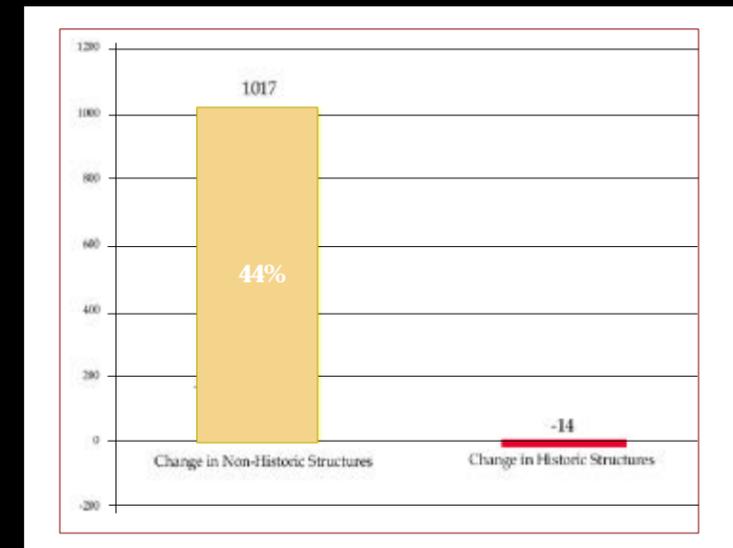
Changes from 1983 to 2000



Gains in Non-Historic Structures 1017
Total Non-Historic Structures 3089

Non-historic buildings from 1983 to 2000 increased by 44%.

Net Gain / Loss of the Number of Structures from 1983 to 2000

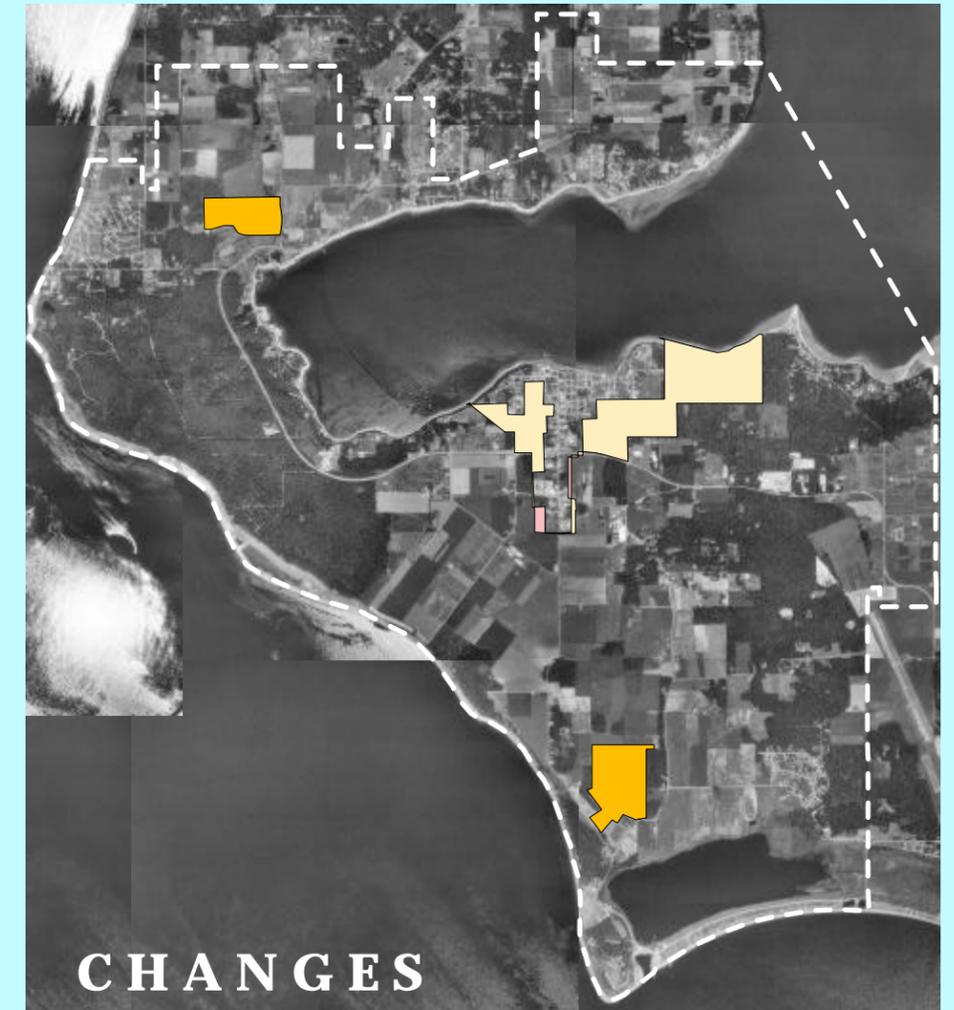


Ebey's Landing National Historical Reserve

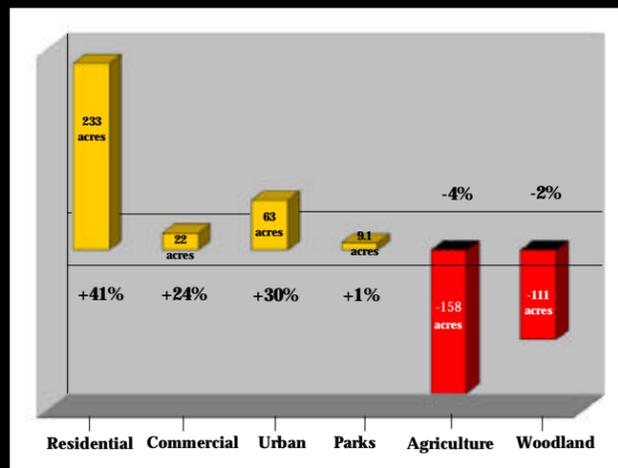
Land Use

Residential Subdivisions

Changes from 1983 to 2000



Net Change of Land Use between 1983 and 2000



The category "Residential Subdivisions" on this poster is conservatively estimated as only the areas showing characteristics indicative of subdivisions. Much of the Reserve has experienced residential growth in cropland, pasture, grassland, and woodland areas. This growth can be better understood by referring to the structures poster.

The "Urban" category contains both residential and commercial land use. Thus, it was included in both the residential and commercial categories.

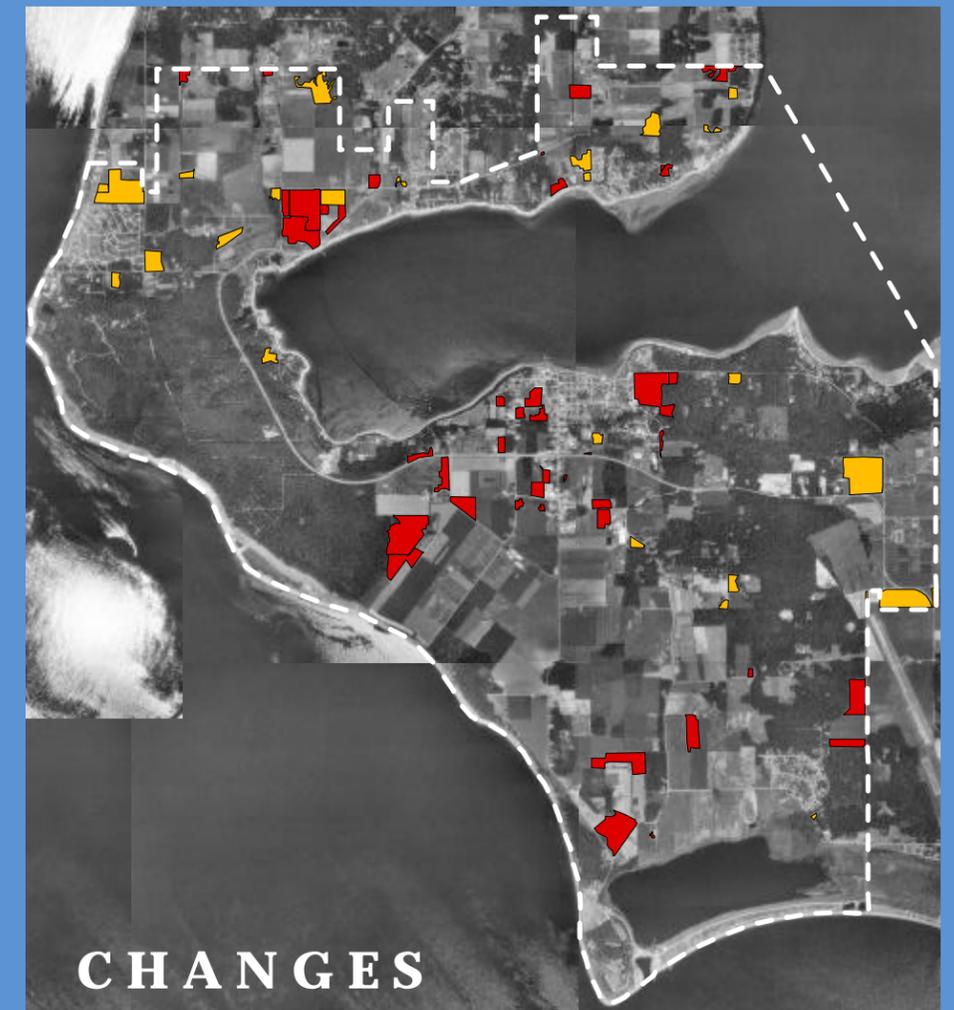
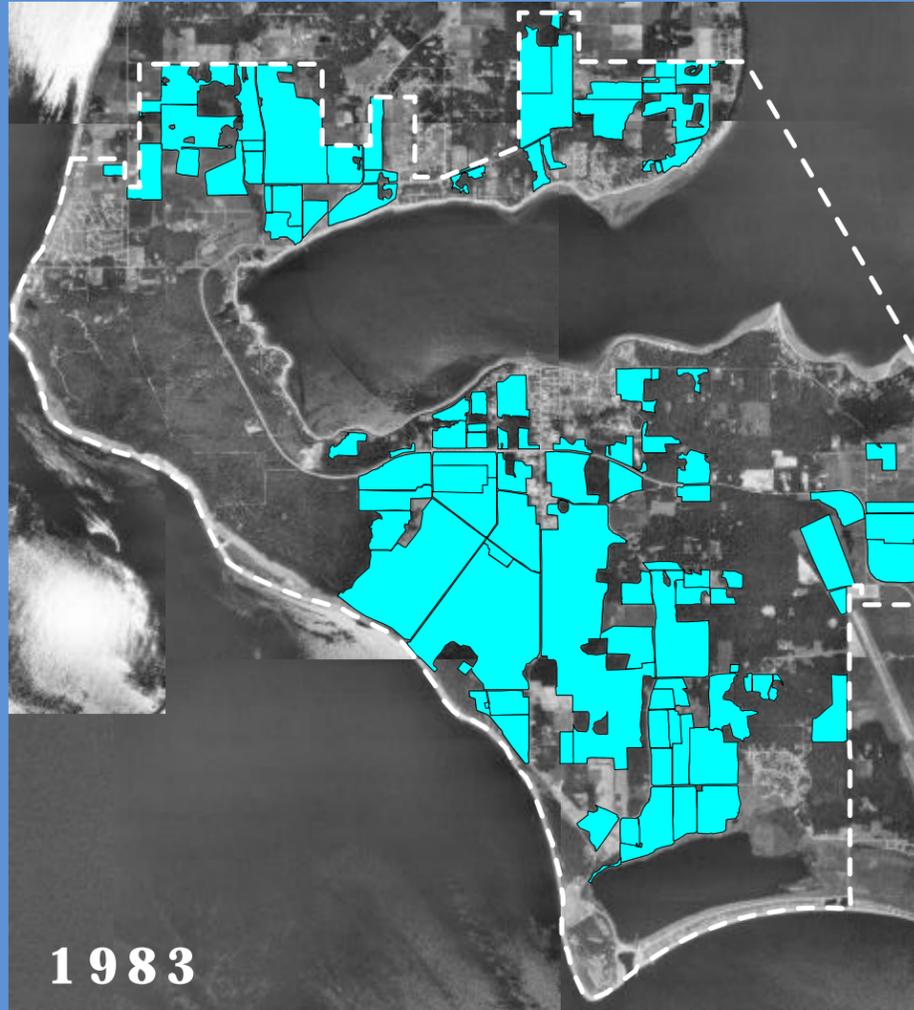
LEGEND

- 1983
- 2000
- GAINS
- LOSSES
- MUSSEL FLATS 1983
- MUSSEL FLATS 2000
- MUSSEL FLATS GAIN
- MUSSEL FLATS LOSS
- URBAN
- URBAN GAIN
- URBAN LOSS

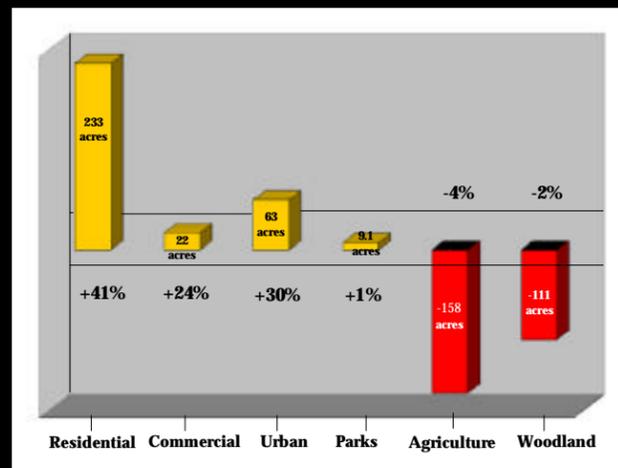
Ebey's Landing National Historical Reserve

Land Use
Agriculture

Changes from 1983 to 2000



Net Change of Land Use between 1983 and 2000



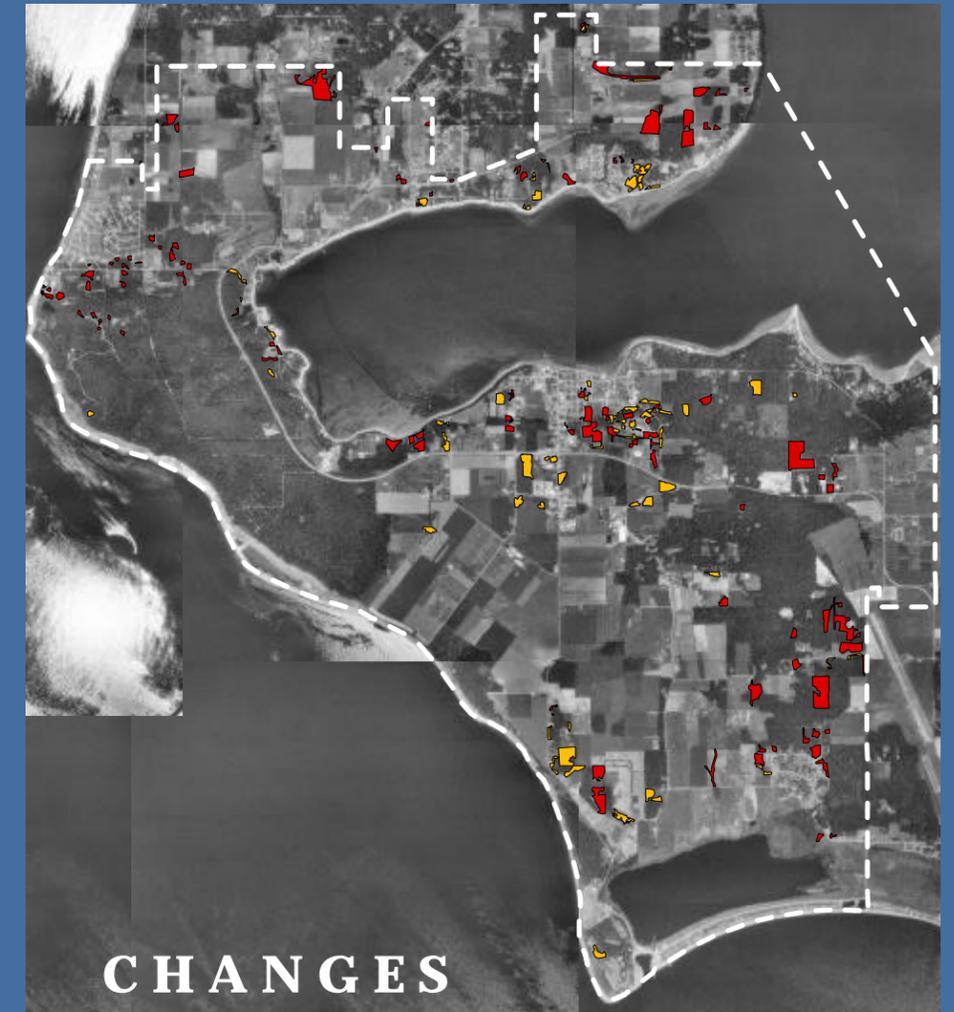
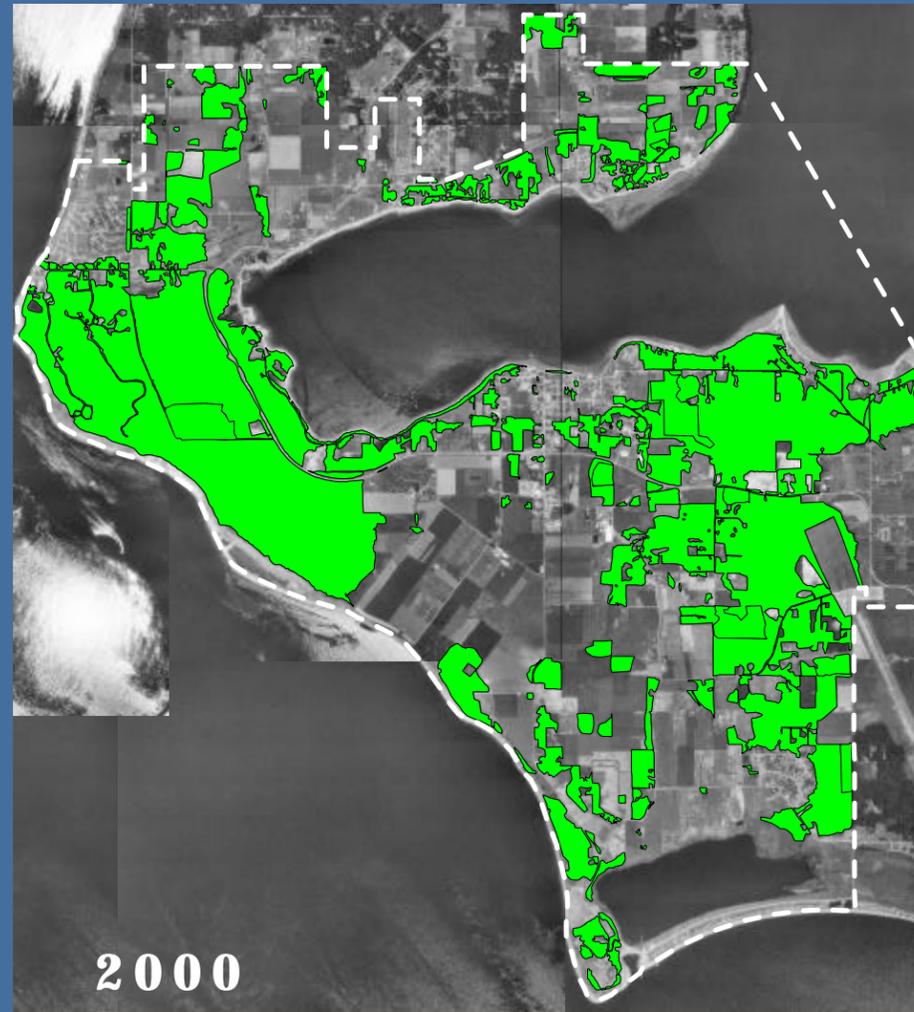
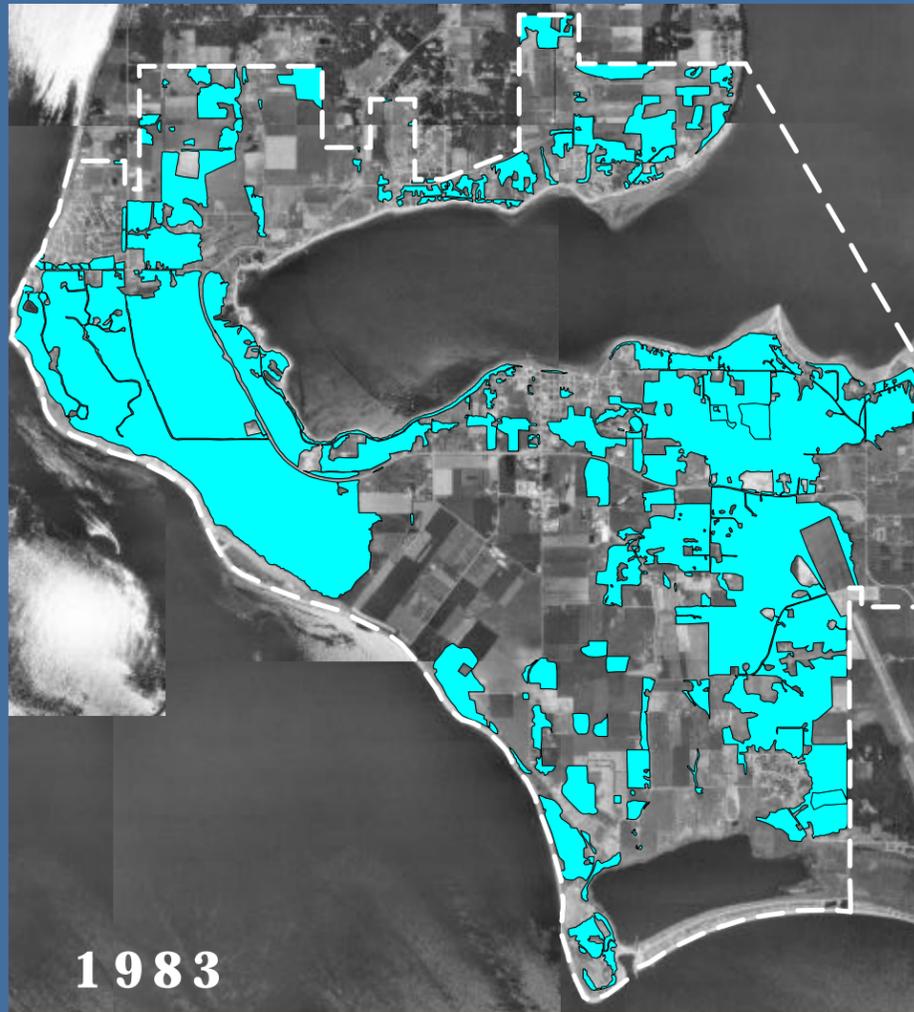
LEGEND

- 1983
- 2000
- GAINS
- LOSSES
- MUSSEL FLATS 1983
- MUSSEL FLATS 2000
- MUSSEL FLATS GAIN
- MUSSEL FLATS LOSS
- URBAN
- URBAN GAIN
- URBAN LOSS

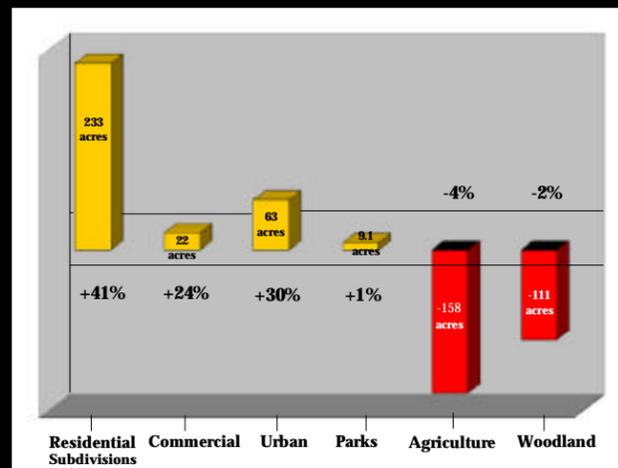
Ebey's Landing National Historical Reserve

Land Use Woodland

Changes from 1983 to 2000



Net Change of Land Use between 1983 and 2000



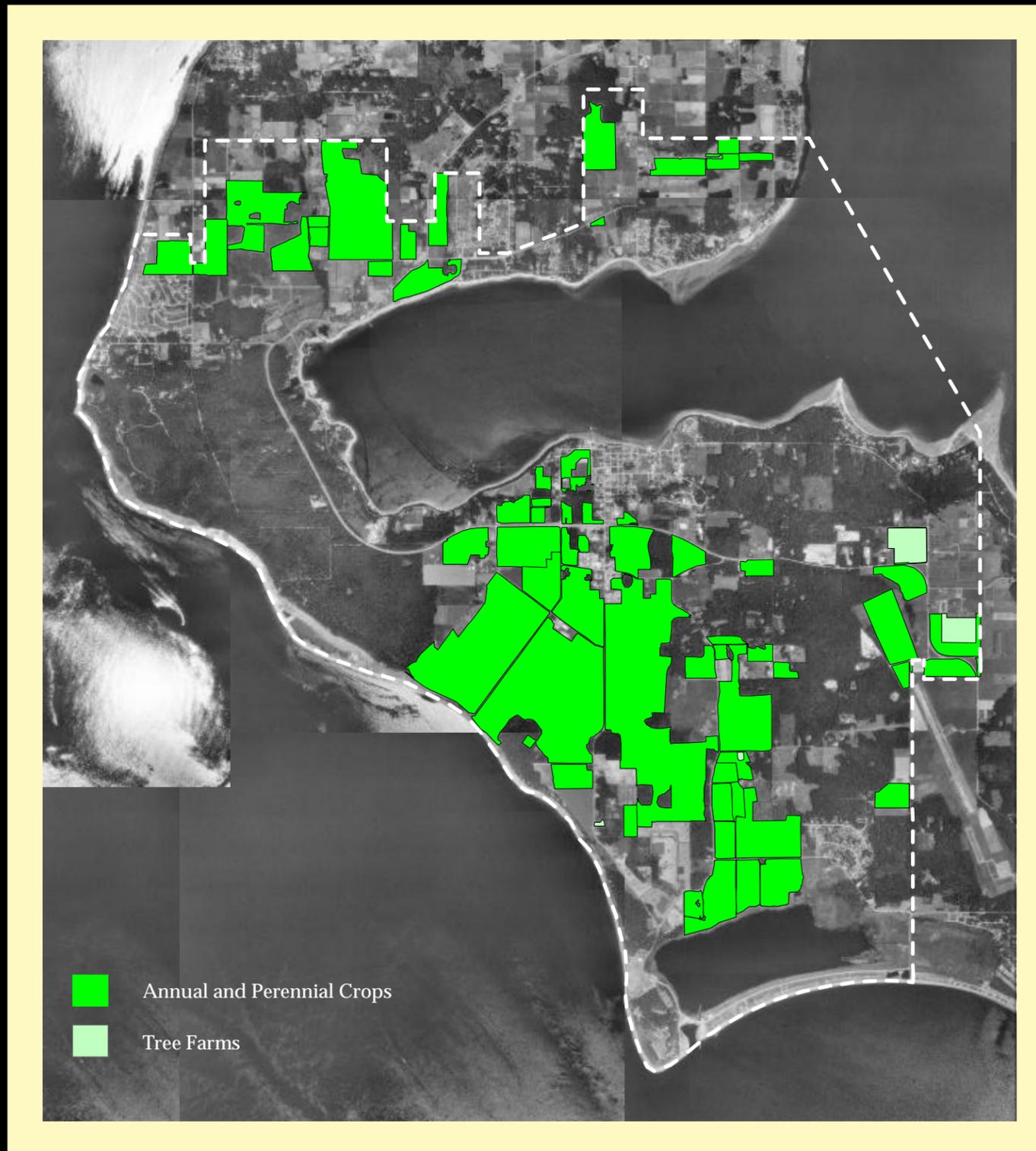
LEGEND

- 1983
- 2000
- GAINS
- LOSSES
- URBAN
- URBAN GAIN
- URBAN LOSS
- MUSSEL FLATS 1983
- MUSSEL FLATS 2000
- MUSSEL FLATS GAIN
- MUSSEL FLATS LOSS

Ebey's Landing National Historical Reserve

Vegetation Related to Land Use Cropland 2000

Changes from 1983 to 2000



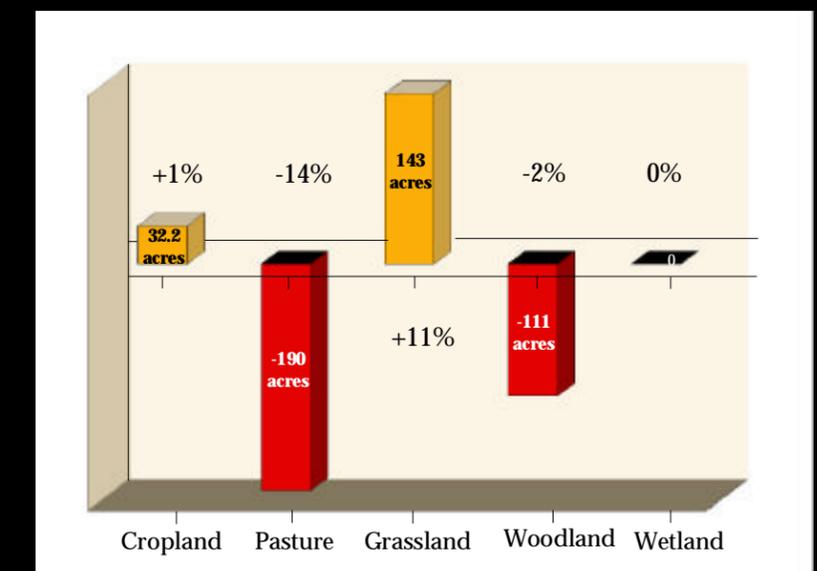
SUMMARY

Vegetation Related to Land Use

Areas are expressed in acres

	1983	2000
Cropland	3323.4	3355.6
Pasture	1329.2	1138.6
Grassland	1293.8	1437.1
Woodland	5401.9	5290.7
Wetland	127.5	127.5

Net Change in Land Use between 1983 and 2000



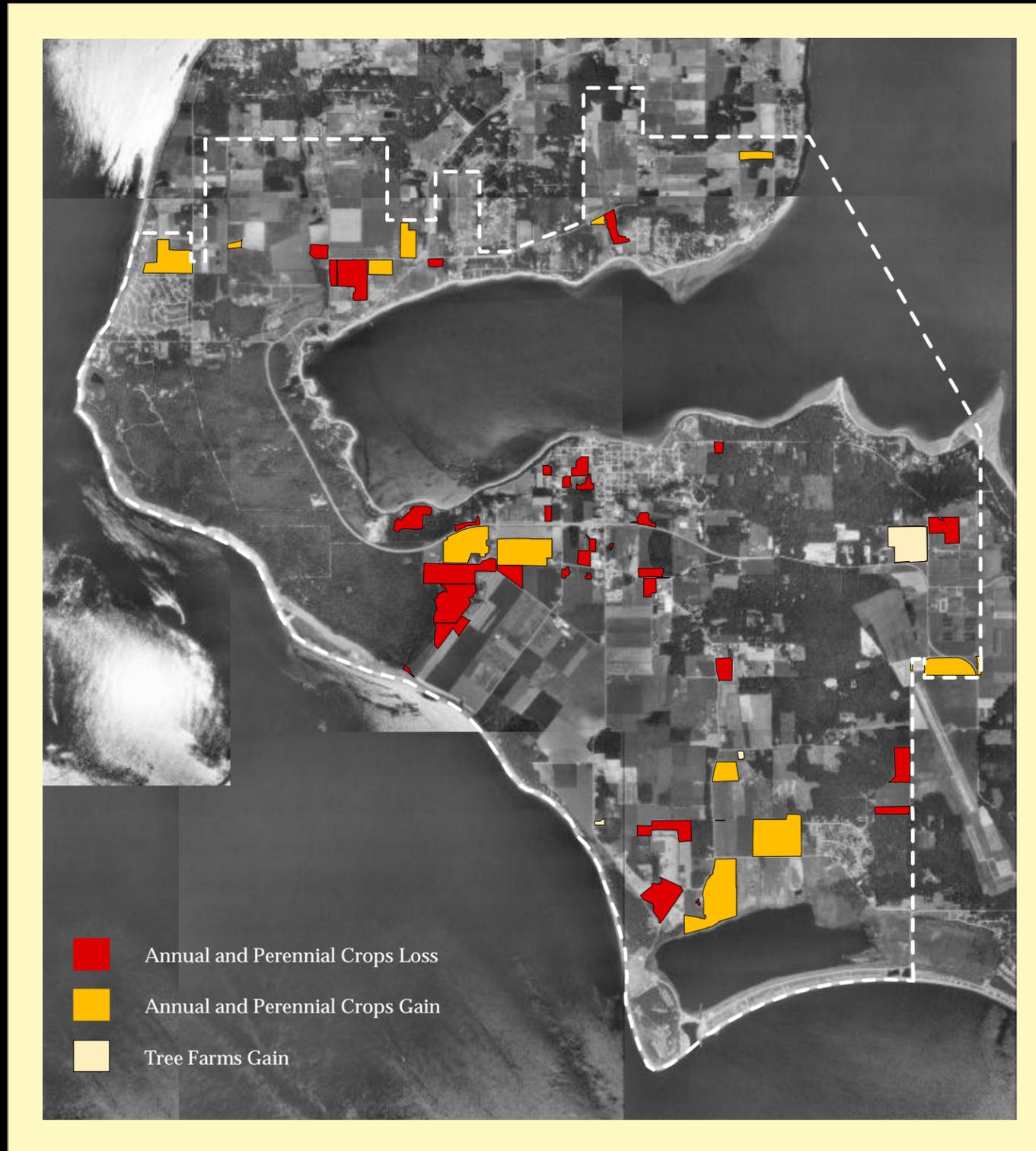
LEGEND



Ebey's Landing National Historical Reserve

Vegetation Related to Land Use Cropland Changes

Changes from 1983 to 2000



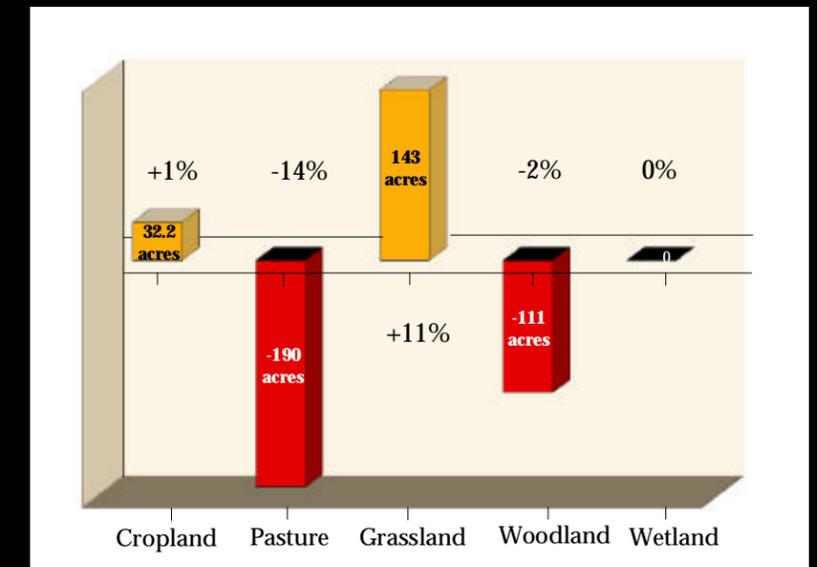
SUMMARY

Vegetation Related to Land Use

Areas are expressed in acres

	1983	2000
Cropland	3323.4	3355.6
Pasture	1329.2	1138.6
Grassland	1293.8	1437.1
Woodland	5401.9	5290.7
Wetland	127.5	127.5

Net Change in Land Use between 1983 and 2000



LEGEND

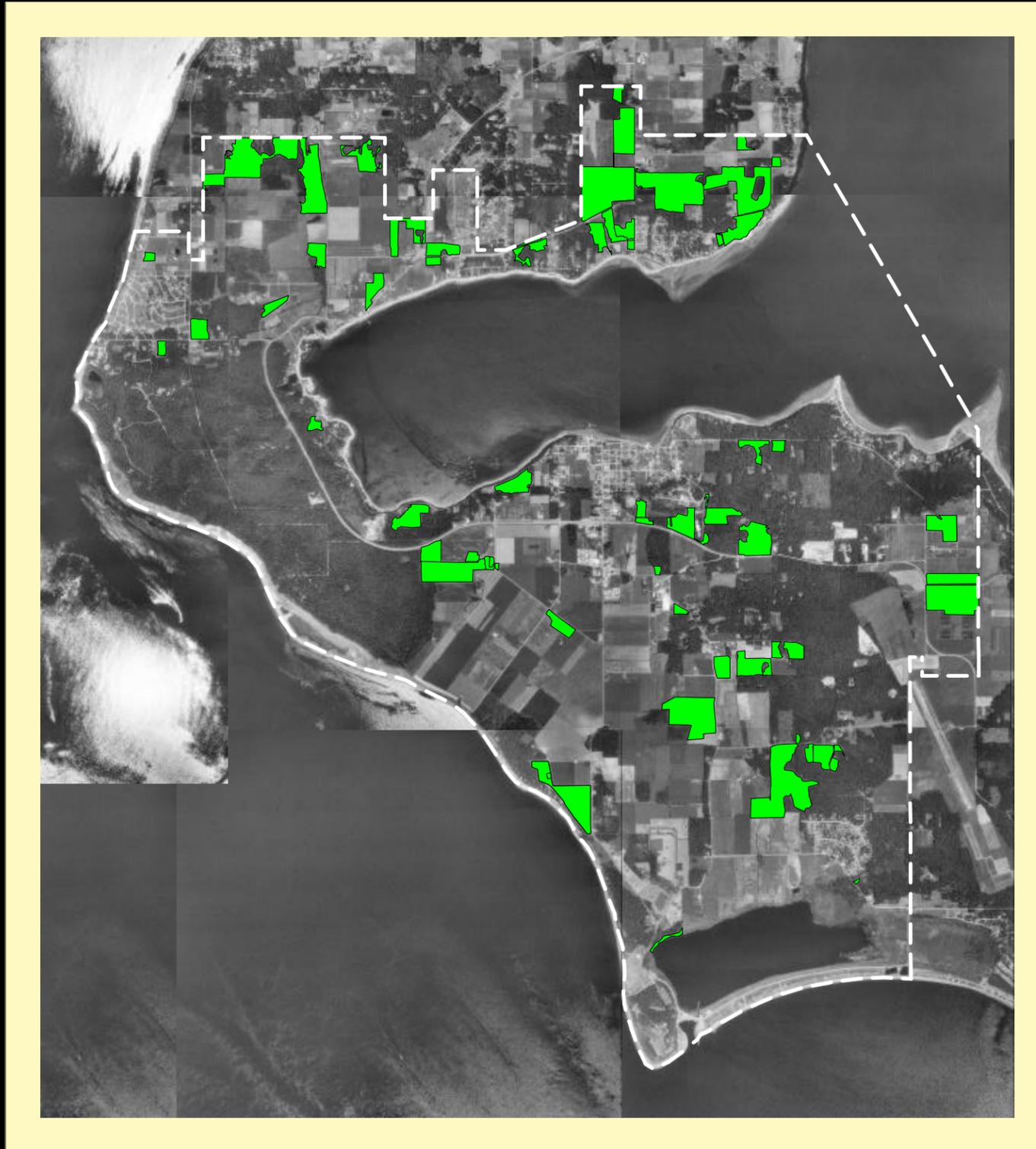


Ebey's Landing National Historical Reserve

Vegetation Related to Land Use

Pasture 2000

Changes from 1983 to 2000



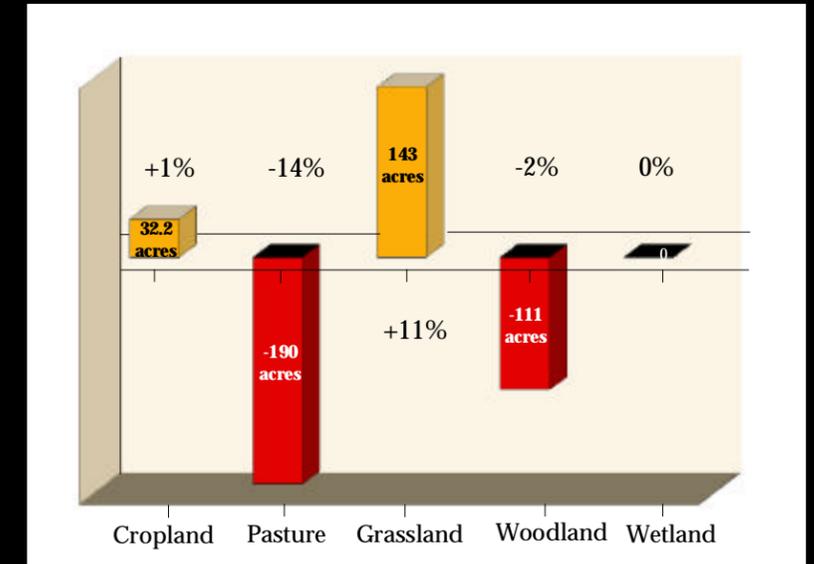
SUMMARY

Vegetation Related to Land Use

Areas are expressed in acres

	1983	2000
Cropland	3323.4	3355.6
Pasture	1329.2	1138.6
Grassland	1293.8	1437.1
Woodland	5401.9	5290.7
Wetland	127.5	127.5

Net Change in Land Use between 1983 and 2000



LEGEND



Ebey's Landing National Historical Reserve

Vegetation Related to Land Use

Pasture Changes

Changes from 1983 to 2000



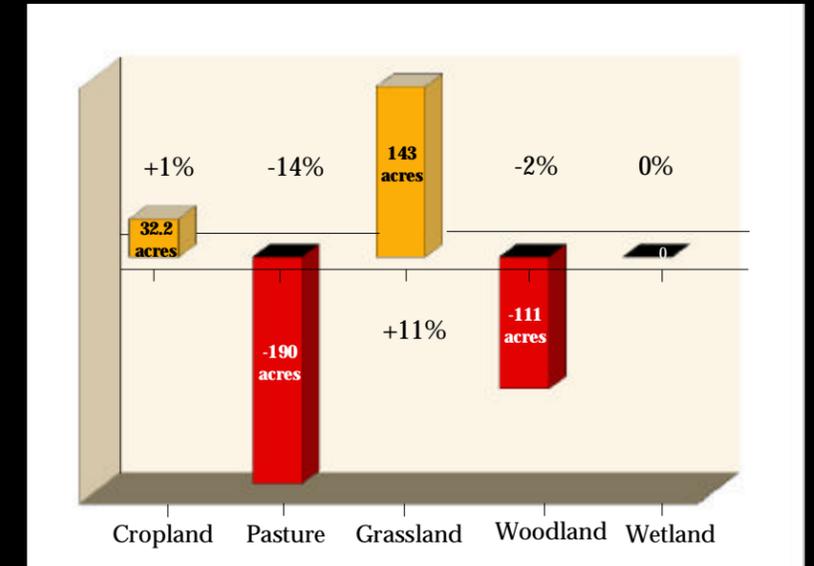
SUMMARY

Vegetation Related to Land Use

Areas are expressed in acres

	1983	2000
Cropland	3323.4	3355.6
Pasture	1329.2	1138.6
Grassland	1293.8	1437.1
Woodland	5401.9	5290.7
Wetland	127.5	127.5

Net Change in Land Use between 1983 and 2000



LEGEND

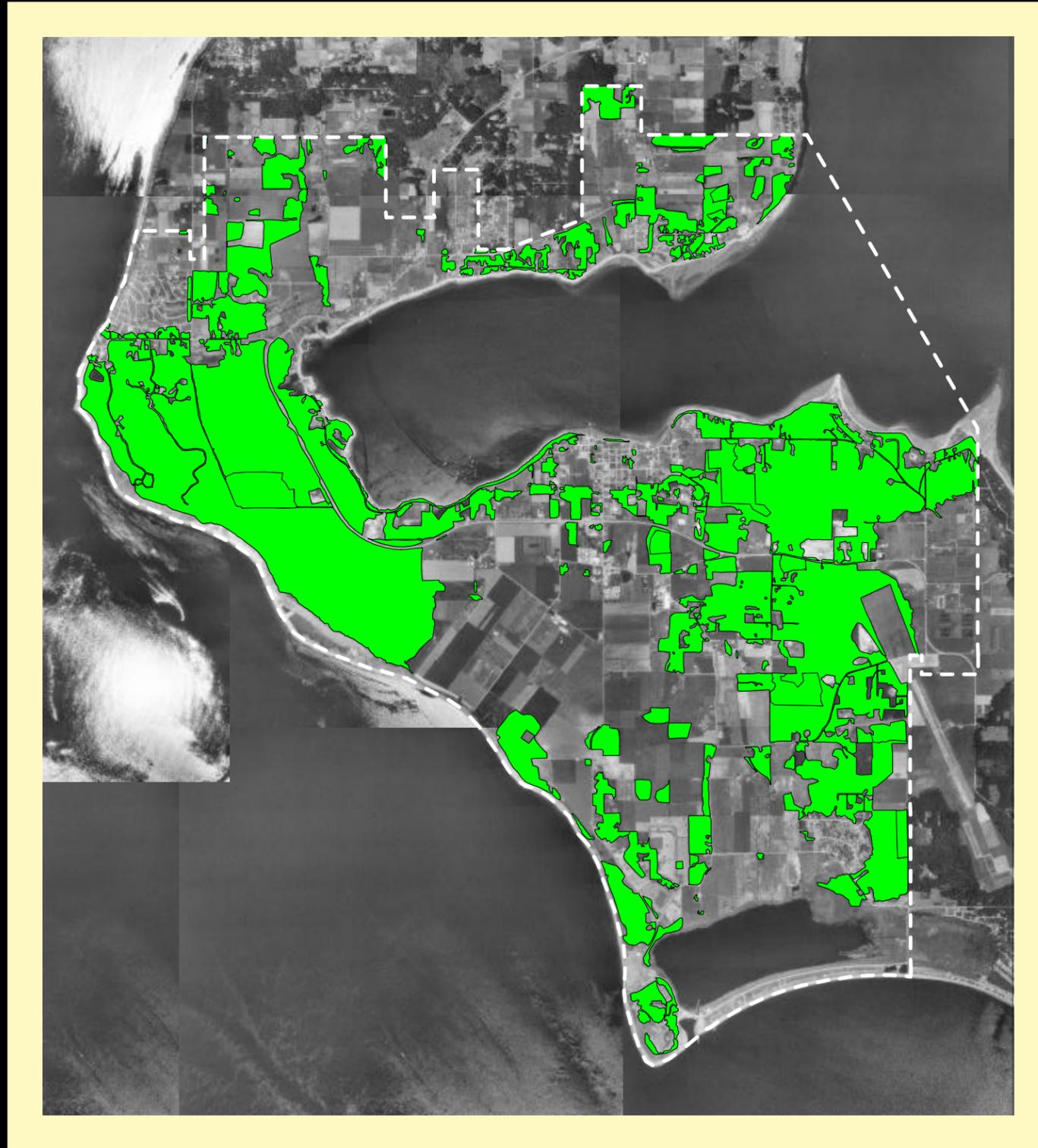
- 1983
- 2000
- GAINS
- LOSSES

Ebey's Landing National Historical Reserve

Vegetation Related to Land Use

Woodland 2000

Changes from 1983 to 2000



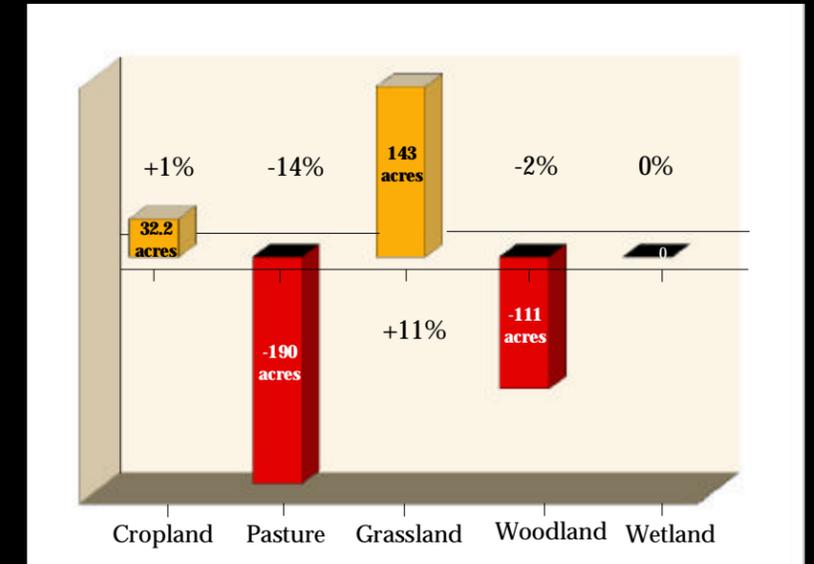
SUMMARY

Vegetation Related to Land Use

Areas are expressed in acres

	1983	2000
Cropland	3323.4	3355.6
Pasture	1329.2	1138.6
Grassland	1293.8	1437.1
Woodland	5401.9	5290.7
Wetland	127.5	127.5

Net Change in Land Use between 1983 and 2000



LEGEND

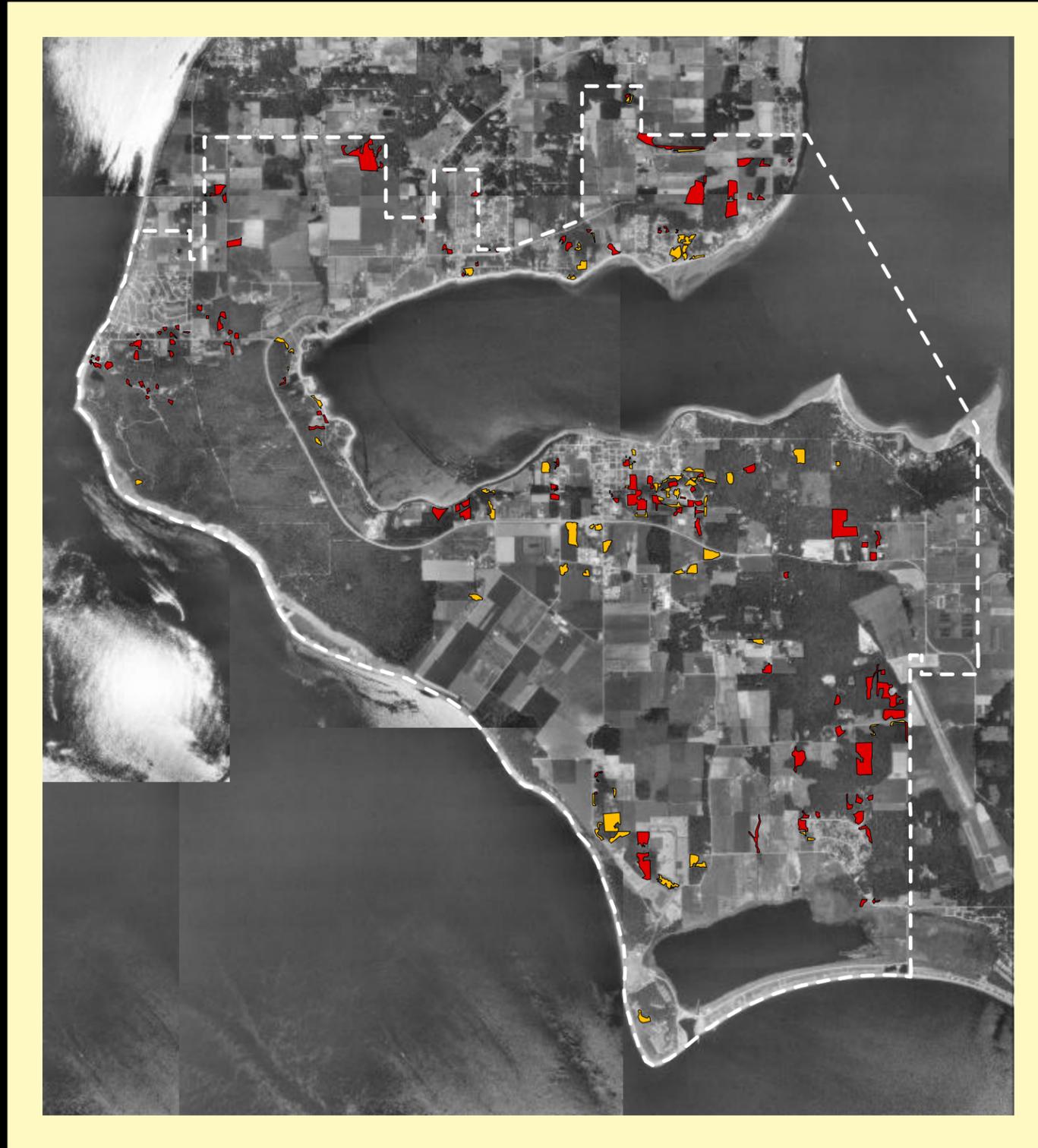
- 1983
- 2000
- GAINS
- LOSSES

Ebey's Landing National Historical Reserve

Vegetation Related to Land Use

Woodland Changes

Changes from 1983 to 2000



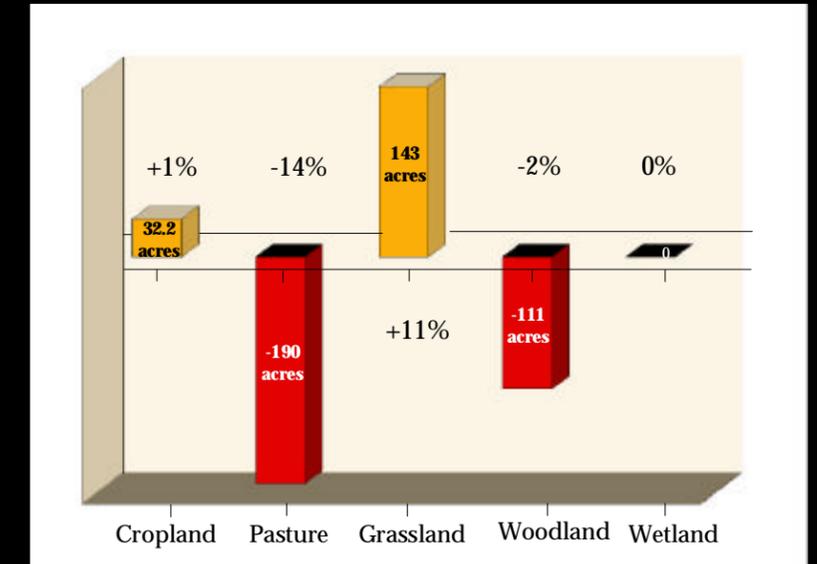
SUMMARY

Vegetation Related to Land Use

Areas are expressed in acres

	1983	2000
Cropland	3323.4	3355.6
Pasture	1329.2	1138.6
Grassland	1293.8	1437.1
Woodland	5401.9	5290.7
Wetland	127.5	127.5

Net Change in Land Use between 1983 and 2000



LEGEND

- 1983
- 2000
- GAINS
- LOSSES

Ebey's Landing National Historical Reserve

Vegetation Related to Land Use
Grassland 2000

Changes from 1983 to 2000



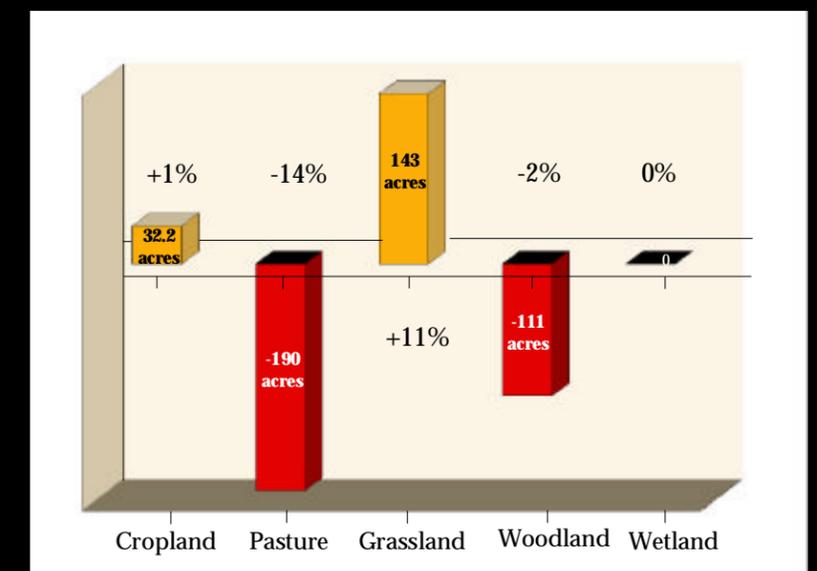
SUMMARY

Vegetation Related to Land Use

Areas are expressed in acres

	1983	2000
Cropland	3323.4	3355.6
Pasture	1329.2	1138.6
Grassland	1293.8	1437.1
Woodland	5401.9	5290.7
Wetland	127.5	127.5

Net Change in Land Use between 1983 and 2000



LEGEND

- 1983
- 2000
- GAINS
- LOSSES

Ebey's Landing National Historical Reserve

Vegetation Related to Land Use Grassland Changes

Changes from 1983 to 2000



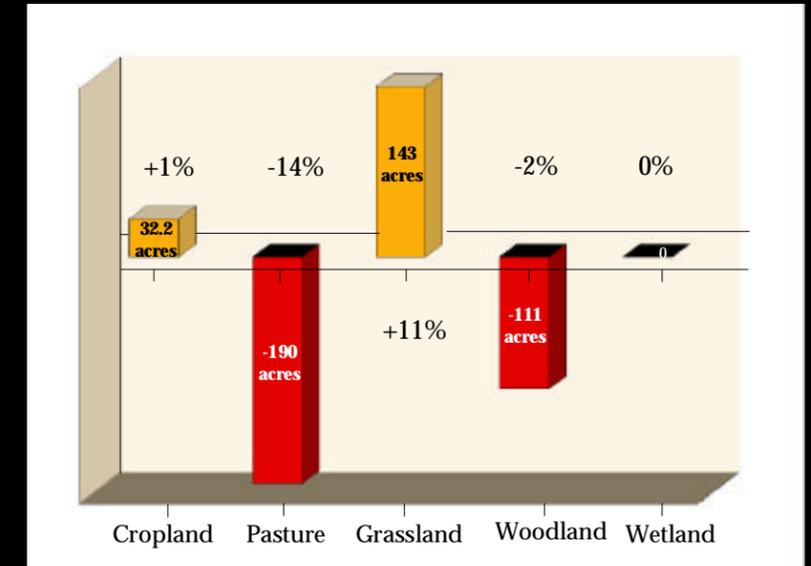
SUMMARY

Vegetation Related to Land Use

Areas are expressed in acres

	1983	2000
Cropland	3323.4	3355.6
Pasture	1329.2	1138.6
Grassland	1293.8	1437.1
Woodland	5401.9	5290.7
Wetland	127.5	127.5

Net Change in Land Use between 1983 and 2000



LEGEND

- 1983
- 2000
- GAINS
- LOSSES

Ebey's Landing National Historical Reserve



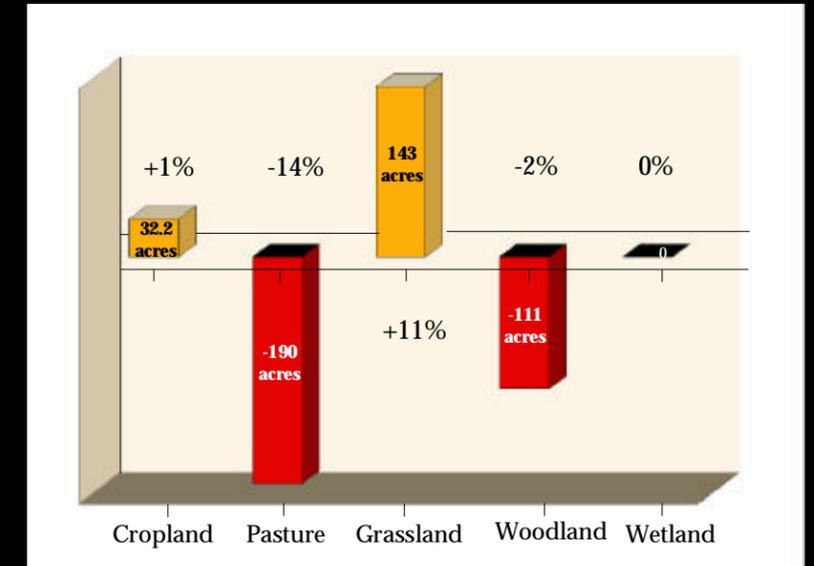
SUMMARY

Vegetation Related to Land Use

Areas are expressed in acres

	1983	2000
Cropland	3323.4	3355.6
Pasture	1329.2	1138.6
Grassland	1293.8	1437.1
Woodland	5401.9	5290.7
Wetland	127.5	127.5

Net Change in Land Use between 1983 and 2000



LEGEND

- 1983
- 2000
- GAINS
- LOSSES

Circulation Network

2000

Changes from 1983 to 2000



Cumulative Road Distance by Type

Road Type	Distance (miles)
Highway	9
Major roads	21.3
Secondary roads	54.0
Minor roads	87.1
Total roads	171.4

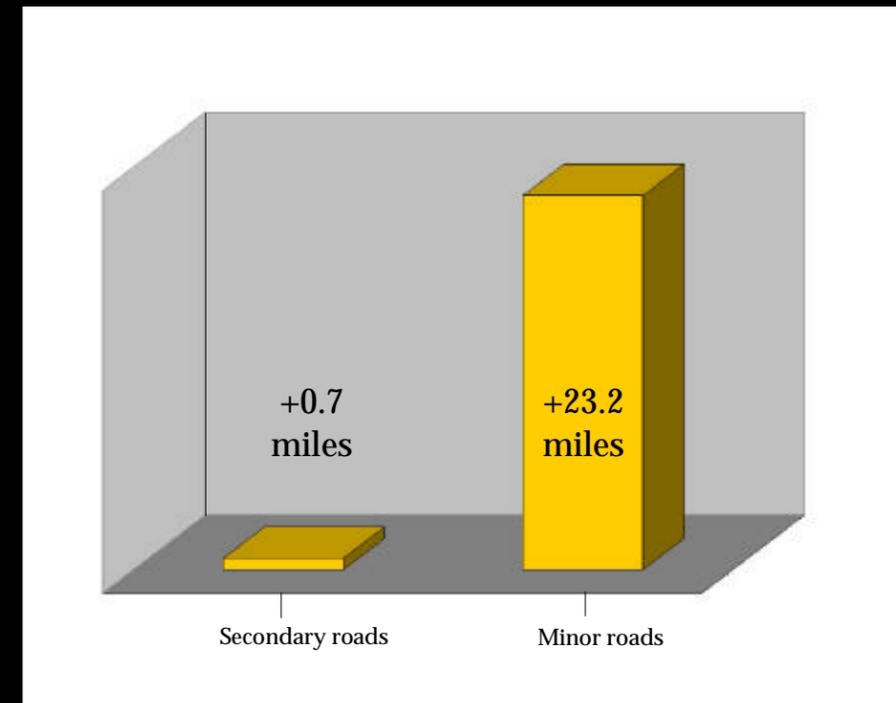
Ebey's Landing National Historical Reserve

Circulation Network Changes

Changes from 1983 to 2000



Net Change in Roads from 1983 to 2000



There were no changes in highways or major roads between 1983 and 2000.

Ebey's Landing National Historical Reserve

Boundaries

Hedgerows and Windbreaks, 2000

Changes from 1983 to 2000



Cumulative Distance by Type

Boundary Type	Distance (miles)
Hedgerows	25.7
Windbreaks	4.7

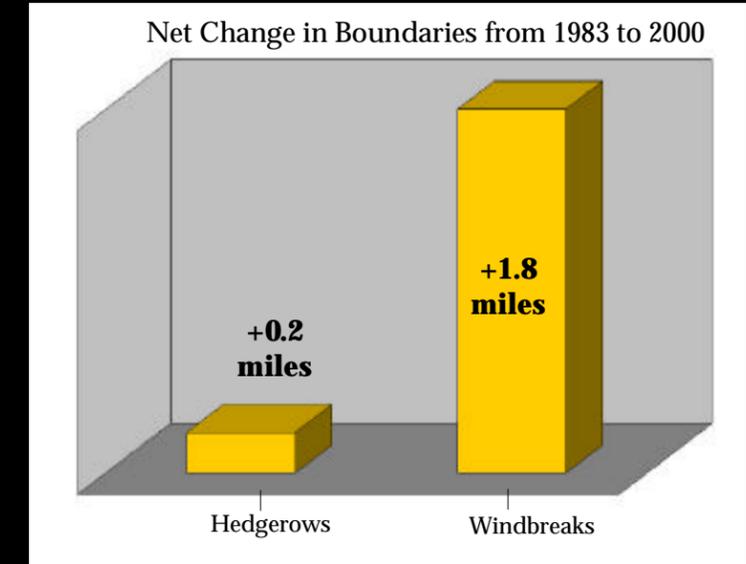


Ebey's Landing National Historical Reserve

Boundaries

Hedgerows and Windbreaks, Changes

Changes from 1983 to 2000



Ebey's Landing National Historical Reserve

Figure 5b

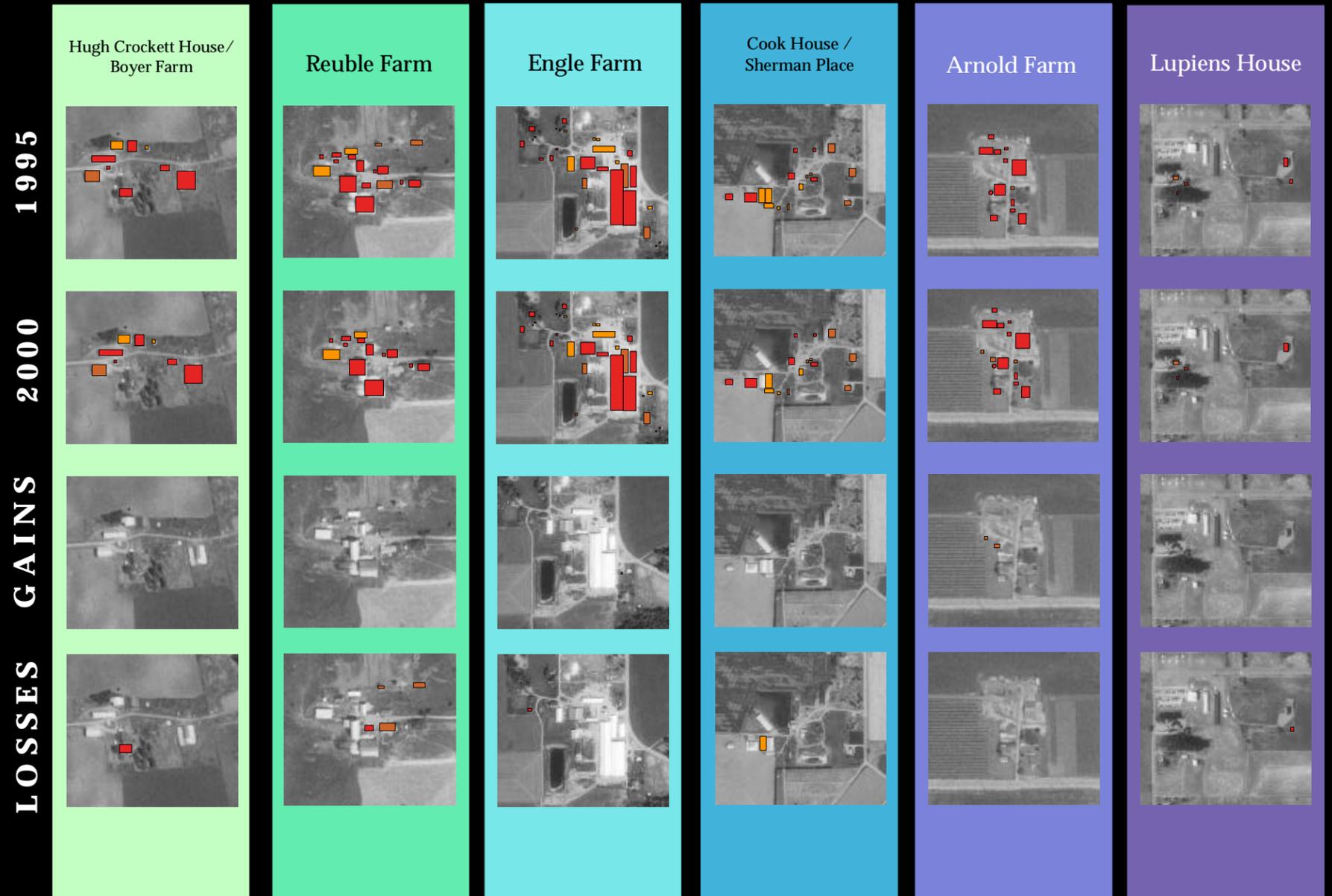
Cluster Arrangements

Changes from 1983 to 2000

No change in intact cluster number or location occurred between 1983 and 2000.

Change in Cluster Structures between 1995 and 2000

Reserve building data using National Register designations were first available in 1995.



Historical clusters are designated by the National Park Service as properties with multiple structures related to farming or other land use activities associated with the history of the Reserve.

The background orthophotos were photographed in 1990. Historic cluster data for 1995 were obtained by Gretchen Luxenberg and Cathy Gilbert of the National Park Service.

- | | | |
|------------------------------------|-----------------------------------|---------------------------|
| 1 Hugh Crockett House / Boyer Farm | 11 Samuel Hancock House | 21 Morris Place |
| 2 Reuble Farm | 12 Galler Place / Al Sherman Farm | 22 Van Dam Place |
| 3 Engle Farm | 13 Ed Jenne House | 23 J. Neinhuis Place |
| 4 Cook House / Sherman Place | 14 Col. Walter Crockett Farm | 24 Vandervote Farm |
| 5 Arnold Farm | 15 John Kineth Jr. Farmhouse | 25 Vandewerfhorst Place |
| 6 Lupiens House | 16 LeSourd / Sherman Farm | 26 Neinhuis / Leach Place |
| 7 Meyer House | 17 Harmon / Pearson / Engle House | 27 Arnold / Grasser Place |
| 8 Gilbert / Eggerman House | 18 Tuft House | 28 Ferry House |
| 9 Gillespie Farm | 19 Gould House / Smith Farm | 29 Boothe House |
| 10 C. Wanamaker House | 20 Art Holmburg Place | 30 Fort Casey |

LEGEND

- HISTORICAL CLUSTERS
- CONTRIBUTING STRUCTURES
- COMPATIBLE STRUCTURES
- NON-CONTRIBUTING STRUCTURES

National Register Definitions

Contributing structures: Structures that are at least 50 years old and have maintained integrity. Historic integrity requires that a property be in its original location and still exhibit its original design, setting, materials, workmanship, feeling, and association.

Compatible structures: These structures have been introduced into the cluster in less than 50 years ago yet have used building technology that is compatible with the surrounding historic components of the complex.

Non-contributing structures: These structures may be historic or new but have either lost or never had historic integrity.

1995 - 2000 GAINS	Hugh Crockett House	Reuble Farm	Engle Farm	Cook House	Arnold Farm	Lupiens House	TOTAL
	Contributing Structures	0	0	0	0	0	
Compatible Structures	0	0	0	0	0	0	0
Non-contributing Structures	0	0	1	0	2	0	3

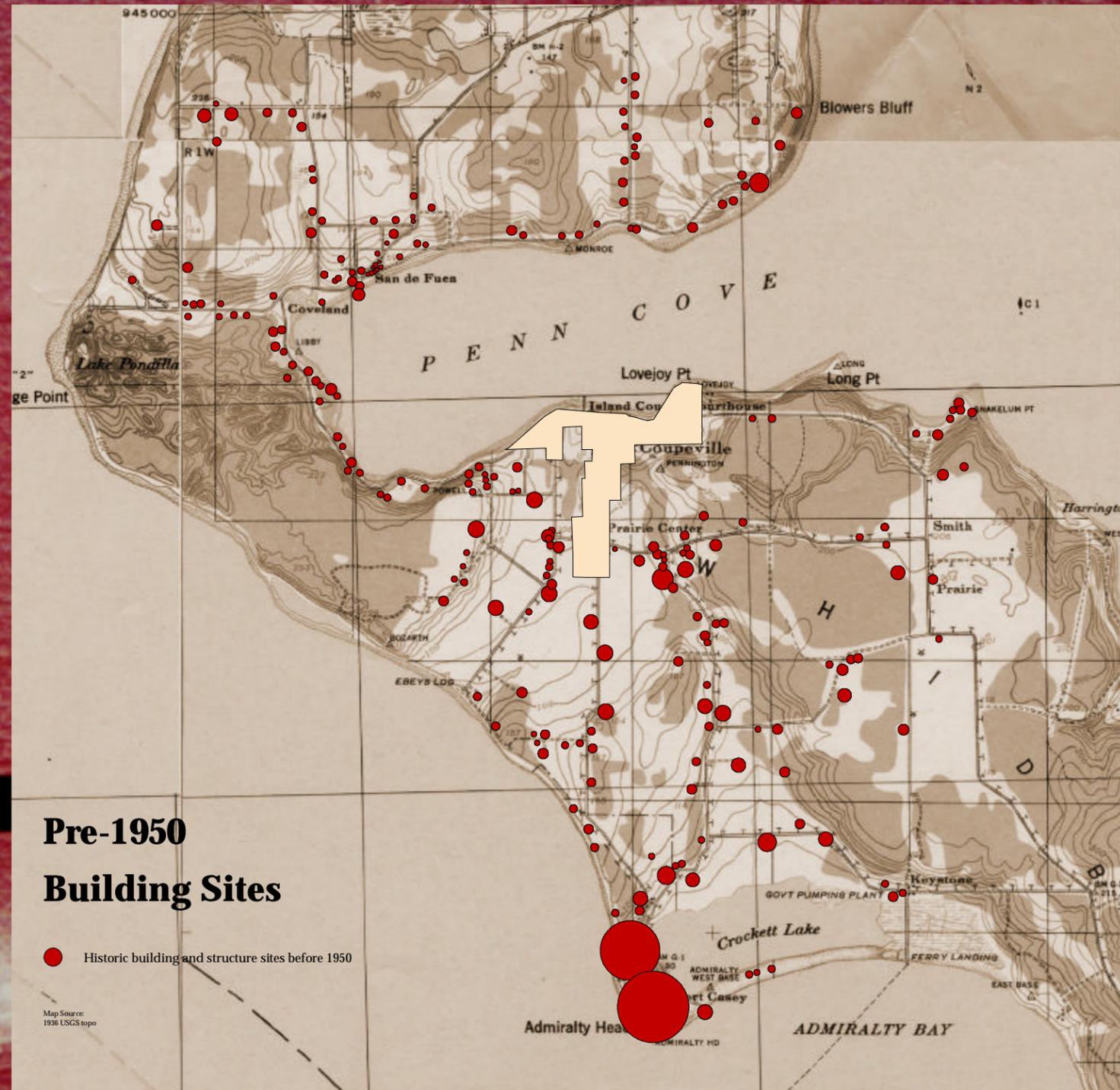
1995 - 2000 LOSSES	Hugh Crockett House	Reuble Farm	Engle Farm	Cook House	Arnold Farm	Lupiens House	TOTAL
	Contributing Structures	1	1	1	0	0	
Compatible Structures	0	0	0	1	0	0	1
Non-contributing Structures	0	3	0	0	0	0	3

Ebey's Landing National Historical Reserve

Figure 6

Historic Buildings and Structures

Historic Changes from pre-1950 to 2000



Ebey's Landing National Historical Reserve

Historic Land Use

Agriculture and Woodland

Historic Changes from pre-1950 to 2000

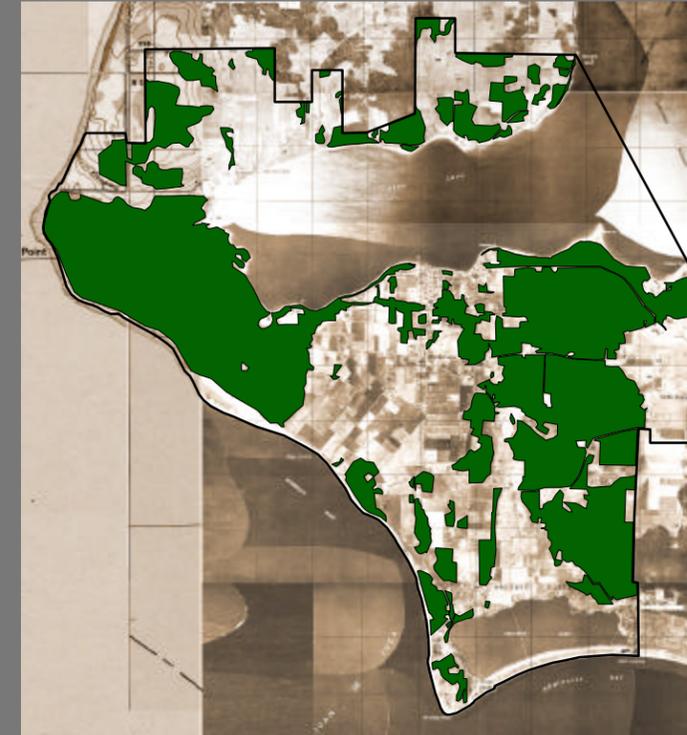
Pre-1950



Agriculture

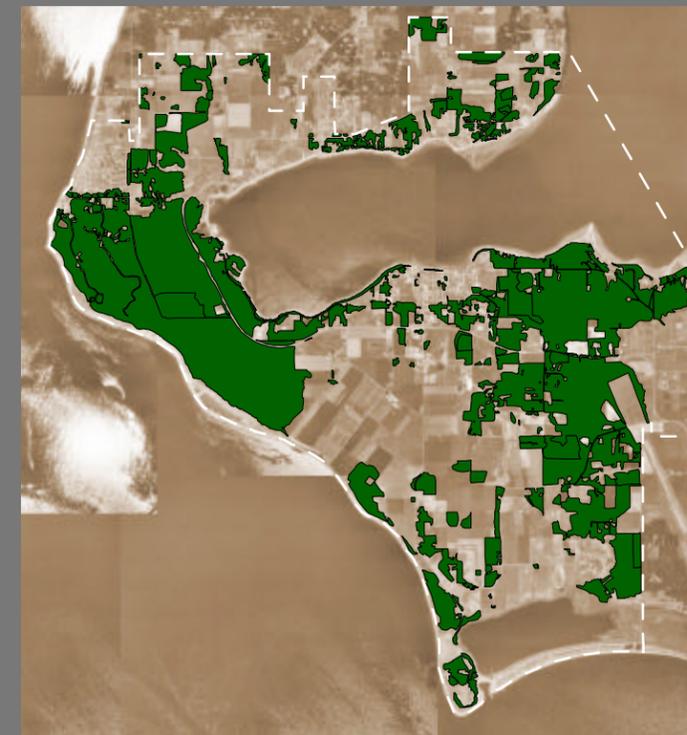
Agricultural use has retained integrity. The most prominent change that has occurred in agricultural land use since 1941 is the conversion of some areas to residential use.

2000



Woodland

Woodlands have retained their cultural integrity. The most significant change that has occurred since 1941 is the erosion of the edges of the woodland and the conversion of much of this land to residential use.



Ebey's Landing National Historical Reserve

Historic Land Use

Residential / Commercial and Parks / Defense / Cemetery

Historic Changes from pre-1950 to 2000

Pre-1950



Residential / Commercial

Residential/Commercial land use has increased substantially since 1941. However, the areas that were residential/commercial remain as residential/commercial land use, and thus, this category has retained cultural integrity. The increase in residential/commercial land use is probably the most significant change in the Reserve, especially around Coupeville and in the areas where subdivisions have been created. Areas along Penn Cove contain more year-round homes rather than predominantly vacation homes. The most significant change in these areas is the increase in density.

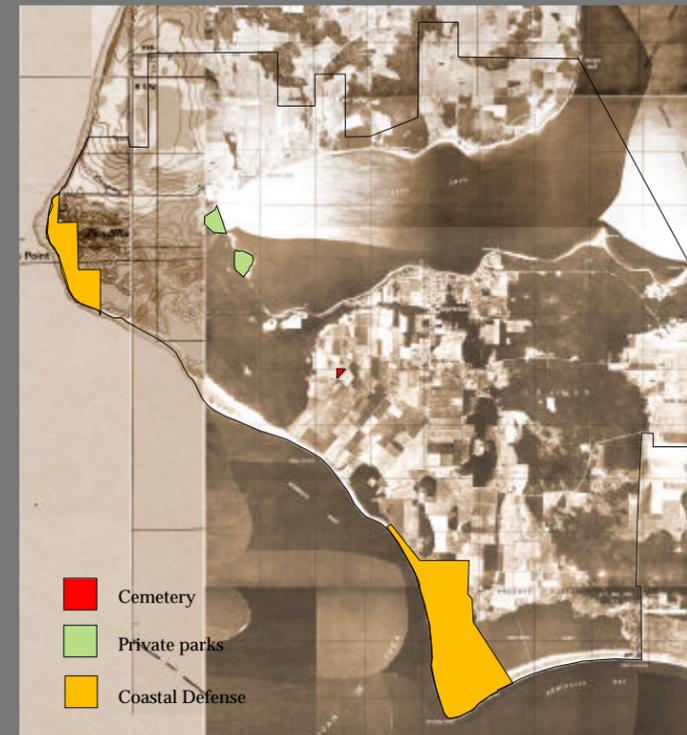
2000



Ebey's Landing National Historical Reserve

Parks / Defense / Cemetery

The coastal defense land use has not retained integrity since Fort Ebey and Fort Casey have been converted from active forts to parks. The cemetery has remained unchanged, and thus retains integrity. The only parks that we are aware of that existed in 1941 were private parks along Penn Cove. Currently, a significant number of parks exist including the parks marked as a lighter green that are zoned in Island County's parcel data as parks.



Historic Vegetation

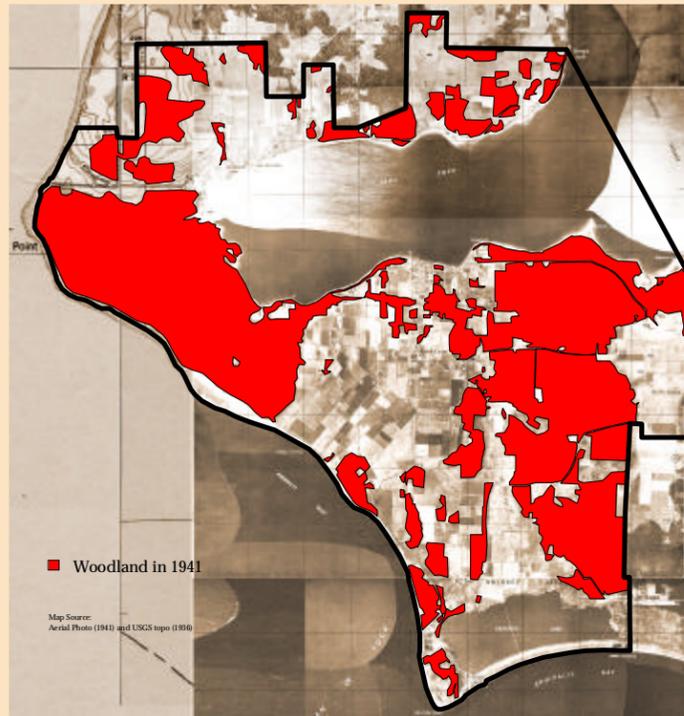
Historic Changes from pre-1950 to 2000

Pre-1950

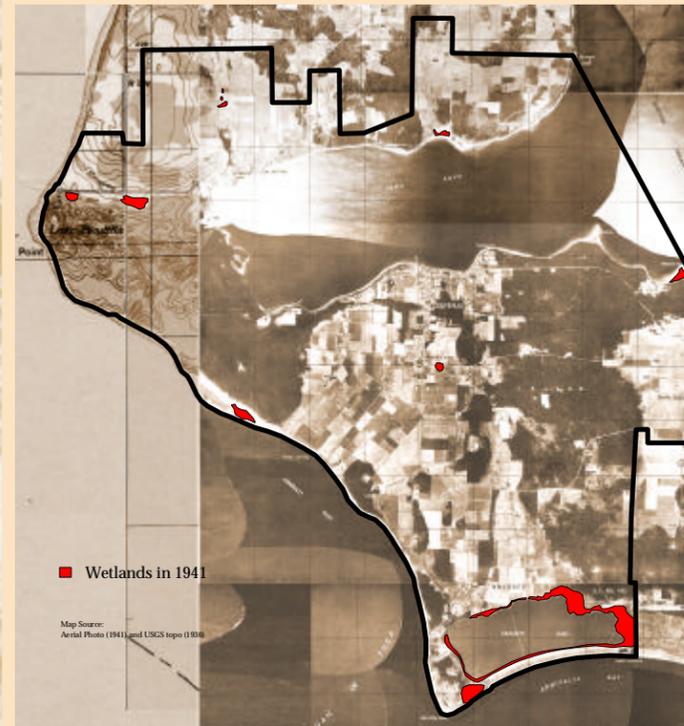
Open Fields



Woodland



Wetlands*



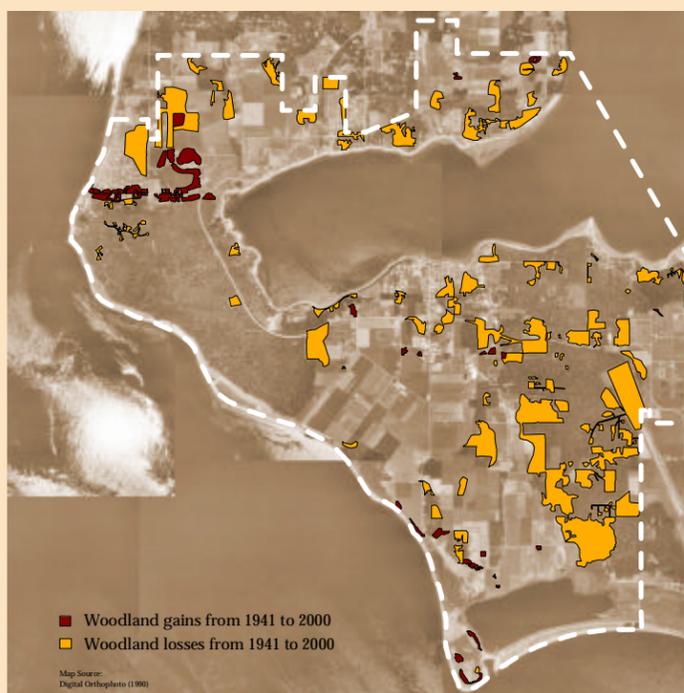
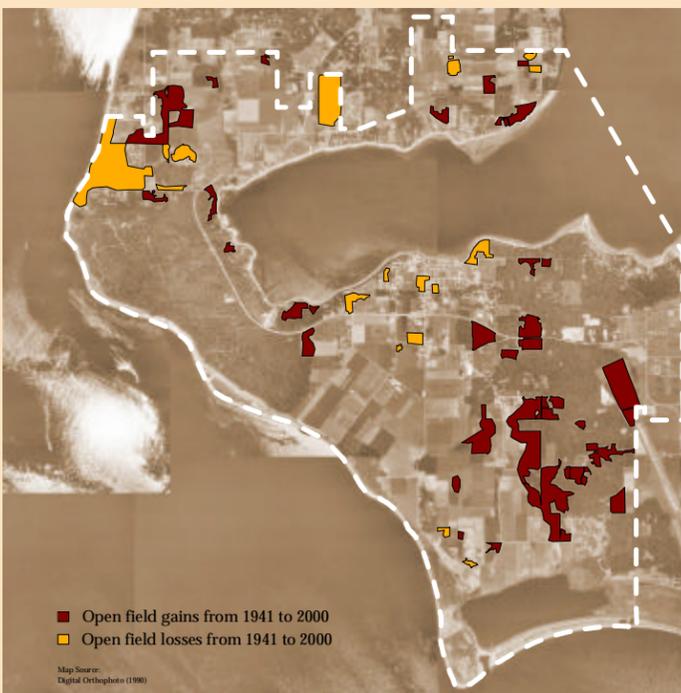
Historic vegetation has been categorized as open fields (pasture, cropland, and grassland), woodland, and wetlands.



Conservation of Historic Vegetation
The areas of open field, woodland, and wetland that have remained intact since historic times are highlighted in red.

* Wetland analysis methods and categorization varies between years and therefore actual changes in wetlands cannot be reliably shown.

Changes



Changes in Historic Vegetation

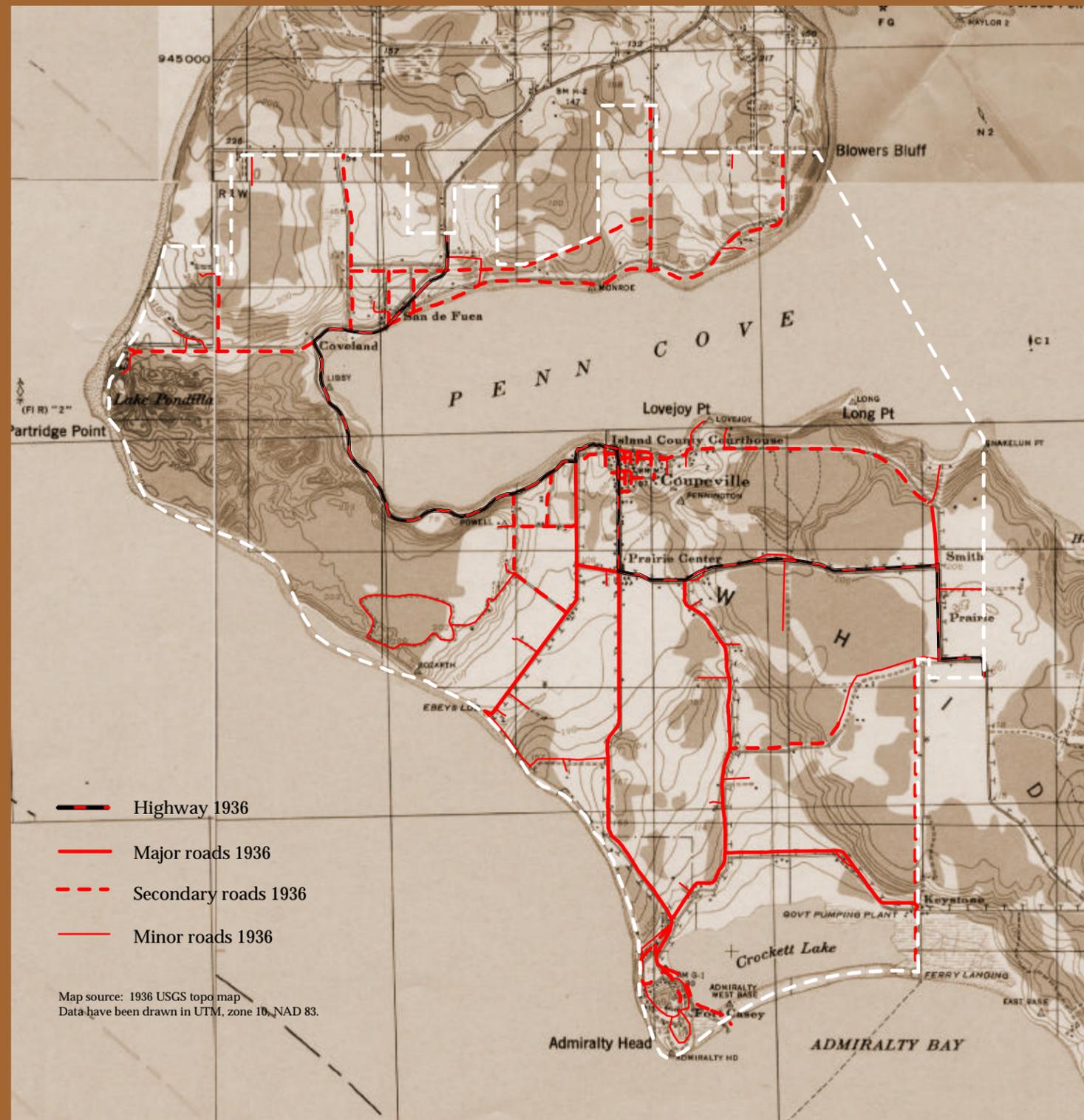
While the majority of the vegetation has been conserved since 1941, some changes have occurred. Some open fields have been converted to residential subdivision or urban use, while new open fields have been converted from woodland. Some woodland has also been lost for residential development and for uses such as the airfield in Smith Prairie. Significant wetlands still exist around Crockett Lake and Perego Lagoon.

Ebey's Landing National Historical Reserve

Historic Circulation

Roads Remaining from pre-1950

Historic Changes from pre-1950 to 2000



Seven of the Reserve's primary roads were in place by 1870, linking the settlers with Coupeville, the County Seat, the markets on Penn Cove, and each other. Within a few years, additional roads were added as the upland areas were settled and Fort Casey was constructed on the south end of the island. By 1899, this system of roads was in place. Today they continue to function as the primary circulation network through the Reserve.



Ebey's Landing National Historical Reserve

Historic Circulation

Gains

Historic Changes from pre-1950 to 2000



The most remarkable change in Reserve circulation is the addition of roads. Many of these roads connect residential properties to major roads. Other significant changes include the addition of a road through the western woodland and along Keystone Spit.

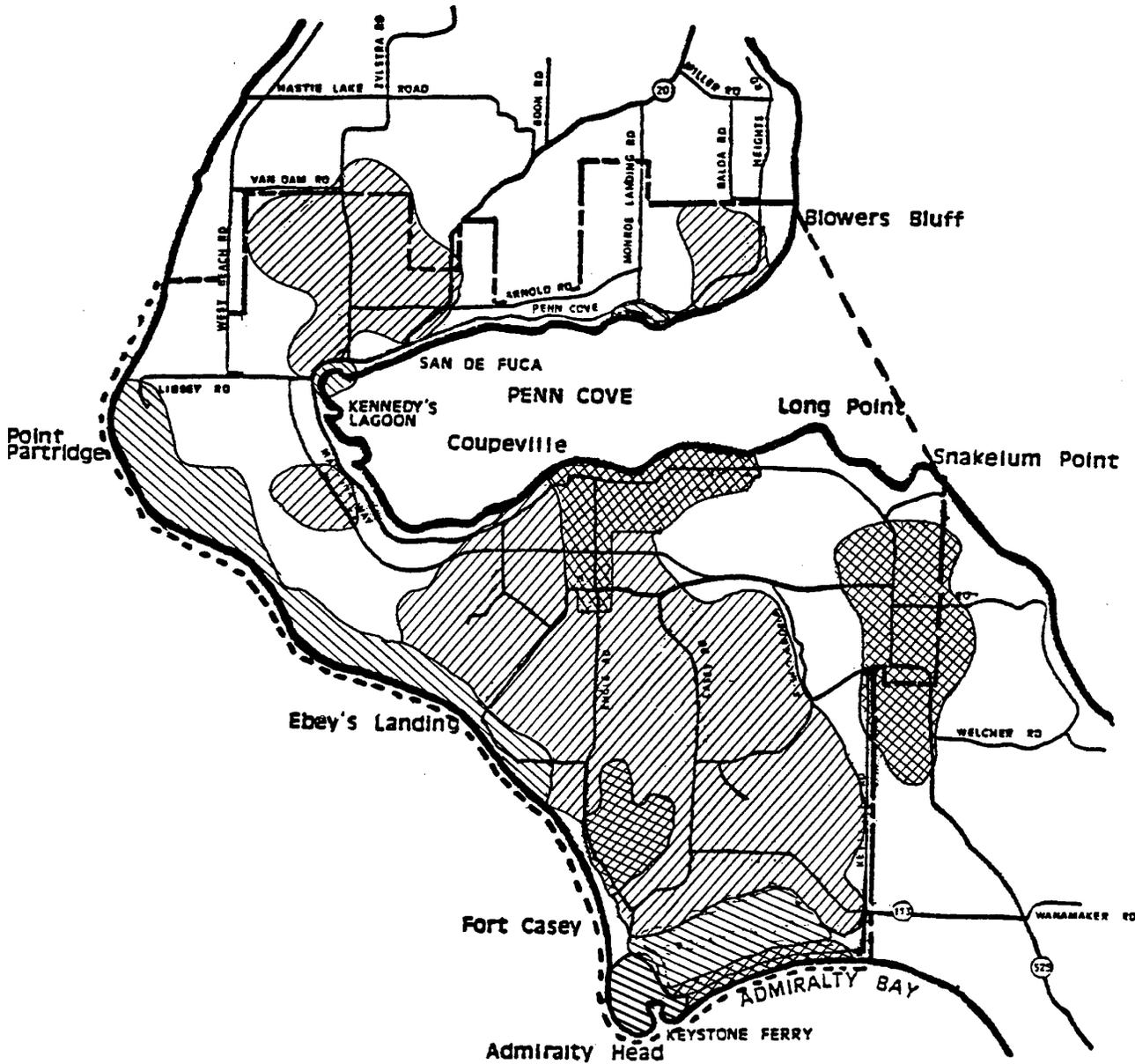
Almost all pre-1950 roads still exist. One of the most significant transitions in use of these historic routes concerns the highway. The old highway became Madrona Way, while the new highway was built more inland to handle the increase in traffic. Because all the major historic roads still exist today, pre-1950 circulation has retained integrity.



Ebey's Landing National Historical Reserve

Management Zoning: Alternative A

Ebey's Landing National Historical Reserve GMP/EIS



PRESERVATION AREAS

-  Public Use
-  Private Use
-  Public-Private Use
-  Unspecified

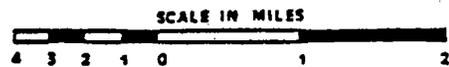


Figure 11

Data Sources:
"Comprehensive Plan for Ebey's Landing
National Historical Reserve, WA" - May 1980

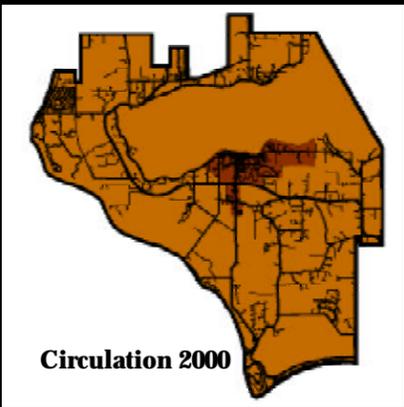
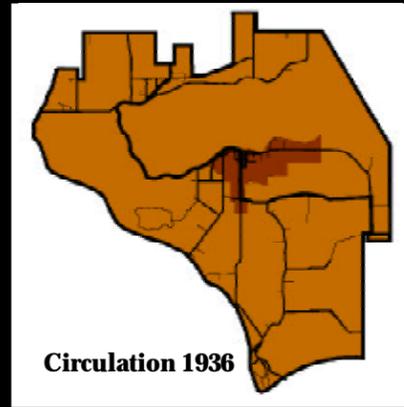
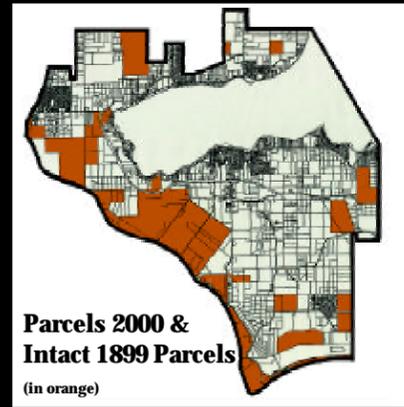
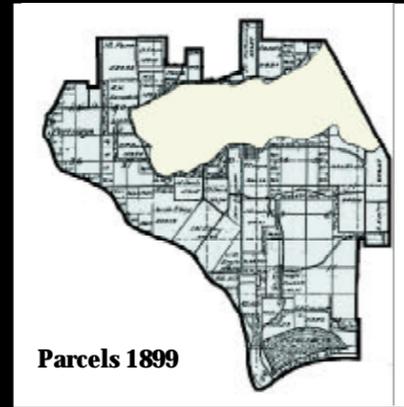
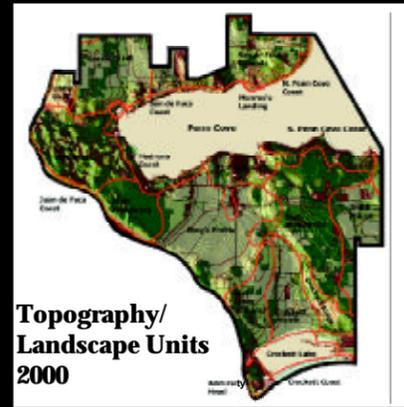
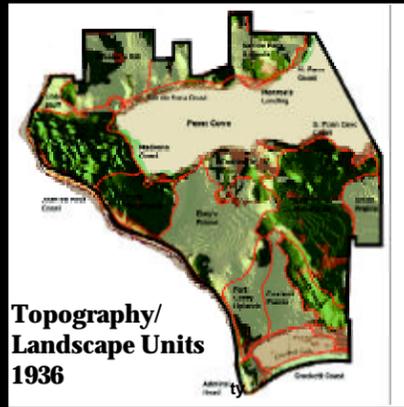
Produced by:
National Park Service
PWRO-Seattle
GIS Group



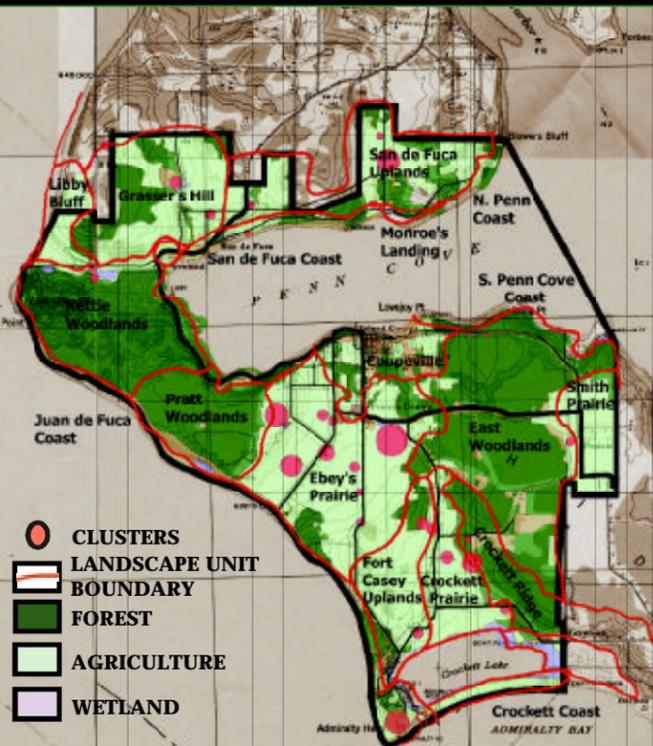
Plot date: June 16, 2005
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Spatial Organization

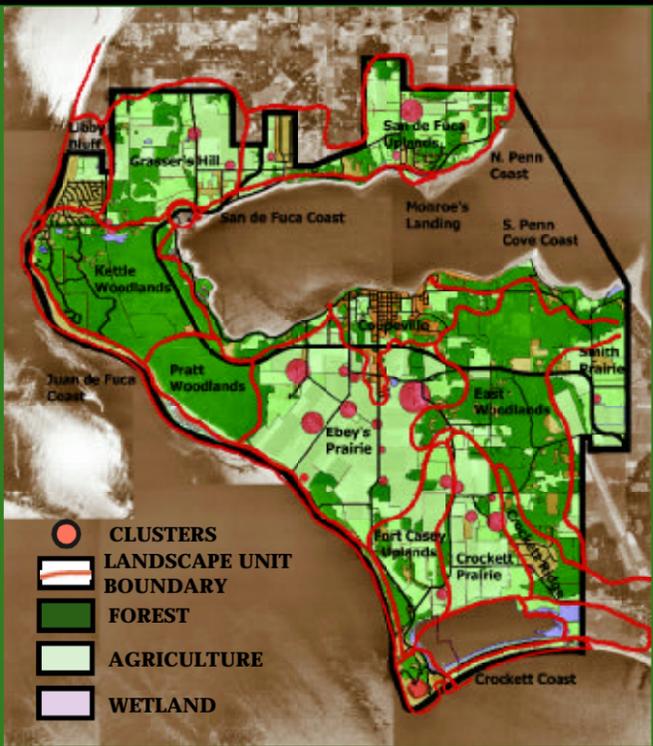
Historic Changes from pre-1950 to 2000



Spatial Organization 1936



Spatial Organization 2000



“Spatial organization is the three-dimensional organization of physical forms and visual associations in the landscape, including the articulation of the of ground, vertical and overhead planes that define and create spaces.”

- A Guide to Cultural Landscape Reports: Landscape Lines, NPS

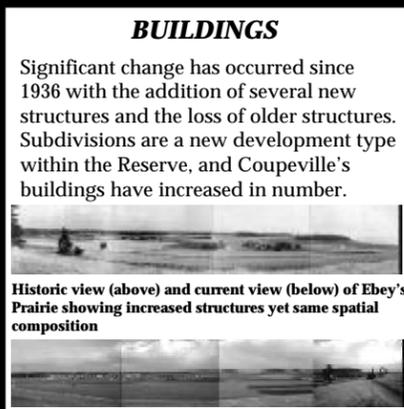
TOPOGRAPHY remains constant as Ebey's Landing's organizing framework. Bluffs, ridges, open prairies, kettle ponds, and water bodies are key topographic features that determine patterns of vegetation, land use, views, boundaries, and circulation.

VEGETATION patterns respond to topography in the distribution of forested lands or open prairies and fields, and help define landscape spatial units. Most vegetation patterns have been conserved since 1936, with some loss of forests and fields to development, and some conversion of fields to forest.

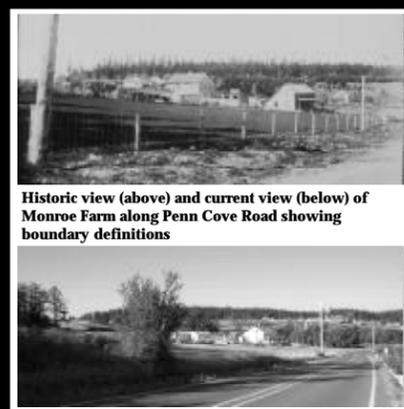
VIEWS/VISTAS are basically intact, particularly the sense of woods and open fields as well as bluff views. Some views have been obscured due to growth of trees and shrubs. The biggest changes have occurred in San de Fuca with the addition of structures visible from vista points across Penn Cove. Similarly, views of Coupeville have also changed with the introduction of numerous structures.

CIRCULATION is comprised of roadways, as well as boat travel into Penn's Cove. Most travel still occurs on the seven major roads constructed by 1870. Significant changes include the addition of numerous secondary roads, which divides the Reserve into a finer scale, and the re-routing of Highway 20.

PARCELS have changed dramatically from their original configuration. Property divisions, and the introduction of subdivision housing, have created more boundaries, structures, roads, and land uses not contributing to the character of the Reserve. However, there are numerous parcels that have not changed in size and shape in the last 100 years.



CLUSTERS
Building clusters are a natural outgrowth of agriculture land use, and contribute to the spatial character of the Reserve. 27 farm clusters have been identified (1983, 1995) as having integrity, and these remain intact although there have been individual structures lost or gained within some clusters. The most important farm clusters remaining are those originating from the Donation Land Claim (DLC).

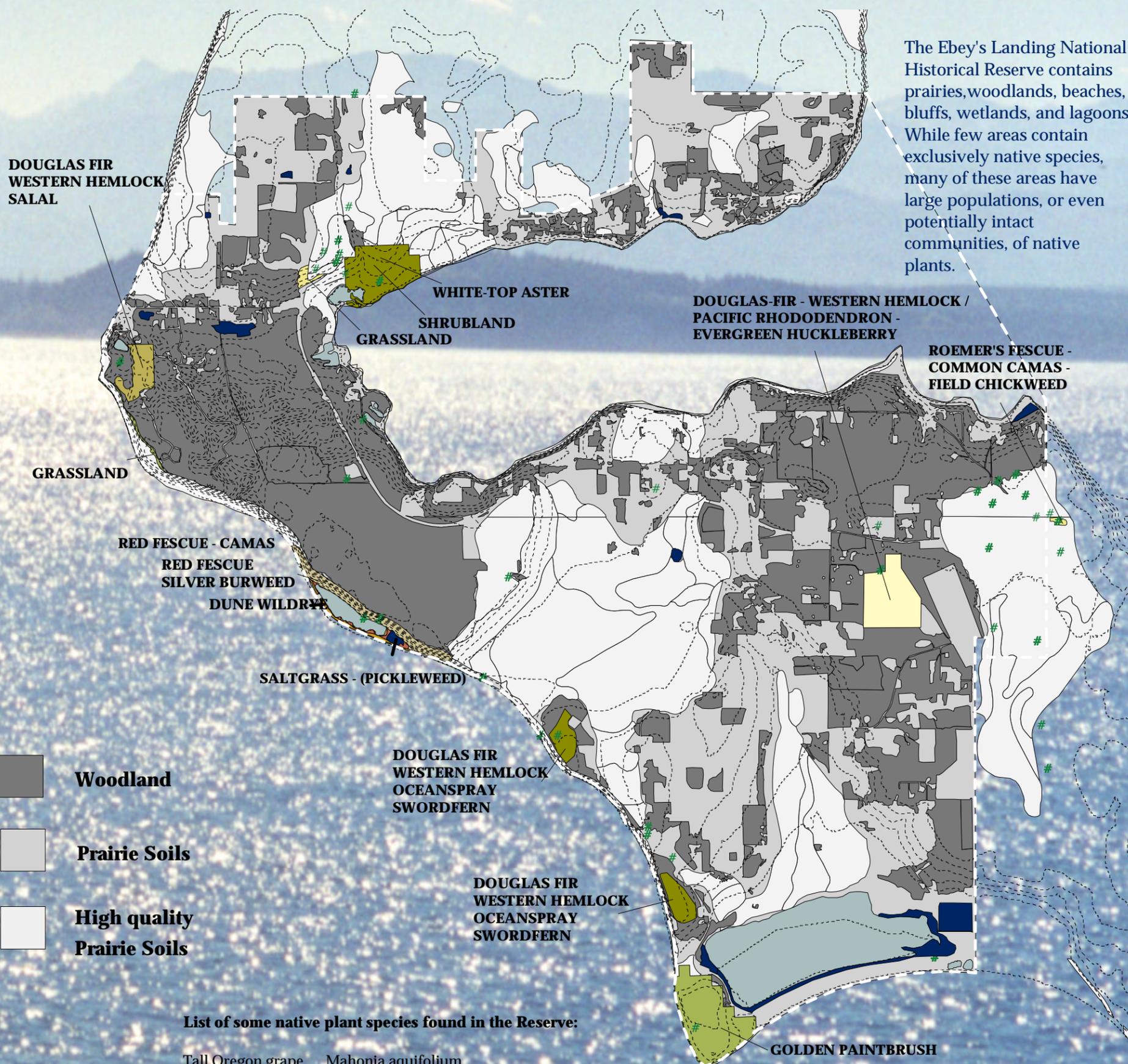


BOUNDARIES
Boundaries help define the Reserve's spatial organization. Physical and visual boundaries are created by roads, property divisions, field and crop patterns, and woodland edges, and include small-scale features like fences, hedges, and windbreaks. The majority of these boundaries are still intact, although new boundaries are created with additional roads and property divisions. Changes have occurred in the locations of hedgerows, and historic photographs show more widespread use of fences than appear today.

Ebey's Landing National Historical Reserve

Natural Systems and Features

Historic and Modern Patterns



The Ebey's Landing National Historical Reserve contains prairies, woodlands, beaches, bluffs, wetlands, and lagoons. While few areas contain exclusively native species, many of these areas have large populations, or even potentially intact communities, of native plants.

List of some native plant species found in the Reserve:

- | | | | |
|-----------------------|-------------------------|--------------------|----------------------|
| Tall Oregon grape | Mahonia aquifolium | Dwarf owl clover | Orthocarpus pusillus |
| Miner's lettuce | Montia perfoliata | Harvest brodiaea | Brodiaea coronaria |
| Nootka rose | Rosa nutkana | Howell's brodiaea | Brodiaea howellii |
| Snowberry | Symphoricarpos albus | Showy fleabane | Erigeron speciosus |
| Salish camas | Camassia quamash | Golden paintbrush | Castilleja levisecta |
| Dogtooth violet | Erythronium oregonum | Western hemlock | Tsuga heterophylla |
| Ocean spray | Holodiscus discolor | Field chickweed | Cerastium arvense |
| Sword fern | Polystichum munitum | Roemer's fescue | Fetusa roemeri |
| Douglas fir | Pseudotsuga menziesii | White-top aster | Aster oregonensis |
| Western buttercup | Ranunculus occidentalis | Silver burweed | Ambrosia chamissonis |
| Baldhip rose | Rosa gymnocarpa | Dune wildrye | Elymus mollis |
| Red elderberry | Sambucus racemosum | Red fescue | Fetusa rubra |
| Starflower | Trientalis borealis | Pickleweed | Distichlis spicata |
| Red huckleberry | Vaccinium parvifolium | Grand fir | Abies grandis |
| Yarrow | Achillea millefolium | Salal | Gaultheria shallon |
| Prairie shooting star | Dodecatheon hendersonii | Red alder | Alnus rubra |
| Woolly sunflower | Eriophyllum lanatum | Red elderberry | Sambucus racemosa |
| Chocolate lily | Fritillaria lanceolata | Western red cedar | Thuja plicata |
| Prairie smoke | Geum triflorum | Western white pine | Pinus monticola |
| Barestem parsley | Lomatium nudicaule | Willows | Salix spp. |
| Spring gold | Lomatium utriculatum | | |
| Field woodrush | Luzula campestris | | |

Data courtesy of the Department of Natural Resources and Steve Erickson of the Au Sable Institute

Historic Integrity

By 1950, almost 100 years of Euro-American agriculture had transformed this landscape. Populations of species have likely changed, including some isolation and potential loss of prairie species. Introduction of new roads have resulted in the decline of some biota. In 2000, the western and eastern forests are still largely intact, the main prairies of Crockett, Smith and Ebey are still in the same location, and the surficial wet areas have remained largely in the same place. Because of the inadequacy of historic data, any significant changes that most likely occurred are not discernible.

Ebey's Landing National Historical Reserve

Figure 13

Views and Vistas

Historic Changes from Pre-1950 to 2000



11 Travellers along Madrona Way (the old highway)



12 Vista of northern shore of Pease Cove from Captain Whidbey's Inn



13 View of the old Courthouse along Madrona Way



14 View of coast of San de Fuca



15 View of Moore Farm along Pease Cove Road



10 View of the old San de Fuca from Madrona Way



9 View of Front Street looking east into the main square



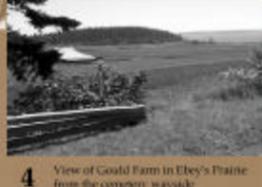
8 View towards Pease Cove along Main Street



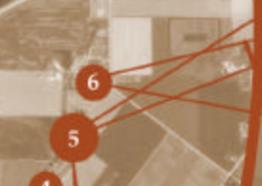
5 Panorama of Ebey's Prairie from below the cemetery



3 Western coastline from Hill Road looking towards Ebey's Hall



4 View of Gould Farm in Ebey's Prairie from the cemetery wayside



6 View of Ebywise Center from below the cemetery



7 View west along Terry Road towards the old schoolhouse



2 View of Keystone Spit from Fort Casey

Historic views and vistas can provide us with information regarding the preservation of historic integrity. Below each historic view shown in this poster is a modern photo taken from approximately the same vantage point. The red icons locate the photos within the Historical Reserve.

While changes in historic views are evident, especially regarding the addition of structures, the majority of the views have retained their cultural integrity.



2 View of Keystone Spit from Fort Casey



1 View of Keystone Spit and the current ferry landing from Fort Casey

National Park Service
U.S. Department of the Interior

Ebey's Landing National Historical Reserve
Draft GMP/ EIS Volume II: Technical Supplement



Analysis of Island County Zoning and Development Regulations in the Ebey's Landing National Historical Reserve

*Prepared for the National Park Service by
David Nemens Associates, Inc.*

May 18, 2001

Analysis of Island County Zoning and Development Regulations in the Ebey's Landing National Historical Reserve

I. Introduction

The purpose of this report is to identify the relevant Island County zoning designations and development regulations applicable to the properties that comprise the Ebey's Landing National Historical Reserve, and to assess the extent to which these designations and regulations are consistent with the goals of the Reserve. This information will be used by the National Park Service in its planning for the Reserve.

Documents consulted in the preparation of this report include: the 1998 Island County Comprehensive Plan; applicable portions of the Island County Code, including ICC Chapter 17.03 Island County Zoning Code; ordinances adopted by the Island County Board of County Commissioners; and decisions of the Western Washington Growth Management Hearings Board. Information also has been gathered from the Comprehensive Plan for Ebey's Landing National Historical Reserve, Washington (National Park Service, May 1980) and the 2000 Washington State Yearbook (Public Sector Information, Inc., Eugene, OR), and from interviews (in person and by telephone) with the Island County Planning and Public Works Directors, and Ebey's Landing Trust Board staff.

II. Executive Summary

According to the Federal legislation establishing the Ebey's Landing National Historical Reserve, the purpose of the Reserve is "to preserve and protect a rural community which provides an unbroken historical record from nineteenth-century exploration and settlement in Puget Sound to the present time ...". The Comprehensive Plan for the Reserve (National Park Service, 1980) discusses the preservation and interpretation of the visual, historical, and cultural resources of the Reserve. The Plan includes objectives, prepared by the Ebey's Landing National Historical Reserve Planning Committee, for public use and development, historic and natural preservation, and private use subject to appropriate local ordinances.

Island County's zoning and development regulations vary in the degree to which they are consistent with, and supportive of, the purpose and objectives of the Reserve. The Rural zoning district, one of the predominant zoning districts in the Reserve, allows the subdivision of land into lots as small as five acres. Such a development pattern, were it to occur in an uncontrolled manner, would be inconsistent with the existing visual character of the Reserve. The County has adopted development standards (lot coverage limits, building setbacks, etc.) for the Rural zoning district; however, it is doubtful that such standards would mitigate the impact that development of the Rural zoned areas at a full five-acre density would have on the Reserve's visual resource. Similarly, though the County regulations encourage clustering of lots and houses through the use of the Planned Residential Development (PRD) process in the Rural zoning district, the regulations do not require use of the PRD process.

Another significant potential inconsistency between the County's zoning regulations and the Reserve's objectives is in the area of allowed uses. Many of the uses allowed in the zoning districts within the Reserve could be incompatible with the Reserve's objectives. Even the County's Commercial Agriculture (CA) district, arguably the most supportive of the Reserve's

goal of preserving the farming legacy of the area, allows minor utilities as a permitted use and communications towers as a conditional use.

One way to address the issues of development density, development pattern, and allowed uses would be through the adoption by the County of an overlay zone that encompassed some or all of the Reserve. The County could adopt special zoning restrictions and requirements applicable only in this overlay zone; for example, all land subdivision within this overlay district could be required to go through a PRD process with special, more restrictive PRD standards. Similarly, allowed uses could be restricted within this overlay zone. The advantage of this approach is that it would not affect the development standards, densities, or uses allowed in other parts of the County.

III. Island County – General Location and Population

Island County is located in the central Puget Sound area of Western Washington. It consists of Whidbey and Camano Islands. The county seat is Coupeville. Island County was established in 1853, prior to Washington State statehood.

The Island County Comprehensive Plan notes that the County's population growth has largely been fueled by in-migration of people from other sections of the state and the country. According to the Plan, the County's total population has risen from 19,638 in 1960, to 27,011 in 1970 (a 38% increase from 1960 to 1970), 44,048 in 1980 (a 63% increase from 1970 to 1980), and 60,196 in 1990 (a 37% increase from 1980 to 1990). (Island County Comprehensive Plan, Chapter I Overview, page 1-21.) The County's Central Whidbey Planning Area, which contains almost all of the Reserve, (A small portion of the Reserve at the northeast corner of Penn Cove is part of the North Whidbey Planning Area) in 1990 contained 14% of the County's total population, the same share as in 1980 and down from 16% in 1970. (North Whidbey, the Planning Area with the largest population, had approximately 57% of the total 1990 County population.) (Chapter I Overview, page 1-22.) The County estimates that the Central Whidbey Planning Area's share of the population will fall to 13% in 2000 and 12% in 2010 and 2020. (page 1-85) In 1990, approximately 83% of the Central Whidbey Planning Area's population was in unincorporated areas (i.e. under direct Island County jurisdiction in land use and related matters), while 18% [sic] was in the Town of Coupeville; the County projects that in 2020 the percent in the unincorporated portion of the Planning Area will rise to 86%. (page 1-88)

According to the 2000 Washington State Yearbook, Island County had an estimated 1999 population of 73,300 (State estimate). Approximately one-third of the County's residents live in one of the three incorporated jurisdictions: the Cities of Oak Harbor and Langley, and the Town of Coupeville.

IV. Island County Comprehensive Plan and Zoning Code

A. Background

Island County's first comprehensive plan, the General Plan, was adopted in 1964, followed by the adoption of an Interim Zoning Ordinance in 1966. The County completed updating the General Plan's cultural and natural systems inventories in 1974 (Phase I: Existing Conditions), and soon thereafter adopted amended planning policies (Phase II: Planning Policies). However, the County never amended its zoning ordinance or development regulations to be consistent with the more recently adopted policies. In 1984, the County adopted a new Planning and

Zoning Strategy along with implementing performance-based zoning and development regulations.

Work on the current Island County Comprehensive Plan began shortly after passage of the Washington State Growth Management Act in 1990. The County prepared several drafts of the Plan for public review between 1994 and 1998. In September 1998, the County Planning Commission presented its recommended Comprehensive Plan to the Board of County Commissioners (BOCC). The BOCC held several additional public hearings, adopting the Plan on September 28, 1998.

Plan opponents, including the Whidbey Environmental Action Network (WEAN) and the Island County Citizens Growth Management Coalition, filed several appeals with the Western Washington Growth Management Hearings Board ("the Hearings Board"), challenging the timeliness and adequacy of the Plan and its implementing development regulations. One of the issues included in the challenges was the consistency with Growth Management Act requirements of the County's proposed five-acre density (one dwelling unit per five acres) in the Rural zone. After hearing these challenges, on October 12, 2000 the Hearings Board issued a Compliance Hearing Order validating the County's position on most of the remaining issues, including the five-acre density in the Rural zone.

B. Land Use and Zoning Designations

This report refers to two separate but closely related sets of Island County land use designations: "Future Land Use" designations, as shown on the "Future Land Use Map" of the Island County Comprehensive Plan; and "Zoning" as shown on the Island County Zoning Map. In Island County, the names of zones are identical to the names of corresponding land use designations. The County's own maps sometimes use these terms interchangeably. However, the Comprehensive Plan and the Zoning Code are separate, distinct documents. The Comprehensive Plan establishes the more general policy basis for the County's land use regulations; the Zoning Code contains these detailed regulations themselves. Because of the one-to-one correspondence between land use designations and zoning districts in Island County, these two sets of designations are discussed together in this report.

The "Future Land Use Plan Central Whidbey" (Island County Comprehensive Plan Element 1: Policy Plan and Land Use Element, Map L) illustrates the future land use / zoning designations for central Whidbey Island. According to the Plan, these designations "describe the future land use plan for Island County ... based on the major issues as identified in Chapter I, the existing land use analysis in Chapter II, and the goals and policies that will be used to guide and accommodate future growth as presented in Chapter IV." (Section III page 1-111.) The "Future Land Use Plan Central Whidbey" labels its designations as "proposed zoning."

The Reserve contains a mix of land use/zoning designations. In Ebey's Prairie, the predominant designation/zone is Commercial Agriculture. To the west of the Prairie (in and around Sunnyside Cemetery), there is a small area designated/zoned Rural. West of this are substantial areas designated/zoned Rural Agriculture and Rural Forest. There is another area designated/zoned Commercial Agriculture in the Crockett Prairie area, and several scattered areas designated/zoned Rural Forest north and east of Crockett Prairie. Aside from these areas, and the areas designated Park (Ebey's Landing, Fort Ebey, and Fort Casey State Parks) or Municipality (all areas within the Town of Coupeville municipal limits), and small areas of Rural Residential along the shores of Penn Cove, most of the land within the Reserve is

designated/zoned Rural or Rural Agriculture. The following is a summary of the densities currently allowed under Island County's development regulations for those zones present in the Reserve.

<u>Zone</u>	<u>Minimum Lot Size</u>	<u>% of County</u>
CA (Commercial Agriculture)	20 acres	4%
R (Rural)	5 acres	30%
RA (Rural Agriculture)	10 acres	18%
RF (Rural Forest)	10 acres	
PK (Park)	N/A	
RR (Rural Residential)	14,500 SF to 2.5 acres	8%

Commercial Agriculture (CA)

SUMMARY

Minimum Parcel Size: 20 acres
Base Density: 1 dwelling unit per 20 acres
Permitted and Conditional Uses: primarily agriculture and forestry-related; single-family homes, minor utilities, and wineries also permitted; conditional uses allowed through a special review process include communications towers, bed and breakfast inns, and recreational aerial activities

COMPREHENSIVE PLAN

Definition

Areas that meet the definition of RCW 36.70A.030(2): “land primarily devoted to the commercial production of horticultural, viticultural, floricultural, dairy, apiary, vegetable, or animal products or of berries, grain, hay, straw, turf, seed, Christmas trees not subject to the excise tax imposed by RCW 84.33.100 through 84.33.140, or livestock, and that has long term commercial significance for agricultural production.

Goal

Reserve lands which because of their size, soil type, and active management are part of an essential land base to continued commercial agriculture, and assure their continued viability to serve as a resource for food, fiber, feed and forage.

Policies

- A. Minimum parcel size shall be 20 acres. Base density is one dwelling unit per 20 acres.
- B. Preference shall be given to PRD cluster development consisting of either attached or detached housing on parcels at least 20 acres in size in the event subdivision of land occurs, provided that at least 50% is allocated for permanent open space and there are no adverse impacts to critical areas or natural resource conservation areas.
- C. Upon adoption of this plan, Agricultural Resource landowners will be allocated Earned Development Units based on the time of commitment of their conservation easement in a Farm/Forest Management Plan. A schedule for the allocation of Earned Development Units shall be shown in the development regulations with a clear relationship between number of earned units and time of commitment of conservation easement.
- D. Earned development units may be used pursuant to an adopted Farm/Forest Development and Management Plan through land division or PRD with a minimum lot size of 1 acre, and a maximum lot size of 2.5 acres. The plan will cover such items as the general location of earned development units, identify action to strengthen the farm or forest unit, shall encompass the entire farm or forest unit, shall commit at least 75% of the farm or forest unit to commercial production for no less than 20 years, and must protect the most productive portions of the farm or forest unit and enhance commercial productivity. All uses allowed in the Rural land use designation shall be allowed in the remaining 25%. Earned development units may be used only on land that does not contain prime soils or is otherwise not suitable for farming. Earned development units may be located on the Farm unit or other Rural, Rural Agriculture, Rural Forest or Commercial Agriculture lands owned by the farm or forest operator provided that at least 75% of the Farm unit is kept in a conservation easement.
- E. Achieve agricultural preservation through:

1. Right-to-farm and forest measures which protect the right to pursue farm and forestry activities.
 2. Support the continuation of preferential tax programs.
- F. Encourage an effective stewardship of the environment to conserve and protect Commercial Agriculture lands.
1. Prevent or correct agricultural practices that produce non-point source pollution of surface and groundwater.
 2. Take measures to minimize adverse impacts of agricultural activities.
- G. Protect agricultural operations from incompatible uses by using measures including, but not limited to:
1. Ensuring that uses on adjacent lands do not interfere with continuing agricultural good management practices on resource lands;
 2. Setbacks and buffer strips should be on land within the development unless an alternative is mutually agreed on by adjacent landowners; and
 3. Public education concerning resource activities and the common benefits derived from them.
- H. Protect and promote related development such as farmers markets and roadside stands, cooperative marketing, and value-added products, etc.
- I. Strengthen public disclosure of current adjacent agricultural activities by means of a “right to farm” notice on the deed, area maps, etc.
- J. Support the continued existence of agricultural lands by means of tax incentives or other appropriate financial aid or incentives.
- K. Coordinate agricultural land preservation policies with other jurisdictions, special districts and their respective programs.
- L. Coordinate agricultural land preservation policies with other County-wide Planning Policies through:
1. Correlating agricultural land preservation policies with Urban Growth Area policies and with public facility and service provision policies to prevent the extension of urban services to areas intended for continued agricultural use;
 2. Ensuring that public facility and service extension, even if not directly serving the agricultural lands, do not stimulate the conversion of agricultural land or make its preservation and protection more difficult.
- M. In order to assure the rights of agricultural land owners and to provide them reasonable flexibility to modify classification of their land, owners of agricultural land may request change of agricultural lands classification under certain circumstances.
- N. Cooperative agricultural production and marketing will be encouraged.

ZONING

Purpose

The primary purpose of the Commercial Agriculture (CA) zone is to protect and encourage the long term Commercially productive Use of Island County’s agricultural resource lands of long term Commercial significance that have been designated pursuant to RCW 36.70A.170. It is established to identify geographic areas where a combination of soil and topography allow Commercial farming practices to be conducted in an efficient and effective manner; to help maximize the productivity of the lands so classified; to protect farming operations from Interference by non-farmers; and to maintain agricultural land areas for Agriculture Use free from conflicting non-farm uses. Otherwise, the purposes of the zoning classification are the same as the RA zone.

Designation Criteria

Parcels that meet the following criteria qualify as resource Agricultural Land and shall be classified in the Commercial Agriculture classification:

1. The Lot, Tract or Parcel is at least twenty (20) acres in size or smaller contiguous lots owned by the same Owner that, in combination, are at least twenty (20) acres in size; and
2. At least twenty-five percent (25%) of the Lot, Tract or Parcel is composed of prime soils; and
3. The Lot, Tract or Parcel as of June 2, 1999, is classified in the open agriculture tax program or if withdrawn, all taxes, interest and penalties were not paid in full as of June 2, 1999; and
4. The Lot, Tract or Parcel is not located within a Drainage or Diking District or otherwise protected by dikes, UGA, RAID, State Park or owned by the Navy.

Permitted Uses

1. Accessory Uses;
2. All uses which are necessary to the production, harvesting, sale or processing of agricultural products or have the principal purpose of carrying out or facilitating the practice of farming and farm activities;
3. Bed and Breakfast Room;
4. Dwelling Units for farm workers employed by the farm operator;
5. Farm Produce Stand and Forest Products Stand;
6. The growing, harvesting, sale and managing of agricultural products including horticulture and Livestock;
7. The growing, harvesting, sale (including seasonal sales) and managing of forest products or any forest crop, in accordance with the Washington Forest Practices Act and regulations adopted pursuant thereto, including, but not limited to, timber, Christmas trees, nursery stock, and floral vegetation;
8. Guest Cottage;
9. Home Occupation;
10. Minor Utilities;
11. Single Family Dwelling Unit;
12. Temporary Uses;
13. Water Tank;
14. Winery;
15. Farm equipment storage and repair facilities;
16. Veterinarian Clinic;
17. Day Care Nursery and Small Day Care Center (no more than six (6) persons); and
18. Accessory Living Quarters.

Conditional Uses

1. Communication Towers;
2. Home Industry;
3. Equestrian Center;
4. Small Day Care Center;
5. Bed and Breakfast Inn; and
6. Recreational Aerial Activities such as balloon rides, glider and parachute events.
7. Covered Equestrian Center; and
8. Home Industries.

ANALYSIS

Most of Ebey's Prairie and Crockett's Prairie are designated/zoned Commercial Agriculture (CA). The stated purpose of the CA zone is to "protect and encourage" commercial farming. In this respect it is the most appropriate of the County's land use designations to be applied to these parts of the Reserve. The 20-acre minimum lot area – the largest minimum lot area under current County zoning – provides reasonable protection against inappropriate subdivision and development. Smaller lots may be created only through a Planned Residential Development (PRD) process, which gives the County discretion to impose special approval conditions; an increase in overall density (additional units per acre) cannot be approved in the CA zone through the PRD process. Only 4 % of the County's land area is designated/zoned Commercial Agriculture.

Some uses allowed in the CA zone, either as permitted or conditional uses, may be incompatible with the historic character of Reserve. Minor utilities, such as electrical distribution substations, are permitted outright. Bed and Breakfast Inns, communication towers, and hot-air balloon rides are allowed through a conditional use process. If these and similar uses were prohibited in CA within the boundaries of the Reserve, CA would be a more appropriate designation. This prohibition could be accomplished through the adoption by the County of an overlay zone consisting of all lands within the boundaries of the Reserve, with special use restrictions within this overlay zone.

Rural (R)

SUMMARY

Minimum Parcel Size: 5 acres
Base Density: 1 dwelling unit per 5 acres
Permitted and Conditional Uses: primarily agriculture and forestry-related; single-family homes, minor utilities also permitted; conditional uses allowed through a special review process include communications towers, bed and breakfast inns, campgrounds and RV parks, major utilities, storage facilities, mobile/manufactured home park, and surface mine.

COMPREHENSIVE PLAN

Definition

Rural areas of the County not otherwise designated or within UGAs, areas of more intensive rural development, Rural Agriculture, Rural Forest, or Commercial Agriculture

Goal

Maintain low residential densities to preserve rural character and to provide buffers between urban activities and agricultural and forest uses.

Policies

- A. Minimum parcel size is five acres. The base density is one dwelling unit per five acres.
- B. Lot size averaging shall be allowed for subdivision of parcels ten acres or greater in size, provided minimum and average parcel size and density thresholds are met as set forth in the development regulations.
- C. Preference shall be given for PRD cluster development consisting of either attached or detached housing in the event subdivision of land occurs. A density bonus should be granted proportional to the size of the PRD and the Open Space Ratio and there are no adverse impacts to critical areas or natural resources conservation areas. PRDs located in the unincorporated portion of a municipal Urban Growth Area shall be given a maximum 200% density bonus if lots are limited to 12,500 square feet, or the minimum required to meet health requirements. PRDs located outside the unincorporated portion of a municipal Urban Growth Area shall not be approved unless it can be determined affirmatively that the need for future urban services is precluded and that the PRD will provide a better opportunity to protect rural character than a traditional subdivision or short subdivision.
- D. Encourage diverse economic opportunities and uses compatible with and supportive of a rural way of life as outlines under the goals and policies in this chapter for Home Occupations and Home Industries in the Rural Area.
- E. The Rural designation shall provide for appropriately categorized permitted and conditional uses that include single family detached dwellings, accessory uses, agricultural or forest products processing agricultural products (growing, harvesting, managing and selling), bed and breakfast inns, bed and breakfast rooms, boat launches, campgrounds and recreation vehicle parks, churches, communications towers, country inns, day care centers, day care nurseries, small day care center, equestrian centers, essential public facilities, farm/forest produce stands, fire stations, forest products (growing, harvesting, managing and selling), group homes, guest cottages, gun clubs and shooting ranges, home industries, home occupations, kennels, livestock husbandry, major utilities, minor utilities, mobile homes, mobile/manufactured home parks, planned residential developments, schools, seasonal

sale of farm produce, small scale recreation uses, small scale tourist uses, storage facilities, surface mining, and water tanks.

- F. Residential development near designated Commercial Agriculture lands must be designed to minimize potential conflict and prevent unnecessary conversion of farm land.
- G. Minor or small scale agriculture activities are consistent with rural areas, support rural character, and should be protected and encouraged.
- H. All non-residential uses within the Rural designation must comply with rural design guidelines to assure compatibility with adjacent uses.
- I. All structures and uses within a PRD, except access roads, must be screened from the view of adjacent properties and public roadways.

ZONING

Purpose

The Rural Zone is the principal land Use classification for Island County. Limitations on density and uses are designed to provide for a variety of rural lifestyles and to ensure Compatible uses.

Permitted Uses

1. Accessory Uses and Buildings on Lots with Existing Permitted Uses;
2. Accessory Uses in uninhabitable Buildings less than eight hundred (800) square feet in size on Lots less than two and one-half (2.5) acres in size that do not have Existing permitting uses;
3. All Accessory Uses in uninhabitable Buildings on Lots two and one-half (2.5) acres in size or larger that do not have Existing Permitted Uses;
4. Bed and Breakfast Room;
5. Farm or Forest Products Stand;
6. Fire Station (two (2) bays or smaller or less than four thousand (4,000) square feet) of Gross Floor Area;
7. Home Occupation;
8. The growing, harvesting, sale and managing of agricultural products including horticulture and Livestock, provided raising of Large Livestock on Lots less than two and one-half (2.5) acres in size requires approval of an Animal Management Plan;
9. The growing, harvesting, sale and managing of forest products or any forest crop, in accordance with the Washington Forest Practices Act and regulations adopted pursuant thereto, including, but not limited to, timber, Christmas trees, nursery stock, and floral vegetation;
10. Group Home (no more than six (6) persons);
11. Day Care Nursery (no more than six (6) persons);
12. Guest Cottage;
13. Minor Utilities;
14. Temporary Uses;
15. The processing of agricultural or forest products in Structures that are less than four thousand (4,000) square feet of Gross Floor Area;

16. Seasonal sale of farm produce, with any associated Structures subject to the accessory building requirements stated herein and Signage requirements set pursuant to ICC 17.03.180;
17. Single Family Dwelling Unit;
18. Accessory Living Quarters; and
19. Water Tanks (thirty-two (32) feet or smaller in diameter or height and if not cylindrical in shape, then the surface area shall not exceed the ground area encompassed by a tank thirty-two (32) feet in diameter).

Conditional Uses

1. Accessory Uses and uninhabitable Buildings eight-hundred (800) square feet of Gross Floor Area or greater in size on Lots less than two and one-half (2.5) acres in size that do not have Existing Permitted Uses;
2. Bed and Breakfast Inn;
3. Public/Community Boat Launch;
4. Campground and Recreation Vehicle Park which do not exceed three (3) sites per gross acre of the Parcel;
5. Communication Tower;
6. Equestrian Center;
7. Group Home and Small Day Care Center (greater than six (6) but less than twelve (12) children or adults);
8. Fire Station (larger than two (2) bays or four thousand (4,000) square feet or larger of Gross Floor Area);
9. Home Industries;
10. Kennel;
11. Major Utilities;
12. The processing of agricultural or forest products in Structures that are four thousand (4,000) square feet or larger of Gross Floor Area;
13. Storage Facility, Personal;
14. Small-scale Recreation Uses;
15. Small-scale Tourist Use;
16. Water Tanks (larger than a permitted use); and
17. Animal Shelters.
18. Church;
19. Country Inn,;
20. Covered Equestrian Center;
21. Essential Public Facilities;
22. Gun Club and Shooting Range;
23. Mobile/Manufactured Home Park;
24. Private or Public School;

25. Surface Mine;
26. Home Industries
27. Small-scale Recreation Uses
28. Small-scale Tourist Use

ANALYSIS

“Rural” (R) is the most common land use designation/zone in the Reserve, as well as County-wide. The zone’s stated purpose is “to provide for a variety of rural lifestyles” throughout the County, through “limitations on density and uses.” Whether or not the zone imposes sufficiently stringent limitations on densities and uses to preserve the vaguely defined “rural lifestyle” has been a matter of much dispute County-wide, and certainly is a relevant question within the Reserve.

The County’s retention of 5-acre density (one dwelling unit per five acres) in Rural-zoned areas was among the many issues appealed by plan opponents to the Western Washington Growth Management Hearings Board (“the Hearings Board”). On June 2, 1999, the Hearings Board issued a Final Decision and Order remanding 23 issues to the County for reconsideration; among these was the County’s reliance on 5-acre Rural density.

The challenges and the remand were based on the Growth Management Act (GMA) requirement that counties provide a variety of rural densities, and that they protect rural character. The GMA requires that all land not designated for urban growth, as Resource land (mineral, forest, or agricultural production), or as environmentally sensitive area, be designated Rural. Although the term “Rural character” is used in the GMA, it is not well defined and may not necessarily correspond with the specific “Rural character” found in places such as the Reserve.

In response to the Hearings Board decision, the County adopted amendments to the development regulations, incorporating additional development standards for Rural areas. At an August 4, 2000 hearing, the County presented these amendments, as well as arguments defending the retention of 5-acre Rural zoning. A majority of the Hearings Board found these arguments persuasive, and in an October 12 Compliance Hearing Order approved the retention of 5-acre Rural zoning.

The current Island County Code establishes a minimum 5-acre density for Rural designated land. It also imposes additional development standards for Rural designated lands, intended to help preserve the character of these rural areas. For example, the zoning code imposes a maximum 5% building coverage for parcels 5 acres or larger in size. It also establishes new setback requirements for Rural designated lots and parcels. Front setbacks range from a minimum of 20 or 30 feet for existing lots, to up to 100 feet for new lots or parcels fronting on arterial or collector roads or State highway (the prior front setbacks requirement was 20 or 30 feet for all lots). Side and rear setbacks for new parcels range from 5 feet for existing lots, to 50 feet for new ones (formerly all lots required only 5 feet of rear and side setback).

It is debatable whether or not these amendments, and the 5-acre zoning itself, offer adequate protection to the specific historic rural character present in the Reserve. The 5-acre minimum lot size (which can be further reduced through the Planned Residential Development process) is not compatible with historic development patterns in the reserve (although it may be consistent

with past County zoning in many of these areas), and could lead to a relatively intensive development pattern. Although Comprehensive Plan policies encourage the use of the PRD process when property owners subdivide land, the PRD process is not required. In addition, many of the uses permitted outright or allowed through a conditional use process are clearly inconsistent with the goals of the Reserve. Such uses include major and minor utilities, communications towers, and surface mines.

The Rural designation/zone would be more compatible with the goals of the Reserve if a larger minimum lot area were required within the Reserve, and if certain uses were prohibited within the Reserve. These restrictions could be imposed through the adoption by the County of an overlay zone consisting of all lands within the boundaries of the Reserve, with special density and use restrictions within this overlay zone. Whether or not larger minimum lot areas are required within the Reserve, all land subdivision within the Reserve should be required to go through the PRD process, so that the County has more discretion to require special approval conditions.

Rural Agriculture (RA)

SUMMARY

Minimum Parcel Size: 10 acres
Base Density: 1 dwelling unit per 10 acres
Permitted and Conditional Uses: primarily agriculture and forestry-related; single-family homes, minor utilities also permitted; conditional uses allowed through a special review process include communications towers, bed and breakfast inns, recreational aerial activities, gun club and shooting range, and surface mine.

COMPREHENSIVE PLAN

Definition

Lands where agricultural activities have been an important and valued use in the past, and will continue to be in the future, but do not meet the criteria for inclusion as lands of long-term commercial significance.

Goal

Create an area where rural agricultural activities are encouraged to occur with residential uses while preserving rural character and maintaining open space as the dominant characteristic.

Policies

- A. Minimum parcel size is 10 acres. Base density is one dwelling unit per 10 acres.
- B. Preference shall be given to PRD cluster development consisting of either attached or detached housing on parcels at least 10 acres in size in the event subdivision of land occurs provided that at least 50 % is allocated for permanent open space, of which no more than 15 % can be allocated to community area as defined in chapter 16.17ICC, and there are no adverse impacts to critical areas or natural resource conservation areas.
- C. Upon adoption of this plan, Rural Agriculture landowners will be allocated Earned Development Units based on the time of commitment of their conservation easement in a Farm/Forest Management Plan. A schedule for the allocation of Earned Development Units shall be shown in the development regulations with a clear relationship between the number of Earned units and the time of commitment of conservation easement.
- D. Earned Development Units may be use pursuant to an adopted Farm/Forest Development and Management Plan through boundary line adjustment, land division or PRD with a minimum lot size of 1 acre, and a maximum lot size of 2.5 acres. The plan will cover such items as the general location of earned development units, identify action to strengthen the farm or forest unit, shall encompass the entire farm or forest unit, shall commit at least 75% of the farm or forest unit to commercial production for no less than 10 years, and must protect the most productive portions of the farm or forest unit and enhance commercial productivity. All uses allowed in the Rural land use designation shall be allowed in the remaining 25%. Earned development units may be used only on land that does not contain prime soils or is otherwise not suitable for farming. Earned development units may be located on the Farm unit or other Rural, Rural Agriculture, Rural Forest or Commercial Agriculture lands owned by the farm or forest operator provided that at least 75% of the Farm unit is kept in a conservation easement.
- E. Right to farm and forest measures shall protect the right to pursue farm and forestry activities.

- F. The Rural Agriculture designation shall provide for appropriately categorized permitted and conditional uses that are compatible with the surrounding area and include accessory uses, agricultural products (growing, harvesting, managing, processing and sale), bed and breakfast rooms, communication towers, equestrian centers, essential public facilities, farm/forest produce stands, farm worker dwellings, forest products (growing, harvesting, managing, processing and sale), guest cottages, gun clubs and shooting ranges, home industries, home occupations, kennels, minor utilities, planned residential developments, seasonal sale of farm produce, single family dwellings, surface mining, and water tanks.
- G. Measures shall be used to support roadside stands or farmers' markets which may help farmers who wish to directly market produce to nearby residential areas.
- H. Encourage the conservation of lands suitable for agricultural use and support farming as an activity valued in the County.
- I. Cooperative agricultural production and marketing will be encouraged.
- J. Encourage agricultural landowners to retain their lands in agricultural production and to utilize tax incentive programs.
- K. Support innovative public and private programs that provide farmers incentives to stay on the land.

ZONING

Purpose

"The primary purpose of the Rural Agriculture (RA) zone is to protect and encourage the long term productive Use of Island County's agricultural land resources of local importance. It is established to identify geographic areas where Commercial farming practices can be conducted in an efficient and effective manner; and to help maximize the productivity of the lands so classified. Secondly, lands classified RA provide scenic Open Space, wildlife habitat and watershed management to the extent such Use is consistent with the primary purposes of the Zone.

Permitted Uses

1. Accessory Uses;
2. All uses which are necessary to the production, harvesting, sale or processing of agricultural products or have the principal purpose of carrying out or facilitating the practice of farming;
3. Bed and Breakfast Room;
4. Dwelling Units for farm workers employed by the farm operator;
5. Farm Produce Stand and Forest Products Stand;
6. The growing, harvesting, sale and managing of agricultural products including horticulture and Livestock;
7. The growing, harvesting, sale (including seasonal sales) and managing of forest products or any forest crop, in accordance with the Washington Forest Practices Act and regulations adopted pursuant thereto, including, but not limited to, timber, Christmas trees, nursery stock, and floral vegetation;
8. Guest Cottage;
9. Home Occupation;
10. Minor Utilities;

11. Single Family Dwelling Unit;
12. Temporary Uses;
13. Water Tanks;
14. Day Care Nursery (no more than six (6) persons);
15. Group Home (no more than six (6) persons); and
16. Accessory Living Quarters.

Provided that any Permitted Use shall be disapproved upon finding that it will interfere with efficient management or productivity of Agricultural Uses.

Conditional Uses

1. Communication Towers;
2. Equestrian Center;
3. Home Industry;
4. Kennels;
5. Bed and Breakfast Inn;
6. Small Day Care Center;
7. Recreational Aerial Activities.
8. Gun Club and Shooting Range;
9. Surface Mine;
10. Church, except that a community meeting is not required if seating capacity is no more than 150 or fewer persons or a 2,000 square foot assembly area is proposed;
11. Covered Equestrian Center;
12. Home Industries.
13. Earned Development Units after approval by the Board of a Commercial Agriculture Farm Management

ANALYSIS

The Rural Agriculture (RA) designation/zone is used throughout the Reserve, including lands immediately adjacent to Ebey's Prairie and Crockett's Prairie.

The RA zone's stated purpose in the Island County Zoning Code is "to protect and encourage the long term productive use of ... agricultural land resources of local importance. ... Secondly, lands classified RA provide scenic Open Space, wildlife habitat and watershed management ... consistent with the primary purposes of the Zone." The 10-acre minimum lot area is only minimally consistent with the character of the Reserve, and could lead to a development pattern that detracts from the Reserve's visual quality. Although the County gives "preference" to the use of the PRD process when subdividing land, the County does not require the PRD process. Although the County offers incentives (in the form of Earned Development Units) for the continuation of farm and forestry-related uses, a wide range of other uses are allowed as permitted or conditional uses. Some of these other uses, such as minor utilities, communications towers, bed and breakfast inns, hot air balloon rides, gun clubs and shooting ranges, and surface mines, are not compatible with the character and goals of the Reserve.

The County's Comprehensive Plan policies also call for the County to "encourage" or "support" agriculturally-compatible activities such as roadside stands or farmers' markets, cooperative agricultural production and marketing, and other "innovative public and private programs that provide farmers incentives to stay on the land." It is not clear what, if anything, the County currently is doing to implement these policies.

The RA designation/zone would be more compatible with the goals of the Reserve if a larger minimum lot area were required within the Reserve, and if certain uses were prohibited within the Reserve. These restrictions could be imposed through the adoption by the County of an overlay zone consisting of all lands within the boundaries of the Reserve, with special density and use restrictions within this overlay zone. Whether or not larger minimum lot areas are required within the Reserve, all land subdivision within the Reserve should be required to go through the PRD process, so that the County has more discretion to require special approval conditions.

Rural Forest (RF)

SUMMARY

Minimum Parcel Size: 10 acres
Base Density: 1 dwelling unit per 10 acres
Permitted and Conditional Uses: Primarily forestry-related; single-family homes, minor utilities also permitted; conditional uses allowed through a special review process include communications towers, bed and breakfast inns, campgrounds and RV parks, recreational aerial activities, gun club and shooting range, major utilities, and surface mines.

COMPREHENSIVE PLAN

Definition

Lands where forestry activities have been an important and valued use in the past, and will continue to be in the future, but do not meet the criteria for inclusion as lands of long-term commercial significance.

Goal

Create an area where rural forest activities are encouraged to occur with residential uses while preserving the rural character and maintaining open space as the dominant characteristic. Maintain low residential densities to preserve rural character and to provide buffers between urban activities and agricultural and forest uses.

Policies

- A. Minimum parcel size is 10 acres. Base density is one dwelling unit per 10 acres.
- B. Preference will be given to PRD cluster development consisting of either attached or detached housing on parcels at least 20 acres in size in the event subdivision of land occurs. A density bonus should be granted proportional to the size of the PRD and the Open Space Ratio, and there are no adverse impacts to critical areas or natural resource lands. PRDs located outside the unincorporated portion of a municipal Urban Growth Area shall not be approved unless it can be determined affirmatively that the need for future urban services is precluded and that the PRD will provide a better opportunity to protect rural character than a traditional subdivision or short subdivision.
- C. Right-to-farm and forest measures shall protect the right to pursue farm and forestry activities.
- D. The Rural Forest designation shall provide for appropriately categorized permitted and conditional uses that are compatible with the surrounding area and include accessory uses, bed and breakfast rooms, boat launches, campgrounds and recreation vehicle parks, communication towers, equestrian centers, essential public facilities, farm/forest produce stands, forest products (growing, harvesting, managing, processing and sale), guest cottages, gun clubs and shooting ranges, home industries, home occupations, kennels, minor utilities, planned residential developments, single family dwellings, surface mining, and water tanks.
- E. Measures shall be used to support silviculture industries.
- F. Encourage the conservation of lands suitable for forestry use and support forestry as an activity valued in the County.
- G. Cluster development or encourage low intensity uses to minimize site clearing and maintain future forestry use options.

- H. Encourage forestry landowners to retain their lands in timber production and to utilize tax incentive programs.
- I. Support innovative public and private programs that provide foresters incentives to stay on the land.
- J. Encourage selective clearing and logging, as opposed to clear-cutting, if forest harvesting is done in the Ebey's Landing National Historical Reserve.
- K. Reclassification from RF to R shall be granted if requested by the owner when the owner cannot make reasonable economic use of the parcel for commercial forestry, considering all relevant factors. Provided, that the determination of whether the owner can make reasonable economic use of the parcel for commercial forestry shall not involve consideration of the personal circumstances of any particular owner.
- L. All structures and uses within a PRD, except access roads, must be screened from the view of adjacent properties and public roadways.

ZONING

Purpose

The primary purpose of the Rural Forest (RF) zone is to protect and encourage the long term productive Use of Island County's forest land resources of local Significance. It is established to identify geographical areas where Commercial Forest management practices can be conducted in an efficient manner; and to help maximize the productivity of the land so classified. Secondly, lands classified RF provide recreation opportunities, scenic Open Space, wildlife habitat and watershed management to the extent such Use is consistent with the primary purposes of the Zone.

Permitted Uses

1. Accessory Uses;
2. All uses and activities necessary to the production of forest products and/or the harvesting and processing of timber or which have the principal purpose of carrying out or facilitating forestry;
3. Bed and Breakfast Room;
4. Farm Produce Stand and Forest Products Stand;
5. The growing, harvesting, sale and managing of forest products or any forest crop, in accordance with the Washington Forest Practices Act and regulations adopted pursuant thereto, including, but not limited to, timber, Christmas trees, nursery stock, and floral vegetation;
6. Guest Cottage;
7. Home Occupation;
8. Livestock husbandry;
9. Minor Utilities;
10. Single Family Dwelling Unit;
11. Temporary Uses;
12. Water Tank;
13. Day Care Nursery (no more than six (6) persons);
14. Group Home (no more than six (6) persons); and

15. Accessory Living Quarters.

Provided that any Permitted Use shall be disapproved upon finding that it will Interfere with efficient management or productivity of forest management uses.

Conditional Uses

1. Public Boat Launch;
2. Campground and Recreation Vehicle Park which do not exceed three sites per gross acre of the site area;
3. Communication Towers;
4. Equestrian Center;
5. Home Industry;
6. Kennel;
7. Bed and Breakfast Inn;
8. Small Day Care Center; and
9. Recreational Aerial Activities.
10. Gun Club and Shooting Range;
11. Surface Mine;
12. Covered Equestrian Center;
13. Churches except that a community meeting is not required if seating capacity is no more than 150 or fewer persons or a 2,000 square foot assembly area is proposed; and
14. Home Industries.

ANALYSIS

The Rural Forest (RF) designation/zone is used in several areas in the Reserve, including lands immediately west of Ebey's Prairie. The RF zone's stated purpose in the Island County Zoning Code is "to protect and encourage the long term productive use of Island County's forest land resources of local ... Secondly, lands classified RF provide recreation opportunities, scenic Open Space, wildlife habitat and watershed management ... consistent with the primary purposes of the Zone."

The County has not identified any forest resource lands (i.e. forestry lands of long-term commercial significance) in Island County; therefore, the County has no lands designated or zoned Commercial Forest.

The 10-acre minimum lot area is only minimally consistent with the character of the Reserve, and could lead to a development pattern that detracts from the Reserve's visual quality. Although the County gives "preference" to the use of the PRD process when subdividing land, the County does not require the PRD process. If the PRD process is used, the property owner can receive a density bonus that could result in additional houses being built.

The County's Comprehensive Plan policies call for the County to "encourage" forestry landowners to retain their lands in timber production, and calls for the conservation of lands suitable for forestry use, it is not clear what, if anything, the County currently is doing to implement these policies. Similarly, although the County has adopted a Comprehensive Plan

policy calling for the County to “encourage selective clearing and logging, as opposed to clear-cutting, if forest harvesting is done in the Ebey’s Landing National Historical Reserve,” it is not clear how this policy would be implemented or enforced.

Additionally, the County allows a wide range of other uses as permitted or conditional uses. Some of these other uses, such as minor utilities, communications towers, bed and breakfast inns, hot air balloon rides, gun clubs and shooting ranges, surface mines, and RV parks, are not compatible with the character and goals of the Reserve.

The RF designation/zone would be more compatible with the goals of the Reserve if a larger minimum lot area were required within the Reserve, and if certain uses were prohibited within the Reserve. These restrictions could be imposed through the adoption by the County of an overlay zone consisting of all lands within the boundaries of the Reserve, with special density and use restrictions within this overlay zone. Whether or not larger minimum lot areas are required within the Reserve, all land subdivision within the Reserve should be required to go through the PRD process, so that the County has more discretion to require special approval conditions. However, the County should eliminate or strictly limit the amount of density bonus which a property owner can obtain through the PRD process.

Rural Residential Lands (RR)

SUMMARY

Minimum Parcel Size: 14,500 square feet – 2.5 acres
Base Density: varies
Permitted and Conditional Uses: primarily agriculture and forestry-related; single-family dwellings, duplexes, triplexes, fourplexes, accessory living quarters, minor utilities also permitted; conditional uses allowed through a special review process include bed and breakfast inns.

COMPREHENSIVE PLAN

Definition

Lands located within defined boundaries of residential areas of more intensive rural development that are intended for infill development and limited subdivision at the prevailing residential density in the defined area.

Goal

Provide for the infill, development, or redevelopment of existing residential areas which have been identified as residential areas of more intensive rural development pursuant to RCW 36.70A.070(5)(d).

Policies

- A. Infill development is permitted on existing platted lots.
- B. Base density is either 3, 2, 1, or 0.4 dwelling units per acre as determined in item C.
- C. Subdivision of Rural Residential (RR) parcels shall be allowed at the average existing parcel size of all existing parcels 5 acres or smaller within each area of more intensive rural development, provided that for those areas with an average parcel size less than 14,500 square feet, the minimum parcel size shall be 14,500 square feet or the minimum required by County health requirements, whichever is greater. The allowable minimum parcel size for each area of more intensive development shall be either 14,500 square feet, 0.5 acres, 1 acre, or 2.5 acres, however, potential subdivision may be limited by applicable shorelines regulations, critical areas regulations, County health requirements, public facility limitations, and other land use or zoning limitations. The minimum parcel size for each area of more intensive rural development shall not change over time and shall be indicated in the development regulations.
- D. Rural Residential areas with established sewer districts at the time of adoption of this plan will be capable of subdivision and development at 3 dwelling units per acre only if remedial action is taken to address any storm drainage problems associated with existing development. Further, these areas may subdivide and develop at up to 6 dwelling units per acre if a long-term storm drainage plan is developed with an implementation schedule approved by the County.
- E. Lot size averaging shall be allowed for subdivision provided the base density threshold is met.
- F. The Rural Residential designation shall provide for appropriately categorized permitted and conditional uses that include single family detached dwellings, duplexes, triplexes, fourplexes, accessory uses, agricultural products (growing, harvesting, managing, processing and sale), bed and breakfast inns, bed and breakfast rooms, boat launches, day

care nurseries, fire stations, home occupations, livestock husbandry, minor utilities, mobile homes, and water tanks.

- G. All non-residential uses within the Rural Residential designation must comply with rural design guidelines to assure compatibility with adjacent uses.
- H. Raising of large livestock shall be provided for conditioned on the approval of an Animal Management Plan.
- I. A proactive planning approach shall be used for access management onto State Highway. Possible consolidation of access pints should be explored.

ZONING

Purpose

The purpose of the Rural Residential Zone is to define the Logical Outer Boundary of a pattern of development and density that is more intensive than the density permitted in the R zone.

Permitted Uses

- 1. Accessory Uses and Buildings on Lots with Existing Permitted Uses;
- 2. Accessory Uses in uninhabitable Buildings less than eight-hundred (800) square feet of Gross Floor Area in size on Lots less than two and one-half (2.5) acres in size that do not have Existing Permitted Uses;
- 3. All Accessory Uses in uninhabitable Buildings on Lots 2.5 acres in size or larger that do not have Existing Permitted Uses;
- 4. Bed and Breakfast Room;
- 5. Day Care Nursery (no more than six (6) persons);
- 6. Home Occupation;
- 7. Guest Cottage on parcels one (1) acre or greater in size;
- 8. The growing, harvesting, sale and managing of agricultural products including horticulture and livestock provided raising of Large Livestock on Lots less than two and one-half (2.5) acres in size requires approval of an Animal Management Plan;
- 9. Minor Utilities;
- 10. Single Family Dwelling Unit, Duplex, Triplex and Fourplex;
- 11. Temporary Uses;
- 12. Water Tanks (thirty-two (32) feet or smaller in diameter or height and if not cylindrical in shape, then the surface area shall not exceed the ground area encompassed by a tank 32 feet in diameter); and,
- 13. Accessory Living Quarters.

Conditional Uses

- 1. Bed and Breakfast Inn;
- 2. Public/Community Boat Launch;
- 3. Fire Station; and
- 4. Water Tanks (larger than a permitted use).

5. Churches on RR Zone property located within a Residential RAID contiguous to a Mixed Use RAID or Non-municipal UGA, except that a community meeting is not required if seating capacity is no more than 150 or fewer persons or a 2,000 square foot assembly area is proposed;

ANALYSIS

The Rural Residential (RR) designation/zone is used in several scattered areas of the Reserve, primarily along the shores of Penn Cove. The RR zone's stated purpose in the Island County Zoning Code is "to define the logical outer boundary of a pattern of development and density that is more intensive than the density permitted in the R zone." As such, it is meant to be used adjacent to incorporated areas, or other areas of existing more intensive development.

Because of the limited area and isolated location of the RR lands, the higher densities allowed in these areas should not have a significant impact on the Reserve.



Farmland Preservation Case Studies for Ebey's Landing National Historic Reserve

*Prepared for the National Park Service by
Jones and Jones Architects and Landscape
Architects, Ltd.*

October 22, 2001

FARMLAND PRESERVATION CASE STUDIES

FOR

EBEY'S LANDING NATIONAL HISTORICAL RESERVE

PREPARED FOR THE NATIONAL PARK SERVICE

BY

JONES & JONES

ARCHITECTS AND LANDSCAPE ARCHITECTS, LTD.

SEATTLE, WASHINGTON

22 OCTOBER 2001

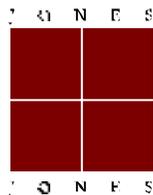


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I. INTRODUCTION

The National Park Service (NPS) seeks the perpetuation of historical uses at Ebey's Landing National Historical Reserve (Reserve). The purpose of this report is to inform the protection of the working cultural landscape, primarily agriculture and secondarily forestry. It serves to identify, document and discuss an array of strategies that the federal government, states, counties, municipalities, land protection organizations, cooperatives, and farmers themselves have used to promote sustainable working farms and woodlots in the United States. Existing programs available at the Reserve and innovative case studies are documented at each level. This report lead to an accompanying Farmland Preservation Recommendations report which makes specific recommendations about the Reserve for inclusion in the Reserve's General Management Plan (GMP).

The Reserve is located in central Whidbey Island in Washington State and includes 17,400 acres of agricultural land, shorelines and inland waters, forests, over 300 historic structures and the town of Coupeville. The Reserve is a unit of the National Park System. NPS owns 326 acres in fee, but 303 of these acres are in a single property, the Engels farm. The Reserve is governed through a trust board comprised of representatives from the NPS, Island County, Coupeville, and Washington State Parks. The role of the NPS is to provide technical guidance and support through participation on the trust board, sponsoring educational and interpretive opportunities with the community, providing administrative and operational support, and by advocating resource and land protection primarily through the purchase of development rights and easements. It is also the responsibility of the NPS to prepare resource inventories and planning documents consistent with its management guidelines and policies.

II. CASE STUDIES

A. FEDERAL

EXISTING PROGRAMS

At Ebey's Landing National Historical Reserve, operations are overseen by the Trust Board of Ebey's Landing National Historical Reserve which is made up of representatives of the Town of Coupeville, Island County, Washington State Parks and the National Park Service. An NPS representative also participates in the Island County Historical Advisory Committee and the Town of Coupeville Design Review Board. The National Park Service owns 26 scenic conservation easements in the Reserve covering 1,557 acres and recently acquired in fee 303 acres of the Engels farm.

Several pieces of federal legislation have reinforced state and local farmland protection efforts:

The Farmland Protection Policy Act

The Farmland Protection Policy Act (FPPA), passed as part of the 1981 Farm Bill, requires that all federal agencies ensure that their actions do not encourage unnecessary farmland conversion. Agencies are required to evaluate their policies and identify alternatives that could prevent or at least minimize farmland conversion. Importantly, this act also addresses all federal construction projects, such as highways and federal buildings sponsored or financed in whole or part by the federal government, that may convert farmland to nonagricultural use. The FPPA becomes effective when states and localities involve themselves in the planning of federally sponsored projects that may conflict with local or regional farmland protection objectives. (American Farmland Trust, 1997: 19)

The FPPA directs the federal government to "develop criteria for identifying the effects of federal programs on the conversion of farmland to nonagricultural uses." The Natural Resources Conservation

FARMLAND PRESERVATION CASE STUDIES

Service (NRCS) of the United States Department of Agriculture (USDA) developed the Land Evaluation and Site Assessment system (LESA), for federal agencies to use in evaluating projects. LESA measures the quality of farmland by considering soil quality and suitability of the land for farming. LESA scores are used to rank or compare farmland parcels, but LESA is not intended to be a stand-alone technique to make decisions. Many state and local governments use LESA systems as part of their farmland protection programs. (American Farmland Trust, 1997: 19)

Federal Agricultural Improvement and Reform Act

Better known as the Farmland Protection Program (FPP), the Federal Agricultural Improvement and Reform Act was established as part of the 1996 Farm Bill. The Farmland Protection Program provides funds to help purchase development rights to keep productive farmland in agricultural uses. Working through existing programs, USDA joins with state, tribal, or local governments to acquire conservation easements or other interests from landowners. USDA provides up to 50 percent of the fair market easement value. To qualify, farmland must provide the following: be part of a pending offer from a state, tribe, or local farmland protection program; be privately owned; have a conservation plan; be large enough to sustain agricultural production; be accessible to markets for what the land produces; have adequate infrastructure and agricultural support services; and have surrounding parcels of land that can support long-term agricultural production. (USDA, 2001: www.nhq.nrcs.usda.gov/OPA/FB96OPA/FPPfact.html)

The current statutory limitation of the program is to protect no less than 170,000 and no more than 340,000 acres of farmland over the life of the act, but the limits could be expanded or eliminated in next year's reauthorization process. Funds for FPP come from the federal government's Commodity Credit Corporation (CCC). Total funding for the FPP was set at \$35 million over 6 years. In the first round of funding, over \$14 million was awarded to 37 programs in 17 states, protecting 76,756 acres of farmland. While the program clearly has significant potential to protect farmland, the level of funding has been inadequate given the growing interest in "purchase of agricultural conservation easement" (PACE) programs and the rising cost of farmland in most metropolitan areas. (USDA, 2001: www.nhq.nrcs.usda.gov/OPA/FB96OPA/FPPfact.html)

On January 22, 2001 the Department of Agriculture released an additional \$30 million to protect farmland and a request for proposals has been issued. The CCC, acting through the appropriate NRCS State conservationist, must receive proposals for participation within 45 days of the date of the notice, January 22. Selected eligible entities may receive no more than 50 percent of the purchase price for each conservation easement, not to exceed the fair market value of the interest to be purchased. Pending offers by an eligible entity must be for the acquisition of an easement for a minimum duration of 30 years. (USDA, 2001: www.nhq.nrcs.usda.gov/OPA/FB96OPA/FPP-01.htm)

CASE STUDIES

Cuyahoga Valley National Park, near Cleveland and Akron, Ohio

FEATURED STRATEGY: Leasing historic farm properties through the Countryside Initiative

BACKGROUND

In 1974, Congress established Cuyahoga Valley National Recreation Area, between Cleveland and Akron, Ohio (renamed a National Park in 2000), “for the purpose of preserving and protecting for public use and enjoyment, the historic, scenic, natural, and recreational values of the Cuyahoga River and the adjacent lands of the Cuyahoga Valley, and for the purpose of providing for the maintenance of needed recreational open space necessary to the urban environment....” (National Park Service, 2001: 4)

By 1999, Cuyahoga Valley National Park had been very successful at improving and promoting the recreational and educational components of the park. An extensive infrastructure of improved roads, trails, shelters, and visitor centers were in place. Most of the park’s original management and program goals had been accomplished with one significant exception—preserving and protecting the park’s rural landscape quality. Without a viable community of working farms, the countryside—a patchwork of pastures, cropland, and woodlots—would quickly disappear. The distinctive look and feel of a working agricultural landscape is largely gone, scenic vistas are increasingly being obscured, and the park as a whole feels more and more closed in. [1]



Figure 1: Boston, Ohio, c. 1908.

Named to evoke a sense of a tended, cared for, and valued nature, the Countryside Initiative is an ambitious program to revitalize 30 to 35 of the old farms in the Park—and thereby restore for public use and enjoyment many of the distinctive historical, scenic, natural, and recreational values for which the park was originally established. (National Park Service, 2001: 4)

HOW IT WORKS

A new nonprofit organization, the Cuyahoga Countryside Conservancy (CCC) was established in 2000 to help develop and manage the Countryside Initiative. Beginning in 2001, the first five rehabilitated farms will be leased for periods up to 50 years to practitioners of sustainable agriculture. The CCC provides technical information and guidance on sustainable agriculture, helps prioritize rehabilitation of farm properties, recruits and evaluates prospective farm lessees, and evaluates and monitors each farm’s annual operating plan. The CCC will work closely with each farm lessee to align their private goals and operating plans with the public objectives of the initiative. This represents an intentional threefold partnership, drawing on the distinctive strengths and resources of the government sector (the Park), the business sector (lessees), and the non-profit sector (CCC). (National Park Service, 2001: 3)

A request for proposals, available at the park website, describes the initiative, the characteristics of each of the available farms, and the conditions of participation. The first five farms range in size from 12 acres to 61 acres and are suitable for culturally intensive fruit and vegetable production, management-intensive grazing operations, and integrated crop-livestock enterprises. Certified organic production systems are favored, though not required; non-certified organic production systems are also expected to operate in the same general part of the sustainability spectrum. Each farm is described in the request for proposals with a historical sketch, illustrated farmhouse and farmstead descriptions, and illustrated field system description including soil types and acreages. (National Park Service, 2001: 13)

FARMLAND PRESERVATION CASE STUDIES

Long-term leasing of federally owned or administered property is now authorized by several recent Congressional Acts, but only at fair market value rent. The maximum term of any lease at CVNP is 50 years, at which point a new open competitive process is required by law. Achieving the purpose and objectives of the Initiative depends upon all leased farms being actively and continuously operated. If a lessee becomes unable to fulfill the obligations of his or her lease, the lessee must transfer the remaining leasehold interest, or relinquish the remaining interest directly to CVNP. (National Park Service, 2001: 12)

Typically, Initiative farms will produce high quality specialty products for direct, local and retail sale. Marketing methods will take forms such as: pick your own, community supported agriculture (CSA), roadside stands, local farmers markets, and direct sales to individuals and restaurants. A Cuyahoga Valley brand or image will be cultivated, but each farming enterprise will reflect the characteristics and capabilities of a particular farm site and the particular knowledge, skills and preferences of the farm lessee. (National Park Service, 2001: 10)

New Jersey Pinelands National Reserve, Southeastern New Jersey

FEATURED STRATEGY: Transfer of Development Rights (TDR) through the Pinelands Transferable Development Credit Program

BACKGROUND

The New Jersey Pinelands, an expanse of over one-million acres of forests, wetlands and rural settlements, was designated by Congress in 1978 as the country's first National Reserve. The Reserve, which is neither federally owned nor directly administered by the National Park Service, receives federal assistance and oversight and is described as an affiliated area of the National Park System. As such, it differs from a traditional national park in that its primary goal is to protect and preserve the area's natural and cultural resources through state and local management as an alternative to direct, large-scale federal acquisition and administration. Through state and local implementation of a federally approved land use management plan, development is limited in areas designated for preservation, forest and agriculture, while growth is directed and encouraged in and around already developed areas. (National Park Service, 2001: www.nps.gov/pine)

In 1978 the Congress of the United States established the Pinelands National Reserve and called upon the State of New Jersey to create a planning agency to preserve, protect and enhance the region's unique natural and cultural resources. In 1979 the New Jersey State Legislature enacted the Pinelands Protection Act and thereby created the Pinelands Commission. The Commission is charged with the development and implementation of the Comprehensive Management Plan for the Pinelands. It plays significant roles in monitoring the level and types of development that occur within the Pinelands, acquisition of land, planning, research, and education. (New Jersey Pinelands Commission, 2001: www.state.nj.us/pinelands/index.htm)

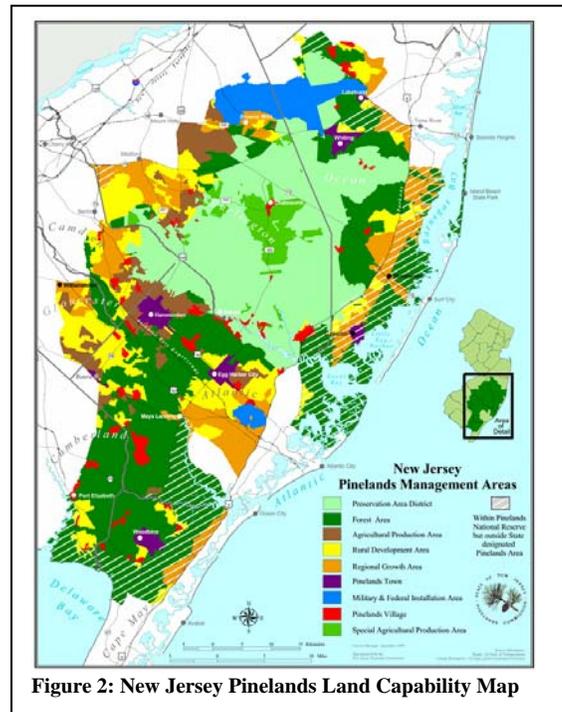


Figure 2: New Jersey Pinelands Land Capability Map

FARMLAND PRESERVATION CASE STUDIES

The Pinelands region is 1/3 publicly and 2/3 privately owned. Public lands of the State of New Jersey comprise over 300,000 acres and include parks and forests such as Wharton, Lebanon, Belleplain, Island Beach, and Colliers Mills, among others. Federal properties include three military installations, and the Forsythe National Wildlife Refuge. Numerous county and municipal parks, as well as conservation lands owned by nonprofit organizations, exist within the Pinelands. (New Jersey Pinelands Commission, 2001: www.state.nj.us/pinelands/index.htm)

HOW IT WORKS

The Comprehensive Management Plan provides a major land use area in the Protection Area which is designed to accommodate and encourage farming. Large concentrations of active farmland lie within the Pinelands's western boundary. Blocks of more than 1,000 acres of active farmland and adjacent farm soil are grouped into Agricultural Production Areas where farming and related activities will remain the dominant land use. The Plan classifies about 66,200 acres of the National Reserve this way. (New Jersey Pinelands Commission, 2001: www.state.nj.us/pinelands/index.htm)

To determine where development should be allowed and encouraged, the Commission had to analyze present and anticipated growth patterns. It found that new development was advancing into the Pines primarily on three fronts. One source of new development was the extension of the Philadelphia-Camden metropolitan area; another was the continuation of rapid development in Ocean County, largely comprising retirement communities; and the third was a building boom set off by Atlantic City's casinos. The Commission estimated the number of new housing units that could be accommodated. These units were then distributed among Regional Growth Areas that were designated in municipalities found to be experiencing development pressure and to be capable of accommodating growth. The Plan stipulates base densities ranging from 1 to 3.5 housing units per acre of developable land when sewers are available. In Atlantic County, for example, where the greatest level of development is anticipated, the Plan provides for the construction of up to 56,904 new housing units within 25,581 acres in growth areas. Regional Growth Areas within the state Pinelands Area total 80,000 acres; approximately half of this is considered developable. At the overall base densities called for in the Plan, 80,800 new housing units could be built in these areas. An additional 22,500 units could be built in these growth areas with the use of "Pinelands Development Credits." (New Jersey Pinelands Commission, 2001: www.state.nj.us/pinelands/index.htm)

As development is channeled into growth areas, land values there are expected to rise. On the other hand, the Commission has found it necessary to limit residential development in environmentally sensitive and agricultural parts of the Pinelands, restricting development opportunities which landowners there may have had before. The Plan includes an innovative program known as Pinelands Development Credits which is designed to reconcile these situations while enhancing the overall Pinelands protection effort. The program works by allocating development credits to landowners in the Preservation Area District, Agricultural Production Areas, and Special Agricultural Production Areas. The credits can be purchased by developers owning land in Regional Growth Areas and used to increase the densities at which they can build. A landowner selling credits retains title to the land and is allowed to continue using it for any non-residential use authorized by the Plan. This landowner is required to enter into a deed restriction that would bind future owners to those same uses. The Pinelands Development Credit program is designed to transfer some of the benefits of increased land values in growth areas back into areas where growth is limited. It will also help guarantee that appropriate land uses are observed and encourage more concentrated development where it can be accommodated. (New Jersey Pinelands Commission, 1996: 5)

Sales of credits take place on the open market like any real estate transaction. In 1985, the state created a Pinelands Development Credit Bank which can buy and sell credits, guarantee loans using credits for collateral, and maintain a registry of credit owners and purchasers. When credits are transferred to a Regional Growth Area, each credit entitles the owner to build four additional housing units. Municipalities are required to allow for the use of credits in their land use regulations. To distribute the

FARMLAND PRESERVATION CASE STUDIES

bonus housing units evenly and maintain consistent housing types in various neighborhoods, municipalities designate zoning districts in which residential development will be permitted at densities ranging from less than 0.5 dwelling units per acre to 12 or more dwelling units per acre with credits. Using credits, development can take place at the high end of the density ranges. This could theoretically increase the number of units built in the growth areas by about 50 percent, or roughly 46,000 units. However, the number of credits that will be available for sale will generate only about 24,400 units, according to Commission estimates. The gap between supply and demand is expected to create a stronger market for the credits. (New Jersey Pinelands Commission, 2001: www.state.nj.us/pinelands/index.htm)

RESULTS

To date, over 12,000 acres have been permanently deed restricted under the program. The Comprehensive Management Plan identified about 100,000 acres of land to be protected so there is still a long way to go, but Pinelands has been relatively successful in terms of implementation of TDR program. Commission planner Larry Liggett credits the strong role of the state (county zoning is relatively limited in New Jersey) in mandating compliance with goals of the Plan, especially during the early years of the program, when the relatively complicated program was not well understood. This means that there needs to be relatively strong political will and recognition of significant development pressure for the program to succeed. In response to concerns that receiving areas for the development credits might not want additional density, Larry identified a number of important justifications for the program: land being preserved in the sending areas relates to the quality of life of those in the receiving areas as well; increased density must be done in a way that is higher quality density that suits the character of the receiving area and protects community resources; and additional density helps receiving areas to achieve other planning goals such as walkable communities and critical mass for services. (Liggett, 2001)

Marsh-Billings-Rockefeller National Historic Park, Woodstock, Vermont

FEATURED STRATEGY: Teaching conservation history and land stewardship

BACKGROUND

Marsh-Billings-Rockefeller National Historical Park is the only national park to focus on conservation history and the evolving nature of land stewardship in America. Opened in June 1998, Vermont's first national park preserves and interprets the historic Marsh-Billings-Rockefeller property. The Park is named for George Perkins Marsh, one of the nation's first global environmental thinkers, who grew up on the property, and for Frederick Billings, an early conservationist who established a progressive dairy farm and professionally managed forest on the former Marsh farm. Frederick Billings's granddaughter, Mary French Rockefeller, and her husband, conservationist Laurance S. Rockefeller, sustained Billings's mindful practices in forestry and farming on the property over the latter half of the 20th century. In 1983, they established the Billings Farm & Museum to continue the farm's working dairy and to interpret rural Vermont life and agricultural history. The park was created in 1992, when the Rockefellers gifted the estate's residential and forest lands to the people of the United States. (National Park Service, 2001: www.nps.gov/mabi)

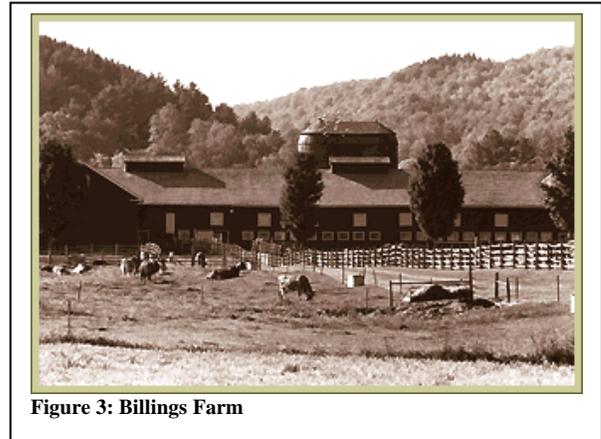


Figure 3: Billings Farm

HOW IT WORKS

The National Park Service interprets the history of conservation with tours of the mansion and the surrounding 550-acre forest. NPS collaborates with The Woodstock Foundation, which operates the Billings Farm & Museum, and the Conservation Study Institute, established by NPS to enhance leadership in the field of conservation. Visitors to the farm and museum see exhibits emphasizing the history of the farm, historical farm technology and techniques, crop rotation, and the diversity of livestock (along the lines of Frederick Billings's farm of 1890). The goal of the farm and museum is to reach significant numbers of Americans to convey an understanding and appreciation of the importance of dairy farming and rural life. (Billings Farm, 2001: www.billingsfarm.org)

B. STATE

EXISTING PROGRAMS

The state of Washington has a rich agricultural history because of its many unique climates and soils. The state is the nation's top producer of apples, pears, Concord grapes, sweet cherries, raspberries and hops, and is a leading producer of wheat, potatoes and vegetables. Washington is also a very desirable place to live. Washington's farmland, especially in the Puget Sound region, is being lost at a dramatic rate. American Farmland Trust's "Farming on the Edge" report listed the Puget Sound and Willamette Valley Major Land Resource Area (MLRA) as the fifth most threatened in the country. A number of state laws have been enacted to protect farming. (American Farmland Trust, 1997: 277)

Comprehensive Growth Management Act (Wash. Rev. Code 36.70A.010 to .060)

In response to rapid population growth and sprawling development in the the Puget Sound area, the state passed the Washington Growth Management Act (GMA) in 1990. The Act and amendments in 1991 were intended to counter the threat to forests, farmland, shorelines and quality of life.

GMA requires all counties in the state to designate important farmlands, which it defines as "agricultural 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." Counties must adopt regulations to ensure "use of lands adjacent to agricultural...lands shall not interfere with the continued use...of these lands for of these designated lands for the production of food and agricultural products..." (American Farmland Trust, 1997: 278)

The GMA also requires fast-growing counties and their incorporated areas to prepare detailed comprehensive plans. Mandatory components include a land use element, which designates areas and associated population densities for a range of land uses. County comprehensive plans must be internally consistent and consistent with the plans of their cities and all adjacent cities and counties. One of the goals guiding the development and adoption of comprehensive plans is to "maintain and enhance natural resource-based industries, including productive timber, agricultural, and fisheries industries," and to "encourage the conservation of...productive agricultural lands, and discourage incompatible uses." (American Farmland Trust, 1997: 278)

Counties required to plan under the GMA also are required to designate urban growth areas to accommodate projected urban growth over a 20-year period. However, some critics argue that the GMA has not been effective enough. The non-profit, 1,000 Friends of Washington points out that urban growth boundaries have not been rigorously enforced. Kitsap County on the Olympic Peninsula has issued 58% of its new development permits outside its urban growth boundary. Of the 12 most populous counties, only King and Snohomish have compact urban growth areas that have at least 3,000 people

per square mile. The fundamental weakness is that the GMA lacks performance standards and doesn't require the state to certify whether a local plan or regulation complies with the law. (The Conservation Fund, 2000: 5)

Conservation Easement (Wash. Rev. Code 64.04.130)

A conservation easement law simply authorizes the purchase of interests in land for purposes of conservation by any government agency or nonprofit organization. (Washington State, 2001)

**Property Tax Relief/Differential Assessment/Deferred Taxation
(Wash. Rev. Code secs. 84.34.010 to .160, .300 to .923)**

Differential assessment laws declare that "farm and agricultural lands shall be valued on the basis of their value for use." If agricultural land is later developed for non-agricultural use a tax penalty is due. The amount of additional tax "shall be equal to the difference between the property tax paid as 'farm and agricultural land' and the amount of property tax otherwise due and payable for the seven years last past had the land not been so classified." Laws exempting agricultural land from special benefit assessments have also been enacted to ensure that farm land is not taxed to create infrastructures that are potentially damaging to the future of farming in an area. (Washington State, 2001)

**Purchase of Agricultural Conservation Easement
(Wash. Rev. Code secs. 84.34.200 to .240)**

Purchase of agricultural conservation easement (PACE) laws elaborate on the capacity of government agencies and nonprofit organizations to purchase interests of specifically agricultural land. The laws also authorize counties to levy additional property taxes specifically for this purpose "not to exceed six and one-quarter cents per thousand dollars of assessed valuation against the assessed valuation of all taxable property within the county." Washington does not, however, have an active state-funded PACE program, as 19 other states currently do. (Washington State, 2001)

Right-to-Farm (Wash. Rev. Code secs 7.48.300 to .905)

Because agricultural activities conducted in urbanizing areas are often subjected to nuisance lawsuits and other obstacles, so called 'right to farm' laws have been enacted to protect agricultural activities from such lawsuits. These laws protect agricultural and forest practices as long as they are consistent with good practices, established prior to surrounding nonagricultural and nonforestry activities, unless the activity has a substantial adverse effect on the public health and safety. (Washington State, 2001)

CASE STUDIES

Massachusetts

FEATURED STRATEGY: Business and marketing assistance through the Farm Viability Enhancement Program

BACKGROUND

Massachusetts has developed an innovative strategy to preserving farmland by strengthening farmers. The Farm Viability Enhancement Program, now in its sixth year, is designed to improve the economic bottom line and environmental integrity of participating farms through the development and implementation of farm viability plans developed by teams of agricultural, economic and environmental consultants.

HOW IT WORKS

Farmers with more than 5 acres of actively farmed land may apply for participation in the program and recipients are selected based on six criteria, in order of importance: the threat to conversion of the farmland, the amount of land, the experience of the farmer, the potential environmental benefit, the opportunity for retail or value-added development, and the quality of the soil. (Lage, 2001)



Figure 4: Spraying plums on a Massachusetts farm

Each year 30 to 40 farms are selected to receive technical assistance valued at approximately \$5000. The first component is financial analysis of the farm operation. The second component is the assistance of a technical consultant with special knowledge of the particular type of farming operation. The third component is the assistance of a technical writer to draft a formal business plan for the farm. If there is an opportunity for retail or value-added development for the farm, a marketing plan is also drafted. This occurs in about two thirds of the cases. If the farmer agrees to implement the recommendations of the business plan and the technical consultation and is willing to sign a 5 or 10 year covenant to keep the land in agriculture, the farmer is eligible to receive a grant of up to \$20000 or \$40000 to implement the recommendations. (Lage, 2001)

RESULTS

So far, the Farm Viability Enhancement Program has been active in nearly every county in the state and has resulted in 103 business plans and 90 covenants that have protected 10,354 acres. (Lage, 2001)

Vermont

FEATURED STRATEGY: Integration of affordable housing and land conservation in one agency through the Vermont Housing and Conservation Board (VHCB)

BACKGROUND

Vermont's agriculture contributes more than \$500 million in farm receipts a year to the state's economy, but the importance of agriculture to the State of Vermont goes far beyond the dollars brought into the state from the sale of agricultural products. Many of Vermont's rural areas are based on an agricultural economy and therefore the economic and social health of those communities is dependent on a strong agricultural economy. The tourist industry in Vermont provides more than 32,200 jobs and annually brings \$1.3 billion into the state. The scenic beauty of Vermont's landscape, which plays a large role in attracting tourists, is in a large part due to the agricultural use of the land. (Vermont Housing and Conservation Board, 2001)

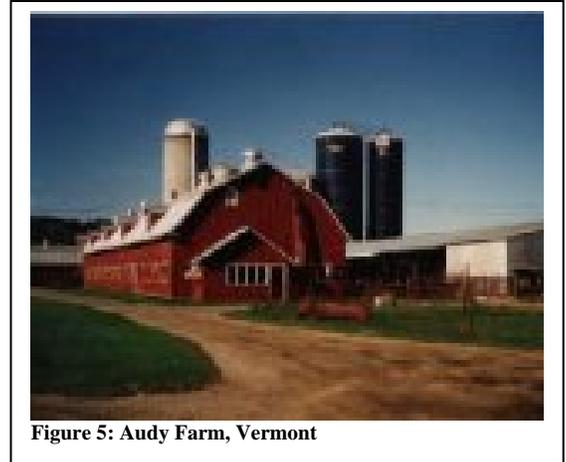


Figure 5: Audy Farm, Vermont

The pace and pattern of development in Vermont in the mid-1980s was threatening historic settlement patterns and the rural character of the state. Housing prices were rapidly rising beyond the reach of Vermonters, development pressure on the state's valuable agricultural and natural lands was escalating at a record pace, and historic properties and downtowns were being abandoned for suburban, sprawl development. In 1986, the Vermont Land Trust (www.vlt.org) assembled a coalition of affordable housing, conservation, and historic preservation advocates concerned with this rapid change in the character of the Vermont landscape to approach the state legislature with a plan to form a unique agency to review and fund projects addressing a range of community needs. The Legislature responded, passing the Vermont Housing and Conservation Trust Fund. The Vermont Housing and Conservation Board was up and running. (Vermont Housing and Conservation Board, 2001)

HOW IT WORKS

VHCB makes loans and grants to nonprofit organizations, municipalities and state agencies for the acquisition of land and conservation easements. All conservation projects are protected in perpetuity by legal instruments (conservation easements) recorded in the land records which travel with the land upon resale. The conservation easements are co-held by the applicant organization, VHCB, and, in the case of farmland conservation projects, by the Vermont Department of Agriculture, Food & Markets. The purchase of development rights has contributed to renewed vitality in agriculture by enabling young farmers to purchase farms at an affordable price and by helping established farmers to reduce long-term debt, to invest in infrastructure, and to make operations more profitable and efficient. By focusing on conserving contiguous blocks of farmland in traditional farming communities, VHCB's Farmland Preservation Program helps to ensure that farms are not isolated by residential development and communities can continue to support a healthy range of businesses that serve and rely on neighboring farms. (Vermont Housing and Conservation Board, 2001)

The fundamental innovation of the Vermont approach is the cooperation of affordable housing and land conservation organizations. Projects that bring housing trusts and land trusts together can result in the integration of sometimes divergent interests and create new ways of thinking about the needs of communities. "Smart Growth" discussions and collaborations can result in working relationships among community developers, affordable housing, historic preservation and land trust advocates. (Vermont Housing and Conservation Board, 2001)

RESULTS

After thirteen years, VHCB remains unique in the nation in pioneering a comprehensive approach to affordable housing and community development linked with land conservation and historic preservation. The results have been impressive. With a cadre of nonprofit organizations working at the local level to identify and develop important projects in each community, the effects of 13 years of investment are discernible in every part of the state. Since its inception, the Board has awarded over \$130 million to nonprofit housing and conservation organizations, towns, municipalities and state agencies to develop more than 745 projects in 205 towns. This investment has directly leveraged approximately \$450 million from other private and public sources and resulted in the creation of 5,700 units of affordable housing and the conservation of 307,000 acres of important agricultural and recreational lands and natural areas. Two hundred fifty-one farms comprising more than 83,000 acres of agricultural land have been conserved with VHCB funds since 1987. (Vermont Housing and Conservation Board, 2001)

Maryland

FEATURED STRATEGY: Purchase of Agricultural Conservation Easements (PACE) through the Maryland Agricultural Land Preservation Foundation (MALPF) and the Maryland Rural Legacy program

BACKGROUND

Maryland is one of the most important agricultural states on the East Coast, but it is also a very desirable place to live. With Washington, D.C. at its heart and Baltimore dominating the northeastern region of the state, Maryland attracts people because of its exceptional employment opportunities. While most of the state's businesses benefit from the strong economy and job market, agriculture often suffers. Between 1945 and 1970, Maryland experienced a population and development boom that spawned one of the nation's most aggressive efforts to protect farmland. The amount of agricultural land in Maryland decreased by one-third during this period, from 4.2 million acres to 2.8 million acres, as the state lost an average of 55,000 acres per year. Urban sprawl was the primary cause of conversion. Today, Maryland is still losing over 25,000 acres of agricultural and forest lands to development each year. By the year 2020, Maryland will likely be home to one million additional people. (American Farmland Trust, 1997: 253)



Figure 6: Carroll County, Maryland

HOW IT WORKS

In 1977, Maryland created the Maryland Agricultural Land Preservation Foundation (MALPF) to implement agricultural districts and the purchase of agricultural conservation easements (PACE). There was considerable resistance to mandatory agricultural districts so in 1978, when the Maryland Agricultural Land Preservation Program (MALPP) was created, it included provisions for voluntary participation. The program is funded by two real estate transfer taxes. The agricultural transfer tax is collected on land that is removed from agricultural production. The amount of the tax ranges from 3 percent to 5 percent of the sale price, depending on the type and condition of the property. These revenues are dedicated to funding the PACE program. Revenues generated by an additional .5-percent tax on the value of all real estate transfers are divided between parkland acquisition and farmland protection. MALPP protected almost 100,000 acres in its first 14 years and its success was due in large part to its creative funding source. Over time much of the PACE program has moved to the county level through a process of certification of counties which have an effective program to preserve agriculturally viable farmland. These counties may retain as much as 75% of the agricultural transfer tax revenues generated within their jurisdictions, as opposed to just 33% for counties that are not certified. As of 1996, 11 of

FARMLAND PRESERVATION CASE STUDIES

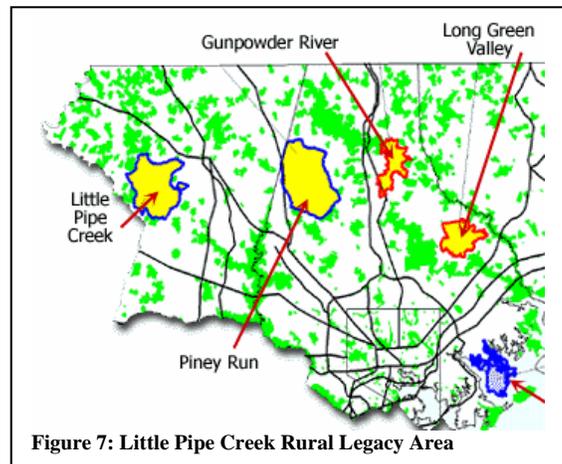
Maryland's counties had become certified. (Maryland Department of Agriculture, 2001: www.mda.state.md.us/agland/main.htm)

The Rural Legacy Program, a keystone of Governor Parris N. Glendening's "Smart Growth Initiatives," was enacted by the 1997 Maryland General Assembly and signed into law May 22nd of that year. The program encourages local governments and private land trusts to identify Rural Legacy Areas (RLAs) and to competitively apply for funds to complement existing land preservation efforts or to develop new ones for these areas. Easements or fee estate purchases are sought from willing landowners in order to protect areas vulnerable to sprawl development. (Maryland Department of Natural Resources, 2001: www.dnr.state.md.us/rurallegacy/rlprogram/)

RESULTS

Under the Rural Legacy Program \$128 million has been committed from 1998 to 2002 for the preservation of 50,000 to 75,000 acres of Maryland's farms, forests, and open spaces. If funding is continued at the level of the first five years, the State could protect up to 200,000 acres of resource lands by the year 2011. The Rural Legacy Program is funded through a combination of Maryland Program Open Space transfer tax revenues and general obligation bonds from the State's capital budget. In 1999, the Sierra Club praised the Program rating Maryland as having the best Open Space Protection Program in the country. (Maryland Department of Natural Resources, 2001: www.dnr.state.md.us/rurallegacy/rlprogram/)

The Rural Legacy Program is innovative in the way it encourages local communities to make decisions about what land to protect. Communities that use strategic planning to protect large blocks of land receive priority over those that use a scattershot approach. An example of a Rural Legacy Area and typical award is the Little Pipe Creek RLA in Carroll County. The plan for this nearly 12,000 acre RLA is to form a greenbelt around the town of New Windsor, a National Register Historic District, and to provide a buffer for other preserved farmland. Thousands of acres of dairy farmland and crop land with high quality soils dot the landscape within and outside of the RLA boundaries. Carroll County was awarded \$750,000 in fiscal year 2000 to protect 441 acres. (Maryland Department of Natural Resources, 2001: www.dnr.state.md.us/rurallegacy/rlprogram/)



Oregon

FEATURED STRATEGY: “**Exclusive farm use**” (EFU) zones of the Oregon Statewide Planning Program administered by the Oregon Department of Land Conservation and Development (DLCD)

BACKGROUND

In 1973, the Oregon legislature strengthened the state’s role in protecting land zoned for “exclusive farm use.” With Senate Bill 101, the legislature passed into law a strong policy to preserve “the maximum amount of the limited supply of agricultural land.” Also in 1973, the legislature adopted Senate Bill 100, thus creating a strong statewide program for land use planning. The bill directed the newly created Land Conservation and Development Commission (LCDC) to “give priority consideration to” several resources, including “agricultural land.” That state policy to protect farmland and the law calling for statewide planning and zoning have been in effect ever since. The combination of those two laws has led to a system of farmland protection that is arguably the strongest in the country. (Oregon Department of Land Conservation and Development, 2001: www.lcd.state.or.us)

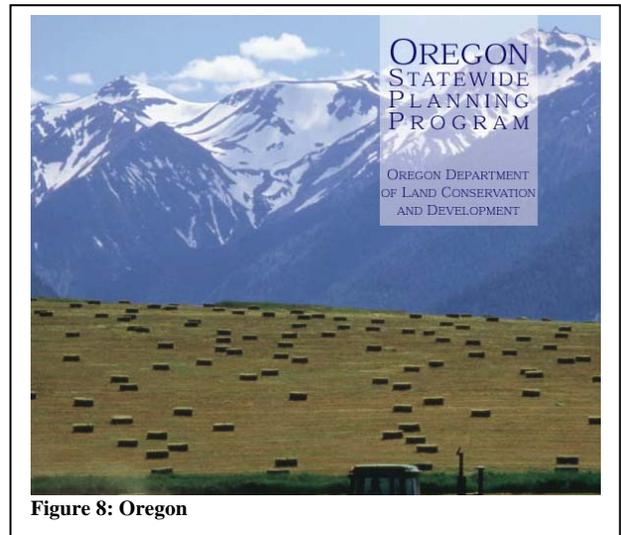


Figure 8: Oregon

HOW IT WORKS

EFU zones vary somewhat from one county to another, but their basic is to protect farmland in two main ways. First, they limit development by prohibiting land uses that conflict with commercial agriculture. Subdivisions, shopping malls, fast-food shops, and most other urban uses are prohibited in the EFU zone. Second, the zone specifies a minimum lot size to keep farmland from being divided into pieces too small for commercial agriculture. As a result of legislation passed in the 1993 Legislature, the minimum parcel size for cropland is 80 acres, for rangeland, 160 acres. (Oregon Department of Land Conservation and Development, 2001: www.lcd.state.or.us)

EFU zoning is reinforced by another key element of the statewide planning program: the “urban growth boundary” (UGB). Each of Oregon’s 240 cities is required to establish such a boundary, and all of them have done so. The boundary marks the outermost limit of the growth and development planned by a city for the next 20 years. It is the line between urban lands, which are expected to be served and developed at urban levels sometime in the future, and rural lands, most of which are protected for commercial agriculture and forestry. (Oregon Department of Land Conservation and Development, 2001: www.lcd.state.or.us)

RESULTS

Some 16 million acres of agricultural land have been protected by the combination of strong state standards, local planning, and EFU zoning. Development approvals for dwellings, uses and land divisions on farm and forest lands reflect the influence of changes to state laws and LCDC rules enacted since 1993. For example, the number of new “farm dwellings” has remained relatively steady, while the number of non-farm dwellings continues to decline. Oregon’s rapid population and economic growth remains very strong in some regions, so it is unlikely that these trends are the result of a lessening of demand for rural living opportunities. Rather, the declines of development activity on the state’s resource lands appear to be the direct result of the revisions made to farm and forestland laws. (Oregon Department of Land Conservation and Development, 2001: www.lcd.state.or.us)

FARMLAND PRESERVATION CASE STUDIES

Oregon State laws and LCDC rules are designed to ensure that newly created parcels on farm and forest lands remain commercially viable. These are considered to be the most important methods for preventing the loss of the resource land base. As a result of requirements for 80 and 160 acre minimum parcel sizes, about 83% of all new farm and forest related parcels created in the 1998-1999 reporting periods were greater than 80 acres in size. As authorized by the statutes, counties also have the opportunity to demonstrate to LCDC that a lower minimum parcel size is appropriate to continue commercial resource enterprises. No counties have sought to use this “go-below” provision during 1998-1999. (Oregon Department of Land Conservation and Development, 2001: www.lcd.state.or.us)

California

FEATURED STRATEGY: Restrictive agreement taxation, an agricultural district program, establishes covenants on future development in exchange for use value taxation through the Williamson Act

BACKGROUND

Since 1947, California has been the nation’s number-one ranking agricultural state. It produces 55 percent of the fruits, vegetable and nuts and 25 percent of all the table food consumed in the country. The state’s agriculture is a nearly \$27 billion industry. The temperate climate that is so conducive to agriculture also make California one of the most attractive places to live in the United States. Between 1940 and 1990, the state’s population more than quadrupled, growing from seven million to 30 million. This number is expected to double by 2040. (American Farmland Trust, 1997: 225)

HOW IT WORKS

Recognizing the extraordinary development pressures, California has implemented a variety of incentive-based programs, regulations and funding measures to protect the state’s agricultural industry and its land base. Incentive-based programs that allow farmers to voluntarily participate in preservation in exchange for a package of benefits are generally referred to as agricultural district programs. In 1965, the state legislature approved the California Land Conservation Act. The legislation, commonly known as the Williamson Act, created a program that offers tax relief to landowners who agree to sign 10-year contracts restricting the use of their land to agricultural or open space uses. Landowners who sign contracts are taxed preferentially, based on the agricultural value of their land. The state then reimburses counties with Williamson Act acreage for approximately one-third of the total property taxes lost. (American Farmland Trust, 1997: 225)

RESULTS

The amount of acreage enrolled in the Williamson Act peaked at 16.2 million in 1980-1981 and has fluctuated between 15 and 16 million since then. As of the end of 1998, about 15.9 million acres were enrolled in the program. This number represents over half of California’s total farmland and rangeland, and nearly one-third of all privately held land in the state. About half of the state’s estimated acreage of prime farmland was under contract. (California Department of Conservation, 2001: www.consrv.ca.gov/dlrp/index.htm)

The California program is not original in preferentially taxing agricultural land, but it is innovative in that it requires a protection from conversion for a period into the future, not just in the present. Of course, it is not permanent protection so there is the risk of conversion at the end of the ten year contracts and some areas facing tremendous development pressure are seeing alarming rates of nonrenewal. (California Department of Conservation, 2001: www.consrv.ca.gov/dlrp/index.htm)

C. COUNTY AND MUNICIPAL

EXISTING PROGRAMS

The existing Comprehensive Management Plan for Ebey's Landing NHR was adopted as part of Island County's existing Comprehensive Plan. The Reserve is updating its General Management Plan while the county is updating its Comprehensive Plan to comply with the requirements of the 1990 Growth Management Act. It is anticipated that the new GMP will be adopted as elements of the both the County and Town Comprehensive Plans. The proposed county plan has two agricultural protection zoning (APZ) designations, Rural Agricultural (RA) and Commercial Agricultural (CA). (Nemens, 2001: 2)

Rural Agricultural (RA) lands have a minimum parcel size of 5 acres, and the County codes indicate "the primary purpose of the Rural Agriculture (RA) zone is to protect and encourage the long term productive Use of Island County's agricultural land resources of local importance. It is established to identify geographic areas where Commercial farming practices can be conducted in an efficient and effective manner; and to help maximize the productivity of the lands so classified. Secondly, lands classified RA provide scenic Open Space, wildlife habitat and watershed management to the extent such Use is consistent with the primary purposes of the Zone intended." (Island County Community Development, 2001: www.islandcounty.net/community/Regs/download_regs.htm#Title)

Commercial Agriculture (CA) lands have a minimum parcel size of 20 acres and the County codes indicate "The primary purpose of the Commercial Agriculture (CA) zone is to protect and encourage the long term Commercially productive Use of Island County's agricultural resource lands of long term Commercial significance that have been designated pursuant to RCW 36.70A.170. It is established to identify geographic areas where a combination of soil, and topography allow Commercial farming practices to be conducted in an efficient and effective manner; to help maximize the productivity of the lands so classified; to protect farming operations from Interference by non-farmers; and to maintain agricultural land areas for Agriculture Use free from conflicting non-farm uses. Otherwise, the purposes of the zoning classification are the same as the RA zone." (Island County Community Development, 2001: www.islandcounty.net/community/Regs/download_regs.htm#Title)

Island County tried a Transfer of Development Rights program but later revoked it because the receiving areas were not willing to accept greater density from remote unrelated sending areas. (Harbour, 2001)

Island County has a Historic Advisory Committee and the town of Coupeville has a Design Review Board that review development proposals, but these panels do not have veto authority over the projects. (Harbour, 2001)

Island County has a "right-to-farm" regulation that differs from the state law in several ways. It does not supersede state law, but is intended to be utilized "in the interpretation and enforcement" of the state law. Island County's applicable regulation includes surface mining where the state law refers to only agriculture and forestry. The County's version makes no mention of the "unless the activity has a substantial adverse effect on the public health and safety" clause that the state law includes. This doesn't necessarily mean that the unhealthy or unsafe practices are permitted, but that the County finds the requirement that the practices be conducted "in a manner consistent with good management practices" to be sufficient to describe the obligation of the farming operation. The County regulation also details language for measures to communicate the regulation-"mailed notices," "recorded disclosure notices," and "property declarations." (Island County Community Development, 2001: www.islandcounty.net/community/Regs/download_regs.htm#Title)

CASE STUDIES

King County, Washington

FEATURED STRATEGIES: Agricultural Protection Zoning (APZ) through Agricultural Production Districts (APD) identified in the Comprehensive Plan

BACKGROUND

Between 1945 and 1975, urban growth consumed two-thirds of King County’s farmland and active farming operations declined from 6,500 to 1,200. In 1979, county voters approved a \$50 million bond issue to fund the Farmland Preservation Program (FPP), the purpose of which was to “preserve the economic, aesthetic and cultural values provided by agriculture for the benefit of the citizens of King County.” Funding for the program was delayed until 1985 due to problems with the funding source and a lawsuit. To supplement and guide the program, King County’s 1985 Comprehensive Plan, developed to satisfy State of Washington Growth Management Act requirements, established Agricultural Production Districts (APDs). Between 1985 and 1987, King County protected 187 properties through the purchase of agricultural conservation easements, encompassing 12,650 acres of farmland, mostly inside the APDs. At the end of 1987, FPP was discontinued because the bond issue had not allocated funding for ongoing work. In 1995 the County authorized an additional \$3 million to fund easement acquisition through the FPP , but has protected only about 200 acres since the 1980s purchases. The APD program is the dominant tool today and a Transfer of Development Rights (TDR) program has been launched to focus growth in urban areas and preserve sensitive lands. King County also promotes farming through the Puget Sound Fresh program which uses the distinctive “Puget Sound Fresh” label to encourage citizens to buy local produce and the Farm Link program which connects retiring farmers with beginning farmers that need land. (American Farmland Trust, 1997: 279) (King County Department of Natural Resources, 2001: dnr.metrokc.gov/wlr, www.pugetsoundfresh.org, dnr.metrokc.gov/wlr/wafarmlink)



Figure 9: King County farm

HOW IT WORKS

5 Agricultural Production Districts have been identified and together they cover 42,000 acres. Zoning in the APDs allowed one dwelling unit per 10 acres in urbanized areas and one unit per 35 acres in rural agricultural areas. A variety of policies encourage farming and associated infrastructure and industries. The 1994 Comprehensive Plan added a “no net loss of farmland” policy which requires the mitigation of conversion of APD land through “the addition of agricultural land abutting a County APD of equal acreage, and of equal or greater soils and agricultural value.” (American Farmland Trust, 1997: 282) (King County Council, 2000: Chapter 3-Rural Legacy and Natural Resource Lands page 37)

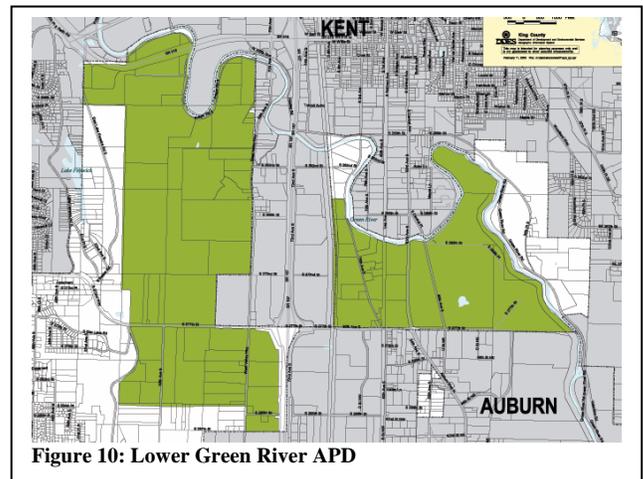


Figure 10: Lower Green River APD

RESULTS

Development pressure continues to be a serious challenge to King County farmers, even those inside the APDs. King County has developed PACE and TDR programs to give property owners whose land values may have been impacted by the restrictions some avenues for compensation. This relationship between APZ and incentive-based programs is critical because the reduced land values brought about by APZ

FARMLAND PRESERVATION CASE STUDIES

frequently inspire opposition from the very farmers it is designed to protect. Since Agricultural Protection Zoning is also fundamentally not permanent protection, these political concerns must be constantly addressed. The success of the incentive-based programs and agricultural economic development programs will ultimately determine the viability of the Agricultural Production Districts as they will decide whether farmers are protected as well as the farmland. (American Farmland Trust, 1997: 285)

Montgomery County, Maryland

FEATURED STRATEGY: **Transfer of Development Rights (TDR) program** supported by APZ and PACE

BACKGROUND

Montgomery County became a desirable place to live in the 1950s because residents could commute to Washington, D.C., easily by state highway. Montgomery's population more than doubled during the decade from 164,000 to 340,000, making it the fastest-growing county in the state. By 1960, half of its farmland was owned by people not involved in agriculture. The intensive growth in the southeastern part of the county in the 1950s and 1960s led county officials to try to protect the remaining farmland in the northwestern half. In 1969, the County Council adopted a plan called *On Wedges and Corridors*. The "wedges" are the rural areas of the county, predominantly agricultural lands in the northwestern region, and the "corridors" are the municipalities in the southeastern section. The plan recommended protecting agricultural land and open space by concentrating growth in the corridors. (American Farmland Trust, 1997: 259)

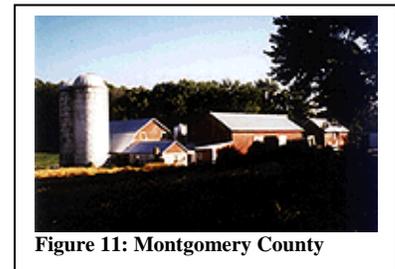


Figure 11: Montgomery County

In 1980, Montgomery County approved and began to implement a Plan for the Preservation of Agricultural Land and Open Space. The plan recommended the use of two techniques to protect agricultural land: transfer of development rights (TDR) and agricultural protection zoning (APZ). The combination of techniques was used because policymakers believed that the farming community would not have supported downzoning without some means of preserving their equity. (American Farmland Trust, 1997: 260)

The TDR program got off to a slow start because not enough receiving areas were identified. Supply of development rights far exceeded demand so their value was much less than farmers had hoped. In 1989, the county designated more receiving areas and, importantly, developed a Purchase of Agricultural Conservation Easement (PACE) program that soaked up some of the supply of development rights. County easement purchases were also targeted at the urban fringe to create a buffer between the urban and rural areas by halting the extension of infrastructure into rural areas. The value of a development right doubled and the TDR program took off. (American Farmland Trust, 1997: 261)

HOW IT WORKS

TDR legislation was accompanied by an amendment to the zoning ordinance that created an 89,000-acre Agricultural Reserve in the rural area of the county and implemented APZ. Development was limited to one dwelling unit per 25 acres. The Agricultural Reserve is also known as the Rural Density Transfer Zone. This district and another 30,000-acre rural zone are the county's TDR sending areas. Landowners in the sending areas are permitted to sell their development rights to landowners in designated receiving areas who want to develop their property at a higher density than is ordinarily permitted by the base zoning. One development right can be sold for each five acres of land; rights are sold on the open market. (American Farmland Trust, 1997: 260)

RESULTS

Since 1980, Montgomery County has permanently protected 40,583 acres using TDR. This land represents nearly 60% of the land protected in the United States through the TDR method. It is important to note that they have also used PACE to protect 5,130 acres since 1988. Together the programs have protected roughly half of the county’s agricultural acreage. TDR is most suitable in places where large blocks of land remain in farm use and where receiving areas exist that can accommodate the development to be transferred out of the farming area. The receiving areas must have the physical capacity to absorb new units, and residents of those areas must be willing to accept higher density development. (American Farmland Trust, 1997: 260) (Farmland Information Center, 2001: www.farmlandinfo.org/fic/tas/tafs-tdr.html)

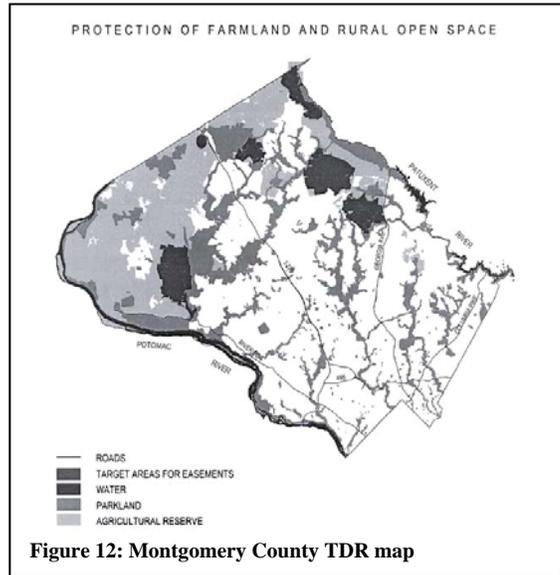


Figure 12: Montgomery County TDR map

Sonoma County, California

FEATURED STRATEGY: Sales tax funded PACE (Purchase of Agricultural Conservation Easement) program

BACKGROUND

Sandwiched between Napa and Marin Counties, which have been relatively progressive in protecting agricultural land, Sonoma is believed to receive much of the development that is steered away from its neighbors by high land prices and strict land use regulations. Sonoma is also much larger than the other North Bay counties—more than twice the size of Napa and three times that of Marin. The larger size of the county makes land cheaper in Sonoma than in Napa or Marin. Finally, Sonoma, unlike Marin and Napa, has a major highway running its length. Highway 101 links the North Coast and San Francisco, and bedroom communities have sprung up along both sides of the freeway. (American Farmland Trust, 1997: 237)

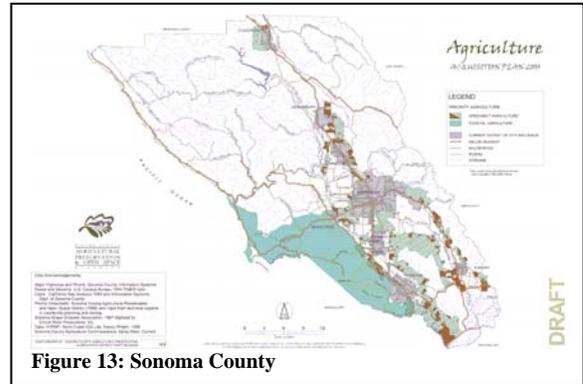


Figure 13: Sonoma County

The results of this pressure are evident in the county’s population figures. Sonoma’s population increased by at least 30,000 every five years between 1980 and 2000, reaching over 400,000. The Association of Bay Area Governments (ABAG) predicts strong growth pressures to continue for the North Bay. ABAG estimates that over the next twenty years, Sonoma County will experience a 25 percent increase in population and a 47 percent increase in the number of new jobs. Sonoma County Agricultural Preservation and Open Space District, 2001: 2) (American Farmland Trust, 1997: 237)

HOW IT WORKS

In November 1990, Sonoma County voters approved two measures that created the Sonoma County Agricultural Preservation and Open Space District and a ¼ percent sales tax over a 20-year period to fund agricultural preservation and open space acquisition. The Sonoma County Open Space Authority, an

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independent entity created by the Board of Supervisors, is responsible for levying the sales tax. Through a contract, the Authority provides primary funding for the District's acquisition program. The sales tax provides an annual allocation of approximately \$13 million for the District's land conservation program. Several California counties, including Marin, have created special districts for acquiring open space. Sonoma was the first to establish a special district the purpose of which includes acquiring agricultural land and Sonoma is the only jurisdiction in the country that uses revenues from a broad-based sales tax to purchase conservation easements on agricultural land. (Sonoma County Agricultural Preservation and Open Space District, 2000: 3) (American Farmland Trust, 1997: 238)

The County Board developed an acquisition plan in 1992 that identified priorities for land acquisition and described specific acquisition categories. The Agricultural Acquisition Category encompasses a variety of "working landscapes" throughout Sonoma County and was developed to help focus the District's agricultural land conservation efforts. For Acquisition Plan 2000, ranchers assisted District staff in identifying the highly productive coastal grasslands in the southwest part of the County, as an important grazing region for livestock. This is the Coastal Agriculture category. Other experts assisted the District in prioritizing farms within greenbelts which include lands for orchards, vineyards, nurseries and forage crops. This is the Greenbelt Agriculture category and it is essential to provide separation between the County's nine cities. (Sonoma County Agricultural Preservation and Open Space District, 2001: www.sonoma-county.org/opensp)

RESULTS

The goal of the District is to acquire outright or purchase easements on approximately 600,000 acres of agricultural, natural resource and open space land, which represents 60 percent of the county's land base. To date, the District has completed 80 land conservation projects and protected over 27,000 acres (close to 20,000 acres of agricultural land on 49 properties) through easement or fee acquisition at a cost of \$50 million. (American Farmland Trust, 1997: 238)

San Juan County, Washington

FEATURED STRATEGIES: Purchase of Agricultural Conservation Easements (PACE) with funds from **Real Estate Excise Tax (REET)** and protected forever by a **stewardship endowment**. Easement values assessed by a **point system**. A zoning **overlay district** will be proposed in the San Juan Valley Heritage Plan due in September 2001

BACKGROUND

In 1990, San Juan Islanders voted to create the San Juan County Land Bank to "preserve the island's unique natural heritage". In 1999, by a nearly 73% majority, the Land Bank was renewed for 12 more years. (San Juan County, 2001: www.co.san-juan.wa.us/land_bank)

HOW IT WORKS

The Land Bank is funded by a 1% real estate excise or transfer tax (REET) paid for by purchasers of property in San Juan County. The funds are used to purchase conservation easements and to acquire land outright. The Land Bank protects its conservation purchases and easements forever with the establishment of a stewardship investment fund. (San Juan County, 2001: www.co.san-juan.wa.us/land_bank)

In 1996, the Land Bank adopted an innovative method of valuing easements. Easement values are determined by a point system based on the characteristics of the farm that make it desirable for development and on the agricultural and scenic values that it provides. The price of easements has historically been determined through professional appraisals. The value of the easement is typically the difference between the appraised fair market value of the property before and after restrictions on nonagricultural land use are imposed by the easement. Under the San Juan County system, characteristics

FARMLAND PRESERVATION CASE STUDIES

such as farm acreage, prime soils, crop value, road frontage, use of conservation practices, etc. are translated through points into the purchase price through a formula. The Land Bank still continues to use the standard method of appraisals to value easements on coastal properties and land within urbanized areas. (American Farmland Trust, 1997: 100)

The point system may resolve some significant problems of the appraisal-based valuation. Appraisals take a long time, often six months or more; they are expensive, often from \$2000 to \$5000; and they are subjective, often requiring several opinions. Appraisals also raise problems for the PACE program manager: in general, the better the farm, the lower the easement value. The problem is that appraisals measure what developers are willing to pay for farmland, not what farms are worth to society. Consider two farms of the same size in similar areas—an overgrown, run-down farm with poor soils and few agricultural improvements, and a well-maintained farm with prime soils, a new barn, etc. Common sense says that society should pay more to protect the second farm. But using the before-and-after appraisal method would probably result in a higher easement value on the first farm for two reasons. First, farmers would be willing to pay more for the second farm than the first. The “after” value of this farm would thus be higher, reducing the difference between restricted and fair market value. Second, the improvements on the second farm are worth a lot more to a farmer, but they’re a nuisance to a developer—few homeowners want industrial buildings and a manure pit in their backyard. So the two farms are at best equal in terms of fair market value. (American Farmland Trust, 1997: 100)

The San Juan County Land Bank pays for stewardship by setting aside money in a stewardship endowment fund each time a property or easement is acquired. The amount placed in this fund is based on an estimate of what stewardship of the property will cost over time. The money in the stewardship endowment fund is invested and the interest from the investment is used to pay for the Land Bank’s stewardship activities. Some of the interest is reinvested so that the account balance can continue to grow over time. In this way, the Land Bank protects its investments by establishing this permanent fund to support management activities on Land Bank properties and easements forever. On properties owned by the Land Bank, management consists of developing and maintaining a management plan with community participation, collection and maintaining accurate baseline data, coordinating volunteer stewards that visit the properties regularly, and communicating with neighbors and the broader community about the goals for the properties. For easements held by the Land Bank, management consists of collecting and maintaining baseline data, communicating with the property owners, developing good relationships with new property owners, and promoting effective stewardship by the property owners. (San Juan County, 2001: www.co.san-juan.wa.us/land_bank)

A San Juan Valley Heritage Plan will be completed by September, 2001 which recognizes and protects visual open space resources as equal in importance to maintaining traditional agricultural uses in San Juan Valley. The Plan will allow for land division and development at a variety of densities as an incentive to maximize conservation and protection of open space and to maximize the potential for continuing agricultural use. The plan will also ensure that the ultimate development of the overlay district does not exceed an average of one dwelling unit per fifteen acres. (San Juan County, 2001: 1)

RESULTS

San Juan County has protected 1,418 acres with 17 easements at a cost of just over \$2.2 million. (Farmland Information Center, 2001: www.farmlandinfo.org/fic/tas/tafs-paceloc.pdf)

Napa County, California

FEATURED STRATEGY: **Agricultural marketing** in the form of a requirement that the Napa label only appear on wines made with at least 75% Napa grapes

BACKGROUND

Since the 1950s, Napa County residents have voted in favor of programs to protect agriculture, particularly the vineyards that wind through the Napa Valley. The Valley has an ideal climate for growing grapes and its vineyards have earned a reputation for producing excellent wine grapes. County residents are supportive of the wine industry because the vineyards demand little space, yet play a major role in boosting the county's economy. The total economic value of the wine grape industry is close to \$1 billion. With these incentives to resist development, Napa County has some stringent and creative farmland protection regulations and agricultural protection zoning. In 1990, voters approved a particularly innovative winery marketing ordinance that was designed to support the county's agricultural sector. (American Farmland Trust, 1997: 233)

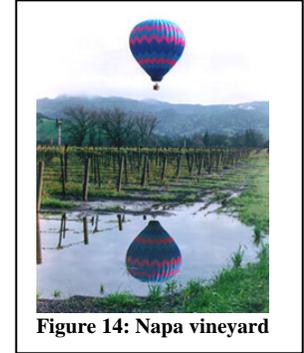


Figure 14: Napa vineyard

HOW IT WORKS

The ordinance requires that at least 75 percent of the grapes used to make wine and other products at the county's wineries be grown within Napa County. Before the ordinance, a large number of wineries were growing grapes in other areas where land was cheaper, then using the grapes to produce wine in Napa so the prestigious Napa label could be put on the bottle. (American Farmland Trust, 1997: 236)

Opinions were divided about how the ordinance would affect Napa's wineries and agricultural land. Advocates argued that it would increase the demand for vineyard land which would result in stronger support for farmland protection efforts. Others maintained that additional land would not be needed because improved technology would increase yield and because vineyards would simply relocate to other counties. Critics charged that the ordinance would hurt the county's wineries by increasing production costs. (American Farmland Trust, 1997: 236)

RESULTS

Observers report that since the ordinance was approved, it has protected the agricultural viability of Napa's wine-grape industry. Land use consultant and Napa County Planning Commissioner Mary Handel stated in *Saving American Farmland* that the ordinance has allowed Napa grape growers to continue making a profit from grapes and wine, and at the same time reduced the trend of farmland being converted for tourist facilities that have little to do with the county's agriculture. (American Farmland Trust, 1997: 237)

Davis, California

FEATURED STRATEGY: Agricultural conversion mitigation through the Right-to-Farm and Farmland Preservation Ordinance

BACKGROUND

The City of Davis is bordered on all sides by active farmland. The city retains a connection with its rural heritage and has maintained a strong commitment to preserving prime farmlands and agricultural activities. The Davis General Plan reflects this commitment with policies calling for the protection of prime farmland, creation of buffers between urban and agricultural uses, and maintaining a compact urban form. (City of Davis, 2001:

www.city.davis.ca.us/parks/programs/openspace.htm)



Figure 15: Davis, California

HOW IT WORKS

Farmland preservation is addressed through a requirement that for every acre of farmland converted to urban uses, one acre of comparable farmland is preserved in perpetuity (1:1 ratio). Lands identified by developers to satisfy this requirement must meet several standards including: comparable soil quality, adequate water supply to allow continued farming, and no encumbrance of the land that precludes future farming (e.g. partial urban development). Flexibility is built into the ordinance allowing the City to accept in-lieu fees to cover the cost of acquisition and management of agricultural conservation easements. Location of easements accepted or purchased by the City have been coordinated through an open space plan. Easement lands are organized to provide large contiguous blocks of land that provide farmland value, habitat value, and serve to define urban form. (City of Davis, 2001:

www.city.davis.ca.us/parks/programs/openspace.htm)

Farmland protection policies included in a pending General Plan Update will increase the replacement ratio from 1:1 to 2:1 – requiring the conservation of two acres of prime farmland for every acre converted to urban uses. (City of Davis, 2001: www.city.davis.ca.us/parks/programs/openspace.htm)

RESULTS

The City has received over \$900,000 in in-lieu fees as a result of the farmland preservation ordinance and these fees have been used as matching funds for state conservation easement grants. Since passage of the ordinance in 1995, the City has secured agricultural conservation easements totaling over 2000 acres. (City of Davis, 2001: www.city.davis.ca.us/parks/programs/openspace.htm)

D. NON-GOVERNMENTAL ORGANIZATIONS

EXISTING PROGRAMS

The Whidbey-Camano Land Trust owns one conservation easement of 40 acres in Ebey's Landing National Historical Reserve. e-mail: wclt@whidbey.com

Several large land trusts frequently collaborate with local land trusts, agencies and governments to protect farmland. These organizations also have a variety of educational resources and often receive donations of land or easements. The Nature Conservancy (TNC) currently owns nearly 400 acres in the Reserve, including the recently acquired Pratt property. The mission of The Nature Conservancy is to preserve plants, animals and natural communities that represent the diversity of life on Earth by protecting the lands and waters they need to survive. www.tnc.org

The American Farmland Trust works to stop the loss of productive farmland and to promote farming practices that lead to a healthy environment. They have an extensive library of farmland preservation tools and case studies. www.farmland.org

Scenic America could provide guidance on protecting viewsheds. www.scenic.org

The Island County Washington State University Cooperative Extension program provides educational support to the Island County agricultural community. www.island.wsu.edu

The Forest Stewardship Council supports environmentally appropriate, socially beneficial and economically viable management of forest resources. www.fscus.org

Washington Farm Assistance, a program of Puget Sound Farm Trust, protects farmland by helping new and established farmers, their heirs and replacements become more successful. wfa@thefarmtrust.org
(206) 767-7334

CASE STUDIES

Franklin Land Trust, Massachusetts

FEATURED STRATEGY: Land trust buys **easements in exchange for debt forgiveness** in order to shelter active farmers from taxes

BACKGROUND

Founded in 1987, the Franklin Land Trust is a nonprofit organization devoted to the preservation of the farm and forest land, and the rural character, of western Franklin County, Massachusetts. The Land Trust does not seek to own land itself, but instead encourages private stewardship. Mark Zenick attributes the Trust’s success to “its fundamental belief that the wishes of private property owners must always be acknowledged and respected.” He continues “The Land Trust has not assumed that individuals can or should give up equity value in their properties. Instead, it has tried to fashion conservation strategies that speak to landowner expectations while providing effective land protection options.” (Franklin Land Trust, 1997: 3)

Franklin Land Trust frequently acts as a go-between between farmers that are willing to sell the development rights on their land and the state of Massachusetts’s Agricultural Preservation Restriction (APR) program, the state’s PACE program. The Trust often arranges loans from organizations such as the Conservation Fund to purchase development rights when there is a threat of development and resell them to the APR program when the state money is available. Because there is a considerable backlog to participate in the oversubscribed state program, these bridge loans are critical. (Zenick, 2001)

Sometimes the Land Trust helps farmers avoid significant capital gains tax burdens by receiving the proceeds of a sale of a conservation easement to the state program-which can only cut a single check for the easement-and releasing the money to the farmer in installments which do not trigger significant tax penalties. (Zenick, 2001)

HOW IT WORKS

Experience with installment plans led Mark Zenick to invent a particularly innovative technique that serves farmers that would have been forced to sell land to developers because they cannot afford to pay their mortgages and they can’t even afford to sell conservation easements because such sales would trigger requirements to pay off their mortgages and still pay the taxes on the supposed capital gain. The Land Trust has offered installment forgiveness of a mortgage in exchange for conservation easements on two projects. According to Mark, “In both cases the farmer sold his development rights to Franklin Land Trust for a dollar amount 4% less than the amount the State agreed to pay for these rights. At a simultaneous closing the farmer sold an APR to the Land Trust which sold it to Massachusetts Food and Agriculture (the department which administers the APR program). Franklin Land Trust took the state’s payment and bought (NOT PAID OFF) the outstanding mortgages on the farm, allowing the APR to be recorded ahead of any financial liens. The Land Trust also imposed additional restrictions (to keep the land actively farmed) in exchange for its involvement.” (Zenick, 1995)

“Since no money was actually received by the farmer, he has no immediate taxable gain exposure. If he fulfills the terms of the Supplemental Agreement, each year’s principal and interest obligation will be

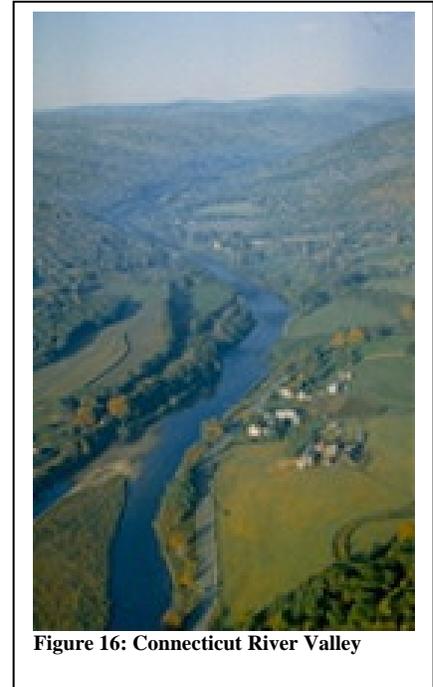


Figure 16: Connecticut River Valley

FARMLAND PRESERVATION CASE STUDIES

‘forgiven’ – he would have to claim this paper income but at a lower federal level than if he sold the rights directly to the State. Conceptually this is a mirror image of the installment payment plan – installment mortgage ‘forgiveness’ in exchange for tangible public benefits accruing to the Land Trust in fulfillment of its non-profit mission.” (Zenick, 1995)

Mark feels it is an innovative way of helping “heavily mortgaged farmers sell their development rights without exposing themselves to steep capital gains on funds immediately used to pay off lending institutions in order that they will subordinate to the APR. In the second use of this idea the farmer would have had to use almost all of his APR funds to pay off the bank, leaving him with no dollars to meet what would have been an approximately \$70,000 tax liability.” (Zenick, 1995)

RESULTS

The Franklin Land Trust has completed 79 projects protecting 7,782 acres in its 13 years of operation. There is of course dependence on the availability of state funds through the APR program, but the Trust has developed a number of tools to dramatically extend the capacity of the state program. (Zenick, 2001)

Skagitonians to Preserve Farmland

FEATURED STRATEGY: Broad agenda of **advocacy** for and **education** of the public and farm land-owners

BACKGROUND

Skagitonians to Preserve Farmland (SPF) is a grass-roots, nonprofit organization formed in 1989 and dedicated to protecting Skagit County’s rich agricultural heritage through public and land-owner education. Skagitonians is also an IRS-approved land Trust that accepts donations of agricultural conservation easements, gifts of land, and may purchase easements or land with donated funds.

Skagitonians meets with and counsels farmland owners on these and other available mechanisms to keep agricultural land for agricultural production. (Skagitonians to Preserve Farmland, 2001:

www.skagitonians.org)



Figure 17: Skagit County farm

HOW IT WORKS

SPF has become the recognized authority for protecting farmland and farming in the Skagit Valley. SPF effectively participates in maintaining and creating policies at the local, state, and federal level that presume a future for farming; works to implement programs to protect farmland; and creates partnerships for land protection with other conservation organizations, such as Skagit Land Trust, Trust for Public Land, American Farmland Trust, and The Nature Conservancy. SPF is also a key participant in the Skagit Watershed Council. As a community-building organization, SPF recognizes that a successful protection strategy depends upon a strong core of public opinion in favor of farmland protection. SPF sponsors community education, annual cultural and recreational events (“Celebrate Skagit Harvest”), informs the public about farmland issues, and builds community support in the Valley and throughout the Puget Sound for Skagit farmland protection. (Skagitonians to Preserve Farmland, 2001: www.skagitonians.org)

RESULTS

Based on the depth and breadth of demonstrated support, coupled with SPF research about such programs around the nation, County Commissioners voted, in 1996, to impose a property tax increase (Conservation Futures) to fund the purchase of development rights from willing farmers. SPF has demonstrated broad and deep community support for farming. In an Elway Research poll commissioned by SPF and the Economic Development Association of Skagit County (EDASC) in 1996, 82% of Skagit

Valley residents agreed that the county should be doing more to protect farmland. 90% recognized the importance of farming for the economy, wildlife habitat, and open space. (Skagitonians to Preserve Farmland, 2001: www.skagitonians.org)

In 1999, SPF published the first west coast “Cost of Community Services “ study, in partnership with the American Farmland Trust (AFT), demonstrating that farmland, forest land, and open land in Skagit County produce nearly twice the amount of tax revenue it requires for public services (\$1.00 in revenue for \$.51 in services). Study findings were consistent with other such studies from around the nation. (Skagitonians to Preserve Farmland, 2001: www.skagitonians.org)

Farm Acquisition Research and Management (FARM) LLC
FEATURED STRATEGY: Purchasing and leasing farmland

BACKGROUND

Farm Acquisition, Research and Management (FARM) LLC, is a for-profit limited liability company dedicated to preserving farmland and promoting environmentally and economically sustainable farming in urban/suburban areas of Puget Sound. The company was formed in early 1999 when eighteen members of the Root Connection subscription farm got together to save their farm from development. The group purchased the 11 acres of farmland and then leased it to The Root Connection Farm. The group then bought an adjacent 11 acre parcel and



Figure 18: Living Legacy Community Ranch

currently lease it to the Living Legacy Community Ranch. In 2000, FARM LLC with the assistance of The Land Conservancy purchased a 47 acre parcel that was to be developed as a shopping center for \$1.15 million and then was paid \$900,000 for the development rights by King County’s Farmland Preservation Program. (FARM LLC, 2001: www.farmllc.com) (Dizon, 2000) (The Land Conservancy, 2000: 5)

HOW IT WORKS

The mission of FARM LLC is to preserve threatened farmland for the benefit of small farmers and the community at large, and to ensure a safe, local food supply. There are three components of their business—acquisition, research and management. (FARM LLC, 2001: www.farmllc.com)

Acquisition: Farmland deed restrictions require that lots remain the size they were when the county purchased development rights from the owner. This means the land cannot be divided and sold as smaller parcels. But with new intensive farming techniques, farmers can produce five times the yield per acre of traditional farms. According to FARM LLC, some small farmers don’t need—and cannot afford—large parcels. Another problem for farmers is that landowners generally lease on a year-to-year basis. The farmer has little stability or incentive to make long-term improvements to the land in a sustainable manner. Another concern is county requirements that nontillable surfaces be less than 5% of the land area. Urban farms require closer ties to the community and farm members. The activities of these farms require space for parking, storage buildings, and retail sales. To create opportunities for economically viable, small-scale farming, FARM LLC offers long term leases on small parcels of land to sustainable farmers. Since FARM LLC owns more than one piece of land, they can lay out the allowed 5 percent of infrastructure in the most efficient way. (FARM LLC, 2001: www.farmllc.com)

Research: By researching sustainable, small-scale farming methods and promoting their findings, FARM LLC is encouraging farmers to adopt environmentally friendly and economically viable practices. One

small test project that has been constructed is an animal-heated solar greenhouse. They are developing a curriculum of workshops to demonstrate the workings of a sustainable, profitable farm. (FARM LLC, 2001: www.farmlc.com)

Management: FARM LLC aims to preserve the viability of the small farm through shrewd management. The group of investors is made up of an accountant, a doctor, a scientist, a writer and several Microsoft executives so they have diverse skills. Decisions are guided by a mission statement and business plan and made by a board of elected members. Project managers oversee each project. (FARM LLC, 2001: www.farmlc.com)

FARM LLC is working to ensure that local farmland is farmed, not just preserved, while still providing a return to investors in the form of land leases.

E. FARMS, FORESTRY AND COOPERATIVES

EXISTING OPERATIONS

Ebey's Landing National Historical Reserve has only one large commercial farm left, the Sherman dairy farm. The Muzzall dairy farm also produces organic milk, but must sell at non-organic prices to Darigold because they are the only buyer big enough to afford pick-ups on the island. Part of the Engels farm was recently acquired by the National Park Service and is being rented back to the family. Much of the remaining farmland is hayed or used to grow seed for Christensen Seeds, which provides seeds for most Skagit Valley farms. (Harbour, 2001)

CASE STUDIES

The Root Connection Farm, Washington

FEATURED STRATEGY: Community Supported Agriculture (CSA)

BACKGROUND

According to Robyn Van En, a co-founder of the first share farm in America back in 1985, "The origin of the Community Supported Agriculture (CSA) concept, the partnership between consumers and farmers, can be traced to Japan in the mid-1960s. Homemakers began noticing an increase in imported foods, the consistent loss of farmland to development, and the migration of farmers to the cities. In 1965, a group of women approached a local farm family with an idea to address these issues and provide their families with fresh fruits and vegetables. The farmers agreed to provide produce if multiple families made a commitment to support the farm. A contract was drawn and the *teikei* concept was born, which translated literally means partnership, but philosophically means 'food with the farmer's face on it.'" (Van En, 1995: 29)

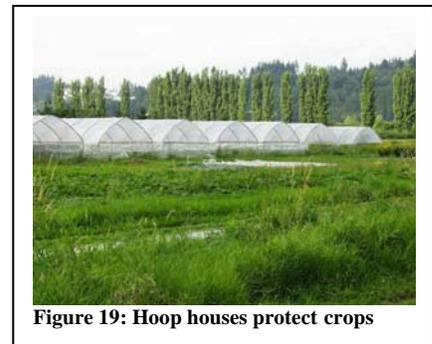


Figure 19: Hoop houses protect crops

The Root Connection Farm, in operation since 1987, is Washington's oldest and largest share farm. The Farm is owned and operated by Claire Thomas and all produce is grown in accordance with Washington State organic production law. (Root Connection, 2001: www.rootconnection.com)

In the fall of 1998, a group of Root Connection Farm members formed FARM LLC (described above), a for-profit corporation dedicated to preserving farmland and supporting farmers. FARM LLC purchased the land the Root Connection sits on in March 1999 to prevent its being sold to developers and then sold

the development rights on the land to King County. The Root Connection now leases the land from FARM LLC on a long-term lease. (Root Connection, 2001: www.rootconnection.com)

HOW IT WORKS

A member buys a share for the growing season. Then, each week from June through October, members pick up their produce at the farm (located between Woodinville and Redmond) or at one of the farm's drop-off sites in Lynnwood or Seattle. Besides fresh, organic vegetables, farm members can pick their own flowers and herbs and explore the farm. Costs for the growing season are \$625 for a full share (feeds 4-8 people) and \$400 for a half share (feeds 1-4 people). (Root Connection, 2001: www.rootconnection.com)

RESULTS

The Root Connection Farm started in 1987 with 20 member families sharing produce from ½ acre of farmland. Last year, planting intensively on five acres of raised beds, the farm produced more than 125,000 pounds of organic vegetables for 400 member families. (Root Connection, 2001: www.rootconnection.com)

GreenMan Farm, Washington

FEATURED STRATEGY: Community Supported Agriculture (CSA)

BACKGROUND

GreenMan Farm, a Community Supported Agriculture (CSA) farm on Vashon Island, was started in 1998 by Martin Nyberg and Jasper Koster-Nyberg. GreenMan Farm is a good example of how even a small amount of rural residential land can be returned to agricultural use and help restore the relationship between people and the source of their food. Jasper farms full time while Martin still works part-time for a Seattle software company, but their vision is to transition to full-time farming. They bought a two-acre plot of rural residential land and they are in the process of proving that they are using the land for agriculture in order to receive agricultural use taxation by the state. GreenMan Farm is not only organic, but biodynamic. Biodynamic growers go beyond other organic gardeners in seeing their stewardship of the land as part of a philosophical or spiritual expression. (GreenMan Farm, 2001: www.greenmanfarm.com) (Nyberg, 2001)

HOW IT WORKS

GreenMan Farm's growing season runs from late spring through mid-fall. Each week during the season, subscribers come to the farm to pick up a grocery bag of freshly picked produce, free range eggs, and flower bouquets. Last season the farm produced nearly thirty different vegetable varieties. Occasionally, the share includes bonus items such as pickles jams and preserves. In order to provide a wide variety of seasonal vegetables and herbs, crops are planted in succession and provide a weekly supply of mixed vegetables. As crops rotate throughout the season, weekly shares vary by size and types of produce, reflecting local growing seasons and conditions. (GreenMan Farm, 2001: www.greenmanfarm.com)



Figure 20: typical share in July 1999

A weekly share provides enough produce for 2-4 people. The subscription price for a season is \$500 with discounts for full payment in advance. Subscribers are also invited to participate in work-days, potlucks, farm tours, and seasonal celebrations on the farm. (GreenMan Farm, 2001: www.greenmanfarm.com)

RESULTS

GreenMan Farm began two years ago with a handful of Vashon Island subscriber families and last year had 28 families. Last year they farmed one of their two acres. This year they hope to continue their growth and put more of their land into cultivation. (Nyberg, 2001)

Shelburne Farms, Vermont

FEATURED STRATEGIES: **Grass-based dairy** and **certified forestry** and related education programs

BACKGROUND

In 1886, Dr. William Seward and Lila Vanderbilt Webb began acquiring farmland on the shores of Lake Champlain to create a model agricultural estate. They were assisted in the effort by two of the most prominent planners in the country—architect Robert H. Robertson and landscape architect Frederick Law Olmsted, Sr. Olmsted’s vision guided the layout of farm, field and forest; Robertson designed the buildings. By 1902, Shelburne Farms encompassed a 3,800-acre farm dedicated to demonstrating innovative agricultural and land use practices. (Shelburne Farms, 2001: www.shelburnefarms.org)

After a brief heyday at the turn of the century and a long decline until 1972, family descendants incorporated Shelburne Farms as a nonprofit organization dedicated to conservation education. Shelburne Farms is now a 1,400 acre working farm, national historic site and educational organization. Shelburne Farms’s mission has become: to cultivate a conservation ethic in students, educators and the general public by teaching and demonstrating the stewardship of natural and agricultural resources. Much of the land that demonstrates stewardship is permanently protected with conservation easements and deteriorating buildings are being preserved and rehabilitated to new uses. Through it all, the property has remained a continuous working farm. (Shelburne Farms, 2001: www.shelburnefarms.org)

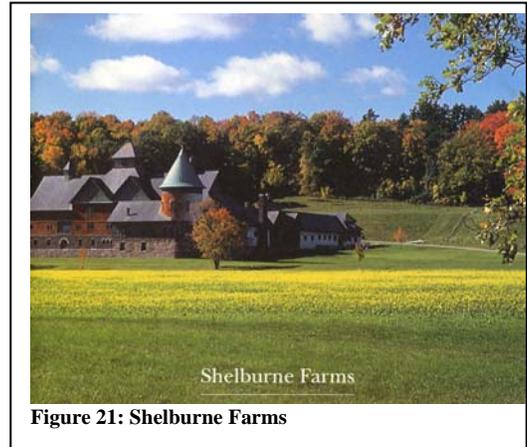


Figure 21: Shelburne Farms

HOW IT WORKS

The dairy at Shelburne Farms maintains the working landscape, provides the real-life story for teaching about sustainable agriculture and the value of agricultural resources, and is the basis for the cheesemaking operation. It provides a high quality, value-added food using low-input agricultural methods. Shelburne Farms operates a grass-based dairy, relying heavily on pastures to support their herd of 200 Brown Swiss Cows. Cows graze small sections of pasture for 12 to 24 hours and then are “rotated” to a new section. The grazed area is given time to regrow before it is used again, keeping the pastures healthy. This grass-based method of dairying is friendlier to the environment because it eliminates the use of crop-based herbicides and pesticides; uses less machinery and fuel to plant, maintain, harvest, and transport grain; uses manure as a natural fertilizer on the pastures; and controls water pollution by maintaining thick pasture growth. Shelburne Farms has about 600 acres of productive cropland: 282 acres for rotational grazing, 236 acres for stored winter feed, and 86 acres leased to a neighboring farmer who grows organic grain crops. (Shelburne Farms, 2001: www.shelburnefarms.org)

Shelburne Farms manages about 400 acres of woodlands, ranging from stands of northern hardwood to softwood plantations of pine and spruce. These living ecosystems provide heating fuel for farm buildings, lumber for wood products, habitat for wildlife, and an open-air classroom for teaching the lessons of ecology, “green forestry” and environmental stewardship.

FARMLAND PRESERVATION CASE STUDIES

Each year, ten to thirty acres are marked for cutting. The farm takes great care to minimize forest disturbance, maintain a healthy balance of both young and old trees, leave some areas untouched for wildlife refuges, ensure attractive forests for visitors, and maximize use of the logs for lumber, firewood and chips. The areas that are cut each year are not harvested again for twenty years.

In 1997, Shelburne Farms joined Vermont Family Forests, an association of more than 30 landowners whose mission is to cultivate local family forests for economic and social benefits while protecting their ecological integrity. As a member of this group, Shelburne Farms received “Green Certification” in 1998 from SmartWood. An important timber customer is the Beeken/Parsons Wood Shop, an independent enterprise that resides in the Farm Barn. For the past several years they have focused on transforming low-grade lumber into beautiful furniture with “character-marks”—knots, bark or other defects that make many logs less valuable. This niche market gives Shelburne Farms and other woodland owners new flexibility in harvesting trees. (Shelburne Farms, 2001: www.shelburnefarms.org)

RESULTS

According to the 1999 Annual Report, the dairy operation produced about 100,000 pounds of cheese. The sale of the cheese and other value-added farm products and services provides about 75% of the operating budget for the farm and its education programs. Gifts and grants made up only 13% of the funding source. In the same year, the woodland management team harvested 33,000 board feet of timber from the property. Much of this was used for restoration work and new buildings on the farm. Most importantly, the Farms hosted nearly 250 non-profit organizations and schools in its conservation education programs. (Shelburne Farms, 2001: www.shelburnefarms.org)

Tillamook County Creamery Association, Oregon

FEATURED STRATEGY: Marketing cooperative producing value-added products

BACKGROUND

In 1909 the farmers of ten operating cheese factories in Tillamook County formed the Tillamook County Creamery Association (TCCA) to control cheese quality. By 1968 all of the cheese factories in Tillamook County consolidated and the cheesemaking became centralized at the present day site, which was built in 1949. In 1979 a visitor’s center was built to provide viewing areas, educational slide shows and displays, and a museum. Since then, the center has been expanded to accommodate the nearly one million visitors that visit TCCA each year. (Tillamook County Cheese Association, 2001: www.tillamookcheese.com)



Figure 22: Tillamook headquarters

HOW IT WORKS

Today, TCCA is a cooperative owned and operated by over 150 dairy families with average herds of 135 cows, nearly all of whom live in Tillamook County. As a cooperative, the farmers set the policies and direction of Tillamook Cheese and share the profits of the organization which now represents nearly one-third of all milk produced in Oregon. The dairy farmers of TCCA maximize the value of their labor by collectively producing and marketing value-added products--cheddar and other cheeses, butter, milk, ice cream and yogurt. (Tillamook County Cheese Association, 2001: www.tillamookcheese.com)

RESULTS

Tillamook produces over 65 million pounds of cheese and over 18 million pounds of other products each year and now employs over 350 people in addition to the 150 dairy farms it supports. (Tillamook County Cheese Association, 2001: www.tillamookcheese.com)

Tree Shepherd Woods, Olympia, WA

FEATURED STRATEGY: **Ecoforestry and education programs and certification** through the SmartWood Program

BACKGROUND

The Tree Shepherd Woods property is a unique certified forest in that the owner's forestland management objective has been the operation of an ecoforestry demonstration project. Harvest volumes, costs, and income are carefully recorded as well as ecological changes in the landscape. People interested in learning about ecoforestry are invited to participate in seminars and tours on the property. (Smartwood Program, 2000: 2)

According to one owner, Jean Shaffer, "Ecoforestry means choosing and taking trees and plants out of a forest according to the forest's active adaptation to present conditions of soil, water and climate, coupled with ancient first peoples' stewardship. Observing the forest manage itself, implementing that management and showing it to those who come to find out, is an ecostery. Ecostery is the ecological version of a monastery, a place where knowledge is accumulated, preserved through using it, and shared." (Shaffer, 1997: www.olywa.net/speech/october97/shaffer.html)

The Tree Shepherd Woods property is located in Thurston County, Washington, near the city of Olympia. The property of 20 acres has a forested area of 9 acres. The composition of the remaining acres is a mosaic of groups of trees with dense brush between. The forest is the north half of the property. Douglas fir is the predominate tree species with western red cedar, red alder, western hemlock, madrona, dogwood, big leaf maple and willow included. Understory species include Oregon grape, evergreen and red huckleberry, yerba buena, sword fern rose, blackberry, ocean spray, hazelnut and salal. Slopes are slight to moderate, 15% to 35%. There is one small drainage in the middle of the property that has a spring which flows into a pond. The property was clearcut in the 1930s and in the 1970s was selectively harvested. In 1986 two acres were clearcut. (Smartwood Program, 2000: 3)

The objective of the owners in November 1995 was to scientifically set up, run, and reap the revenues of an ecoforestry demonstration test of harvested forest materials while maintaining the natural health and structure of forest ecosystems. Her intentions also included adaptive management through the vehicle of data from professionally installed monitoring plots. The operation is certified by the SmartWood Program of the Rainforest Alliance. To earn SmartWood certification, a forest management operation must undergo an on-site field assessment and annual audits of the activities, progress toward certification conditions, and compliance with SmartWood standards. Areas investigated include forest and watershed management, silviculture, ecological productivity, wildlife habitat, roads and trails, yarding, stream protection, restoration, community and economic stewardship, and tracking of products through the chain-of-custody. (Smartwood Program, 2000: 2)

HOW IT WORKS

During the first harvest, in 1995, logging was done using a winch mounted on a skid. The logging was extremely low impact. Ground disturbance was nearly non-existent and residual tree damage was rare. Only the suppressed and malformed (except where they provided nesting habitat) trees were harvested. A couple of poorly formed trees were girdled to create snags. Species diversity was lacking at the time of the original evaluation of the property. Structural diversity was also poor. Allowing succession to continue, by leaving

trees that are growing well and taking out the ones that have fallen behind, has increased diversity. (Smartwood Program, 2000: 8)

The property produces Douglas Fir log and lumber. All products from the harvest are processed by the landowner or by local processors. The owner acts as the timber operator and product manufacturer. Jean Shaffer has built a micro-mill to saw the small logs harvested from the forest. Her partner, Jerel, who is a part-owner of the land, falls, winches and transports the trees. The owners work with the miller to determine a fair market trade in wood for milling services. The drying of the wood is done on the land. Most of the milled lumber is kept by the owners to do fine woodworking value-added projects. The other milled lumber is sold with the proceeds supporting the efforts of the Jean's organization promoting ecoforestry, the Forestland Management Committee. (Smartwood Program, 2000: 4)

Purple Haze Lavender, Sequim, WA
FEATURED STRATEGY: Ag-tourism

BACKGROUND

Purple Haze Lavender is a 7.5 acre certified organic lavender farm in the Dungeness Valley of Washington's Olympic Peninsula. They have a flair for the promotion of their farm, sustainable agriculture, and the unique character of their region. Purple Haze Lavender Farm has incorporated the beauty and design of its lavender fields into a landscape of gardens, orchards, ponds, wetlands and buildings. The formality of the lavender farm is framed by a valley of open space and vistas of the Olympic Mountains. (Purple Haze Lavender, 2001: www.purplehazelavender.com)



Figure 23: Purple Haze Lavender

The success of Purple Haze as a business is deeply rooted in a commitment to preserving the agricultural heritage of the Dungeness Valley. According to Mike and Jadyne Reichner, the owners of Purple Haze, "We believe our farm should celebrate all that the acreage can provide: a sustainable perennial crop, lavender flowers and oils for developing natural products for the body and mind, an agricultural tourist destination, a sight for learning and celebration, and a connection to the world via the internet that allows us to gain and share information on the agriculture of this herb." (Purple Haze Lavender, 2001: www.purplehazelavender.com)

HOW IT WORKS

Purple Haze has carefully considered accommodating visitors to the farm. They have facilities and events that cater to the agricultural tourist. They offer u-pick bouquets, farm tours, and lavender-related gifts and value-added products such as skin care products, aromatherapy, and perfumes. They help organize with the Sequim Lavender Growers Association an annual Lavender Festival every summer that draws over 20,000 people in two days. They also offer summer classes at the farm where people can learn different ways to use lavender in cooking, crafts, and skin care treatments. The farm has an informative and stylish website offering all their value-added lavender products, directions to visit the farm, and information about the Lavender Festival. (Purple Haze Lavender, 2001: www.purplehazelavender.com)

FARMLAND PRESERVATION CASE STUDIES

RESULTS

Business is booming at Purple Haze. Mike and Jadyne have steadily grown their small business into a successful sustainable farm with over 15,000 plants on 7.5 acres and hundreds of different value-added products. Numerous visitors to the website and the farm have become lifelong customers. (Purple Haze Lavender, 2001: www.purplehazelavender.com)

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*already owned by NPS

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National Park Service
U.S. Department of the Interior

Ebey's Landing National Historical Reserve
Draft GMP/ EIS Volume II: Technical Supplement



Farmland Preservation Recommendations for Ebey's Landing National Historical Reserve

*Prepared for the National Park Service by
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October 22, 2001

FARMLAND PRESERVATION RECOMMENDATIONS

FOR

EBEY'S LANDING NATIONAL HISTORICAL RESERVE

PREPARED FOR THE NATIONAL PARK SERVICE

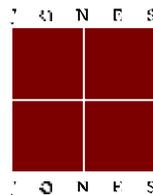
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SEATTLE, WASHINGTON

22 OCTOBER 2001



FARMLAND PRESERVATION RECOMMENDATIONS

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FARMLAND PRESERVATION RECOMMENDATIONS

I. INTRODUCTION

In this report we recommend measures to improve the viability and sustainability of farms and woodlots at Ebey's Landing National Historical Reserve (the Reserve). These recommendations are based on precedents in diverse case studies of farmland preservation strategies around the country and an evaluation of the historic and present character of the Reserve's cultural landscapes.

The majority of Ebey's Landing National Historical Reserve is privately owned and protection is afforded through conservation easements, community support, the National Register (for buildings and structures), and state and non-profit group ownership. In 1988, the NPS turned over management of the Reserve to a partner, the Trust Board of Ebey's Landing National Historical Reserve. This Trust Board, made up of representatives of NPS, Island County, Coupeville, and Washington State Parks, has used a Comprehensive Plan prepared by NPS in 1980 to work to preserve the Reserve's resources. The National Park Service is currently taking the lead role in developing a revision to the Comprehensive Plan. This new General Management Plan (GMP) will set the direction of the Reserve for the next 15 to 20 years. The recommendations of this report will inform the approach taken in the GMP to preserve farmland and woodlots into the future.

A cultural landscape is a living thing. The landscapes of the Reserve will grow and change as agricultural practices and land use goals evolve, so these landscapes cannot be regarded as static visual resources. Any plan to preserve farmland should address not only protecting the land, but also protecting the farmers who must sustain the land. The landscape and the people that cultivate it are interdependent. Our recommendations are grouped into three broad categories of strategies. Each strategy is briefly described and one or more case studies are recommended for further reading. These categories are:

- **Protect the farmland.** NPS and its partners should identify and protect the land in the Reserve that is best suited to farming and woodlots.
- **Support the farmers.** NPS and its partners should implement measures that make it easier for existing farmers to remain in farming and new farmers to begin farming.
- **Cultivate markets.** NPS and its partners should help farmers to cultivate markets for the farm and forest products of the Reserve.

It is important that any plan to preserve farmland consider both restrictions and incentives. Implementation of restrictions without incentives often creates a hostile political climate for preservation, while the use of incentives without restrictions is rarely able to overcome periodic intense economic pressures for conversion of agricultural lands. Our recommendations include a balance of restrictions and incentives.

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II. STRUCTURE

In order to protect farmland, NPS should expand partnerships with government agencies and non-governmental organizations in the management of the Reserve. The three most important partners are:

- **Island County.** NPS should encourage Island County to adopt a special zoning or overlay district covering the Reserve. This designated area would be subject to the land use laws of Island County, but also to additional rules developed in cooperation with NPS to establish a higher standard for the protection of farmland and rural character in the Reserve.
- **Ebey’s Farmland Trust.** NPS should help establish a non-governmental organization, Ebey’s Farmland Trust, to oversee acquisition of farmland and conservation easements and operate a development credit bank. This local non-governmental organization could partner with NPS and other public agencies as well as larger land trusts such as American Farmland Trust, the Nature Conservancy and the Trust for Public Land. Ebey’s Farmland Trust could harness the resources of these larger organizations while maintaining close relationships with local landowners. A local organization could best recognize opportunities to purchase interests in valuable or vulnerable land. The Trust could pursue funding from foundations, area citizens, and government agencies for its ongoing activities. The trust could also accept tax-deductible donations of farmland, conservation easements, and funds for the purchase of easements.
- **Ebey’s Farmers Cooperative.** NPS and Ebey’s Farmland Trust should help Ebey’s Reserve farmers establish a cooperative processing and marketing organization. This cooperative would allow farmers to share the costs of infrastructure needed to produce value-added products. For example, the Cooperative could operate a dairy making an “Ebey’s Reserve” label cheese. Farmers could also collaborate on marketing and services. For example, the Cooperative could run a Community Supported Agriculture (CSA) business that bundles produce from participating farms into weekly packages delivered to urban residents. The Cooperative would give farmers a direct role in the management of the Reserve.

This matrix illustrates important partnerships for each strategy:

		N	P	S
		+		
		Island County	Ebey’s Farmland	Ebey’s Farmers Coop
Protect the Farmland	Overlay District	X		
	Conservation Easements		X	
	Development Credit Bank	X	X	
Support the Farmers	Advocacy & Education		X	X
	Washington FarmLink		X	
	Farmland Leasing		X	
	Tax Relief	X	X	
	Farm Business Incubator		X	X
	Value-Added Practices			X
Cultivate Markets	“Ebey’s Reserve” Label			X
	CSA			X
	Farmers Markets			X
	Ag-Tourism			X

III. RECOMMENDATIONS

A. PROTECT THE FARMLAND

- RESERVE OVERLAY DISTRICT

Island County should adopt an “overlay district” covering Ebey’s Landing National Historical Reserve. An overlay district is a designated planning area within which development is guided by additional rules specific to that area. Within the Reserve overlay district stronger agricultural protection zoning (APZ) is necessary to slow the conversion of valuable farmland and the erosion of the historic character of the Reserve. Within the Reserve, the minimum lot size for agricultural zoned parcels should be 20 acres. Permitted uses should be written to explicitly exclude sprawling residential development that is devouring the Reserve in five-acre bites. Island County’s Historic Advisory Committee and Coupeville’s Design Review Board should be given veto-power over projects proposed within the Reserve overlay district. A suite of additional incentives and services, many described in the following recommendations, should be available to support farmers within the overlay district.

Related Case Studies:

San Juan County, Washington
King County, Washington

- CONSERVATION EASEMENTS

Ebey’s Farmland Trust should buy development rights to valuable and vulnerable farmland. These rights are often called conservation easements. The Trust should also accept tax-deductible donations of farmland, conservation easements, and funds for the purchase of easements. The Trust should allow farmers to choose incremental payments for easements over a number of years in order to minimize their capital gains taxes. This installment plan also allows Trust funds to be spread out over more easement purchases initially while ongoing fundraising and partnerships are developed for payments in future years. An innovative use of the installment payment system would involve the purchase of farmers’ mortgages by the Trust. These mortgages could be forgiven over a number of years in exchange for conservation easements. This protects farmers from significant mortgage obligations that come due in the event of a conservation easement sale.

Related Case Study:

Franklin Land Trust, Massachusetts

- EBEY’S DEVELOPMENT CREDIT BANK

Coupeville is a historic town in the middle of the Reserve. Much of its charm derives from its rural setting apparently far from the sprawling suburbs of Seattle. Encouraging increased density to create attractive and affordable housing in walkable neighborhoods would protect farmland while protecting the distinctive rural town character of Coupeville. A development credit bank, under the direction of Ebey’s Farmland Trust, should be established to facilitate a Transfer of Development Rights (TDR) program that can buy development rights from “sending” areas in the agricultural lands of the Reserve and sell development rights in “receiving” areas in Coupeville and other developed lands of the Reserve. Land use restrictions in the Reserve overlay district of Island County and the Town of Coupeville will be needed to enforce the goals of the development credit bank. Sales of development rights can take place on the open market like any real estate transaction. The credit bank can buy and sell development rights, guarantee loans using credits for collateral, and maintain a registry of owners and purchasers. The development credit bank is an important way to gain landowner support for stronger agricultural protection zoning because

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reducing the capacity to subdivide and develop properties often reduces their value if there is not a legitimate market for the development rights that have been restricted. The protection of farmland should be understood as part of a larger planning effort to improve quality of life for rural and urban citizens, and the cost of this protection should be borne equally by all who benefit from it.

Related Case Studies:

Montgomery County, Maryland
New Jersey Pinelands National Reserve
Vermont Housing and Conservation Board

B. SUPPORT THE FARMERS

• ADVOCACY AND EDUCATION

NPS should collaborate with the Trust and the Cooperative on advocacy and education programs to support farmers in the Reserve. They would advocate for stronger local, state, and federal farmland protection policies, while interpreting the farming activities of the Reserve and promoting visits to the Reserve by urban people in surrounding cities and tourists to the region. The NPS should work with WSU extension and environmental organizations to educate farmers about sustainable farming practices and environmental issues. A successful plan depends on a strong base of public support for farmland protection. Programs should be developed to teach non-farming residents of the Reserve about their farming neighbors and how their qualities of life are dependent on each other. This is a great opportunity for events such as harvest celebrations, barn raisings, etc. Outreach volunteers could carry the message further into local schools, churches, and businesses. NPS, the Trust, and the Cooperative should communicate with other regional advocacy groups such as Skagitonians to Preserve Farmland to exchange knowledge and collaborate on regional initiatives.

Related Case Studies:

Skagitonians to Preserve Farmland
Marsh-Billings-Rockefeller National Historic Park
Shelburne Farms, Vermont

• WASHINGTON FarmLink

NPS and the Trust should encourage participation of Reserve farms in Washington FarmLink. FarmLink connects people wanting to get started in agriculture with farmers and landowners who are committed to establishing the next generation of producers. FarmLink is a means to help ensure that working farms remain in agricultural production and to help facilitate the transition of farms to the next generation. The program maintains a database of participating properties and holds periodic workshops where interested farmers can learn how to seize opportunities and overcome challenges of farming in Washington. FarmLink is currently a joint project of the King County Agricultural Commission and the Snohomish County Agricultural Advisory Board. Island County should be encouraged to participate as well.

Related Case Study:

King County, Washington

• EBEY'S FARMLAND LEASING

NPS and the Trust should develop a program to lease Reserve farmland and farmsteads belonging to the National Park Service, the Trust, and local landowners. This program could be advertised to participants in the Washington FarmLink program and others interested in farming. Suitable

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future farmers could be selected through a request for proposals process and the Trust could assist new farmers with farm and business skills. Revenue from the market rate leases could be used to purchase more farmland and farmland conservation easements. Sustainable farming practices should be advocated on all leased farmland. The leases should be long enough for farmers to be willing to make significant investments in the farms.

Related Case Study:

Cuyahoga Valley National Park, Ohio

- **TAX RELIEF**

Working farms in Washington are eligible for reduced property tax assessment based on their use value. If farmland is later developed, the tax savings from the previous seven years are due as a penalty. However, this does not protect farms from conversion in times of strong development pressure. Developers simply assume the cost of paying off the tax penalty as a cost of doing business. A tool is needed to fairly tax land that remains in farming, but that protects the land into the future. NPS and Island County should develop a program that gives farmers within the Reserve overlay district an even greater level of tax relief in exchange for participation in a restrictive agreement taxation program. If farmers are willing to place a temporary farmland conservation easement on their land, perhaps in renewable ten year contracts, their land should be taxed at the lowest level. The easements cannot be violated, but a landowner may reconsider at the end of each contract.

Related Case Study:

State of California

- **FARM BUSINESS INCUBATOR**

NPS should collaborate with Ebey's Farmland Trust and Ebey's Farmers Cooperative to act as a business incubator and a source of "seed money" for Reserve farmers. Farmers should receive assistance in developing comprehensive business, marketing, and production plans. The Trust should coordinate technical advisors and maintain a database of successful participants that can advise new participants. Farmers that have successfully completed the planning steps should become eligible for small loans and grants to experiment with new agricultural and marketing techniques and sustainable practices that have been outlined in the prepared plans. The Cooperative could arrange for successful graduates to mentor new enrollees.

Related Case Study:

State of Massachusetts

- **VALUE-ADDED PRACTICES AND PROCESSING**

Many farmers are switching to organic and other sustainable practices because they recognize their responsibility as stewards of the land, but many are also recognizing that "going organic" is a profitable way to distinguish their products. Organic produce sells for considerably more than conventional produce and for farmers in places conducive to farming the transition is not very costly. There is an opportunity for NPS and Ebey's Farmers Cooperative to partner with cooperative extension officials in teaching organic farming practices to Reserve farmers. The Cooperative can also continue its role as a business incubator by supporting farmers and entrepreneurs in developing small businesses that use Reserve produce and milk to create value-added products such as cheeses and jams. For example, a dairy cooperative could be established to produce an Ebey's Reserve cheese. The woodlots of the Reserve cannot compete as a commodity with the vast logging operations threatening ecosystems around the globe. However, they can compete with these giants in niche markets for sustainably harvested wood and value-

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added products made from wood. NPS and the Cooperative can act as local partners of the Forest Stewardship Council to certify “well-managed” forestry practices on the Reserve. NPS and the Cooperative could also assist farmers and entrepreneurs in developing small businesses that use Reserve wood to create value-added products such as furniture and toys. These special items could be hand-crafted to take advantage of the unique qualities of the wood and would be lasting reminders of the enduring natural and cultural value of the Reserve.

Related Case Studies:

Shelburne Farms, Vermont
Tillamook County Creamery Association, Oregon
Tree Shepherd Woods, Washington

C. CULTIVATE MARKETS

• “EBEY’S RESERVE” LABEL

Ebey’s Farmers Cooperative should establish an “Ebey’s Reserve” label for farm and forest products grown and produced on the Reserve. Labeling, combined with promotional campaigns, could offer consumers a simple way to support local agriculture and maintain the character of Ebey’s National Historical Reserve. Consumers would know that they are getting products of exceptional quality while helping to protect important natural and cultural resources. Products should be certified as being entirely or mostly produced on the Reserve to receive the label. While a program specific to the Reserve is being established, Reserve farmers should participate in “Puget Sound Fresh,” a successful program supported by King County and Snohomish County that labels produce from Puget Sound farmers and develops innovative marketing programs to educate people throughout the region about their local farms and produce.

Related Case Studies:

King County, Washington
Napa County, California

• COMMUNITY SUPPORTED AGRICULTURE (CSA)

Individual farms with sufficient crop diversity should operate community supported agriculture (CSA) programs and Ebey’s Farmers Cooperative should oversee a Reserve-wide CSA program that brings farm fresh produce directly to subscribing members throughout the growing season. Members pay a fixed amount at the beginning of the season or through monthly installments and receive a box or bag with a variety of ripe produce each week. Members could pick up their “shares” at a central location or farm or convenient local drop-off points. CSAs provide a form of insurance for farmers in the way of a guaranteed source of income while they provide non-farm families with the freshest produce available at a reasonable price. Both groups gain from the sense of community that grows between the people that grow the food and the people that eat it. Many CSAs hold regular work days and events in which members can visit and help out on the farm and learn more about the farm operations while enjoying a day in the country. CSA members become strong invested advocates for farmland preservation in their communities.

Related Case Studies:

The Root Connection Farm, Washington
GreenMan Farm, Washington

• FARMERS MARKETS

Ebey’s Farmers Cooperative should support the Coupeville Farmers Market in bringing fresh local produce to Island County citizens. The weekly event is also an important destination for

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visitors to Whidbey Island. The market would be an excellent place to introduce the Reserve and its farmers to these visitors. Cultivating relationships between farmers and urban citizens is essential to building consensus on issues of farmland preservation. A contingent of Reserve farmers could also represent the Cooperative at farmers markets throughout the region to introduce Reserve products to more people.

Related Resource:

Washington State Farmers Market Association online at www.wafarmersmarkets.com

- AG-TOURISM

Ebey's Farmers Cooperative should develop a promotional campaign and interpretive experiences for agriculture-based tourism at the Reserve. This program would increase understanding of the special character of the Reserve and the essential role played by agriculture in maintaining this character. The program would also provide sources of secondary income for Reserve farmers that are willing to offer tours, operate farmstands, hold special harvest events, and even host visitors in informal lodging. These visitors would also be an excellent market for value-added products of the Reserve and would act as ambassadors of the Reserve. They could bring stories of their adventures on the Reserve back to their own communities and help build regional support for farmland preservation. The success of wineries in promoting their products and the experiences associated with their production can be duplicated in farming communities. Farmers would need some instruction in hospitality and public relations, but the program could coordinate with the Washington State Ag-Tourism Forum, local tourism boards, and cooperative extension officials to offer training to interested farmers.

Related Case Study:

Purple Haze Lavender, Washington

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