NatureServe VISTA

Software for Integrating Conservation with Land Use, Infrastructure and Resource Planning and Management

NatureServe Vista is an advanced but accessible decision-support system that can facilitate all of your land and water assessment, planning and resource management projects at multiple scales anywhere in the world. NatureServe Vista is a commercial-grade tool built according to market research of practitioners' needs, and a complement to a host of other compatible tools.

NatureServe Vista enables you to create, evaluate, implement, and monitor land use and resource management plans within the existing economic, social, and political context. It does this by integrating conservation information, natural resource management practices, and land use patterns and policies into a single decision-support system.

NatureServe Vista's decision-making framework will help you:

- Manage projects through their complete life cycle, including analysis, planning, implementation, and monitoring
- Gather and document knowledge and values of experts and stakeholders
- Assess and quantify the cumulative impacts of any plan, proposed project, or modeled event (like sea level rise)
- Mitigate conflicts on or off site
- Create land use or resource management plans that reflect your unique situation and values
- Improve the efficiency of your planning process
- Enhance the consistency and repeatability of your planning efforts
- Improve communications and build consensus with interested parties
- Develop documentation and visualizations that support your land use or resource management decisions
- Maximize conservation results with minimum cost and tradeoffs

NatureServe Vista is a desktop tool built on the popular ESRI ArcView platform using Spatial Analyst and Microsoft Access.

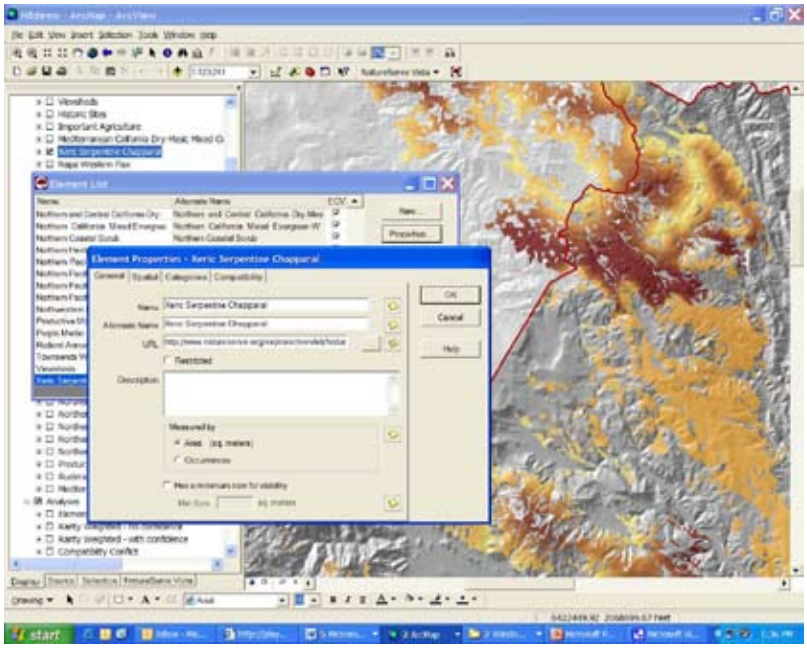
Conservation Elements: the Building Blocks of NatureServe Vista

The planning focus in NatureServe Vista is the conservation element, which represents the features you want to conserve in your area. Conservation elements can include biodiversity (species and ecosystems), ecosystem services, cultural features, and even other land uses that you want to represent at a certain level.

NatureServe Vista Overview

NatureServe Vista provides analytical tools to help you achieve your conservation goals. These tools allow you to:

- Incorporate data and expert knowledge about the elements you want to conserve
- Summarize and explore the conservation value of your landscape from a variety of



Element Conservation Value Map: *An element conservation value map will be produced for each element that you wish to conserve. In this example, areas of increasing darkness indicate high-quality occurrences of the Xeric Serpentine Chapparal plant community.*

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perspectives such as importance weightings, richness, condition, and data confidence
- Assess various land use or resource management plans and proposals for element goal achievement and areas of land use conflict
- Link to companion software to create an optimal conservation plan for your planning area
- Specify compatible land uses and implementation policies for one or all sites in your area

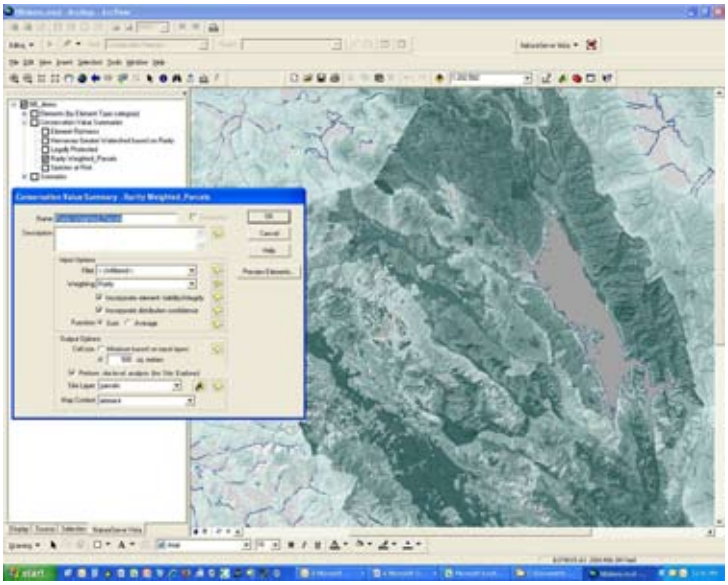
NatureServe Vista's reporting features will help you to document each step of this process, allowing you to communicate your decision-making process to partners and constituents.

Powerful Analytical Tools

1. Identify Conservation Elements

Using NatureServe Vista you can generate maps reflecting the conservation value of each element that you wish to conserve. Information is gathered from multiple datasets supplemented by expert local knowledge. These maps show where each conservation element is found, the quality of its occurrence, and your confidence in the data's accuracy. The result is a map that highlights the most valuable places to conserve for each individual element.

***Conservation Value Summaries** can be customized in a number of ways, allowing you to emphasize different aspects of the element occurrences within your planning region. In this example, areas of increasing darkness indicate higher conservation value.*



2. Summarize Conservation Value

NatureServe Vista will help you to aggregate the element conservation values generated in the previous step to express different conservation concepts such as diversity, rarity, and integrity. The result is a map that reveals areas that are opportunities for conservation as well as areas that may be available for other uses. These *Conservation Value Summaries* can be customized in a number of ways. For instance, you can:

- Select the group of elements you want to analyze, such as all legally protected species, all species within a particular taxonomic group, or all scenic areas
- Assign importance weights to individual elements, thereby allowing you to prioritize conservation objectives such as conserving rare species, historical sites, or economic value; multiple weighting systems can be explored, allowing you to compare conservation priorities for different groups
- Use the information you collect about your conservation elements to help identify areas of high ecological integrity or areas where additional surveys or mapping are needed to increase confidence in the data

3. Evaluate Land Use Scenarios

NatureServe Vista's *Scenario Evaluation* feature allows you to assess the ability of any scenario to meet your element retention goals and to obtain detailed map and quantitative report results. Scenarios are unlimited but typically include current uses, development based on current policies or trends, and other impacts and hazards such as sea level rise.

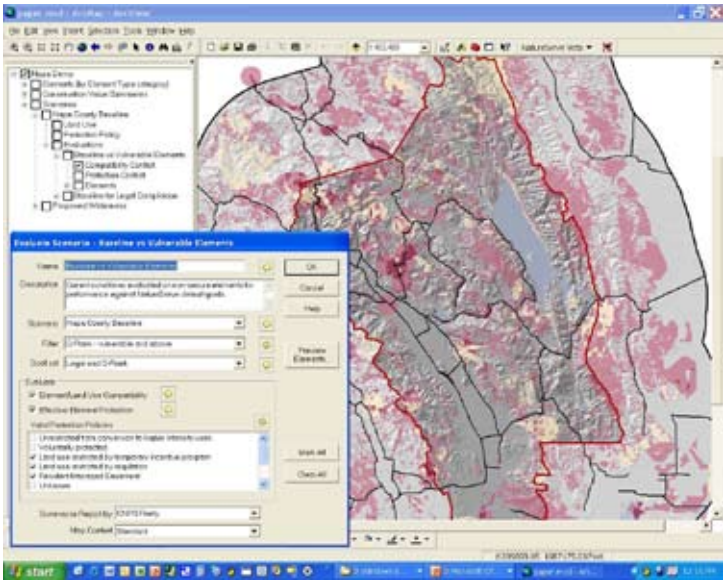
You can conduct either categorical assessments where you rate the response of your elements to your land uses by categories such as beneficial, negative, or neutral, or you can use NatureServe Vista's condition-based response. Condition-based evaluations use your experts' models of how land uses affect element condition to predict future conditions and compare these to the condition thresholds you establish for your elements.

Using *Scenario Evaluation*, you can:

- Efficiently evaluate and compare land use plans and alternative conservation strategies
- Measure progress against defined conservation goals
- Update your land use scenarios as often as needed with new data or land use decisions
- Track your progress over time

NatureServe Vista provides analytical tools within a decision-making framework to help you achieve your conservation goals. The reporting features help you document and communicate your decision-making processes through each stage.

1 Identify Conservation Elements → 2 Summarize Conservation Value →



Scenario Evaluation: *In this example, the existing land use patterns and policies were evaluated to determine where conditions were allowing species at risk to meet their conservation goals and where conditions were preventing them from meeting their goals. Areas of darker color indicate increasing conflict between the land use and policies and species at risk.*

4. Generate Conservation Solutions

NatureServe Vista facilitates the use of two tools (Marxan and SPOT) commonly used by conservation experts around the world. These tools identify an "optimal" set of conservation areas based on the elements you want to conserve, your conservation goals, and the anticipated cost associated with conserving specific locations. NatureServe Vista provides a wizard to create the inputs for these tools and provides the planning tools to turn the results into actionable plans.

5. Explore Sites and Create Mitigation Plans

Site Explorer is a powerful tool that allows you to explore the effects of alternative land uses and policies on a site or set of sites. It allows you to identify and understand the elements that contribute to the conservation value of specific sites, the land use and policies associated with those sites, and the elements' responses to those land uses and policies. With *Site Explorer*, you can change the land uses and policies associated with those sites, helping you to mitigate site-level conflicts or develop an optimal plan for your planning area.

Additional Features

A Simple Data Model

NatureServe Vista's database structure makes it easy to incorporate a variety of data from local, regional, and global information sources. Simply make sure that the scale and quality of the data match your decision needs.

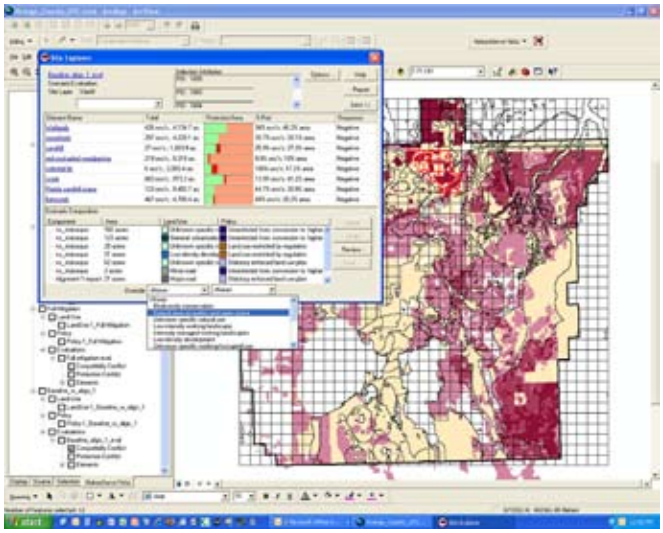
Tools to Document Your Work

NatureServe Vista provides opportunities to document every input and each step of your planning process. You can cite references, record assumptions, and document the logic behind each decision.

Standard Reports

NatureServe Vista's reporting features enable you to communicate with decision makers and constituents via standard reports and maps. NatureServe Vista generates HTML reports with embedded maps for all elements and analyses. These reports, which are easily published online, can be exported to software programs such as Microsoft Word or Excel. The references, assumptions, and decision points that you capture during the planning process are included in these reports, enhancing your ability to communicate the details of your decision-making process.

Site Explorer: *This tool identifies the conservation elements found in a particular site (outlined in red). Site Explorer also documents the land uses and policies that affect the site and describes the elements' response to those uses. Override menus allow the user to specify alternative land uses and policies for the site that better meet their conservation objectives.*



Work with Other Tools

No tool does it all, so NatureServe Vista has been demonstrated to work with other planning and modeling tools such as CommunityViz, Marxan, N-SPECT, and others to enhance your ability to bring other tool results into NatureServe Vista and conduct enhanced work with NatureServe Vista information in other tools. NatureServe specializes in developing custom toolkits and workflows for all sectors.

Ease of Use

NatureServe Vista's design greatly simplifies the process of conducting the complex analyses needed to support land use planning and resource management decisions. Ease-of-use features include:

- **Guided data entry**: NatureServe Vista will guide you through the data-entry process, ensuring that necessary data is correctly input into the system to achieve reliable results
- **GIS automation**: The underlying GIS steps are automated, reducing the amount of hands-on time required to perform analyses and achieve results, and helping you to explore multiple land use scenarios cost effectively
- **Help**: Easy installation and registration, and integrated online help are all provided

Our Partners

We gratefully acknowledge generous lead support for this project from the Doris Duke Charitable Foundation. Additional support provided by:

- NASA REASON program
- The Nature Conservancy
- Surdna Foundation
- The David & Lucille Packard Foundation
- Chevron
- Environmental Defense
- Centex

Partners in the development of NatureServe Vista include:

- UC Santa Barbara Biogeography Laboratory
- U.S. Geological Survey
- Wyoming Natural Diversity Database
- Florida Natural Areas Inventory
- ESRI

Learn More

Download NatureServe Vista 2. X Series for FREE

Sample datasets are included, providing you with an opportunity to easily evaluate the usefulness of NatureServe Vista for your application. To register for your free installation, visit us at www.natureserve.org/vista.

Get Technical Support and Training

NatureServe offers complete support and training services designed to help you make the most of the functionality NatureServe Vista provides. The software includes a well-developed online help feature, and additional resources are provided online. Custom live support and interactive training is available.

Access Consulting Services

NatureServe offers expertise in conservation planning and can help you develop a NatureServe Vista project that meets your planning requirements. Expert assistance is available to help you with every step in the planning process, from data development to advanced scientific analyses.

Contact Us

To discuss your support or consulting needs contact us at vista@natureserve.org

Product Specifications

Software Platform: ESRI ArcView 9.1/2 with Spatial Analyst

Operating System: Windows 2000 or Windows XP

CPU Speed: 1.0 GHz

Hard Disk Space: 100 MB (does not include the required Microsoft .NET framework 1.1)

Memory: 512 MB minimum; 2GB recommended (project area size and data resolution may significantly increase computing requirements)

About NatureServe

NatureServe is a non-profit conservation organization that provides the scientific basis for effective conservation action. We have more than three decades of experience working together with our partners and our network of 82 natural heritage programs throughout the United States, Canada, Latin America and the Caribbean. NatureServe is the leading source for information about rare and endangered species and threatened ecosystems.

The objective scientific information developed by NatureServe is used by all sectors of society, including conservation groups, government agencies, corporations, academia, and the public, to make informed decisions about managing our natural resources.

NatureServe
A Network Connecting Science With Conservation

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