

How to do a Natural Resource Assessment

The Natural Resource Assessment is the third step in Natural Resource-based Planning process. In this step, information collected in the inventory is used to rank and prioritize areas for open space protection or investigation of other local natural resource issues.

THE KEY STEPS IN NATURAL RESOURCE-BASED PLANNING ARE:

1. Identify community issues and goals.
2. Conduct a natural resource inventory.
3. **Conduct an assessment of your NRI.**
4. Develop a plan.
5. Implement the plan.
6. Monitor your community's progress.

The assessment process will vary depending upon community goals, issues, and features identified during the NRI.

A NRA can range from a simple visual analysis to detect patterns on a map to a complex rain water runoff model (this generally requires GIS).

A Visual NRA is a qualitative approach that works well with a Hand-Drawn NRI, but can also be used with a GIS-Based NRI.

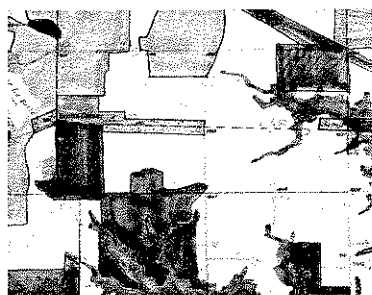










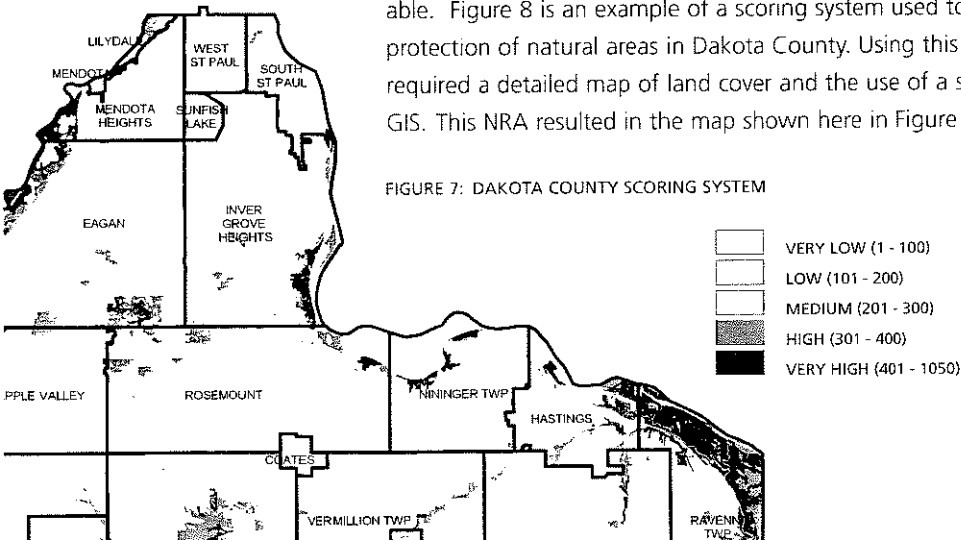
FIGURE 6:
IMAGE OF EXAMPLE VISUAL NRA
EXAMPLE FROM CARLTON COUNTY

NATURAL RESOURCE ASSESSMENT

-  RESIDENTIAL EXISTING & FUTURE EXPANSION
-  GRAVEL RESOURCE
-  PIPELINE/HAZARD BUFFER
-  PARK & TRAIL BUFFER
-  AG PRESERVATION
-  FOREST PRESERVATION
PROTECT & ENHANCE EXISTING HIGH QUALITY FOREST
-  RIPARIAN BUFFERS
• PROTECTS WATER QUALITY
• PROTECTS STEEP SLOPES
-  WETLAND/FOREST COMPLEX
• PROTECTS WATER QUALITY
• SOILS NOT SUITABLE FOR DEVELOPMENT
• LOW DENSITY RESIDENTIAL

An Advanced NRA can be used if your community requires a more quantitative approach and a number of model assessments are available. Figure 8 is an example of a scoring system used to prioritize protection of natural areas in Dakota County. Using this type of NRA required a detailed map of land cover and the use of a sophisticated GIS. This NRA resulted in the map shown here in Figure 7.

FIGURE 7: DAKOTA COUNTY SCORING SYSTEM



ECOLOGICAL CRITERIA FOR SCORING LAND COVER . . . VALUE (1-100)

| | |
|--|------|
| Habitat Size | |
| Large | .100 |
| Medium | .70 |
| Small | .40 |
| Rare Natural Community | .100 |
| Rare Plant Species Present | .100 |
| Rare Animal Species Present | .100 |
| Agricultural Land | .40 |
| Urban Green Space | .30 |
| Vegetated Stream Corridors (300 ft. buffer) | .50 |
| Trout Stream Areas | .100 |
| Undeveloped Lake Shore (300 ft. buffer) | |
| Vegetated | .80 |
| Agriculture | .40 |
| Patches of Natural and Semi-Natural Vegetation | .100 |
| Corridors of Natural and Semi-Natural Vegetation | .70 |

FIGURE 8: CRITERIA FOR SCORING NATURAL AREAS IN DAKOTA COUNTY

“Firewise: Minnesota” is a DNR program that uses a NRA to determine wildfire risk. Communities growing into landscapes of forest and wetlands are at increasing risk of catastrophic loss of life and property to wildfire. Such losses are readily preventable if the community adopts and implements a “firewise” community plan, including surrounding homes with defensible space free of fire-prone vegetation. Communities who do not know where their wildland fire risk exists can undertake a quick, broad survey of their risk based on the amount of defensible space surrounding individual homes. Here, aerial photographs are used to give a defensible space rating on a scale of 1 to 5 based on vegetative clearance around the home. Using a GIS, ratings are then accumulated into a risk density map where the areas of greatest risk are shown in yellow and orange. With this information, the local fire department can efficiently target their risk mitigation strategies and work with the landowners to reduce the danger. The project shown was done by trained high school students. (See Figure 9)

The next steps in the Natural Resource-Based Planning Process are to use the NRA to develop and implement your plan using a variety of tools.

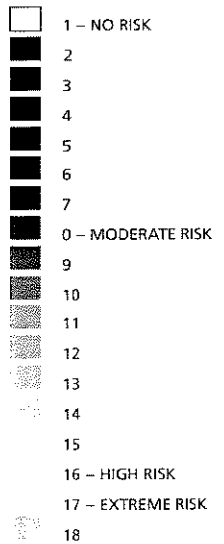
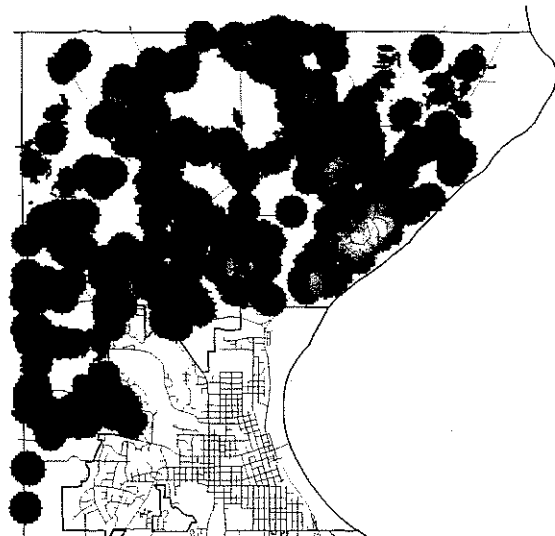


FIGURE 9: FIREWISE RISK ASSESSMENT IN A PORTION OF WASHINGTON COUNTY



Chapter XX.05 Section A sets eligibility for the advisory committee. The initial eligibility is broad and establishes minimum criteria and a geographic area within which parcels must be located before and application will be accepted. Acceptance of an application does not guarantee the development rights will be purchased. In any given application cycle, all eligible applications will be ranked according to established ranking criteria. Higher ranked parcels will be purchased before lower ranked parcels.

Section B identifies ranking criteria. As with the resources to be protected, ranking criteria will vary considerably among communities. The model ordinance presents the ranking criteria developed for Washington County, Minnesota, a county under significant development pressure. The ranking criteria can include both positive points and negative points. Negative points may be given for factors that indicate the parcel is planned for development under a community-wide plan, such as proximity to current or planned sewer services, and current zoning.

The ranking criteria may change significantly depending on your community's resource protection priorities. Many PDR programs are used to protect agricultural land. The model ordinance blends protection of agricultural land with protection of significant natural areas, scenic views, and open space. Community priorities should be developed in the public input process used to develop a PDR program.

The model PDR ordinance splits the ranking criteria into two phases. The first phase criteria are presented in the application and reviewed on paper by the selection committee. After the applications are ranked by priority for purchase under the first phase criteria, information on second phase criteria are gathered through a field survey. Parcels can move up in priority based on second phase criteria. The process flowchart (Attachment 2) graphically shows the entire selection process including the two phase ranking process.

XX.05 Eligibility and Priorities

Tax revenues and other funds shall be used to purchase property interests in the following lands in the following order of priority:

- A. **Initial Eligibility.** All of the following factors must be present for a property to be considered for purchase of development rights:
 1. Voluntary application by the property owner;
 2. Inclusion within the targeted geographic area as defined in section 1.XXX above.
 3. The parcel must have some development rights remaining under current zoning.
- B. **Ranking Criteria - Phase 1.** The following criteria shall be used in determining which applications to consider in any selection round. Each criterion is assigned point values on a worksheet, which is included in this Ordinance as Attachment 1, and which shall be used as a guide. Point values may be established or modified by the Governing Body prior to each selection round.
 1. Natural Resource Values
 - a. Presence of substantial forest interior.
 - b. Presence of lakeshore or stream corridor.
 - c. County Biological Survey site or area.
 - d. Presence of erosion-prone soils (including steep slopes).
 2. Agricultural Values
 - a. History of agricultural production.
 - b. Prime or significant farmland soils.
 - c. Enrollment in farmland protection programs.
 - d. Historic farmstead or landmark (National or State Registers or County inventory).
 3. Spatial Values

- a. Proximity to parks or other protected open space (adjacent or within ½ mile).
 - b. Application size of 80 acres or more (could include multiple contiguous parcels under single ownership).
 - c. Public access provided (may or may not enhance existing recreational opportunity).
 - d. Within a designated scenic corridor.
 - e. Planned for municipal sewer service (a negative point value).
4. Planning and Zoning Considerations
- Comprehensive plan designation for agriculture, resource protection or an equivalent designation.
- a. (Zoning densities of 1 unit per 10 acres or lower (a sliding scale of points; lower densities receive higher point values).

C. Ranking Criteria - Phase 2. The following criteria shall be used by the Advisory Committee and program staff, in conjunction with site visits, to determine final ranking of parcels recommended for easement purchase. Point values may be established or modified by the Governing Body prior to any selection round.

- 1. Additional natural values, based on field survey
- 2. Additional scenic or historic values, based on field survey and research
- 3. Ability to serve multiple public purposes, such as storm water management, recreation, etc. (to be determined by field survey, comments from local government units and additional research).

Staff and Committee will also consider factors such as willingness of the landowner to offer a bargain sale (a below-value sale price), opportunities for leveraging additional funding, or multiple applications from the same general area, in developing a list of “Recommended Parcels,” as outlined in Section 6.

Chapter XX.06 defines the selection process. An application cycle (Section A.) controls the workload for program staff, and makes the process clear to program participants.

XX.06 Selection Process

The Governing Body will establish program rules and set the schedule for each

selection round. In general, the process will include, but is not limited to, the following steps:

- A. **Acceptance of Applications.** The Governing Board will accept applications during a set period, to be held at least annually. Applications indicate an interest in participating in the program, and do not represent a binding commitment or offer to sell a conservation easement.
- B. **Screening and Phase 1 Ranking of Applications.** Staff will screen applications for eligibility, and will then conduct the Phase I ranking of eligible parcels, using the Phase 1 criteria listed in Section 5. The resulting list of "Candidate Parcels" will be reviewed by the Advisory Committee. Comments on candidate parcels will be solicited from local units of government.
- C. **Site Visits and Phase 2 Ranking of Candidate Parcels.** The Advisory Committee and staff will conduct site visits and Phase 2 ranking of candidate parcels, using the Phase 2 criteria listed in Section 5, to develop a list of "Recommended Parcels." The resulting list will be submitted to the Governing Body for review and approval to pursue easement valuations.
- D. **Easement Valuations and Negotiation.** Easement valuations will be conducted as described in Section 7. The program staff will negotiate price and easement terms with landowners. Landowners may make offers to sell at a price lower than the easement value (bargain sale) during this period.
- E. **Prioritized Purchases.** Based on easement values, bargain sale offers, availability of additional funding for specific purchases, comments from local government units, and other factors, the Advisory Committee will prepare a prioritized list of Recommended Purchases for approval by the Governing Body.
- F. **Modification of Recommended Priorities.** The Governing Body may accept or modify the list of Recommended Purchases. Modification includes only the removal of parcels from the list of Recommended Purchases and/or substitution of parcels which were included in applications accepted during the application period which produced the list of Recommended Purchases. Easements will be approved for purchase based upon available funding, and those not funded shall be placed on a waiting list.

Section D. discusses easement valuation. Landowners may choose to sell at a bargain sale price in order to take advantage of income tax benefits. Section 170(h) of the Internal Revenue Code allows donors or partial donors of qualified conservation easements to take a charitable deduction for the bargain portion of the sale. Briefly stated, a landowner may use the donation to deduct up to 30% of adjusted gross income in the year of the sale and for up to five years in the future.

G. **Offers to Purchase.** Upon Governing Body approval, offers to purchase easements will be tendered to the landowner. An offer may specify terms, contingencies and conditions not contained in the original application, based on negotiations with the landowner and other factors. A period will be established within which landowners may accept or reject offers to purchase. If an offer is rejected, funds will be reallocated to the next available parcel on the waiting list.

H. **Closing and Payment.** Settlement will occur following the landowner's acceptance of the offer to purchase an easement, and is contingent upon due diligence, a title search, mortgagee's consent to the easement, and any other evidence that may be necessary to clear title. Payment terms may be by lump sum, by installments, or by other arrangements satisfactory to both parties.

I. **Recording and Monitoring.** The acquisition of an easement will be recorded in the County land records, the Assessor's records, and the administrative records of the PDR program. Monitoring will be conducted as specified in Section 9.

XX.07 Easement Valuation

Chapter XX.07 discusses easement valuation. The model PDR program provides for flexibility in choosing a method for valuing easements to be purchased. Local governments can not purchase interests in property for more than fair market value. A full appraisal of an easement clearly defines fair market value. Conducting a full appraisal for each easement, however, can be costly and time consuming. Established PDR programs often use other methods for establishing value. Montgomery County, Maryland, a well established program, uses a worksheet that assigns set points that translate into dollar values for characteristics of the easement parcel. For example, USDA Class I soils receive a high point value, Class II receive fewer points, and Class III soils receive the fewest. Each method should be based on an initial round of appraisals or sample appraisals in order to establish fair market values for different characteristics.

A. **Valuation Methods.** Value of conservation easements shall be determined using a method established by the Governing Body prior to each selection round. Appraisals may be used, or an equivalent method of valuing easements may be determined using assessed valuation, appraisal sampling, or other methods. It is likely that appraisals will be used initially to gather data on the relative values of natural and agricultural lands within the community.

B. **Appraised Value Defined.** The appraised value of the conservation easement is the difference between:

1. The parcel's fair market value, based on its potential for development; and
2. The parcel's restricted value, based upon the agricultural or

conservation activities that could occur on the property under the terms of the easement.

C. **Landowner Appraisals.** Whatever method is used, landowners may obtain their own appraisal at their own expense from a qualified appraiser for purposes of comparison and negotiation, and/or for the purpose of calculating tax benefits.

XX.08 NATURE OF EASEMENT RESTRICTIONS

Chapter XX.08 sets conservation easement restrictions. The community should establish a minimum set of restrictions that will be required in every conservation easement. Other terms may be negotiated with the landowner to achieve additional goals of the landowner or the community.

A. **Nature of Restrictions.** Conservation easements shall be permanent. The specific terms of the easement shall be negotiated on a case-by-case basis. The terms will be designed to protect the property's resource values, as defined through the initial application and the ranking and selection process.

B. **Holding of Easements.** Easements shall be held by a qualified unit of government, conservation organization, land trust or similar organization authorized to hold interest in real property (pursuant to Minnesota Statutes, Section 84C.01-05) as approved by the Governing Body. Model Community will co-hold all easements. Other local units of government may also hold or co-hold an easement.

C. **Prohibited Uses of Land.** The following land uses shall be prohibited on lands under a conservation easement:

1. Additional residential units (other than the existing residence, if present) are not permitted within the designated easement area. The applicant must designate any areas to be set aside for residential development at the time of application. The area must be subdivided from the eased property prior to closing. Any remaining density left unused on lands under easement shall be extinguished under the terms of the easement.
2. Non-agricultural commercial or industrial development are not permitted within the designated easement area without prior written approval of the easement holder(s).

Section D. sets permitted uses. Like other land use conditions, the permitted uses will vary according to community priorities.

D. **Permitted Uses.** Lands under a development rights easement may continue to be used for the following purposes, except as regulated by the specific terms of the easement and as restricted by local zoning

requirements and other applicable regulations:

1. Customary agricultural uses, including seasonal and specialty agricultural businesses and customary home occupations as defined by applicable zoning requirements.
2. Land conservation and management activities, as specified in the terms of the easement.
3. The landowner's residence or farmstead.
4. Replacement, expansion or modification of existing buildings within the immediate area of the house site or farmstead, up to a specified percentage of the original building footprint(s), which shall be negotiated as part of the terms of the easement.
5. Customary agricultural buildings shall be permitted as specified in the terms of the easement.
6. Other activities and alterations that may occur on the property shall be defined by the terms of the easement. In general, such activities shall be permitted to the extent that they do not lessen or degrade the resource values the easement is intended to protect.
7. A conservation plan prepared according to the standards of the Natural Resources Conservation Service or similar agency shall be required for all agricultural land under easement.

XX.09 Easement Monitoring and Enforcement

- A. **Documentation.** At the time the easement is recorded, documentation of the property shall be conducted, using aerial photographs, maps, photos and/or other media, as a baseline for future monitoring. Such documentation shall be updated periodically by the easement holder(s).
- B. **Frequency of Monitoring.** Easements shall be monitored on an annual basis to ensure compliance. Monitoring may include a site visit, with prior notice to the landowner.
- C. **Monitoring Organization.** The County may contract with an outside organization, such as a land trust, to co-hold, document and monitor easements, as described in Section 3.5.
- D. **Enforcement.** If the terms of the easement are violated, the easement holder(s) may pursue all legal remedies available, including, but not limited to, correction of the violation.

Chapter XX.09 discusses monitoring and enforcement standards. On-going monitoring and enforcement of the easement terms is extremely important to the success of a PDR program. Easements should be monitored at least yearly to check for violations and educate new landowners about the terms of the easements, and document natural and human-made changes. If violations are discovered, the holder of the easement should notify the landowner of the violation and ask that corrective measures be undertaken. If the landowner is not cooperative, the easement holder may need to pursue legal remedies to correct the violation. Many PDR programs contract with land trusts (nonprofit land conservation organizations) to conduct monitoring activities because land trusts are already set up to conduct monitoring activities.

**Attachment 1
Criteria Worksheet**

| Phase I Criteria | Points | Min. | Med. | Max. |
|---|--------|-------------|------|-----------|
| Natural Resource Values | | | | |
| 1. Substantial forest interior | 3 | | 5 | 8 |
| 2. Presence of lakeshore or stream corridor < 1/4 mi. = 3; 1/4 mi. + = 5 | 3 | | | 5 |
| 3. County Biological Survey site or area Site = 8; area = 10 | 8 | | | 10 |
| 4. Presence of erosion prone soils (incl. steep slopes) | | | | <u>3</u> |
| | | Max. points | | 26 |
| Agricultural Values | | | | |
| 1. Active ag. in large blocks | | 3 | 4 | 5 |
| 2. Prime or signif. soils Prime = 3; signif. = 2 | | 2 | | 3 |
| 3. Enrollment in Ag. Preserves or Green Acres | | | | 5 |
| 4. Historic farmstead or landmark Landmark (Nat./State Reg.) = 5; Farmstead = 3 | | 3 | | <u>5</u> |
| | | Max Points | | 18 |
| Spatial Criteria | | | | |
| 1. Proximity to parks/protected lands Within 1/2 mi. = 7; adjacent = 10 | | 7 | | 10 |
| 2. Parcel size > 80 ac. | | | | 5 |
| 3. Public access Enhances existing rec. opportunity = | | | | 5 |
| 4. Presence in designated scenic corr. | | | | 5 |
| 5. Planned for munic. sewer | | | | <u>-5</u> |
| | | Max points | | 25 |

Planning/Zoning Criteria

| | | | |
|---|---|----|---|
| 1. Comprehensive plan designation (Ag. or resource protect.) | 3 | | |
| 2. Zoning - max. gross densities 1:10 = 2; 1:20 = 3; 1:40 = 5 | 3 | 5 | |
| Max points | | 8 | |
| Max. Phase I Points | | | 72 |
| Field evaluation - Phase II Criteria | | | |
| 1. Additional natural values (field check) | 5 | | |
| 2. Additional scenic values (field check) | 5 | | |
| 3. Serves multiple public purposes: 1 point each, up to 5 | 5 | | |
| 4. Bargain sale offered 10-25% reduction = 5 25-50% = 6 50%+ = 7 | 3 | 4 | |
| 5. Leverages additional funds | 5 | 10 | 5-10 points, determined by review board |
| Max. Phase II points | | | 30 |
| Max. Phase I and Phase II points | | | 102 |