

Implementation Plan for the Washoe County Regional Open Space and Natural Resource Management Plan

Prepared for

Washoe County
Regional Parks and Open Space
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1. INTRODUCTION

From the early history of the region and the promise of a new life in the West, to the captivating beauty of the canyons and mountains, Washoe County has been defined by what the natural world has provided. For this reason, the Washoe County Regional Open Space and Natural Resource Management Plan (the Plan) was initiated in early 2007 to assess and determine how to manage these precious natural resources. The Plan is a collaborative effort, founded upon a partnership between Washoe County and a broad range of planning partners and the public.

The planning area covers the southern portion of the county ranging from the eastern boundary with Pershing and Churchill counties to the California border in the west. It stretches north from the boundary with Carson City, to the northern shores of Pyramid Lake. It includes Lake Tahoe and Marlette Lake and Mount Rose in the south. As the study area runs north it includes Peavine Mountain, Peterson Mountains, Hungry Valley and the Pah Rah Range. The northern edge of the study area includes Honey Lake, the Virginia Mountains, and the Needles at Pyramid Lake. Figure 1 illustrates the planning area boundaries. The area includes the communities of Reno and Sparks, as well as tribal lands managed by the Reno-Sparks Indian Colony and the Pyramid Lake Paiute Tribe.

The study area includes the county's urban areas and the interface between private lands and public ownership. The region includes extensive tribal lands as well. This assortment of land ownership and uses has created an increase in competition for resource and open space use. From expanding urban centers and communities, to increased water consumption, and conflicting outdoor activities, the region's open space and natural resources are experiencing more pressure and use. This plan strives to both create a way to best share the experiences and values from the landscape, and to preserve them for future use. For everyone in the county, the wide open spaces, striking natural skylines, rich natural and cultural history, and unique ecosystems all make Washoe County a special place for those who visit and call it home.

The Regional Open Space and Natural Resource Management Plan is a summary statement of southern Washoe County's vision, direction and commitment to action for the future of the region's open spaces and natural resources over the next 20 years. This action-oriented plan focuses upon the projects and activities needing to be undertaken to carry out this vision, a set of principles for future planning efforts, and desired goals and outcomes. The Regional Open Space and Natural Resource Management Plan is comprised of three components:

1. *Inventory and Assessment:* The compilation and evaluation of data and identification of issues that serves as the factual foundation for this Plan.
2. *The Plan:* The summary of issues, long term vision for open spaces and natural resources, guiding planning principles, the long-term goals, and public policies that Washoe County will champion and follow as it seeks to achieve the Plan's vision and goals. This is the long-term document that guides all efforts to carry it out.
3. *Implementation Plan:* The compilation and prioritization of actions to carry out the Plan's policies, achieve its goals and realize its vision for the future. As financial resources and the political lay of the land are flexible and subject to change, the Implementation Plan must also be flexible in order to take changing circumstances into account and take advantage of opportunities that may arise. Accordingly, this component is intended to be a stand-alone tool, one that is continually monitored and regularly updated.

Any good plan is accompanied by an implementation plan that identifies the appropriate tools and actions (and their recommended priority) for carrying out its public policy objectives. The document you are currently reading is the Implementation Plan, the dynamic document providing the recommended actions to be taken for carrying out the goals and policies of the Plan.

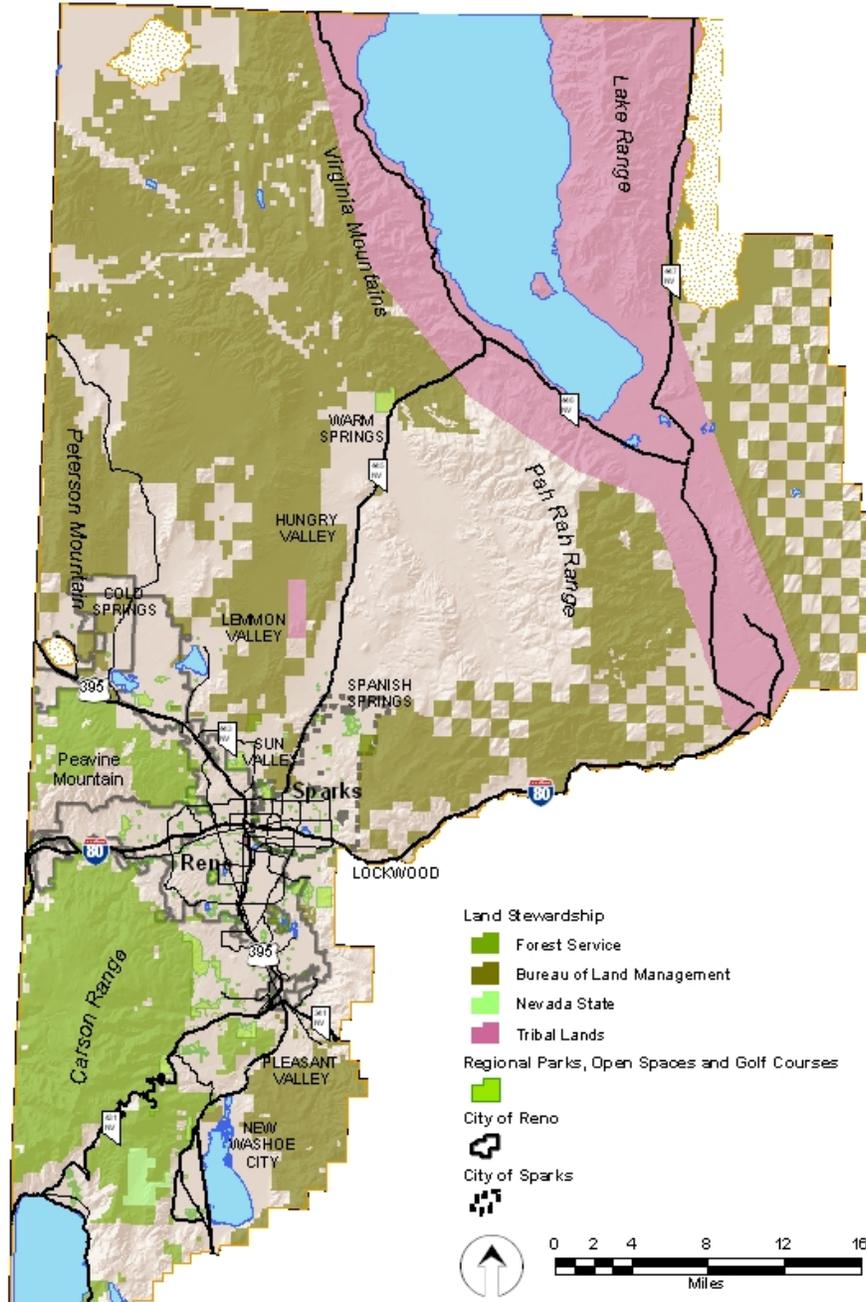


Figure 1. Figure 1: Planning Study Area

2. CONTENTS

While the Plan contains the vision, principles, goals and policies that, when taken together, form the public policies for the County and its planning partners in achieving a desired future for open spaces and natural resources for the region, this Implementation Plan document contains the actions, criteria and information regarding the tools for implementing these policies. Accordingly, this stand-alone document will present the following:

- A discussion of the overall context established by the Regional Open Space and Natural Resource Management Plan with regard to the vision, goals and policies for the future;
- An overview of the incremental implementation plan concept;
- Criteria for making decisions regarding land acquisition and retention;
- Ecosystem Service Market Program recommendations; and
- Several appendices, including:
 - A summary listing of the goals within each major resource category;
 - A list of Implementing Actions within each of the major resource categories used in developing the Plan, with an indication of relative priority for execution;
 - A Short-Term Action Plan indicating those actions recommended for execution within the first three years in order to set the stage for actions in the years to follow;
 - Recommended Changes to the Local Regulatory Environment; and
 - A catalog of tools for protecting and managing the region's open spaces and natural resources.

The narrative discussion in the body of this document is intended to present information that will serve a long-term function. The items in the appendices are either reference materials (in the case of the catalog of tools) or information that is anticipated to be updated on a regular basis.

3. CONTEXT

To help understand why certain actions are being recommended, it is appropriate to provide some foundational context with regard to the overall future vision, planning principles, goals and policies, which collectively serve as public policy for managing open spaces and natural resources within the region.

The Plan was developed in conjunction with an active outreach program designed to engage the various use and citizen groups having an interest or a stake in the region's open space and natural resource legacy for the future. The County wanted to ensure the Plan had a firm foundation in science so it provided an opportunity for the region's land managers, experts and scientists to participate in the planning. Accordingly, an outreach program was developed that featured three major components: 1. Science Review Team; 2. Stakeholder Advisory Committee; 3. Public workshops. The Science Review Team was comprised of federal, tribal, state, regional and local agency representatives who focused on open space and natural resource data and management strategies. The Stakeholder Advisory Committee was comprised of agency staff and representatives from advocacy and interest groups,

helping ensure focused discussion on issues and strategies. Public workshops were held to educate, inform, involve and build support among the general public.

In developing the Plan, a phased, interactive process was used to get from existing conditions to recommendations for the future. Initial research and stakeholder interviews followed discussions and brainstorming with the science and stakeholder committees, which led to agreement on an overall future vision for open spaces and natural resources within the region. This visioning led to agreement upon principles guiding this planning effort and future updates, and development of goals and policies for achieving this vision. The following sections provide an overview of the Plan's vision and planning principles, and summarize how they are intended to be carried out through goals, policies and actions. These sections are followed by a discussion of the incremental implementation concept and recommendations for completing the actions associated with carrying out the goals and policies of the Plan.

3.1 PROJECT VISION

A vision is a statement picturing a preferred future, an end-state featuring desired outcomes, and what Washoe County, its planning partners, and its residents want to leave as a legacy for future generations with regard to its open spaces and natural resources. This desired future vision for the region's open spaces and natural resources can best be expressed as follows:

In 2030, the region's open spaces and natural resources will be:

- *valued for their recreation, scenic, wildlife and cultural attributes, regardless of jurisdictional boundaries;*
- *recognized for their contribution to the quality of life enjoyed by those who live, work and visit this area; and*
- *preserved, enhanced and managed by the region's planning partners through effective, trusting and mutually-beneficial relationships.*

Through the process of developing these vision statements, it became clear that agencies, jurisdictions, special interests and the community at-large held a deep sense of value for these regional resources. They wanted to see them protected and managed well for future generations. It was also recognized that regional stewardship of such valuable resources requires the building of relationships and ownership by a network of partners.

3.2 PLANNING PRINCIPLES

To ensure the planning effort would be focused toward achieving the vision, the Stakeholder Advisory Committee, the Science Review Team and the broader community developed a set of planning principles, statements reflecting desired outcomes. The planning principles, which also served as criteria against which the success of the Plan would be gauged, are as follows:

- *Assure that natural and cultural resources are protected, restored, and sustained;*
- *Ensure sustainable populations and regional biodiversity on both public and private lands;*
- *Protect foothills, mountains, canyons, river corridors and other natural features;*
- *Provide a balance of access and choices for active and passive recreation users while respecting the impacts on nearby residents;*
- *Recognize and manage multiple-use impacts upon the environment;*
- *Address the impacts of increasing development;*
- *Manage open space and natural resources for the ecological, social and economic functions and benefits they provide; and*

- *Sharing the responsibility for stewardship of resources through:*
 - *Plan implementation*
 - *Maintenance & management*
 - *Funding*

The Vision and Planning Principles provided the foundation for developing the future actions for open spaces and natural resources within the region, and for the collaboratively developed goals, policies and actions for achieving them.

3.3 GOALS AND POLICIES

The Plan itself is centered upon the consideration of six major resource categories:

- Biodiversity;
- Cultural & Sensitive Lands;
- Natural Hazards
- Recreational Resources;
- Visual and Scenic Character; and
- Water Resources

In addition, one extra category was employed to capture those issues that overarch the individual resource categories; this is the concept of a green infrastructure that provides ecosystem services. Accordingly the recommendations for carrying out the Plan will be presented within the context of the appropriate resource category. A summary listing of the goals within each resource category is attached as an appendix to this document (Appendix A). The policies associated with each goal can be found within the Plan document.

4. IMPLEMENTATION CONCEPT

The Regional Open Space and Natural Resource Management Plan is an action-oriented plan with a 20 year horizon, focusing upon a clearly defined vision, planning principles, projects and activities, and goals and policies based upon resource values. The Plan will be implemented in phases, over time. Some actions are intended to be initiated immediately, others started in the years to follow.

4.1 HOW WILL THE PLAN BE CARRIED OUT?

As noted earlier, the Regional Open Space and Natural Resource Management Plan is a long-term plan for the management of the County's open spaces and natural resources over the course of the next 20 years, in alignment with the County's Comprehensive Plan. The Implementation Strategy being recommended to carry out the Plan focuses on the following:

- Recommended changes to the County's Comprehensive Plan, Development Code and implementing ordinances to facilitate carrying out the goals and policies of this Plan;
- Recommended actions to carry out the goals and policies for achieving the Plan's envisioned, desired outcomes;
- Recommended criteria for determining areas to acquire or retain for conservation, protection and management of open spaces and natural resources;
- Development of an ecosystem service market program; and
- A suggested time frame for initiating key actions and projects.

4.2 PROGRAMMING CONCEPT

A substantial number of actions, programs and projects are being recommended to carry out the Plan. As mentioned above not all of these can be undertaken at once, and consideration needs to be given at the outset to the grouping, phasing or timing of particular actions. It is recommended that the County and its planning partners identify available/limited resources where they can do the most good, where they can leverage other resources or supporting activities, or where they can be concentrated to focus on a designated geographic target area. However, as opportunities and priorities change, or as additional funding becomes available, there may very well be the desire to change the geographic focus or implementation priorities for carrying out components of the Plan.

Accordingly, it is recommended that the County review the Regional Open Space and Natural Resource Management Plan on a regularly-scheduled basis, and make amendments as opportunity or changing community and economic circumstances necessitates. Should there be a desire to change the guiding principles or shift the emphasis of a particular goal or policy, this plan-update process provides the mechanism for doing so within the context of reviewing the plan as a whole.

Finally, realizing that not everything can be done within a short time frame and that there are other community priorities needing to be addressed, those seen as having the most importance to undertake within the first three years should be highlighted within a Short-Term Action Plan (see discussion that follows).

4.3 IMPLEMENTING ACTION AND INCREMENTAL IMPLEMENTATION STRATEGY

As mentioned above, the Plan considered six major resource categories, providing goals and policies for addressing each of these areas, and for addressing issues of overarching application. An initial list of recommended actions, next steps and projects for carrying out these goals and policies over time has been compiled and is presented in Appendices B and C. Recommended actions and projects have been sorted by resource category and prioritized with regard to relative timing (e.g., 1-3 years, 4-6 years, 7-10 years, and longer-term). It is recommended that actions items be reviewed on a regularly scheduled basis to judge their importance, whether circumstances have changed that warrant a change in priority under the Short-Term Action Plan (see Appendix B), or whether new actions are needed to help achieve goals and carry out policies.

4.4 SHORT-TERM ACTION PLAN

This rapidly-growing Southern Washoe County region has a number of important projects and programs competing for limited time and financial resources. A summary matrix displaying recommended actions and projects for implementing the goals of the Plan is provided in the Appendix C.

As the County and its planning partners cannot carry out all projects and actions identified within the implementation plan at once, a short-term prescription for initiating critical actions identified in the Plan and its vision is of utmost importance. Projects and actions within this Short-Term Action Plan must combine visible improvements with the somewhat less visible efforts to set the stage for enabling and encouraging envisioned change to occur. A smaller list of high-priority projects is important for responding to the question of what is the short list of actions that can be undertaken within the first three years to initiate and demonstrate movement and set the stage for other actions to follow. An initial, three-year, Short-Term

Action Plan that lists the higher-priority stage-setting actions for carrying out the policies within each of the resource categories is provided within Appendix B.

This incremental implementation plan and Short-Term Action Plan are envisioned to serve as a three year, renewable/rolling, short-term plan that would be annually updated, with a regularly-scheduled monitoring and updating process and a supporting budget. A description of how the program will operate is provided below:

- In developing this incremental implementation strategy, each of the Plan's goals and policies would be examined on an annual basis to ascertain the current status of progress in achieving them, and actions for moving ahead in each of the next three years would be identified and planned for. A Short-Term Action Plan would be prepared as a subset to this. Activities for Year 1 would be tied to the County's annual operating budget; and activities identified for Year 2 and Year 3 would serve as a placeholder or indication of anticipated action-related resource needs for the coming two years.
- Upon Year 1 completion, the status of activities will be reviewed, and activities for Year 2 adjusted as necessary, as it will be the new Year 1. Year 3 will be adjusted as appropriate in readiness for being placed in the new Year 2, and activities for a new Year 3 will be identified.
- The County will then identify the coordinating body responsible for monitoring, development and update of the Incremental Implementation Strategy and Short-Term Action Plan, and for the coordination of the various County departmental activities to fund and/or carry out the strategy. County staff or the identified coordinating body would provide the Board of County Commissioners with a regularly scheduled status report on implementation activities.
- This regular monitoring, reporting and updating helps to keep the Plan's Implementation Strategy flexible and current, keeps all County departments focused on the carrying out of this important public policy objective, and keeps the Regional Open Space and Natural Resources Management Plan and its implementation as a priority.

It is recommended that the County and its planning partners jointly monitor and review the Plan and its incremental implementation strategy on a regularly-scheduled basis and at least once a year. It is further recommended that the County's jurisdictional and agency planning partners also use the Implementation Strategy and Short-Term Action Plan to inform the development and updating of their budgets and work programs as well.

5. CRITERIA FOR LAND ACQUISITION AND RETENTION

A significant element of the implementation strategy for the Plan involves identifying lands suitable for outright acquisition, easements, or retention. The planning team worked collaboratively with the Science Review Team and Stakeholder Advisory Committee to develop criteria to help guide decision-making in these areas. These criteria, discussed further below, are of two forms:

- Criteria that describe inherent resource values or other measurable functional significance of the properties, in maintaining the integrity of natural systems or providing connected open spaces; and
- Criteria that relate to the feasibility of acquisition, ability of responsible agencies to manage the property, and administrative and financial considerations.

The acquisition criteria described below have purposely not been prioritized and are valued equally to allow for a desired element of flexibility in future open space acquisition and

retention decisions. At the same time, it is assumed that properties under consideration would first possess at least one or more desirable resource values, before applying any feasibility screens. Properties providing a greater number of resource values would also receive stronger consideration, other things equal.

5.1 RESOURCE VALUE CRITERIA

A major premise of this plan is that properties should ideally only be considered for acquisition, easement or retention, if they have inherent resource values that are deemed important to preserve, or if they offer other significant functional attributes – for example, preserving high value habitat, completing a major missing link in a trails system, or providing natural groundwater recharge. To facilitate this suitability evaluation, the following criteria were developed and tested through the planning process. These criteria were applied to the landscape by assigning numeric values to “High,” “Medium,” and “Low” rankings and then sorting each potential acquisition or retention accordingly. By summing the values from each category, a total is obtained for each property, identifying priority areas. This scoring provides a way to compare land across the region and filter prioritized areas.

Six resource categories are used to assess land priorities in the Plan.

- Biodiversity
- Cultural Resources
- Natural Hazards
- Recreation Resources
- Water Resources
- Visual and Scenic Resources

Biodiversity

Objective: Protect and enhance biodiversity including protection of endangered and threatened species, as well as protecting migration corridors in the region.

Attributes: Land provides habitat for plants, wildlife, and other species such as fish, insects and bats (e.g., may include rare, threatened, endangered species, or habitats or plant communities, or may serve as a wildlife movement corridor).

Definition of Areas: Through consultation with agency and conservation partners, mapping of land cover and its associations with habitat and species were used to create values, observed locations of species were also included in this analysis.

Cultural Resources

Objective: Preserve historic, cultural or archaeological resources, areas supporting traditional cultural uses, and sensitive or fragile landscapes.

Attributes: Land contains historic resources, or known archaeological or cultural resources, or is used extensively for cultural purposes, geologic formations or rock outcrops, or geothermal springs.

Definition of Areas: Cultural and historic resource data from the State Historic Preservation Office, Bureau of Land Management and in consultation with others provides the location of these resources, though most are somewhat buffered to protect resources from vandalism. SHPO or BLM cultural-based ACEC's were used to create high values for the region and were included in the suitability analysis.

Natural Hazards

Objective: Preservation of areas that contribute to hazard mitigation from flooding, fire and other natural disasters.

Attributes: Steep slopes and flood zones were used to define this category.

Definition of Areas: Digital elevation model derived slopes and FEMA flood mapping data was used to develop values.

Recreation Resources

Objective: Support the development of active and passive recreation opportunities by acquiring new trail segments to complete regional networks.

Attributes: Land that completes trail network segments, or provides recreational opportunities that are developed including park lands, or other higher impact activities that may benefit from dedicated areas.

Definition of Areas: The planning process included a number of trail planning and mapping sessions with agency and user group representatives to identify key areas and connections. Incomplete segments of the regional network were buffered and included in the suitability review.

Water Resources

Objective: The protection of surface and groundwater resources, including aquifers, seeps, springs, creeks, lakes, playas and rivers. The protected areas also include habitat and vegetation that depend on or define the water resources, such as at seeps and springs.

Attributes: Water resources including groundwater recharge areas, seeps, springs, creeks, rivers, playas, wetlands, lakes and their buffers.

Definition of Areas: Using USGS and BLM data for feature locations, along with USFS data where available.

Visual/Scenic Character

Objective: Protect lands that provide significant views, or that embody or typify the visual and landscape character of Washoe County, or that provide a buffer between developed areas, or that allows for an experience of nature in the City.

Attributes: Land includes significant ridgelines or mountain peaks, riparian corridors or valley floors, or expansive landscapes (for example, Peavine Mountain in the northwest, Carson Range in the southwest, and the Virginia Range in the southeast quadrants of the Truckee Meadows) that define the visual and landscape character of the community. Certain lands may also serve as a visual gateway to the city, as visual and physical separators between developed areas, or provide for urban natural areas within subdivisions.

Definition of Areas: Locations of viewshed areas and valuable scenic areas were developed over the course of the planning process and digitized and included in the planning geographical data. These areas should be revisited periodically, especially in areas where development expands or transportation corridors develop. Both of these activities would introduce new areas into scenic viewshed areas.

Implementing the Resource Values

The results of this analysis by the six categories represent filters identifying high value lands defined by this process. This analysis, which provides values at a parcel level when parcels are larger than 2 acres, is meant to prioritize values at a regional level.¹ The next step in this regional look is to filter by the potential loss or conversion of these lands to a new land use. Using County Assessor's data on parcels, a filter is created looking at developed parcels and non-developed ones. Parcels with development are excluded from the suitability analysis, and the focus is placed on ones that are undeveloped. The filter then focuses on areas more likely to be converted for development. This is done by selecting parcels that are adjacent to development or adjacent to roadways – this is based on the assumption that parcels near development or roadways are more likely to be developed. This filter then allows the high value lands to be sorted into high value lands with higher potential for conversion or development. For public lands no filter is applied, and the land value itself should be the criteria used to steer decisions on retention, acquisition or leasing in future public land discussions.

5.2 FEASIBILITY CRITERIA

With regional landscape filters complete, parcels can be identified for acquisition. However a final more qualitative analysis is required to assure all the legal and policy considerations are included. This is ideally intended to be applied after a property's resource and functional value is assessed. It also examines economic, financial and administrative feasibility. Given properties with roughly equivalent resource values, these criteria may make one property more attractive as an acquisition in the near term than another. The following items should serve as a checklist, with one or two sentences to document the subjective considerations that need to be addressed in any public real estate transaction.

Consistency with Adopted Plans

Objective: Ensure that properties acquired or retained, are consistent across existing plans and reinforce these plans' objectives.

For the County's open space planning process, open space is defined as: "Open space consists of undeveloped lands with significant natural, cultural and visual resources that are integral to the county's quality of life".

Open space is a critical component for the quality of life in our region. This includes access to world class recreation near our homes, defining views of the ridges and peaks of the region, and a unique landscape of natural and human history. Open space also serves to define the many communities of the region. Ridges, hills and open space areas all allow for each community's unique character. The geology of the region provides special places, including the springs, unique geological structures, playas and canyons. The County is also home to numerous wildlife and plant species that are found only in Washoe County, and these species depend on the natural functions of open space.

It is these many functions of recreation, biodiversity, cultural resources, water ways and views that define open space for this plan. Throughout this Plan there is a constant theme of

¹ The data in the GIS system is limited to 30 meter squares as the most fine level of detail available. A general rule is that an analysis needs three pixels by three pixels to have values clearly defined. With 30 meter pixels, this requires about 2 acres to assure the values are properly analyzed. The larger the area the more accurate the analysis.

how the land functions, and how we depend on it for many things. While open space can be on federal, state, local or private land, it is the functions of the land that the Plan focuses on. By using functions to understand our open spaces, the Plan broadens the discussion about how we evaluate, protect and enjoy our open spaces.

Important open space resources have also been identified in the individual master plans of our local and regional governments and these resources are included by reference in this plan. If the proposed open space is not identified graphically, then written priorities for acquisition and relevant policies shall apply:

- Truckee Meadows Regional Plan
- Regional Plan for the Tahoe Basin
- City of Sparks Master Plan
- City of Reno Master Plan
- Washoe County Comprehensive Plan
- Washoe County Regional Parks & Open Space Park District Master Plans

Proximity and Geographic Balance

Objective: Ensure that protected properties are well-distributed throughout the County.

As the southern portion of Washoe County has grown in population, there has been increased residential and commercial development along with the construction of public utility and transportation infrastructure to support this growth. Increasingly, this growth is occurring in the scenic foothill areas. Development of the foothills is making access difficult and even blocking access to the adjacent undeveloped public lands managed by the U.S. Forest Service and U.S. Bureau of Land Management. As Washoe County continues to grow, these public lands become increasingly important as an open space resource. Securing key parcels or easements for public access to these lands should be a high priority.

The open space plan is regional by definition and acquired open space benefits the entire region. Undeveloped lands in Washoe County presently offer an abundance of potential open space resources in need of protection; the majority of these resources must be protected where they physically exist (e.g. scenic ridge lines and mule deer migration corridors). Following many years of open space property acquisition, amounts of accumulated open space could potentially be greater in one geographical area than another. A concerted effort will need to be made in achieving a geographic balance of these protected open space areas within the entire southern portion of Washoe County.

Threats from Development

Objective: Protect properties that face imminent development or resource extraction.

In a growing area such as the southern portion of Washoe County, development proposals of varying types are regularly submitted to local governments. The owners of private lands are afforded the right under the Nevada Revised Statutes to receive prompt responses to these development proposals from local government. Properties included in the Plan facing an imminent threat of development, or a threat to the preservation of their environmental integrity, should receive special consideration for acquisition.

The Plan focuses on acquisition and protection of our area's natural and scenic resources. In most instances, these natural resources can easily be lost or compromised by human activities, resulting in their degradation or loss as a resource. Properties having open space values in addition to facing a threat of mineral, aggregate or other resource extraction are especially vulnerable to loss of their open space values and should be afforded special consideration for acquisition.

Acquisition Cost and Efficient Use of Funds

Objective: Ensure the efficient use of public funds for acquisition and leverage funds available from potential partners.

If properties can be acquired inexpensively, or with the active financial participation of partners, public dollars can be leveraged and stretched to support additional acquisitions. The acquisition cost criteria in this section are intended to provide flexibility in decision-making. Every effort should be made to stretch open space acquisition funds to their fullest extent by careful evaluation and negotiation preceding and during the acquisition process.

Title conditions on a property such as lawsuits, encumbrances, circumstances such as multiple ownership or fractional interests or required environmental remediation can result in added costs and delays. Properties with these conditions should be carefully evaluated when considering acquisition potential. The cost should correspond to the importance of the property as open space and should be similar to the cost of comparable properties. Properties that can be purchased at less than fair market value, purchased at a negotiated price or as a "bargain sale," will help maximize open space acquisition. Open space that can be preserved by means of leases, conservation and trail easements, or acquisitions that are possible through donation will also assist in open space funding being utilized to its fullest.

Seller Motivation

Objective: Seek out opportunities to acquire properties from willing and motivated landowners.

Conservation easements and trusts are becoming increasingly popular, both as mechanisms to preserve valued open lands, and as a tax benefit. In other cases, landowners may have no alternative use for the property – for example, if it is located in the floodplain and will require significant earthwork to make it developable – and may be willing to negotiate a sale at a reduced price, or to finance the purchase. Life estates are also popular, in which the owner enjoys the use of the property until his or her death, at which point the title is transferred to an entity that will hold and manage the land.

Level of Community and Political Support

Objective: Conserve properties that enjoy wide popular or political support, and/or that are high visibility.

The Washoe County Regional Open Space Plan is regional by definition and is designed to benefit the entire population living in the southern portion of Washoe County. It is important for the open space plan to have the support of local residents and for them to support the plan's open space acquisitions. Because local support is also political in nature, the input of local councils and commissions toward the acquisition of particular properties or areas is an important consideration.

Revenue Generation or Ecosystem Service Potential

Objective: Where feasible, acquire lands that can generate revenue or provide opportunities for ecosystem credit trading.

The possibility may exist for some open space properties to generate revenue. This possibility should be investigated as a means to supplement the open space maintenance costs on a particular property. Potential revenue generation from crops, grazing fees, leases or rental of existing improvements should only be considered after assurances have been made for the protection and public utilization of the lands for open space purposes.

Similarly, some properties may perform valuable ecosystem services functions and would represent valuable opportunities for acquisition or retention.

Administrative Ease, Manageability and Liability

Objective: Acquire properties that can be managed effectively without burdening staff resources or exposing the County or its partners to significant liability.

A key consideration in the acquisition of an open space property is the manageability of that property by a designated agency. Often, undeveloped land in its natural state (open space) is assumed to be management free because it lacks any improvements on or to the land. A good portion of acquired open space will be located adjacent to or near existing and future urbanized areas and must be managed appropriately. In order for an open space property to be a good neighbor, a designated agency will need to perform routine maintenance and patrolling of the area. For example, fuels management programs for wildland fire prevention or security patrols to prevent inappropriate and illegal activities such as trash dumping. When a potential open space property is evaluated, the ability of an agency to effectively manage the land in an efficient and safe manner must be considered. Also the possibility of multi-agency participation should be considered.

The nationwide problem with toxic waste contamination sites and the enormous amounts of money required for environmental clean-up efforts should not be ignored when evaluating a potential open space property. Time and money spent up front for contamination studies prior to any land acquisition should be considered as a good investment. Costs involved with the maintenance, rehabilitation or demolition of existing improvements found on potential open space properties should also be taken into consideration prior to acquisition. These costs could conceivably amount to a large sum of money and, if not discovered prior to an acquisition, could significantly increase the final purchase price and future maintenance costs, as well as potential liability.

Opportunity for Interagency Coordination and Partner Participation

Objective: Create interagency partnerships that leverage public funding and facilitate administration.

The U.S. Bureau of Land Management and the U.S. Forest Service both administer large amounts of undeveloped land in Washoe County and play a key role in the development and management of our regional open space system. On a smaller scale the State of Nevada and University of Nevada also administer important lands. Washoe County should participate in developing both financial and administrative partnerships (memorandums of understanding) with these agencies. These partnerships will provide for coordination in the planning and management of open space and outdoor recreation on public lands within the southern portion of Washoe County.

It is in the mutual interest of all agencies involved to cooperate and coordinate in the fulfillment of their responsibilities to manage open space and outdoor recreation on urban interface public lands in Washoe County. Critical issues such as open space acquisitions that provide access to public lands can be more adequately addressed through such interagency cooperation. Utilizing these agreements, both public lands that should not be disposed of and lands that would be suitable for exchange opportunities and other types of disposal can be identified.

The cities and county have begun to implement flood control measures, stream restoration projects, treated effluent land application, and other similar projects. While these areas will have primary uses other than open space, they conceivably will also be desirable for open

space purposes. These lands could hold potential for open space functions such as scenic views, preservation of wetlands and protection of wildlife habitat. These lands could also potentially be linked to the regional open space system and offer recreational opportunities such as hiking trails and wildlife viewing. In addition, the protection and management of watershed recharge areas, if implemented in the future, could provide additional areas containing open space values. Coordination through the Washoe County Regional Open Space Plan can result in the different agencies managing these lands while accomplishing the preservation of desirable open space without open space funds being spent on the acquisition and maintenance of property.

Open space is an important factor in our region's quality of life. Local residents enjoy and appreciate open space on a daily basis making the preservation of open space a common bond among major segments of our community. Because of this, the opportunity exists to effectively leverage or attract other sources of funding in the community for use in open space acquisitions, thereby maximizing open space funding.

The total dollar amount needed to acquire the desired open space in the Plan will far exceed the acquisition budget for most, if not all, years. Because of this, any potential open space properties with specific alternative funding sources available for their acquisition should be given a high priority.

6. ECOSYSTEM SERVICES MARKET PROGRAM

6.1 INTRODUCTION

As introduced in the Plan, ecosystem services are the suite of natural functions that support life and the health of our communities through such things as water quality and quantity, natural hazard protection and additional benefits such as recreational opportunities and cultural uses. However, the development or growth of a community can have unanticipated and undesirable affects to the performance of the important ecosystem services on which we rely. When these services are lost we must be prepared to face the economic consequences associated with the loss, which often includes paying for engineered solutions for performing the service. In other instances, (e.g., recreational benefits), there is no clear engineered solution and the service is just lost.

Markets for ecosystem services are based on the recognition that the costs of regulatory compliance are not evenly distributed across all sectors. Using markets allows for conservation and protection goals to be met with the least total cost to society. These markets rely upon measures of natural functions, as opposed to proxies for these functions, such as buffers or acreage ratios. The three basic requirements for any market are: supply, demand and an exchange that is trusted and efficient. In ecosystem service markets, supply is the protection, conservation or restoration of services – usually through land protections or banking. The demand is the requirement, regulatory or voluntary, to neutralize impacts on ecosystem services. Often demand is created through demand drivers. Drivers are the policies, regulations or public expectations that conservation or protections occur. The final piece, an exchange, is a fair third-party entity that is trusted by those who participate in the market and permits easy and reliable trading.



Many of the recommendations below are described in more detail in Appendices D and E. They provide a number of recommended tools and implementation opportunities to support this program. They include code changes that create incentives for conservation, grant programs that can fund market development and opportunities to fund pilot programs for implementation.

While developing a fully functioning, integrated ecosystem service market takes time, there are incremental benefits that can be realized along the way. Development of a full and credible ecosystem market involves addressing the following components, which should be part of the implementation plan.

6.2 ENSURE ADEQUATE MANAGEMENT AND OVERSIGHT OF THE MARKET²

Markets are neither good nor bad – but they are efficient. Accordingly, a market can be a very effective way to reach a bad result if the wrong rules, policies or incentives are in place. In fact, many of our current natural resource concerns stem from our current business markets being structured to write off the economic value of ecosystem services. It is important to recognize this reality as market mechanisms are being developed. The consequence of this reality is that ecosystem markets will need to be carefully managed to ensure proper incentives, policies and regulatory connections.

The County needs to decide the role they want to play in market. The more control the County has over the market, the more they can direct and control market benefits. However, market oversight has associated administrative costs. A well designed market can off-set these costs over time, but there are still upfront start-up costs that could be hard to recoup.³ The more control the County exerts, the more they will bear these costs exclusively. In addition, an ecosystem market is much more likely to have community buy-in and support if there is a broader base of control. The County has a variety of potential partners that could help in the set-up of a market as well as the overall management and oversight of that market. The existing SRT/SAC members that have been such an integral part of the plan development are also ideally suited to helping oversee market functions. The County should facilitate creation of a market oversight body composed of relevant stakeholder groups with membership drawn from the SRT/SAC.

² Additional ongoing guidance on development of market oversight protocols can be obtained through organizations committed to ecosystem market development. The recently established Ecosystem Services Council is one such organization (see <http://www.ecosystemservicescouncil.org> for more information).

³ There are grants available for this purpose (we have referenced some of these in Appendix E). In addition, organizations such as the Ecosystem Services Council can be helpful in pursuing funding for these endeavors.

The currently burgeoning carbon market provides a good example of the dangers of markets without good oversight. In the currently loosely regulated carbon market, not all trades are created equal and many do not result in actual ecosystem improvement. For example, planting poplar farms in riparian zones with a short harvest cycle would provide significant carbon sequestration benefits, but at the expense of the ecosystem as a whole. What is currently happening in the carbon market is an increasing lack of confidence in the use of off-sets as a mechanism to combat climate change. In light of this a series of steps is recommended for developing a successful ecosystem market.

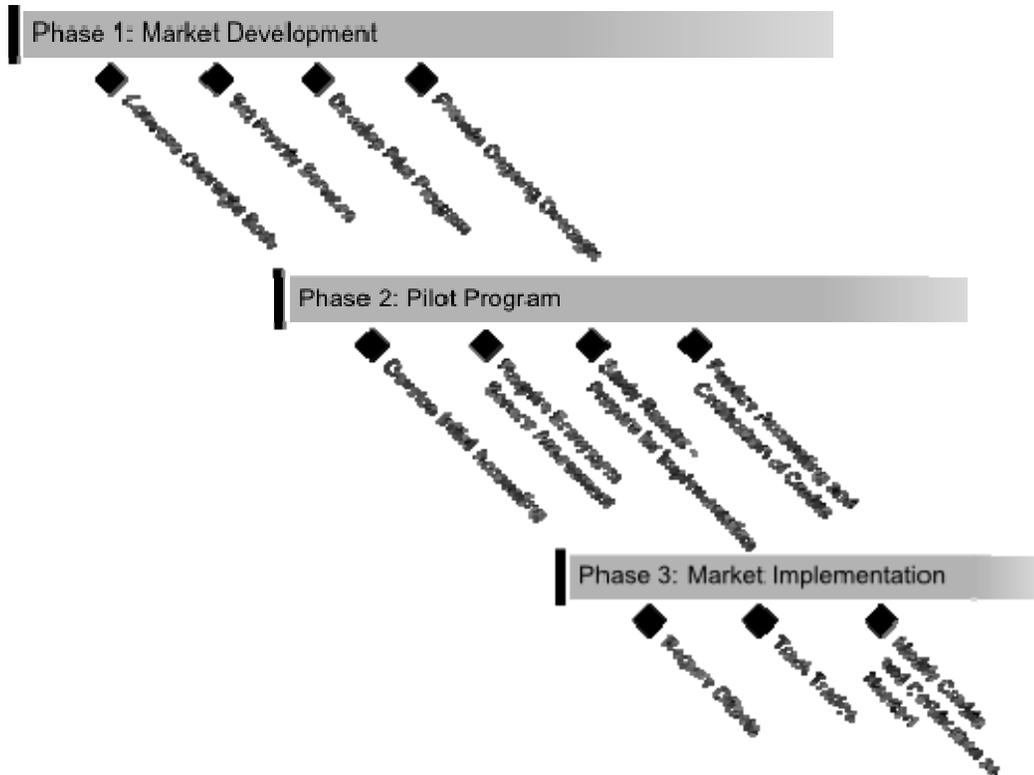


Figure 2. Process for Ecosystem Service Market Development

1. Guide Prioritization of Restoration/Acquisition Activities

Although markets can be efficient, they need to be given proper direction to ensure they provide the benefits the County needs. The previous section of this plan provides criteria for prioritization measures based on the resource categories used throughout the planning process (e.g. Water Resources, Biodiversity, Natural Hazards, etc.). These criteria can be used to set preferences for activities in the market.

The role for the County can be on both the supply and demand sides. The County can set the supply side by conducting restoration activities that are funded by payments from those with impacts. On the demand side, the County can generate demand through mandates that impacts be offset. Additionally, the County’s own impact through transportation or utility construction can also provide a demand if the County chooses to look to private sources for offsets. The priorities from the planning process will also direct the restoration actions for the County and the prioritization can be used as a mechanism for weighting to create preferences or incentives for doing the right restoration in the right place.

Priorities need to be able to shift over time as conditions change or the County's understanding of circumstances improves. The proposed ecosystem service assessment can be used as a mechanism for tracking trends in ecosystem service loss over time. This will help the County to reach the "no net loss" goal over time. In addition, to being valuable for adjusting prioritization criteria over time, it will also provide an indication of where new regulation will be necessary to meet no net loss goals. If there is persistent loss of certain resources, then ordinances targeting protection of those resources can be developed with appropriate off-set obligations included (see discussion of demand drivers below).

2. *Certify Accounting Protocols*

The County will need to agree upon and certify (either officially or unofficially) standardized impact/benefit measurement protocols for those services not currently traded. For instance, in order to trade credits for wildfire hazard reduction, there needs to be a standard way of measuring that benefit in a quantitative fashion. Many of these measurement protocols already exist, but market participants need to know which protocol to use.

Where new accounting measures need to be developed, they will likely need to be basic and more qualitative to start. However, the ideal measurement will be one that requires some fieldwork that will produce consistent data across all projects. Evaluation programs that have succeeded in other regions include field data collection to characterize the habitat types, and then use of the characterization to create associations with ecosystem service production. These associations work by recognizing habitat structures and the functions they provide. For a river system with high water temperatures, the assessment might look for shading or hyporheic flows that provide cooling, so field data would focus on characterizing systems that provide these functions.

The next step is setting the scale of these assessments. In an ideal world the measurement will be easy, effective and trusted such that everyone can easily participate, from small homeowner to large developer. In the meantime though, there is usually a minimum size at which the impacts become too onerous to evaluate. However, on the conservation side, no limits should be needed – try to encourage all scales of preservation or restoration. Defining the minimum impact size should be based on considering how sizes relate to other regulatory processes: It should consider items like: Reviews triggered at some land size, or permit requirements limited to types of development. The threshold should also include consideration of anticipated seriousness of impacts. This question will likely vary from habitat to habitat, and may require some weighting on that basis: e.g. an acre of riparian habitat versus an acre of sagebrush habitat.

3. *Enabling, Encouraging, Facilitating Trades*

With measurements in place and, a requirement for assessments on certain properties, it is then time to start the process of collecting the information as assessments come in and work to match up buyers and sellers. In some instances, the County may seek to use the market as a mechanism for generating funds to use on their own restoration projects. However, in other instances, the County may act more as an intermediary, helping buyers and sellers to come together.

Key items to watch as assessments come in are what services are most impacted, how they relate to other conservation values, and what is the magnitude of the impact? An encouraging sign is if there are many small impacts – impacts that might otherwise be difficult to account for, but that on a whole make a regional impact. This is encouraging because it also is an ideal situation for trading – it would encourage and allow private conservation investments.

4. *Ensure Credit Quality*

A market that is focused on improving ecosystem services and ecosystem performance needs to have oversight mechanisms to ensure that restoration activities are performed properly, and continue to perform over time. Since many of the demand drivers in the County's market will not be tied to outside regulatory process, minimum standards and protocols of performance⁴ need to be set by an alternative oversight body.

6.3 ENSURE ADEQUATE DEMAND DRIVERS WITHIN THE MARKET

The success of any market depends on having adequate demand for the item being exchanged in the market. In the case of an ecosystem services market there must be adequate incentives in place for people or organizations to purchase these conservation benefits. While people will not always behave pursuant to an enlightened self-interest, there is an ever growing voluntary market that is developing. Suggestions are provided below for creating frameworks to enable these voluntary market drivers.

However, in most cases where people are allowed to externalize their impacts, they will choose to do so. Because of this, regulatory drivers will still compose much of the market demand. The County is in an advantageous position for market development in that they have the ability (within limits) to influence and control the regulatory framework for the County.

The County should consider the following opportunities for creating a robust ecosystem market demand within the County:

1. *Evaluate Existing Regulatory Processes*

There are several potential existing regulatory processes that can certainly drive a portion of the County's market. First, the County has the opportunity to encourage use of trading mechanisms to meet the National Pollutant Discharge Elimination System (NPDES) permit limitations under the Truckee Total Maximum Daily Loads (TMDL).⁵ The County Commission has already endorsed the evaluation of a comprehensive approach to nutrient management within the basin. A comprehensive approach should certainly consider developing a coherent trading framework for reducing nitrogen and phosphorus inputs from non-point sources and restoring natural nutrient uptake processes in riparian areas and other key locations.

Second the County should evaluate the potential for a County-wide Habitat Conservation Plan with a compliance strategy that includes species banks. These banks could be strategically developed to help the County meet biodiversity goals. This could be a particularly attractive option if a particular species becomes listed as "endangered".

Third, the County is currently managing a fee-in-lieu program for wetland mitigation pursuant to §404 of the Clean Water Act. In March of 2006 the US Army Corps of Engineers

⁴ These standards and protocols could include a variety of provisions, such as monitoring duration and frequency, sureties required (e.g., endowments, bonds, etc.), credit release, service areas, need for easements or deed/title restrictions, etc.

⁵ The NPDES program is authorized by the Clean Water Act and is delegated by the EPA to be administered by the State of Nevada. The TMDL is for nitrogen, phosphorous, and total dissolved solids in the Truckee River and primarily focuses on non-point sources. Recent discussions have begun in the region on re-evaluating TMDL allocations.

issued draft regulations that would have phased out the use of these fee-in-lieu programs. Over the past couple of years the proposed regulations have been the center of considerable debate. The current expectation is that the final regulations will be released by Spring of 2008. These regulations are expected to preserve fee-in-lieu programs, but will seek to increase the expectations for accountability and performance. Once the details of the new regulations are available the County should consider the role that the County's existing fee-in-lieu program can play within the market structure.

2. *Identify Demand Driver for Most Pressing Ecosystem Service Needs*

Through this planning process several key services have emerged as good initial opportunities for focusing market demand development, these include:

Flood reduction and attenuation: How lands may store or slow the movement of floodwaters. This may include flood storage rental programs or impervious area trading. We recommend that the County consider the ability of existing riparian buffer ordinances to adequately protect floodplain function. Specifically, we recommend that buffer widths be based on protecting floodplain functions and include off-set provisions to provide increased flexibility.

Water production: How lands provide safe drinking water for the community. This includes adequate recharge areas, protecting habitats that clean surface waters, and ways to filter and clean runoff. The same buffers that will protect floodplain function will also provide water quality/improved drinking water. Developing a separate off-set program around riparian water quality functions could help leverage riparian protections from multiple directions.

Wildfire regulation: Healthy lands can functionally limit fire damage and severity while not removing it from the ecosystem. This is a more innovative effort, but lands may be managed for fuel densities, habitat types, pest management, and so on. However, the main opportunity here is to evaluate and trade based on which is more cost effective: fire fighting or fire prevention. Increasingly, a larger percentage of land management budgets are spent fighting fires each year, which prevent this same money going to restoring forests to safe fuel levels. Additionally, treatment methods can also vary greatly. Prescribed fire can be as much as 90% less expensive than mechanical treatment by acre.⁶ Both have a role, but how much of each should be required? We recommend evaluating options for development of off-sets built around Wildfire hazards – potential options would include:

- Coordination with relevant insurance companies to develop a program for increasing eligibility for insurance or reducing premiums based on the purchase by the insured of credits associated with fire hazard reduction (e.g., reduction of invasive species, increased cover of fire resistant native species)
- Credit purchase obligation for those developing in urban interface or wildfire risk areas (e.g., credit amount based on level of risk)
- Develop mechanism for more efficient use of Forest Service dollars

Biodiversity Protection: There is currently only very limited protection for biodiversity beyond the Endangered Species Act. One recommendation is to develop off-set obligations associated with the most pressing Biodiversity concerns (recognizing that the ESA already

⁶ These numbers are national averages from 2005 (Donovan and Brown, *Forest Science* 51(5):387-395, 2005.)

provides a demand driver for listed species). Based on the in-put received during the planning process, potential areas to address would include protection of wildlife corridors, impacts to at-risk species and loss of crucial habitats due to invasive species.

Additional Potential Demand Drivers: Creating demand within a market is bounded only by the creativity of the stakeholders within the market. All of us have an incentive for ecosystem services to be performed – the goal is creating the framework so that enlightened self-interest becomes easy and efficient. Some things to look for include mechanisms by which entities might benefit by paying landowners for certain land use outcomes. If a flood, water or fire service assessment allows insurers, fire departments, water utilities or others to more cost effectively serve their constituents or customers, then an opportunity to directly fund conservation is available. Examples of this may include insurers renting marginal lands to allow for flood storage to prevent claims downstream, or water utilities acquiring natural lands to keep aquifer recharge areas open to bank groundwater for the future use.

A primary mechanism for developing demand around ecosystem services is the mandatory ecosystem service assessment that has been recommended. It creates a driver for the market – a demand side pressure. The first instances of this assessment should be purely procedural, just an accounting exercise so a landowner and the county can create data on the impacts. However, the next step is to then require no net loss and demand offsets for impacts. With a regulatory driver in place to require these offsets, it then encourages investment by conservation entrepreneurs looking to support the offset needs of development or other activities.

In addition to a County ecosystem services program, it will also be important to monitor the progress of other regional and national efforts to move into new environmental markets. The movement towards some form of a national carbon tax or market system is likely in the next decade. The County's diversity of habitat allows for participation in various markets, this is an advantage for the development of markets in the southern portion of the county. While sagebrush habitats are highly dependent on precipitation for carbon sequestration, the forests of the Sierras would provide sequestration opportunities. Additionally, with the passage of the California statewide carbon caps, an enormous amount of investment is moving towards conserving Sierran forests in California – and this may be an opportunity. Additionally, the Nature Conservancy and its partners are looking at the Sierra Nevada ecoregion as one of three global test cases for ecosystem services, (the other two are the Yangtze River Delta in China and the Eastern Arc Mountains of Tanzania.) Additionally, the coverage trading program around Lake Tahoe also adds to the palatability of trading, and the robustness of market institutions in the region. While these examples do not currently affect Washoe County, they are trends to watch, especially if they set the tone for national legislation.

Throughout the development of these markets the cooperative and collaborative development of measures is critical to maintain participation, transparency and fairness. Many programs have failed because they were developed in vacuums that failed to account for local constraints or were simply too secretive to be trusted. Through the ecosystem services working group all actors in a future market can build agreements around goals, measurements and action to develop a trust based system for trading. With time, this trust will spread through the market and lend credibility that can be found in other more traditional markets we already participate in.

7. LOCAL REGULATORY ENVIRONMENT: RECOMMENDED CHANGES

Code and Regulatory Adjustments

The existing Washoe County Comprehensive Plan and Development Code and their associated ordinances and policies do not fully reflect the public policy objectives. A review of these documents revealed that more direct guidance is needed within the existing regulatory framework to protect and manage open spaces and natural resources as envisioned by the vision, goals and policies of the Regional Open Space and Natural Resource Management Plan. The information provided within Appendix D summarizes the suggested improvements needing to be made to the County's land use and development regulations to realize the vision, goals and policies of the Plan.

8. CONCLUSION

The Regional Open Space and Natural Resource Management Plan is a summary statement of southern Washoe County's vision, direction and commitment to action for the future of the region's open spaces and natural resources over the next 20 years. The Plan focuses upon the projects and activities needing to be undertaken to carry out this vision, a set of principles to guide this and future planning efforts, and desired outcomes expressed as achievable goals. This document, the Implementation Plan, is the compilation of tools and prioritization of actions to carry out the Plan's policies, achieve its goals and realize its vision for the future. As financial resources and the political lay of the land are flexible and subject to change, the Implementation Plan must also be flexible in order to take changing circumstances into account and take advantage of opportunities that may arise. Accordingly, this component is intended to be a stand-alone tool, one that is continually monitored and regularly updated. By doing so, the County and its planning partners will be more likely to achieve the outcomes envisioned by the Plan in a timely and effective manner.

APPENDIX A: REGIONAL OPEN SPACE AND NATURAL RESOURCE MANAGEMENT PLAN GOALS

Biodiversity

Goal 1: Protect and re-establish migration corridors.

Goal 2: Acquire and restore critical habitats.

Goal 3: Achieve species restoration goals through cooperative efforts.

Goal 4: Control invasive non-native species in the region.

Goal 5: Protect important habitats from impacts or loss due to development.

Cultural Resources and Sensitive Lands

Goal 1: Ensure that culturally and environmentally sensitive lands are adequately buffered from development.

Goal 2: Protect and manage cultural resources within the region's urban, rural and urban interface areas.

Goal 3: Teach citizens about the history, legacy and uniqueness of the region's cultural and sensitive resources.

Goal 4: Native American tribes will have access to areas used for cultural purposes

Goal 5: Secure public funding for acquisition and protection of culturally-sensitive lands

Natural Hazards

Goal 1: Emphasize fire suppression through the use of defensible space and native habitat restoration.

Goal 2: Achieve an awareness of the private responsibility for fuels management.

Goal 3: Develop, fund and carry out a region-wide fuels management program.

Goal 4: Integrate regional open space and natural resource management with flood management where appropriate.

Goal 5: Maintain excellent air quality in the region.

Goal 6: Wildlife conflicts will be minimized within transportation corridors.

Recreational Resources

Goal 1: Sustain effective and ongoing interagency and interjurisdictional working relationships to address the planning, development, operations and maintenance of regional recreational resources, and foster an integrated approach to resource management.

Goal 2: Leverage existing infrastructure opportunities for regional trail corridors and connections.

Goal 3: Preserve valuable properties and make strategic acquisitions.

Goal 4: Create a major regional trail corridor system.

Goal 5: Provide appropriate opportunities and facilities for motorized recreation.

Goal 6: Minimize resource pressures posed by development near open space areas.

Goal 7: Promote the use and support of the region's park and recreation facilities and services.

Visual and Scenic Resources

Goal 1: Protect the region's visual and scenic resources.

Goal 2: Preserve and protect the visual integrity of our region's hillsides, ridges and hilltops.

Goal 3: Preserve the remaining integrity of our region's dark night sky.

Goal 4: Protect the region's visual resources from impacts of illegal activities (such as dumping, abandoned vehicles and illegal trail creation).

Goal 5: Educate the public on the values of the region's scenic resources.

Water Resources

Goal 1: Preserve and acquire water rights to support healthy fish and wildlife populations.

Goal 2: Provide sufficient water resources to support natural functions of open space.

Goal 3: Integrate open space acquisition with water resource management where feasible.

Water Resources

Goal 1: Preserve and acquire water rights to support healthy fish and wildlife populations.

Goal 2: Provide sufficient water resources to support natural functions of open space.

Goal 3: Integrate open space acquisition with water resource management where feasible.

Sustainability and Ecosystem Services

Goal 1: Institutionalize the concept of ecosystem services within the region.

Goal 2: Manage open space and natural resources for "no net loss."

Goal 3: Ensure future open space and natural resource land acquisitions meet as many goals and policies as possible from this Plan.

Appendix B: Short-Term Action Plan

These following recommendations are organized by Plan resource category and make up the highest priority actions that should occur in the first three years of implementation.

Biodiversity

- More precisely identify and inventory migration corridors and formally map these corridors.
- Develop ordinances and code to protect migration corridors through buffering of corridors and sensitive habitats. Encourage dedications, clustering, setbacks, and other tools to maintain the integrity of corridors and sensitive habitats.
- Develop dedicated funding opportunities for biodiversity protection, including funding of mapping, acquisition and management of existing lands. May include license plate fees, bond issues or incentive and mitigation payments through development.

Cultural Resources

- Continue to document and record known cultural resources to build on existing databases.
- Develop criteria for identifying areas with a high likelihood of cultural resources, and provide guidelines to protect and survey these areas.
- Develop an access management plan for cultural uses on County owned lands.
- Create a BLM, USFS, County, City and Tribal Cultural Resource Task Force to study options for a cooperative approach to identification of resources, management of access, and protection of cultural resources and traditional uses.

Natural Hazards

- Update code to require defensible space and new building standards for fire safe construction. For example, the International Wildland/Urban Interface Code.
- Develop planning resources for restoring natural landscapes following wildfire, similar to the USFS replanting program, Burned Area Emergency Rehabilitation (BAER.)
- Investigate the creation of fire suppression utilities and their implementation in the region. Possible configuration would be required rate-payer participation in utility that would assure fuel treatment, defensible space and access are maintained in an area.
- Expand mapping of flood ways and plains outside the immediate Truckee River and Steamboat Creek areas.
- Develop model language for subdivision and development Conditions, Covenants and Restrictions (CCR) to assure landscaping, construction or maintenance practices do not increase fire risk. Encourage or require model language to be used in future CCR's or Homeowner Association (HOA) documents. For existing HOA's reach out and encourage amendments to agreements or CCR's to meet these new standards.
- Support the expansion of Fire Safe Chapters to build community outreach.

Recreation

- Validate and ensure completeness of trails data including locations and trail uses.
- Develop criteria for designating trails suitable for motorized use.
- Develop long-term funding opportunities, including increased flexibility of the Residential Construction Tax, Off-highway Vehicle Registration or other user based fees as appropriate.
- Create and maintain partnerships with user groups, tribes, and other agencies.

Visual and Scenic Character

- Develop consistent visual impact criteria with all jurisdictions. Visual impact criteria will define how development, infrastructure or utilities should be designed to minimize the effect on views and to remain visually subordinate to the natural setting.
- Increase inter-jurisdictional enforcement of illegal shooting, dumping and OHV use including federal, tribal and local law enforcement.
- Develop funding options to support enforcement of dumping and shooting laws.

Water Resources

- Develop a program to expand mapping of springs, seeps, surface water resources, and flood areas, especially in areas outside of the Truckee Meadows area.
- Inventory water rights and decrees in the region to better identify wildlife and recreation water needs, and to assist partners such as the U.S. Forest Service and tribes in applying or protesting water right claims if needed.
- Support the development of a water conservancy to hold and acquire water resources and protest environmentally harmful water rights transfers.

Sustainability and Ecosystem Services

- Convene an ecosystem services working group to develop goals, measures and process for market and incentive programs.
- Develop ecosystem services assessment methodology and metrics.
- Develop ordinances or code to require offsets of critical ecosystem services functions based agreed upon methodology.

**APPENDIX C:
 IMPLEMENTING ACTIONS**

The following implementation actions have been identified through the course of the planning process and represent agreement on the sequence of how these actions should be taken. As actions are accomplished, or priorities change, the order and sequence should also be updated for these.

Description	Years 1-3	Years 4-6	Years 7-10	Ongoing
Biodiversity				
Goal 1: Protect and re-establish migration corridors.				
More precisely identify and inventory habitat and migration corridors and formally map these corridors.	X			
Maintain a group similar to the Science Review Team to facilitate data collection and sharing among agencies and conservation organizations.	X			
Develop ordinances and code to protect migration corridors through buffering of corridors and sensitive habitats. Encourage dedications, clustering, setbacks, and other tools to maintain the integrity of corridors and sensitive habitats.	X			
Develop dedicated funding opportunities for biodiversity protection, including funding of mapping, acquisition and management of existing lands. May include license plate fees, bond issues or incentive and mitigation payments through development.	X			
Develop methods and measures for ecosystem service accounting for biodiversity functions such as migratory corridors, sage grouse support, sensitive species support and for the spread of invasive species (i.e. ground disturbance.) Identify through ES assessment – with avoidance and minimization via ordinances.		X		
Coordinate with RTC and NDOT to improve wildlife crossings for existing and future road system improvements (in particular I-80 & Pyramid Highway).		X		
In coordination with Native American tribes prepare management plans for plant habitat types that are used by Native Americans for medicine, food and other cultural activities.		X		
Develop an “Adopt-a-Corridor” or similar citizen			X	

Description	Years 1-3	Years 4-6	Years 7-10	Ongoing
based opportunity to protect migration corridors. This may focus on restoration or clean up activities. Develop educational materials to support this effort.				
Goal 2: Acquire and restore critical habitats.				
Include biodiversity as criteria for acquiring lands in future bond-funded acquisition opportunities.				X
Review tax delinquent parcels for habitat or species value and proceed with acquisition process if suitable.				X
Future evaluations of candidate lands for a Public Lands Bill will be evaluated with the resource value measures developed in the Open Space and Natural Resource Management Plan.				X
Goal 3: Achieve species restoration goals through cooperative efforts.				
Coordinate with Federal, State and all planning partners and use the values of this plan to direct decisions on land acquisition, disposal and funding. This includes SNPLMA, Public Lands Bill and the State Wildlife Action Plan.				X
Continue a biodiversity working group based on the progress of the Science Review Team of this planning process.				X
Goal 4: Control invasive non-native species in the region.				
Focus invasive species reduction on biodiversity benefits as well as wildfire threat reduction.		X		
Goal 5: Protect important habitats from impacts or loss due to development.				
Review buffer and setback requirements for the protection of riparian corridors and other sensitive lands.		X		
Cultural Resources				
Goal 1: Ensure that culturally and environmentally sensitive lands are adequately buffered from development.				
Develop criteria for identifying areas with a high	X			

Description	Years 1-3	Years 4-6	Years 7-10	Ongoing
likelihood of cultural resources, and provide guidelines to protect and survey these areas.				
Develop buffering and development BMP's for use in areas with a high likelihood of cultural resources being present.		X		
Goal 2: Protect and manage cultural resources within the region's urban, rural and urban interface areas.				
Continue to document and record known cultural resources to build on existing databases.				X
Develop models for mapping areas of high potential for cultural resources to include in land suitability mapping for open space decisions.		X		
Develop incentives for private landowners and developers to protect cultural resources and areas where they are likely to be found.			X	
Coordinate with planning partners to assure that cultural resource reviews occur for all development in the region.			X	
Goal 3: Teach citizens about the history, legacy and uniqueness of the region's cultural and sensitive resources.				
Develop an interpretive and educational program on the cultural legacy of the region.		X		
Goal 4: Native American tribes will have access to areas used for cultural purposes.				
Develop an access management plan for cultural uses on County owned lands.	X			
Periodically and jointly with the tribes, review existing access agreements to County owned areas for cultural uses.				X
Goal 5: Secure public funding for acquisition and protection of culturally-sensitive lands.				
Create a BLM, USFS, SHPO, County, City and Tribal Cultural Resource Task Force to study options for a cooperative approach to identification of resources, management of access, and protection of cultural resources and traditional uses. Include historical preservation organizations in this effort, such as Historic Reno Preservation Society, the Nevada Rock Art Foundation and others..	X			
Agree to Best Management Practices across all		X		

Description	Years 1-3	Years 4-6	Years 7-10	Ongoing
management agencies to uniformly manage cultural resources and uses.				
Natural Hazards				
Goal 1: Emphasize fire suppression through the use of defensible space and native habitat restoration.				
Update code to require defensible space and new building standards for fire safe construction. For example, International Wildland/Urban Interface Code.	X			
Develop planning resources for restoring natural landscapes following wildfire, similar to the USFS replanting program, Burned Area Emergency Rehabilitation (BAER.)	X			
Goal 2: Achieve an awareness of the private responsibility for fuels management.				
Develop model language for subdivision and development Conditions, Covenants and Restrictions (CCR) to assure landscaping, construction or maintenance practices do not increase fire risk. Encourage or require model language to be used in future CCR's or Homeowner Association (HOA) documents. For existing HOA's reach out and encourage amendments to agreements or CCR's to meet these new standards.	X			
Support the expansion of Fire Safe Chapters to build community outreach.	X			
Goal 3: Develop, fund and carry out a region-wide fuels management program.				
Investigate the creation of fire suppression utilities and their implementation in the region. Possible configuration would be required rate-payer participation in utility that would assure fuel treatment, defensible space and access are maintained in an area.	X			
Pursue funding options for development and implementation for fuels management.				X
Explore cooperative agreements for ceasing construction or utility work that may have a higher chance of ignition during red flag days.		X		
Explore development of a wildland fire management system development charge that would be applied to new construction to fund fuels treatment and fire suppression.		X		

Description	Years 1-3	Years 4-6	Years 7-10	Ongoing
Goal 4: Integrate regional open space and natural resource management with flood management where appropriate.				
Support continued and expanded mapping of floodways, floodplains and flood pools to support existing flood hazard ordinances.	X			
Expand mapping of flood ways and plains outside the immediate Truckee River and Steamboat Creek areas.	X			
Focus habitat restoration efforts and any offset programs in areas with flood mitigation opportunities.		X		
Examine all proposed Truckee Flood Control Project plans to identify additional resource values from the Plan.	X			
Expand resource value mapping based on new data or mapping from County Department of Water Resources.		X		
Goal 5: Maintain excellent air quality in the region.				
Coordinate with planning partners for consistent phased grading requirements.		X		
Periodically coordinate with County Air Quality Program to assure wildfire impacts, visual and scenic issues and regional air quality are integrated.				X
Goal 6: Wildlife conflicts will be minimized within transportation corridors and in the urban interface.				
Develop bear awareness programs to educate the public on living with bears.		X		
Develop ordinance for bear proofing waste containers.		X		
Coordinate with NDOT and RTC to develop animal crossing standards and design requirements.			X	
Recreation				
Goal 1: Sustain effective and ongoing interagency and interjurisdictional working relationships to address the planning, development, operations and maintenance of regional recreational resources, and foster an integrated approach to resource management.				
Develop long-term funding opportunities, including increased flexibility of the Residential Construction Tax, Off-highway Vehicle Registration or other user based fees as appropriate.	X			
Create a public lands working group to assist in		X		

Description	Years 1-3	Years 4-6	Years 7-10	Ongoing
resolving various missions, budgets, and resources and to develop a strategy for future public lands decisions.				
Goal 2: Leverage existing infrastructure opportunities for regional trail corridors and connections.				
Create and maintain partnerships with user groups, tribes, and other agencies.	X			
Create a common set of mapping, trail design standards, signage standards and other resource standards to help pool efforts of all land managers in providing recreational opportunities.			X	
Goal 3: Preserve valuable properties and make strategic acquisitions.				
Validate and ensure completeness of trails data including locations and trail uses.	X			
Identify properties that complete gaps in recreational access or trails based on opportunities for public use and access.		X		
Identify lands for BLM R&PP leases.		X		
Prioritize trail and recreation acquisitions with analyses based on priorities developed with partnership groups.			X	
Goal 4: Create a major regional trail corridor system.				
Evaluate appropriate levels of recreational use and implement a monitoring plan to ensure sustainability of the natural environment. Convene a user and citizen working group to develop improved mapping of recreational resources, and to identify priorities for trails. Expand study of activities to include water based recreation as well.		X		
Ensure highway planning and construction activities are coordinated to include expanding trail opportunities such as along US 580 in Washoe Valley.				X
Goal 5: Provide appropriate opportunities and facilities for motorized recreation.				
Develop criteria for designating trails suitable for motorized use.	X			
Develop Off-highway Vehicle Registration that OHV users are required to have. Use program to fund both acquisition and require an educational component in this program.		X		

Description	Years 1-3	Years 4-6	Years 7-10	Ongoing
Goal 6: Minimize resource pressures posed by development near open space areas.				
Develop criteria for designating trails suitable for motorized use.	X			
Develop standards for easements for subdivisions adjacent to public land to provide recreation access.		X		
Goal 7: Promote the use and support of the region's park and recreation facilities and services.				
Continue to maintain a group such as the Stakeholder Advisory Committee to help provide outreach, education and input on recreational resource issues.	X			
Ensure the region's recreational resources are included in tourism and visitor outreach and education.		X		
Visual and Scenic Resources				
Goal 1: Protect the region's visual and scenic resources.				
Develop consistent visual impact criteria with all jurisdictions. Visual impact criteria will define how development, infrastructure or utilities should be designed to minimize the effect on views and to remain visually subordinate to the natural setting.	X			
Coordinate with NDOT and RTC on maintaining visual standards including access to viewpoints, preserving gateway views entering the region and the protection of hillside viewsheds.		X		
Goal 2: Preserve and protect the visual integrity of our region's hillsides, ridges and hilltops.				
Develop consistent visual and hillside ordinances in the region to manage view corridors and gateway views by limiting the location, type and nature of development.		X		
Goal 3: Preserve the remaining integrity of our region's dark night sky.				
Develop ordinances to support the goal of maintaining the dark night sky through lighting regulation and through coordination with the cities of Reno and Sparks.			X	
Goal 4: Protect the region's visual resources from impacts of illegal activities (such as dumping, abandoned vehicles and illegal trail creation).				
Increase inter-jurisdictional enforcement of illegal shooting, dumping and OHV use including federal,	X			

Description	Years 1-3	Years 4-6	Years 7-10	Ongoing
tribal and local law enforcement.				
Develop funding options to support enforcement of dumping and shooting laws.	X			
Expand congested area ordinances to include areas that have high incidences of dumping, hillside damage from illegal motorized use, or other visual impacts.		X		
Continue participation and support of the illegal dumping task force.				X
Goal 5: Educate the public on the values of the region's scenic resources.				
Offer presentations by County officials to local organizations to educate the public on visual and scenic resources.		X		
Cooperate with Reno-Sparks Convention and Visitors Authority to promote and protect the region's scenic and visual resources.		X		
Water Resources				
Goal 1: Preserve and acquire water rights to support healthy fish and wildlife populations.				
Inventory of water rights and decrees in the region to better identify wildlife and recreation water needs	X			
Support the development of a water conservancy to hold and acquire water resources for fish, wildlife, and recreational uses; and protest environmentally harmful water rights transfers.	X			
Establish fish and wildlife water rights in treated effluent sources.		X		
Apply for water rights where possible or establish standing in water rights applications to assure sufficient water is available for wildlife and recreation.		X		
Encourage the tribes, Bureau of Land Management, U.S. Forest Service and Nevada Department of Wildlife to apply for water rights, or protest applications, in order to assure sufficient water is available for wildlife and recreation.		X		
Goal 2: Provide sufficient water resources to support natural functions of open space.				
Develop a program to expand mapping of springs,	X			

Description	Years 1-3	Years 4-6	Years 7-10	Ongoing
seeps, surface water resources, and flood areas, especially in areas outside of the Truckee Meadows				
Develop land use protections for seeps and springs, and their adjacent habitats.		X		
As new water sources are made available to replace Truckee River water or groundwater (such as with treated effluent), all or a portion of the water returned to the natural source should be dedicated to fish, wildlife and recreational use.		X		
As treated effluent is produced and made available for new uses, a portion of treated effluent will be dedicated to natural uses to benefit wildlife and the habitats they depend on.		X		
Water importation and exportation proposals should ensure sufficient water remains in the basin of origin to protect biodiversity and the natural functions of the areas seeps, springs and wells.		X		
Where water is currently dedicated for wetlands maintenance or other natural systems, it should be rededicated to other uses only if it can be mitigated for through other efforts.		X		
Evaluate increasing federal jurisdictional designation for waterbodies as a way to develop mitigation funding opportunities.		X		
Goal 3: Integrate open space acquisition with water resource management where feasible.				
Collaborate with the Northern Nevada Water Planning Commission on acquiring open space to assure wellhead protections.		X		
As open space is acquired, the County or partners should acquire the associated water rights along with the property where cost-effective and available. Open space that will not have sufficient water rights to remain in its natural conditions should not be acquired without a plan to acquire other water rights to maintain its function.				X
Protect aquifer recharge areas when considering changes in land use designations.				X
When prioritizing open space acquisitions, protect				X

Description	Years 1-3	Years 4-6	Years 7-10	Ongoing
aquifer recharge areas to assure groundwater discharge at seeps and springs, especially in hydrobasins that are expected to be over-appropriated in the future.				
Sustainability and Ecosystem Services				
Goal 1: Institutionalize the concept of ecosystem services within the region.				
Convene an ecosystem service working group to develop goals, measures and process for market and incentive programs.	X			
Develop ecosystem service assessment methodology and metrics.	X			
Goal 2: Manage open space and natural resources for “no net loss.”				
Develop ordinances or codes to require offsets of critical ecosystem service functions based on methodology agreed upon.	X			
Goal 3: Ensure future open space and natural resource land acquisitions meet as many goals and policies as possible from this Plan.				
Conduct outreach and education on ecosystem services and green infrastructure to educate the public.		X		
Base acquisition decisions on ecosystem service valuation.		X		

APPENDIX D: RECOMMENDED CHANGES TO THE LOCAL REGULATORY ENVIRONMENT

County Comprehensive Plan – Conservation Element

The Conservation Element (1991) of the County Comprehensive Plan is under review and revision with a new draft element prepared in 2006. The newer version builds on the adopted element and includes new scenic and visual policies, expands policies on water resource protection and the management of water utilization. Both documents also provide guidance on managing wildfire risk, recreational opportunities and access, cooperation with federal partners, and the protection of key habitats and migration corridors. Some of these policies are built on, or further refined in the proposed goals and policies of the Open Space and Natural Resource Management Plan (OSNRMP.)

Washoe County Development Code

Open Space Regulatory Zone

Recommendation: Expand the definition in *Article 106* of resource protection to include mitigation restoration or enhancement in Open Space zoned area.

Purpose: The Open Space Regulatory Zone provides protections for undeveloped landscapes. Allowed uses include natural and scenic resource protection, sensitive area protection, flood control features (natural and anthropogenic), historic resource protection and recreation.

This change would assure that market based options for restoration or protection are allowed in Open Space areas.

The Development Standards section of the County Code *Article 400, et seq* provides a number of opportunities to implement the goals and policies of the OSNRMP. Highlights of opportunities are:

Fencing, Walls and Perimeter Planting

Recommendation: Modify Section 110.406.50 Fences, Walls and Perimeter Planting to limit fire prone materials such as wood fences or non-native plant species susceptible to fire.

Purpose: Some fencing materials and plantings can both heighten the risk of fire ignition or speed the spread of fire towards structures or habitats. Identifying proper materials can also limit the spread of fire, such as with healthy fire resistant plantings.

Common Open Space Analyses

Recommendation: Build on Article 408: Common Open Space so that Site Analyses include Ecosystem Service Assessment requirement. Add to Site Analysis a study of the ecosystem services, their condition and the proposed impacts.

Purpose: In keeping with the goal of no net loss of ecosystem services, this assessment will provide a data source to measure change and help develop accounting options for trading.

Fire Risk and Landscaping

Recommendation: Modify Article 412 to prohibit certain species that are known to heighten fire risk or the spread of fire. Include as a requirement of the planting plan and maintenance plan an evaluation and program for properly maintaining fire fuel levels on site through pruning, thinning and irrigation if necessary. This evaluation should also note the adjacent parcel vegetation or fire fuel status to integrate properly.

Purpose: Landscaping choices can greatly limit the spread of wildfire and protect structures, crews and resources when properly maintained.

Night Sky and Lighting Requirements

Recommendation: Revise Article 414: Noise and Lighting Standards to address a desire for dark-sky preservation at night. Dark-sky preservation is the limiting of lighting that is more than a site needs and therefore reflects off-site, making the night sky harder to view or visually dominating the landscape.

Purpose: Preservation of night views of the sky, ridgelines and horizon can be furthered through restrictions on the level, type and amount of lighting permitted on sites. This prevents light pollution and preserves the night-time character of the region.

Flood Compensation and Mitigation

Recommendation: Building on requirements for compensatory flood storage in Article 416: Flood Hazards, define best practices for developing compensatory storage using natural systems and where other values may be captured, such as habitat restoration, passive recreation, cultural uses, and groundwater recharge. Allow for third-party off-site compensatory storage to promote private flood storage development, including preservation of natural flood storage areas.

Purpose: By stating clearly what will be accepted as compensatory storage, allowing private development, and building in multiple benefits, compensatory storage can become an opportunity to meet more objectives of the OSNRMP.

Significant Hydrologic Resources

Based on the planning process three key areas were raised in regards to Significant Hydrologic Resources (Article 418): aquifer recharge areas, stream buffers for flood protection and migration corridors, springs and seeps, and wellhead protection. Because of these many resources, the section is recommended to be reviewed and updated based on the functions that the various areas provide. For example, stream buffer widths are ideally set by the natural vegetation and soil types present. A standard width allows for easier implementation, but may miss resources or concern members of the public when buffers clearly do not include resources.

1. Natural Aquifer Recharge Areas Recommendations: It is recommended that development in areas of high natural recharge be limited or required to meet design standards to avoid groundwater pollution or loss of recharge function. Such standards may require on-site water solutions exclusively, or limit certain land uses such as storing dangerous or hazardous substances, or hazardous material transportation utilities such as

liquid petroleum products. Any developments in these areas must show no adverse impact on water quality or the natural recharge function of the area.

Purpose: Areas of natural recharge are critical to maintaining the region's water supply for both human and natural uses. By limiting uses and land cover types, the natural functions can be protected.

2. Stream Buffer Recommendation: Building on the existing intent of Article 418: Significant Hydrological Resources provide flood protection functions and habitat functions, it is recommended that buffer widths be linked to assessments of the existing or historic conditions within the buffer based on functions. Width of the corridor should be linked to providing both of these functions: flood control and species migration. Functional assessments would evaluate a combination of attributes: slope and topography, land cover and vegetation communities, and soil type and stability. Impacts to changes in these attributes can increase the amount and speed of flood flows and limit migration opportunities for species.

Additionally, intermittent streams should be included where these functions apply, especially noting the flood control function of intermittent watercourses. Define and allow development standards that also include tradable offsets for impacts on buffered areas.

Purpose: The current code's use of only permanent streams, and a fixed width regardless of flood plain width does not fully protect against the loss of flood control functions and the provision of wildlife migration corridors. Tradable options are included to make the implementation of this recommendation more successful in the current history of development and the potential distribution of regulatory costs.

3. Springs and Seeps: Seeps and springs will be protected from development and other uses that may damage the surrounding vegetation communities and habitat. A buffer of no less than 100 feet from the source of any single seep or spring will be established. In areas of seep and spring complexes, an approved seep/spring management plan should be submitted as part of the development proposal to assure water quality, wildlife access and some flexibility of buffering standards.

Purpose: Springs and seeps are a critical water resource in the region for fish and wildlife. They are often the sole water source in an area and also support rare combinations of habitat because of the presence of water. Further, springs and seeps are often more likely to include cultural resources due to the historic presence of water, fish and wildlife at these sites.

4. Wellhead Protection: Development or land use actions that adversely impact groundwater quality should be prohibited within wellhead protection zones. These may be defined by a set buffer such as 3,000 feet or based on a distance from a wellhead protection plan if one exists. Limits should include certain land uses such as storing dangerous or hazardous substances, or hazardous material transportation utilities such as liquid petroleum products. Any developments in these areas must show no adverse impact on water quality or the natural recharge function of the area.

Purpose: Development or land use actions near drinking water wellheads can introduce pollutants and make wells unsafe for use. By limiting certain land uses these risks can be

managed. Initial implementation may need to focus on public water system wellheads first and then explore feasibility for other water systems.

Ecosystem Services Assessment

Recommendation: Require an assessment of a proposed development's impact on ecosystem services, including biodiversity, natural hazards, and water resources. The assessment should be based on an evaluation of the functions performed at the site and the assessment should note both the pre-development baseline and the anticipated change following development. Any change in these services should be mitigated.

Any changes in the Development Code that relate to mitigation for environmental impact should also be developed with the market based design of this section as well. Limits on location, type or amount of mitigation allowed in developments will impact the successful implementation of an ecosystem services market.

An initial step in developing this may be a habitat based assessment that requires an inventory of habitats and migration corridors impacted by development. This assessment then in turn would allow for a requirement of offsets to compensate for the loss.

Purpose: As described in the ecosystem services section of this document, the services performed by the environment are crucial to the health of our communities. This assessment will provide the basis for assuring no-net-loss of ecosystem services and help to protect the region's green infrastructure.

APPENDIX E: PROPOSED BEST MANAGEMENT PRACTICES

The following best management practices are recommended as a basis for any land or natural resource management program. By evaluating these BMP's periodically, future challenges in managing the region's open space and natural resources can be planned.

1. Natural and Habitat Area Management

For natural and habitat areas that are healthy functioning systems, management may be limited to monitoring and removing invasive species, insects or pests as needed. For degraded sites, extensive restoration maybe required. The following recommendations are intended to help the County manage natural and habitat areas.

1.1 Invasive Species Monitoring and Control

Recommendation:

Develop an invasive species monitoring and control program in concert with standard day to day operations.

Purpose:

This recommendation is meant to assure a program is in place for County staff or volunteers to regulate, monitor and document invasive species and provide guidance on addressing invasive species.

Actions:

Develop department guidelines for County employees that work in natural areas that guide what species and methods are approved for removal and restoration. Train employees and volunteer groups on the identification and removal of invasive species, as well as proper disposal of invasive materials. This may include tools such as field guides, identification cards, comment forms, invasive species hotlines, or workshops.

Regular maintenance and monitoring activities should also include noting the existence and extent of invasive species. Public outreach programs or nature walk programs should be offered the opportunity to assist in monitoring.

1.2 Pest Monitoring and Control

Recommendation:

In coordination with the invasive species monitoring program, a pest monitoring and control program should also be developed to address insects and disease in addition to invasive and noxious plants.

Purpose:

This recommendation would create a monitoring program that would include scheduled surveys and informal monitoring through cross-training of County staff. The purpose is to assure early detection of pests and to monitor the efforts to remove them from County lands.

Actions:

County staff should become trained in spotting common disease symptoms or the presence of invasive species.

The County may address some nuisance insects that also require control if the County decides it is a priority. This may include hornet or wasp nests that are adjacent to heavily visited areas.

1.3 Fire Management

Recommendation:

Development of fire management plans as a part of managing County parks and open space. These plans should be created for each property with fire risk and include fire fuels management, fire control access, and management of ignition sources.

Purpose:

The proximity of natural areas to developed residential areas brings both higher risks for fire and higher potential losses of life, property and natural resources. Fire is a natural component of the region's ecosystem and will need to be managed actively to assure catastrophic fire can not develop. The region's challenges with highly combustible invasive plant material and an increasingly problematic wildfire cycle make this an important priority. Additionally, recreation activities, utilities and illegal encampments all make for heightened risks of ignition.

Actions:

The Land Management Program should include guidelines for assuring water availability and emergency vehicle access is provided in larger natural areas. Additionally, fuels should be managed by not allowing cuttings or debris to be stored in large piles, especially near structures. Thinning should be considered if appropriate (in forested areas). Also, control of fire prone noxious and invasive species is critical. The use of natural fire in larger natural areas should be included in the management plan if proper containment, mitigation and public concerns can be addressed.

In the case of a fire, the County should be prepared to respond with a replanting program within the first year after a fire. This prevents the spread of invasive species and speeds the return of proper habitat types.

Ignition is primarily a concern from careless disposal of burning debris (grills or cigarettes), illegal campsites, overhead power transmission lines or potential adjacent roads or railways. Areas with higher chances for ignition should be managed for lower fuel levels or more fire resistant species.

1.4 Viewshed Protection

Recommendation:

Develop a viewshed protection program that identifies and provides proper protections for views in the County parks and open space. This is primarily a concern for County lands that are forested, either with natural stands or cultivated stands.

Purpose:

Goals to restore County natural areas to native habitat types may at times conflict with views. Resolving these conflicts may include selecting or placing various species that meet view requirements from County property.

Actions:

The first steps will require identifying important viewsheds. With these identified protection actions can be applied. This may involve changing restoration or planting programs to use slower growing or lower height species. Requests may come in from adjacent landowners to remove trees to improve views. Department policies and guidelines should address whether the County will permit tree removal for views. However, by developing formal viewshed areas, these requests can be more easily addressed by looking to see if properties fall within one of these view protection areas. It should be noted that these requests may come in the form of hazard tree removal requests first.

2. Forest Resources:

Forest resource management requires a series of specialized policies. These policies both address the natural functions of forests, and the potential public management requests that only relate to forests such as hazard trees and emergency responses after storms.

2.1 Pruning and Hazard Trees

Recommendation:

Develop standards for pruning and hazard trees and to address requests from the public and from County staff.

Purpose:

The goal is to assure healthy and mature forests develop and to use pruning or felling only where property or life maybe in danger.

Actions:

When evaluating a tree for felling, its value as a snag or log should be evaluated. Snags and downed wood are both important habitat structures for natural areas. Dead trees that are not posing a threat to structures, transportation or utilities should be left standing. Any trees felled should be used on site for logs to provide woody debris. Many standards can be adapted from professional organizations for these issues.

2.2 Emergency Management

Recommendation:

Develop an emergency management response plan for responding to various emergencies such as ice storms, wind storms, landslides, or fires.

Purpose:

Storms may create conditions where forested natural areas will require an emergency response to assess damage from high winds, snow, or ice. This damage may result in

trees that become hazards for natural area visitors, adjacent landowners, transportation or utilities.

Actions:

Prioritize natural areas that will need to be assessed first and what criteria are required to determine if trees or limbs need to be felled. BMP's for pruning and hazard trees should apply here once areas are identified for treatment. Possible prioritization could include:

1. Areas adjacent to vital thoroughfares, overhead utility corridors, and public facilities;
2. Areas with high visitor use; and
3. All other areas.

The goal of this prioritization is to identify areas where the public or natural resource goals may be at risk after storm events or natural disasters. Lands that contain higher risk resources such as flammable invasive species, potential for flooding, or other natural hazards should be prioritized for evaluation after events. This also includes evaluating recreational areas and trails after storms or natural disasters to make sure no new long term threats are created, such as unstable banks or unsafe structures.

3. Property and Resource Management Program

In addition to the monitoring and control related to the natural functions of habitat and open spaces, human activities require monitoring. The following components should be considered in the development of the land management program and be part of an annual or even more frequent site visit requirement for each County owned parcel.

3.1 Periodic Monitoring Program

Recommendation:

The County should establish a regular monitoring program where staff visit each County owned parcel and inspect it.

Purpose:

To implement many of the other property and resource management recommendations, an effective and consistent monitoring program is necessary. Monitoring programs must be designed to track the progress or challenges in meeting goals, such as invasive species reductions, fuels treatments, or illegal activities. The results of monitoring allow the County to direct resources and evaluate progress or threats to restoration or preservation.

Actions:

Inspections should be at least annually, and in addition to monitoring restoration efforts, should also include an inspection of property boundaries, encroachments, easement maintenance, illegal dumping, illegal encampments, and social trails. These issues are described in more detail in the following description of BMP's.

3.2 Property Boundaries and Encroachment

Recommendation:

Develop property boundary documentation and monitoring program to identify County natural areas parcel locations

Purpose:

Property lines often are not well documented for natural areas, and often adjacent land owners are also not fully aware of the boundaries and encroachment of structures or landscaping can occur.

Actions:

Site boundaries should be located by a registered surveyor and monitored annually with GPS. Clear boundaries are essential for managing tree liabilities or illegal or unpermitted County property use. In addition to monitoring the boundaries, encroachment by neighboring land owners should be documented. This may include structures, waste, landscaping or plantings. Field personnel should document these and report them to managers so action can be decided upon. Working with enforcement resources decisions can be made on what level of response is necessary to remedy the encroachment.

3.3 Utility Easements and Corridors

Recommendation:

The Regional Parks and Open Space Departments existing granting of easements policy should be supported. The policy should be reviewed periodically as needed to include review of methods used for valuating open space and NRS requirements.

3.4 Illegal Dumping and Off-Site Stormwater Drainage

Recommendation:

Develop procedures to address illegal dumping and off-site impacts on County parks and open space. This is necessary to protect County lands and employees. Coordinate with the Sherriff's office, local law enforcement, and federal law enforcement offices.

Purpose:

Illegal dumping and off-site stormwater drainage often occur on public lands because of a perception that enforcement is not immediate. Some illegal dumping or drainage can be avoided through outreach programs that educate the public of penalties and lawful options.

Actions:

Managing illegal dumping and stormwater from adjacent properties will require BMP's that involve monitoring and reporting. Illegal dumping can include household waste, but may also include hazardous waste, automobiles, or animals. Guidelines must clearly state when staff may start cleaning and what they must do in the cases of these more dangerous materials to protect themselves and the public. Other options may include partnering with local groups or citizens that may provide opportunities

to clean up persistent dumps, or distributing vouchers for free waste collection in areas with high rates of illegal dumping.

Stormwater may also be found draining onto natural areas from neighboring properties. This may include spouts or impervious areas draining into County property. These off site flows will require attention from properly trained staff and may require enforcement actions. Direct staff on what information to document, but not to move or stop stormwater flows and to instead leave them as they are found.

3.5 Illegal Encampments

Recommendation:

Develop guidelines to address illegal encampments that direct County staff to safely prevent and remove encampments. Coordinate with the Sherriff's office, local law enforcement, and federal law enforcement offices.

Purpose:

Illegal encampments can have heavy impacts on natural areas through building primitive structures, dumping and human waste, and potential fire ignition problems.

Actions:

Areas known for illegal encampments should be monitored more frequently. Provide clear direction on when and what to clean up at these sites, as well as the resources available for cleaning and for enforcement assistance. Heavily used encampment areas may require restoration actions. Measures to discourage future use of camps may include blocking social trails, rerouting legitimate access near camps to heighten visibility or restoration with plant species that are not as welcoming for encampment.

3.6 Social Trail Management

Recommendation:

Create a reporting and monitoring program and procedures to control the development of social trails, which are trails that are not planned for or approved for development.

Purpose:

Social trails often link to illegal dumping activities and to urban areas. This can also include unauthorized OHV use and can damage adjacent habitats. Therefore these trails need to be prevented and controlled to protect habitat, prevent the spread of invasive species, and limit the introduction of ignition sources such as mufflers on OHV's.

Actions:

During annual inspections or other site visits, any development of social trails – or informal trails that appear to be human made should be documented. The County should develop actions or policies on how to manage these informal travel routes. Documentation should capture location, level of use and relationship to potential sensitive habitats. Steps to limit the use of social trails can range from the use of thorny plantings or thickets at and along these trails to barricades or logs piles.

APPENDIX F: TOOLS FOR RESOURCE PROTECTION AND MANAGEMENT

In addition to the tools that have been long standing opportunities for the County in its management plan, there are a series of new opportunities that have been found to be effective in supporting restoration and open space protection. These programs are identified immediately below, before moving to the traditional suite of tools.

Grants and Cooperative Assistance:

Natural Resource Conservation Service: Conservation Innovation Grant Program (CIG)

The Natural Resource Conservation Service (NRCS) administers this program annually, awarding a series of national and state level grants that target measures that facilitate conservation. The program requires participation in various agricultural programs, but it is not limited solely to these groups. The program also has recently focused its efforts on ecosystem service markets as a way to expand both conservation and farm security.

U.S. EPA: Targeted Watershed Grant Program (TWG)

The Targeted Watershed Program is designed to meet the on-the-ground conservation and restoration goals of local communities. The program awards larger projects that attempt to restore areas or develop implementable tools to do so. Recent awards have also focused on market based incentives to meet conservation goals. The TWG included \$13.3 million in grant awards last program year, and tribal participation is heavily encouraged.

U.S. Forest Service: Cooperative Open Space Program

The USFS Cooperative Open Space Program is not a funding opportunity but an agency outreach program that works to coordinate open space goals of communities near National Forests. As a part of this program, the Forest Service is working to develop science based metrics for changes in open space, and build partnerships to prioritize lands for conservation, protection and acquisition.

National Park Service: Rivers, Trails and Conservation Assistance Program

The NPS RTCA program is a competitive assistance program. It provides planning and technical assistance to local communities in their efforts to develop trails or protect open space areas. This program has recently helped a number of communities in Nevada, and is a resource for future trail or open space planning.

Sewer Enterprise Fund

The City of Reno Sewer Enterprise Fund may provide an opportunity for watershed based restoration. The City of Reno and other local jurisdictions that must meet restoration and conservation goals to satisfy regulatory requirements for impacts on the region's water bodies, this funding may be an option. These bodies often have impacts on the region's water quality and can offset these impacts with restoration activities. For the City of Reno's Enterprise Fund, these dollars are collected as a part of local sewer rates and can represent a substantial investment in restoration.

Previous Implementation Tools

The following actions are identified from previous planning efforts and remain relevant in the current planning effort.

ACQUISITION METHODS

The acquisition of desirable open space properties allows for the permanent preservation of the area's unique environmental qualities and their enjoyment by the citizens of Washoe County. Acquisition is defined as obtaining the full title or specific property rights to a parcel of land. In addition to the acquisition methods listed in this section, there can be numerous variations on a single method depending upon the individual circumstances and parties involved. Other new and innovative acquisition techniques will certainly be developed in the future and should be carefully evaluated prior to use.

The Regional Open Space and Natural Resource Management Plan is structured as a planning and coordinating document for the preservation of open space in southern Washoe County. The Washoe County Departments of Community Development and Regional Parks and Open Space will coordinate and administer the plan while individual partnering agencies will also be helping to implement the plan. The Plan calls for a coordination of efforts and resources in order to achieve one common goal, the protection and preservation of open space for the citizens of Washoe County.

Partnering agencies can hold title to the acquired open space and also be responsible for operation and maintenance responsibilities on the land. Actual uses and improvements allowed on acquired open space properties should be consistent for the three local governments. It is important that any acquisition document contain irrevocable guarantees clearly stating that the parcel or parcels acquired as open space will always remain as open space.

This section lists and gives descriptions of the different methods to be used in acquiring desired open space. Some of the acquisition methods will be more appropriately used by a non-profit entity than a local government. The Nevada Land Conservancy was established by interested citizens and is presently functioning in such a capacity.

FEE SIMPLE PURCHASE

This method entails acquiring outright ownership of all the owner's property rights that have not previously been granted to third parties. A fee simple purchase or acquisition ranges from the purchase of a property at full market value to a "bargain sale" at a price less than the appraised fair market value of the land.

A property owner executing a "bargain sale" transfers title at a price below market value, thus obtaining valuable tax benefits as well as a direct cash return. A "bargain sale" is attractive to sellers who want cash for their property or who paid a low cash price and are subject to a high capital gain's tax. It is also attractive to sellers who have a fairly high current income and could benefit from a donation of the property as an income tax deduction.

OPTIONS ON PROPERTY

This method involves the purchase of options to buy property at a specified price by a specified time in the future. This method can secure temporary interest in a property while negotiations, authorizations, or funds are raised to enable permanent acquisition. The option can be exercised by a specified date or the option interest can expire with no obligation to purchase the land. Options can be purchased at a negotiated fraction of the ultimate purchase price, or they may be donated by the property owner or a third party.

"First-right-of-refusal" is one type of option. It is an agreement between a landowner and a second party. If the owner receives an offer to buy his property or decides to put it back on

the market, the second party will have a specified period of time in which to match the offer before it will be sold to a third party. Such rights may be acquired by purchase or donation in order to secure an interest in important open space lands without having to purchase them immediately. This can allow for sufficient time to obtain capital to purchase the property, or successfully negotiate some other means of conserving the open space resource.

INSTALLMENT PURCHASES

This is a purchase agreement where no title changes occur until the last payment is made. The purchaser is, in effect, borrowing from the seller (landowner) through an installment sale. Jurisdictions using this technique must have a dedicated source of income for interest payments. One potential drawback is that if the funding source is lost, then non-ownership of the property (no title) could be an end result.

PURCHASE WITH LEASE-BACK

This is a method used for holding the rights to property that is not going to come under immediate public use. After purchase, the land can be leased back to the original owner allowing him to continue using it as in the past and/or the lease may contain restrictions regarding the use and development of the property. This arrangement can be used in some cases where agriculture is at least marginally profitable, giving the public agency an income and preventing the need for it to maintain the land while it protects the land use. A drawback is the potential public access issue when people find out that land has been purchased and they want to use it as a park or for recreation.

GIFTS OR PURCHASE OF LAND WITH LIFE TENANCY

This method allows the donor/seller to retain and use his or her property for the rest of their life. A donor/seller may give or sell his or her entire interest in a personal residence or farm, but retain a life estate. At the death of the owner, the land becomes public property. This method allows for current use of the land to continue with no expenditure for land management by the acquiring agency.

LEASES AND LONG TERM LEASES

Leases secure the right to use a property for certain purposes for a limited length of time. These tools provide temporary control over land use without the expense and trouble of outright purchase. Leases can give exclusive access rights to properties, which can be useful in ensuring protection of fragile on-site resources. Generally, leases are recorded and remain in force for their full term even if the land itself changes hands.

Lease purchase contracts can be used when a decision has been made to buy a property but adequate funds are not available. Under such an arrangement, acquisition can be paid for in periodic payments, or installments, that include principal, interest and associated costs. The contract can grant possession or use for a specified or indeterminate period. Drawbacks are that the more complicated a transaction is, the higher the transaction costs, and at the end of the lease, no title or interest of ownership is remaining.

FOREST LEGACY PROGRAM

This program authorizes the U.S. Forest Service (USFS), in cooperation with the appropriate State agencies, to acquire permanent conservation easements on private forest lands that are at risk of being converted to non-forest uses such as residential or commercial development. The USFS may purchase easements only from willing landowners at a fair market value. Priority is given to lands that can be effectively protected and managed, and which have important scenic, cultural and recreational resources, fish and wildlife habitat, riparian habitat, and other ecological values.

LAND EXCHANGES

Land exchanges can involve exchanging public land on the urban fringes that is most appropriate for development for privately owned undeveloped land that would be most desirable as open space. The Bureau of Land Management and the U.S. Forest Service are the federal agencies managing the largest amounts of public land in the area and the agencies most likely to make this open space acquisition method viable. Local governments can work together with these two federal agencies and state agencies to plan, develop and manage open space opportunities on public lands in southern Washoe County. It will be to the mutual benefit of federal, state and local agencies involved to form, and strengthen existing, partnerships and pool available resources to the greatest extent possible to accomplish mutual objectives for public lands.

LAND TRUSTS

Land trusts are private non-profit organizations that traditionally are not associated with any government agency. They can protect property through a variety of mechanisms. They may purchase property, acquire easements, purchase development rights, or hold property for transfer to another agency such as a city or county. Land trusts appeal to conservation-minded landowners because they conserve their property while qualifying them for various tax benefits. They also offer the landowners and other potential donors many different methods of contributing to the preservation of open space. The County's close alliance with Nevada Land Conservancy and other land trusts continue to benefit the overall objectives of the Regional Open Space Plan.

Successful implementation of the Regional Open Space Plan will mean continued cooperation with other well-known active land trusts such as: The Nature Conservancy, American Farmland Trust, The Trust for Public Land, Rail to Trails Conservancy, American Land Conservancy, The Conservation Fund and others.

TAX DELINQUENT PROPERTY

Washoe County tax delinquent properties may possibly be located in the same areas that are designated as desirable open space properties by the Regional Open Space Plan. These properties can be acquired from the Washoe County Assessor's tax delinquent property list. Payment of back taxes and assessments on the parcels would be required.

PRIVATE DONATIONS

Private corporations, individuals and philanthropic organizations can make significant contributions to community-minded causes such as the Regional Open Space Plan. Donation is an acquisition method that requires no capital cost, thus permitting open space program resources to be stretched further. The corresponding advantage to the landowner is that outright donation of land offers the greatest tax benefits. In most cases, the donor is eligible to receive tax credits and deductions on personal income and, in addition, may be able to avoid inheritance taxes, capital gains' taxes, and recurring property taxes.

PURCHASE/DONATION OF DEVELOPMENT RIGHTS

Development rights are just one type of rights inherent in a property. Air, water and mineral rights are other examples. Acquiring development rights for open space purposes can be a very cost effective means of preserving open space values on a particular property. Development rights may be separated from the property and sold or donated. The sale of development rights requires the landowner to pay federal capital gain's taxes. The donation of these rights, however, can be treated as a charitable contribution and provide the donor with a tax deduction.

CONDEMNATION OF LAND

Typically, condemnation for open space is seldom used for the purpose of dealing with an unwilling property owner. Using condemnation to acquire property or property rights can be avoided if private and public support for the Regional Open Space Plan is present. The practice of condemning private land for use as open space is viewed as a last resort technique. However, it can be an important tool in special circumstances and should be an available option. In most cases, condemnation for open space has been exercised in other communities when there has been absentee property ownership, or when it becomes apparent that obtaining the consent for purchase will be difficult because there are numerous heirs located in other parts of the United States or in different countries.

LAND MANAGEMENT

Management is a method of conserving the resources of a specific open space parcel through either an established set of guidelines as part of a partnership program with other government agencies, or through negotiated agreements with private property owners. The purpose of an agreement should be to establish legally binding contracts or a mutual understanding of the specific use, treatment and protection that open space lands will receive. Agreements are accomplished primarily through the use of easements by which the purchaser receives a less than full interest in a parcel of land in order to protect a valuable resource. Property owners who grant easements retain all rights to the property except those which have been granted by the easement. Easements are generally restricted to certain portions of a property but can be applied to an entire parcel of land in some instances. Easements are transferable through title transactions and remain in effect for the length of the agreement.

The Bureau of Land Management and the U.S. Forest Service are the federal agencies managing the largest amounts of public land in the area. Local governments can work together with these two federal agencies and the State of Nevada to plan, develop and manage open space opportunities on public lands in southern Washoe County. It will be to the mutual benefit of federal, state and local agencies involved to form partnerships and pool available resources to the extent possible. This can assist in accomplishing mutual objectives for public lands.

Coordination with adjacent governmental jurisdictions that have open space resources that are linked to the resources found in southern Washoe County, is important. Ridge lines, mountains, wildlife habitat and the Truckee River are examples of such open space resources. Coordination efforts should be directed towards adjacent Counties and the State of California.

CONSERVATION EASEMENTS

A conservation easement is a legal agreement a landowner makes with a second party giving up certain property rights for specific purposes. The various rights that are customarily associated with land ownership can be sold independently as easements. According to the Nevada Revised Statutes, conservation easements may be granted for the following purposes:

1. Retains or protects natural, scenic or open space values;
2. Assures the availability of land for agricultural, forest, recreational or open space use;
3. Protects natural resources;
4. Maintains or enhances the quality of air or water;
5. Preserves the historical, architectural, archaeological or cultural aspects of real property.

The term easement covers both "positive" and "negative" interests. Positive easements allow the easement holder to do something (e.g., utility easements allow the construction of utility lines). Negative easements, which conservation easements typically are, restrict the uses allowed the owner of the underlying fee interest. Some conservation easements have both positive and negative elements. Conservation easements are very flexible and can be used to negotiate many different types of agreements with private landowners.

The term or length of conservation easements can vary. However, due to federal tax law requirements, such interests are typically granted in perpetuity and are said to "run with the land." This means the subsequent owners of the fee interest are bound by the restriction agreed to by their predecessor. Conservation easements are subject to state statutes in addition to federal tax law. Enabling legislation for conservation easements was passed by the State of Nevada in 1983 and while there is still a good deal to be learned about how well they will function over time, they are currently being used.

The Farmers Home Administration Agency (FmHA) allows FmHA borrowers that are delinquent on payments to exchange a portion of their debt for conservation easements on certain kinds of land, such as wetlands or highly erodible land. The conservation easement, which can be for perpetuity or for a specified number of years, is one of several debt restructuring options offered to the delinquent borrower.

Additionally, new federal income tax rules allow for farmers who grant conservation easements to generate tax credits that can be used over the course of many years. This new rule allows for more marginal lands to be taken out of production and used for conservation and offset tax liabilities on higher productivity lands.

EXISTING EASEMENTS

Public and private utility corridors can be managed to maximize protection or enhancement of open space lands. Utilities maintain corridors for provision of services such as electricity, gas, oil and rail travel. Utility corridors are usually in utility ownership, either in fee simple or easement form. Open space activities would be limited to the conditions of any easements on the property and are more probable if the utility owns fee title to property instead of an easement. Costs associated with any potential restoration activities could potentially be shared or covered completely by the utilities, as some utilities are required to mitigate for past or current activities.

Coordination between the local governments and storm and surface water utilities will have the potential of providing important open space. By definition, these facilities protect life and property from storm or flood waters and protect against contamination of surface water. Land acquisition can be an allowable expenditure for the utility if the acquisition is related to its storm water control activities or protection of water supplies. In practice, storm water control activities often involve protection and restoration of wetlands, ponds or other water-related areas that also can provide important open space.

Existing and future possibilities for developing local "Rails-to-Trails" projects should be studied. The utilization of abandoned and sometimes active rail lines as regional trail corridors has become increasingly popular. Many examples of successfully completed projects exist both nationwide and locally. In northern California, for example, the popular "Biz Johnson Trail" follows an abandoned rail line for 25 miles connecting the towns of Westwood and Susanville. The trail has gained regional popularity and is being enjoyed by tourists as well as local residents. Careful monitoring and coordination with utility agencies is essential to ensure that trail and other open space benefits are studied for the potential of including them in existing and upcoming projects.

GENERAL IMPROVEMENT DISTRICTS (GIDs) & SPECIAL ASSESSMENT DISTRICTS (SADs)

General Improvement Districts typically fund improvements to sewer, water and road systems and park districts. Funding of these improvements is usually property tax based. Special Assessment Districts, which are sometimes referred to as Special Improvement Districts, are generally formed for the same purposes as GIDs, but are different from GIDs in that they are specific areas that receive mutual benefits from specific improvements and are usually funded through bonds which are subsequently paid back from special assessments that are levied on district members.

Such districts could pay for open space related projects if the project is tied to a district's primary activities. Possible drawbacks are that normally GIDs do not like to allow public access and GIDs should not be formed for a specific purpose and then dissolved when that purpose has been met. In certain instances, such as an urban redevelopment project, trail improvements may be possible through the use of special improvement districts, tax increment financing and other financing mechanisms where trails would be a component in a larger improvement package.

REGULATION AND INCENTIVES

Regulation is defined as the adopted local laws that allow reasonable land use by property owners while preserving aesthetic and ecological values. Development codes, zoning and subdivision ordinances, and cluster development ordinances are examples of government regulation. Development incentives offer landowners and developers of land a reason or incentive to preserve the aesthetic and ecological values present on their property. Transfer of development credit and flexible project design are two examples.

LAND USE REGULATIONS

Reno and Sparks utilize zoning and subdivision ordinances while Washoe County utilizes a development code to provide for orderly and efficient development. The local governments have existing land use regulations that, when enforced, can help preserve valuable open space resources. These existing regulations affect land with flood plains, wetlands, steep slopes, ridge lines, historic structures, archaeological sites, and land adjacent to the Truckee River. The land use regulations protecting these resources do not presently exist in the same form in all three governments which results in varying degrees of protection and regulation. Additional open space resources that are not presently subject to local government regulation should be studied. These studies should identify and quantify these resources and appropriate regulations, if needed, should be developed and adopted by Reno, Sparks and Washoe County.

Large lot zoning, generally one acre or larger, is an old and frequently used land use regulation technique thought to conserve land. The theory behind large lot zoning is that, by dispersing single family homes onto large lots, the visual appearance of open space would be achieved. The end result is usually not one of visual open space but rather residences with large garages, recreational vehicle parking, various outbuildings (sheds, barns, etc.) and cross-fencing. Large lot zoning should not be considered as a viable open space preservation method.

CLUSTER DEVELOPMENT

This form of development concentrates structures on a small portion of a site while preserving the remainder of the site as open space. This process maintains the overall (gross) density allowed for the entire parcel while preserving steep slopes, riparian corridors, important wildlife habitat and other sensitive environmental areas. This remaining acreage

may then be preserved as publicly or privately held open space. Cluster development, also called common open space development, allows developers to build the normal number of homes but, at the same time, allows them to reduce their road and utility costs. Additionally, this approach provides permanently protected open space that can add economic value to homes and businesses. This added value is created at no additional cost to the developer or to the local government and the original landowner can get the usual market price for his or her land.

The degree to which cluster development accomplishes a significant saving of land for open space, while providing an attractive and comfortable living environment, depends largely on the quality of the regulations and upon the expertise of the development's designer. It is important to have a designated entity that is responsible for the maintenance of the common open space. Equally important is a dedicated funding source for these maintenance costs.

TRANSFER OF DEVELOPMENT CREDIT & TRANSFER OF DEVELOPMENT RIGHTS

The transfer of development rights (TDR) is an incentive-based planning tool that allows land owners to trade the right to develop property to its fullest extent in one area for the right to develop beyond existing density or intensity in another area. Local governments may establish the specific areas in which development may be limited or restricted and the areas in which higher density or intensity development may be allowed. Usually, but not always, the "sending" and "receiving" properties are under common ownership. Some programs allow for different ownership, which, in effect, establish a market for development rights to be bought and sold. In Washoe County, only contiguous properties can utilize TDR's.

A drawback to utilizing TDRs can be the management of the complex "banking" system that would need to be established to handle the marketing of the development rights. Transfer of development credits (TDC) provides similar benefits to TDR, but on a voluntary basis between local government agencies and private landowners. TDC is a technique to preserve open space located in "Environmental Protection Zones" while transferring development credits to "receiving zones" with a pre-determined increase in density. Both the "Environmental Protection Zones" and the "receiving zones" would need to be established by local governments through a master plan amendment process. For TDC to work correctly it is important that a market exist for the increased density of development in the "receiving" area.

FUNDING SOURCES

This section identifies the potential funding sources that may be used for open space planning, acquisition and maintenance. Some of the funding sources described below may not be available for public sector use, but are feasible for use by a non-profit land trust. The "Land Trust" concept, outlined earlier in this report, discusses why a close alliance with a land trust will benefit the overall objectives of the Regional Open Space Plan.

Voter approval of the potential tax increases listed below will give the Regional Open Space Plan a dedicated source of funding and the ability to immediately begin preserving remaining undeveloped land designated as open space in this plan. The Regional Open Space Plan should also utilize appropriate alternative funding methods and pursue creative funding sources, including ways that will enable local citizens to become directly involved. The alternative funding methods listed in this section will be important in stretching the open space budget. If a dedicated funding source for open space is not approved, these alternative sources will take on added importance.

1991 NEVADA STATE LEGISLATURE AUTHORIZED TAX INCREASES

The Board of County Commissioners may, by ordinance, impose some or all of the different taxes listed below after receiving individual approval of each tax by a majority of the registered voters of the County. Voting on the question will be during a general or special election. The enabling legislation (NRS 376A.020) for this, also required the adoption of the open space plan by the Board of County Commissioners and endorsement by the City Councils of Reno and Sparks.

1. A sales tax increase of up to 1/4 of 1 percent of the gross receipts of any retailer from the sale of all tangible personal property sold at retail, or stored, used or otherwise consumed in the County.
2. An ad valorem (property) tax at the rate of up to 1 cent on each \$100.00 of assessed valuation upon all taxable property in the county. A tax imposed pursuant to this section applies throughout the county, including incorporated cities in the County.

NRS 376A.040 states that the money received from a **sales tax** increase may only be used to pay the cost of:

- The acquisition of land in fee simple for development and use as open space land.
- The acquisition of the development rights of land identified as open space land.
- The creation of a trust fund for the acquisition of land or development rights of land.
- The principle and interest on notes, bonds or other obligations issued by the county, city or general improvement district for the acquisition of land or development rights of land or any combination of the uses set forth in NRS.

NRS 376A.080 states that the money received from a **property tax** increase may only be used to pay the cost of:

- Planning the acquisition and other administrative acts relating to the acquisition of open space land.
- The operation and maintenance of open space land.

The money received from the tax imposed pursuant to the two NRS sections listed above, and any applicable penalty or interest, can not be used for any neighborhood or community park or facility. Potentially, regional parks or portions of the parks that are undeveloped may receive acquisition and/or maintenance funding from the tax. This money must also be used in a manner that is consistent with the provisions of the open space plan and that provides an equitable allocation of the money among the county and the incorporated cities within the county.

PUBLIC/PRIVATE PARTNERSHIPS

The Regional Open Space Plan will pursue forming new public/public and public/private partnerships to help achieve the acquisition of open space and provide financial support toward implementing the plan.

Local governments should explore ways to optimize open space benefits in association with both residential and commercial developments. Land dedication and improvements may be negotiated when a development site includes a priority acquisition area or will provide for the continuation and/or connecting of multi-purpose regional trails. Open space within developments should only be included in the regional open space system if the property owners agree with establishing public use of the area.

CORPORATE MEMBERSHIP IN LAND TRUSTS

Preserving open space assures a livable community and a healthy environment for future generations. The preservation of open space is an important factor in maintaining our region's quality of life. A community's quality of life is increasingly being linked to its ability to attract economic growth benefiting local businesses while also protecting the areas natural environment. This potential funding source will allow Washoe County businesses to actively participate in the Implementation of the Regional Open Space Plan. A non-profit land trust would need to be involved to make this method feasible. Corporations and businesses could become dues paying members, they could sponsor specific open space acquisitions or they could help sponsor specific fund raising efforts. The contribution of their employee's time and expertise as in-kind services to the land trust would be an additional means of corporate contribution.

VOLUNTEERS AND FUNDRAISING EFFORTS

The Washoe County Regional Open Space Plan is regional by definition and is designed to benefit the entire population living in the southern portion of Washoe County. It is important for the Plan to have the support of local citizens and for them to support proposed acquisitions. Through the use of volunteer programs and local fundraising efforts, citizens can tangibly show their support for the overall open space program or for individual open space acquisition efforts. In addition to fundraising, volunteers can also contribute their own individual skills, whether it is secretarial help, physical labor, etc. These types of personal contributions can help defray such costs as trail construction, administration and maintenance.

GRANTS/MATCHING GRANTS

Generally, government grants from all levels are a limited funding source for conservation type projects such as open space acquisition and maintenance. One source for grants or matching grants will be corporate foundations that are established for charitable purposes. Also, many corporations engage in active contribution programs without establishing a foundation.

FINANCIAL ASSISTANCE FROM FOUNDATIONS FOR SPECIFIC PROJECTS

This is similar to grants because the assistance comes from foundations. Foundations generally prefer to support specific, tangible projects, rather than providing operating or administrative support. Foundations usually are grant makers; however, there are different types of foundations. These are classified as follows:

1. Private foundations are those which receive their funds from only one or a very few private sources.
 - a. Independent foundations are those most familiar to the general public, they are the well-known family foundations.
 - b. Company sponsored foundations are set up, funded, and directed by profit making businesses.
 - c. Operating foundations are those which use their resources to provide charitable services directly rather than to support programs undertaken by other entities.
2. Community Foundations are those which have multiple sources of funds. They often administer numerous individual or family charitable bequests, often reserved for specific purposes.

SAFE, ACCOUNTABLE, FLEXIBLE, EFFICIENT TRANSPORTATION EQUITY ACT: A LEGACY FOR USERS (SAFETEA-LU)

The latest iteration of federal surface transportation funding, SAFETEA-LU provides funding opportunities for resources associated with highway planning and construction. Many project categories are eligible for SAFETEA-LU funding, including: landscaping and other beautification; acquisition of scenic easements; historic preservation; control and removal of outdoor advertising; archaeological research; and mitigation of water pollution from highway runoff. Each of these programs can also potentially fund multi-use trail projects. These programs are the National Highway System, the Surface Transportation Program and the 10 percent enhancement set-aside within it, the Congestion Mitigation and Air Quality Improvement Program, and the National Recreational Trails Fund.

The Nevada Division of State Parks is the state liaison for distribution of funds from the National Recreational Trails Fund. The Regional Open Space Plan should work in conjunction with the parks and recreation departments from Reno, Sparks and Washoe County to take full advantage of these programs.

FEDERAL LAND AND WATER CONSERVATION FUND (L&WCF)

The State of Nevada receives an allocation of funds from the federal government that are available for the acquisition and/or development of outdoor recreation facilities. Individual projects that are submitted must be in accordance with the Statewide Comprehensive Outdoor Recreation Plan (SCORP), and only while the state sustains its eligibility for participation in the L&WCF program. These funds are provided on a 50/50 matching basis. The program is administered by the National Parks Service with the Nevada Division of State Parks acting as the state liaison for distribution of funds. In the years prior to 1986 a few of the projects in Washoe County that received funding were; Davis Creek Park acquisition, Crystal Peak Park acquisition and land adjacent to the Truckee River in the City of Sparks.

U.S. FISH AND WILDLIFE SERVICE--PARTNERS FOR WILDLIFE PROGRAM

This program provides technical and/or financial assistance to protect, restore, enhance or create wetland and riparian habitat on private property. Private landowners who volunteer for this program must sign written agreements that outline protection and maintenance programs. Landowners must agree to a project term of at least 10 years. The longer the term of the project, the higher the priority of the project for the U.S. Fish and Wildlife Service (USFWS), with those providing protection in perpetuity having the highest priority. The Regional Open Space Plan should coordinate with the USFWS and appropriate private landowners towards employment of this program.

RAILS-TO-TRAILS CONSERVANCY

Rails-to-Trails is a non-profit organization established in 1985 to promote creation of rail-trails through-out the United States. Staff based in Washington, D.C., and six chapter states carry out a program of technical assistance, public education, advocacy, negotiation, legislation and regulatory action.