

A Guide to Small Scale Prairie Restoration:

How to grow your own patch of native prairie

For schools and community groups

Native Plant Society of Saskatchewan and
Saskatchewan Watershed Authority
Prairie Stewardship Program

Introduction

Welcome to native prairie restoration! Reading this guidebook will give you a good idea of the steps necessary to create your own patch of native prairie. The most important part to remember is that this is a process, an interesting process, and not simply a finished product. The very nature of ecosystems guarantees that the prairie will continue to change even after it is established. This process of creating a native prairie ecosystem has almost limitless potential for use as an educational tool, for students of all ages.

This guide is meant to be a generalized introduction to prairie restoration, and a guide to the steps necessary to grow prairie. We did not intend for it to be the only resource used in this process, and have therefore included a large section of references (Appendix III) in a number of topic areas. Please use these references to expand your knowledge and ideas before you begin a project, and also use them for details about techniques while in progress.

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I. Introduction to prairie restoration

A. What is native prairie?

“The Saskatchewan prairies formed after the glaciers began to retreat 16,000 years ago. This geological history has left us with distinctive landforms and soils. The native prairie developed on that landscape and in an environment characterized by a harsh climate, grazing pressure, and fires. It can be said that the prairies were shaped by these disturbances.

Native prairie is dominated by grasses, but it is anything but boring! There are hundreds of different grasses and wildflowers, as well as shrubs and trees. Careful observation of prairie from spring to fall reveals a variety of life - the plants put on an amazing display of colours, textures, and shapes.

Biodiversity (short for biological diversity) is a term used to talk about the variety of living things. Biodiversity is important at three levels:

1. Species - the number of different species in an area;
2. Genes - the genetic variety within each species, and;
3. Communities - the variety of community types (groups of species)

Biodiversity results from living things adapting to their environment. For example, in a healthy native prairie, there are species that thrive in moist conditions and some that prefer dry hill slopes. The existence of all of these species allows the prairie to maintain ground cover in drought and in wet years. The species simply fluctuate in numbers in response to environmental conditions.

Similarly, genetic variety within a species ensures the persistence of that species in the face of changing environmental conditions. For example, certain individual plants may be more tolerant of grazing or more resistant to disease. On a larger scale, a variety of plant communities, including wetlands, saline areas, and places dominated by shrubs and trees, provide different habitat types for species besides plants.

When it comes to biodiversity, though, more is not always better. Attempts should be made to manage for the natural biodiversity of a place. In fact, addition of species that are not native to the prairies (“exotics”), such as agricultural and garden plants or weeds usually lowers the diversity of native species. Where only a small prairie area remains, it may be more important to maintain the grass cover and provide much needed habitat for grassland species than it is to have poplar bluffs, which are relatively common.

All of us who live here know that our climatic conditions are harsh! This is a land of extremes. There is severe heat and cold, the temperature fluctuating from day to day as well as from season to season. Moisture availability is generally low, due to a combination of irregular and minimal precipitation, and excessive evaporation. On top of this, severe weather often brings high winds, heavy downpours, and hail.

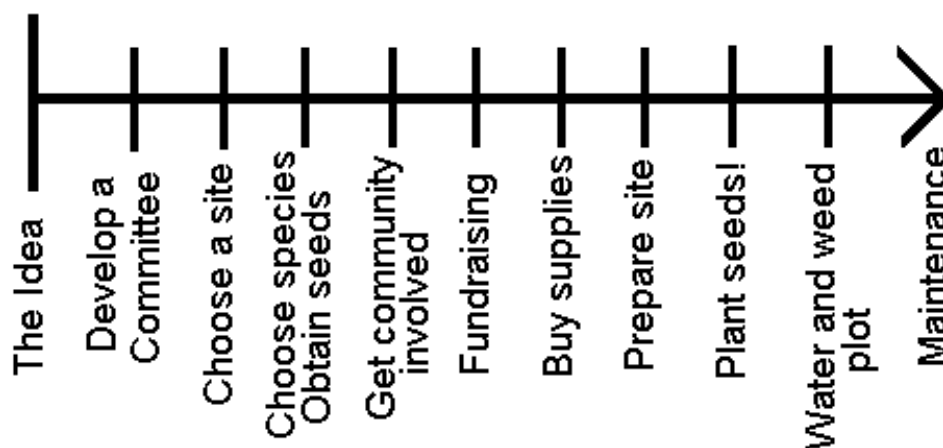
So during the short growing season the conditions for plant growth are very unpredictable, and native plants and animals have adapted to endure extended periods with very little water and nutrient intake. One plant adaptation is to store food as reserves to survive times of dormancy. Another adaptation is the way many prairie plants roll up their leaves when conditions are hot and dry, reducing exposure to the elements and moisture evaporation through leaf pores.

The build up of litter plays an important role as well. Vigorous ground cover decreases moisture evaporation, runoff, and erosion. Plant cover creates a local environment (a microclimate) that moderates the extreme conditions. For example, vegetation cover slows and holds precipitation, reducing soil erosion that could result from a heavy downpour, and allowing more moisture to soak into the soil over a greater amount of time rather than run off. Vegetation cover also moderates extremes of heat and cold by insulating the soil surface and roots and bases of plants”¹.

B. What is prairie restoration?

Prairie restoration is an approach to landscaping which combines ecological concerns with an appreciation of natural beauty. This process of ecological restoration encourages the natural environment to return to urban areas. Native grasses, wildflowers, and shrubs are used instead of high-maintenance, exotic ground covers. Vegetation is allowed to proceed in its natural progression, and native insects, birds, and animals are welcomed. In schoolyards, restoration is also a learning process which involves students and the natural world around them.

People who have done prairie restoration repeatedly say “start small”! Do the first plot of prairie really well, and then when it is established, try expanding it. If you start with too large a plot, it will be a monumental weeding task every 2-3 weeks.



Time line of steps in the prairie restoration process

¹Jim Moen, Saskatchewan Watershed Authority. 1998. Managing your Native Prairie Parcels.

C. Benefits of prairie restoration

Economic benefits - Your prairie will not require regular mowing or fertilizing, nor will it require watering after the first year, merely a minimal amount of weeding, and mowing or burning once every three years. The plants native to this area evolved in these conditions, and thrive in them! This translates into lower maintenance than for manicured lawns and clipped hedges.

Aesthetic benefits - A natural prairie contains many plant species of various forms. It is much more interesting than a uniform lawn. The prairie blooms progressively, and if you wisely choose the species to include, your patch could bloom from early spring (Crocuses) to fall (Goldenrod). Your native prairie may also attract birds, butterflies and insects. It will give people in the community the opportunity to appreciate the complexity and beauty of the native prairie. A path or system of paths through the site, perhaps with signs or labels for plants, ensures that the whole community will be able to enjoy this natural space.

Resource for learning - “Nature” is usually thought of as a science topic. However, environmental education is interdisciplinary by definition. Students of all ages can potentially learn about history (what has happened to this site in the past?), art (source of natural dyes, art supplies, and inspiration), writing (creative writing, romantic poetry, and prose), public interaction (meeting others interested in restoration, making presentations to potential sources of funding), ecology (succession of species, native adaptations), geography (mapping the site, finding the locations of other sites), economics or accounting (budgeting for the project), and social studies (First Nations studies, comparison of attitudes). Remember, the site will be readily accessible, and doesn't require special trips or tools to study.

D. Who can do this? What is involved?

Any group can create a plot of native prairie, once they have the know-how. The area may be a backyard, a plot in a park, a strip of soil around a building, or part of a schoolyard. You may be limited as to size and location of the space you will work with, so wisely choose the layout and types of plants you wish to start with. In any case, starting small is a very good idea. After the initial planning and planting, you can slowly expand the diversity and size of the area.

This is a complex project, which needs team effort and commitment, community involvement, and a dedicated organizing committee who will give impetus to the project through times of lower interest. Before beginning the restoration, a 10-15 year plan should be in place along with a detailed plan for the first three to four years, which need relatively intensive management. There are many resources to help you with this project, and making use of them will increase your chances of success.

II. Planning your prairie restoration project

“Once you have decided to take on a ... project it is a good idea to visualize the project from start to finish as best you can. Having an overall vision before you start will help keep it in perspective and ensure the efficient integration of each phase. You should know what type of project you would like to create, approximately how much money will be needed, the length of implementation, the maintenance schedule, and how your site will be integrated into the curriculum. That way, when you call on people to assist with your project, they will understand the direction of the project and will be more willing to volunteer their time.”²

A. Bring together a committee

Restoring an area to prairie, even on a small scale, takes a great deal of time and energy, especially in the first few years. Right from the beginning, a core group of people should help each other and share responsibilities, and be committed to see the project through to the end. This group could be as large as 15 people, each with responsibility for a part of the project, or as small as 5 people who organize and then delegate some responsibilities to other volunteers.

For this project to be successful, you will need widespread involvement at all levels: students and teachers (major components of the committee for schoolyard restoration), school groups, school and park maintenance staff, parents, technical advisors, community members, local businesses and nature groups. People with a wide range of experience can give support in many different ways.

Once you've assembled a group of interested people to participate in planning and organization, let them volunteer what they want to do. Many individuals have hobbies or skills which will be helpful, and if they are participating in a way that they like and are comfortable with, they are more likely to continue.

This project needs continuity. Try to organize permanent positions, so that outside organizations can deal with the same person throughout the process. Some permanent positions to consider are: public representative, media liaison, treasurer, and someone at least nominally responsible for overseeing the whole process.

Now that a committee is in place, you should collectively review and define your goals. This will create a firm feeling of collective ownership for the project. With a defined vision and specific goals, members can more easily deal with tasks and unexpected happenings.

B. Involve and inform the community

Once you have a project in mind, and have fully committed to going through with it, start informing the community. Write articles for the community newspaper or school newspaper; have an information night to present the idea and plans; have an evening seminar about native prairie; even go on a community field trip to a nearby area of native prairie. Whatever you choose to do, get the community behind your project, and help people to understand what is

² The Evergreen Society. 1998. A guide to school ground naturalization.

happening. The neighborhood around you is a valuable source of volunteers and support. If anyone is opposed to this project, information will go a long way towards gaining their understanding and acceptance.

C. Inventory your area

Map the immediate area, and decide where to develop and how much to develop. Map in all structures, including landforms, water, buildings, fences, utility poles and lines (call utility companies). Detail the vegetation that is there now, such as bushes, trees, reeds, marsh, weeds, lawn, “rough grass”, and asphalt. Take note of the topography, such as presence of hills and low spots, dry or wet areas, slopes, prevailing wind direction, and exposure to sun. Record the current usage patterns of the area, and how you think they might change. Using various methods, find out what sort of soil you will be working with, and if it will need improving (see Section III D Site Preparation). Search land records and the memory of long-time residents to determine the past history of the site. Previous uses of the land could influence the outcome of your project (for example, landfill, toxic materials, mixing of soil, or potential for flooding). Finally, check out adjoining sites, to see if there is a nearby source of weeds or chemicals (pesticides and herbicides). Nearby weeds can severely hamper your project, as they will spread. This will not only increase the amount of time needed to care for the plot, but also slow the development of your prairie plants.

D. Identify end results

Find out what plants this area can support naturally, and what would be appropriate to the climate and conditions of the area (See Appendix I). From this list, get suggestions from interested persons in the community, as well as from prairie restoration experts (See Appendix II). When buying the seed, attempt to obtain locally grown and collected native seed. The plants in your immediate area are the ones appropriate for your restoration. These grasses and flowers are adapted to the soil, weather, and conditions around you. Locally collected seed is more expensive than commercial cultivars, but the commercial cultivars do not have the genetic diversity that wild seed has, nor the particular tolerances and characteristics of wild plants from your immediate area.

Two books that may be very useful to you are Prairie Roots: A Handbook for Native Prairie Restoration, by Garth Wruck and Andy Hammermeister, and Restoring Canada's Native Prairie by John Morgan *et al.* These books are guides to the technical aspects of prairie planting, and are most helpful for restoration projects.

Consider public perception when designing the layout of your patch of prairie. Nature may be considered to be “messy”. Many people cannot tell the difference between prairie, with its taller grasses, and an overgrown lawn. The key to avoiding the local weed ordinances is both information and “cues to human care”. You may want to have a sign made which explains what you are doing, why you are doing it, and that this is the way it is supposed to look. As well, there are a few specific cues that people recognize as attractive because they represent a neat, cared-for landscape. A defined shape to the plot, with rounded edges rather than square corners, shows that the prairie grasses are meant to be there. “Framing” the patch of prairie with a strip of mowed lawn (of a native grass) or a cement or gravel walkway clearly shows human attention.

Using fences or stones to outline the prairie patch creates obvious borders. Putting up birdhouses and feeders helps people to recognize the area as bird habitat. Planting showy wildflowers around the edge of the plot is beneficial, as more subtle prairie plants tend to be misunderstood as weeds³.

Consult with people who are interested in and know about growing prairie, (See Appendix II for a start). Decide precisely what you want with regards to layout, plant species, water, paths, stages, etc., and then draw a final diagram complete with a species list. Obtain local, native seeds of the species you wish to include, and mix them together. When creating your seed mix, consider the size and weight of the seeds, the aggressiveness of the individual species, and the typical composition of native prairie. Include a large number of species, and remember that the size of the mature plant differs between species. You may wish to include a somewhat higher proportion of showy wildflowers than is normal in native prairie. Try to choose a group of wildflowers that will bloom progressively throughout the season. Select grasses that range from early to late and cool to warm, so that all conditions will cause some growth.

It is vital that you choose plants that will thrive in the conditions you have to work with (soil type, moisture levels, etc). This is a good time to consult a native prairie restoration expert. If you cannot find a source for certain seeds that you want, try to find a nearby patch of remnant or native prairie, and you may be able to carefully collect your own seed (see Appendix III for resources about native seed collection). For very small patches, some restorationists also use “plugs”, which are little seedlings of established grass. When ordering seed from native seed companies, it is important to give them plenty of time to harvest the seed for you. Tell them what types and quantities of seed you will require the year before you wish to plant.

Create a 60 cm (2 feet) wide isolation strip between your prairie plot and the rest of the area. This buffer zone will prevent aggressive, invasive grasses from invading your prairie. The isolation strip can be made in a few different ways. It may already be in place if the area is naturally bounded by asphalt or cement. If there is a Kentucky Bluegrass lawn, strip out the sod and dirt (to a depth of about 30cm), and fill the strip with gravel and crushed rock. This will also make a good path around the outside. If any green plants emerge from this gravel, they need to be pulled or treated with herbicide. Another method of protecting your plot is to strip the sod, as previously mentioned, and plant an inexpensive cultivar of Sheep Fescue (*Festuca ovina*). When Sheep Fescue is established, it can be mowed like lawn. It is not invasive to your plot, and tenacious enough to prevent incursions from exotic grasses.

E. Budgeting

Restoration of prairie, like any other project, takes money, supplies, and expertise. In order to make good use of the funds you will raise, you should have an explicit budget. When you have taken all aspects of the project into consideration, stick to this budget!

3 Nassauer. Messy Ecosystems, Orderly Frames. Landscape Journal 1995.

Example Budget

Note: these numbers are not necessarily realistic for your project.

Income

Fundraising events.....	\$ 300
Bake sale.....	\$ 120
Individual Donations.....	\$ 200
Donations from organizations.....	\$ 500
Grants from funding agencies.....	\$ 200
<hr/>	
Total	\$1320

Outgo (Expenses)

Landscaping materials (shovels, trowels, watering cans, mulch, sand, rocks, lawn edging).....	\$ 200
Shrubs.....	Shand Greenhouse
Seeds.....	\$ 150
Wildflower seedlings.....	\$ 100
Site prep (asphalt removed, soil improved).....	\$ 200
Expert help.....	\$ 300(or more)
Maintenance (do yourself?).....	\$?/year
Publicity and newsletters.....	\$ 100
Photos/Photographer.....	\$ 100
Information sign.....	\$ 150
<hr/>	
Total	\$1300

III. Start your project!

A. Gathering volunteers and helpers

Lack of volunteers can cause your project to fail. To prevent this, continually recruit new volunteers. Talk to community groups, get in touch with parents of participating children, post notices in neighborhood areas, and even talk to interested passers-by! Once you have volunteers, keep them involved and in touch. Organize a 'phoning tree' to reduce the time required of each individual, while keeping the volunteers in touch with each other. Send out newsletters to keep everyone up-to-date about the project. Have a get-together once a year (or more) after the project is up and running, just to admire the plants and socialize (remember to have good food!). Above all, remember that these people are giving their time and energy for free, and deserve respect and thanks.

B. Fundraising

Be creative when looking for sources of funds for your project. Ask local businesses, professionals, and individuals for donations-in-kind such as time, expertise, goods, use of equipment, and publicity. Funding agencies are also interested in these types of projects: for example, the Canadian Wildlife Federation gives grants of \$200/class or \$500/school for native plant projects⁴. Look for other sources of money at all levels of government, and in the business community.

Remember to thank the donors (this is VERY important), and be inventive, perhaps creating thank-you gifts from grasses and flowers you've grown⁵. These products could be batik or cloth with designs using dyes from the native plants, woven grasses, dried flower, and grass arrangements, cards decorated with paint impressions of native plants or with leaves and grasses glued onto them.

C. Documentation

Try to document everything, using pictures for before-and-after comparisons, and writing down detailed plans, so if everyone suddenly has to quit, someone else can pick up the project with minimal confusion. Even if the participants are consistent, it is good to have an “original ideas” document or proposal that everyone agreed upon, to refer to in the future. Make scrapbooks for posterity.

D. Site Preparation

Many individuals who have been involved in native prairie restoration emphasize that careful preparation of the site is one of the most important steps of the whole process. The plants need soil to grow in, and the nearly infinite number of weed seeds in the soil needs to be reduced to a manageable level.

Preparation of the planting site should be done at least a year before your spring planting. The first step is to remove any asphalt or lawn grass that is to be replaced with native prairie. Test the pH of the soil, using products readily available in a Gardening Centre. Next, determine what type of soil you are working with, such as sand, clay, loam, or any stage in between, using the Field Hand Test described below. If your site is not disturbed, it is most important to work with the type of soil that is naturally there. If your chosen site has no soil at all, you may need to add topsoil (to improve water retention) or compost (to increase organic content) or sand (to improve drainage). However, if there is soil left, use it, even if it is Regina plains heavy clay (“gumbo”), as the native prairie in your area has evolved in this area, and may alter the soil itself once planted. Perhaps a few earthworms would like a home in this plot. This is a time when consulting with a native prairie restoration expert would be helpful.

⁴ This funding could change.

⁵ Cape et al. 1994. A guide to school ground naturalization. Prentice-Hall Canada.

The following test will help you to determine the type of soil you are working with:

Field Hand Test

(From Aboud and Kock, 1996)

The soil needs to be thoroughly moist for this test. Try to do it within a day or two after a rainfall. First, scrape off the top layer of leaf litter and plant cover, until you get to the actual soil. Then dig up half a pail of soil (enough for everyone there to try it). Take a handful of soil and squeeze it in your clenched fist. The shape of the lump which remains after you open your fist is called the “cast”

Soil Class	Characteristics of soil cast
Sand to sandy loam	Cast breaks very easily (when you try to move it)
Silty loam	Cast breaks with gentle handling (turning in hands)
Loam	Cast can be handled freely without it breaking.
Clay loam	Cast can be handled roughly without it breaking
Clay	Cast can be squeezed into shapes without breaking

Next, try creating a soil thread. Make “snakes” by rolling the soil between your hands. Try to create a point on one end of the soil thread.

Soil Class	Characteristics of soil thread
Sand to sandy loam	Thick, crumbly, easily broken
Silty loam	Thick, soft, easily broken
Loam	Can be rolled to a blunt point, which is easily broken
Clay loam	Strong thread which can be rolled to a pinpoint
Clay	Strong, plastic thread which can be rolled to pinpoint

Finally, try the soil ribbon test. Take a handful of soil, and then squeeze it between your thumb and index finger, and try to extrude a “ribbon”.

Soil Class	Characteristics of soil ribbon
Sand to sandy loam	Will not form ribbon
Silty loam	Will not form ribbon
Loam	Forms a thick, short ribbon that breaks from its own weight
Clay loam	Forms a thin ribbon that breaks under its own weight
Clay	Forms a long, flexible ribbon that does not break under its own weight

When your soil is classified and in satisfactory condition, you need to get rid of the numerous weed seeds that will inevitably be in it. Let the seeds sprout, and then either pull them out, or cultivate at 1cm under the soil surface (very shallow!) on a warm, sunny day. Repeat this process every two to three weeks throughout the summer (but never let the weeds develop a seed head!). Herbicide, such as Roundup™, may also be helpful, although judicious application by a qualified person is necessary. The herbicide should be applied at least twice through the summer, if you wish to use it. Another option is to cover the plot with a sheet of plastic, weighted down at the edges. When the sun shines on it, the soil warms, weed seeds sprout, and then the weed seedlings die from excess heat. Once the plot is frozen or covered in snow, let it lie until spring, when the weeds will again begin to sprout. Again, pull or cultivate the weeds every two to three weeks, until your planting day arrives.

A good idea for dealing with weeds after the initial prairie planting is to keep weed seedlings that were picked before the planting. These seedlings could be pressed or photographed, and then they can serve as a reference guide⁶. This is just one way to identify weeds to remove them from your new prairie. Another way is to get a prairie restoration expert to come in for an afternoon “weeding bee”, to reliably identify the weeds from the native plants. (Also see Appendix III; plant identification section)

If you are going to grow seedlings for transplanting, start them the year before, and have them ready for transplanting. The day before the initial planting day, dig holes for larger shrubs, and pick any weeds.

E. Initial planting day

1. Organization

Above all, this occasion must be VERY well organized. There are a few main points to remember.

For a community-based project, advertisement and media attention is very important. Try to organize the initial planting day with Victoria Day, Canada Day, Environment Week, or some other significant day. The media like to have happy stories to illustrate those special occasions, and this activity is definitely a positive one! You should have a committee member who is responsible for interacting with the media. Send out community announcements to local radio and TV stations, put up posters in the area where you are planting, write articles in community newsletters and newspapers. Remember to give the media the 5 W's in the first paragraph (See Appendix V for more information on media releases). Ask local politicians, media figures, and heroes to participate.

On the day itself, make sure that everyone involved, and everyone who wants to, can participate in the planting (especially kids). Assign individuals to small groups and give each group a specific task to accomplish; for example, transplanting shrubs or small, established plants, hand-broadcasting grass and wildflower seeds, positioning rock borders, digging in lawn edging. Have a few people who are obviously in charge, to lend guidance and direction to groups of volunteers.

⁶ Nora Stewart, Prairie Mountain, Arcola, SK.

Celebrate at the end of the day! Have snacks (home-made by volunteers or donated by community stores) and drinks and maybe even music, and take a group photo of everyone who was there. Send the participants home with a good feeling about what they've done.

Throughout the entire day, have a volunteer with a camera take pictures of the plot taking shape, the people who are doing the work, and the seeds and plants and structures that are being included. These records are invaluable, both as publicity, and as encouragement and recognition of your volunteers' efforts.

Have a contingency plan in case the weather is terrible, or make sure everyone is prepared to plant in bad weather.

Finally, after everything is done and cleared away, the committee should take a few moments to write down how the day went, what could be done better the next time, any hints or ideas, and a perspective on how this project will go in the future.

2. How to plant your prairie patch

Seeding grasses and wildflowers

Mix your seeds together (reserving some wildflower seed) with slightly dampened sawdust or sand. Broadcast the seed by taking a handful and letting the seed fly as you swing your arm in a slow arc. Organize some pattern for broadcasting so that no area ends up lacking seed. One recommended way of doing this is to scatter half of the seed over the entire area, then scattering the other half of the seed over the entire area while walking a different pattern. You will need approximately 40 seeds per square foot, or 20 pounds of seed per acre. After the grasses and some of the forbs are seeded, take the remaining forb seeds and scatter them evenly along the front three feet of the plot, so that the showy prairie flowers are highlighted for the public. Grass and wildflower seeds require firm contact with the soil to germinate, so they need to be pressed onto the soil. The best way to do this is to dance and stomp (really!) on the soil after seeding (unless you are dealing with a heavy clay soil; in this case, rake the surface lightly after seeding). After seeding and packing, you may wish to put a thin layer of mulch on top of the plot to enhance germination, conserve soil moisture, and reduce erosion. You can use sawdust or chopped straw for mulching, however field hay often contains many weed seeds.

Planting established wildflowers and shrubs

Some wildflowers do not readily germinate from seeds or survive in a new planting (especially Dropseed, Purple Prairie Clover, Shooting Star, Culver's Root, Alum Root, Gentians, Lilies). Consider growing these seedlings in a greenhouse, and transplanting them into the plot the spring after the initial planting. You may wish to plant a few larger established shrubs in strategic locations for immediate results, and to create varied height. Plant these shrubs before your seed sprouts to avoid trampling them. However, choose your shrubs carefully - many can rapidly spread through the plot.

Watering your newly seeded prairie

After all landscaping and planting is done, use a fine spray to water the entire plot lightly for 15 min. Prevent runoff, as it will carry away the light seeds. Watering your patch of prairie is essential to success. Continue to soak the plot every day with a fine spray, early in the morning or late in the evening, for at least the first six weeks; do this for the rest of the summer,

if possible. This gives the new grasses and wildflowers the opportunity to firmly establish themselves, and can really make the difference between good prairie cover and sparse, patchy grasses and flowers.

IV. Maintenance

Remember, changing an ecosystem takes time! This project is long-term, and should be well planned. You need to have a number of people who will follow through, and commit to caring for the plot. Try to continually contact new people who would be willing to volunteer time to weed (continually) and water (the first year).

A. Time line

Preparing a time line and checklist for maintenance duties, and following them, is important if this project is to succeed. It is easy to get excited about the project, have everyone plant on the first day, and then forget about it. A plot of native prairie needs four to six years of care before it is completely self-sufficient and low-maintenance, and even then it needs to be burned or mowed every few years.

The prairie must be weeded regularly (at least every other week) to keep out exotic invasive grasses and plants. Hand weeding is essential, and your group must be very conscientious about it. The first time after your native prairie has been seeded, get help from an expert who will come and identify the weed seedlings from the native prairie seedlings. The amount of hand weeding necessary decreases over time, but it is never no-maintenance.

Herbicide can be applied to tough, perennial weeds such as quack grass, because hand-weeding will not remove them completely. Be careful, however, and only allow experienced or qualified (depending on the herbicide) people apply the chemical. Glyphosate (Roundup®) can be applied to individual plants, either using a small spray-bottle, a paint brush, or by hand. To apply by hand, put on a rubber glove, and then a cloth gardening glove over the top. Dip your gloved hand in the herbicide, and then grasp the weed at the base, and slide your hand up the stem, all the way to the top. This procedure coats the weed with herbicide, while not affecting nearby native plants.

Example:

Year 1

- | | |
|-----------------|---|
| May-June: | Clear the proposed site of weeds and grass and asphalt. |
| July-November: | On sunny days, kill all weeds by pulling or cultivating. Do this every two weeks. Establish a path through the plot (if desired). |
| November-April: | Snow cover - start killing weeds as soon as they sprout in the spring. |

Year 2

- May: (early) Initial Planting.
(late) Pull up non-native species as soon as they can be identified (see references for weed seedling identification guide). Water the plot daily.
- June-October: Pull up non-native species as soon as they can be identified. Water the plot frequently.
- November-March: Snow cover.

Year 3

- April-May: Pull up non-native species as soon as they can be identified. Determine the success of initial planting by counting seedling densities per square meter (need at least 20 seedlings/m² for grasses and 5 seedlings/m² for wildflowers). If necessary, reseed.
- June-October: Pull up non-native species as soon as they can be identified.
- October-March: Snow cover.
- April-indefinitely: Pull up non-native species as soon as they can be identified.

Year 4

- April: Mow or burn the plot (preferably burn).

The responsibilities for duties such as these should be taken by volunteers from the group. Perhaps you could put together a sign-up sheet, and have a student or family take responsibility for weeding and watering for a week or two weeks at a time over the summer. This would not burden any one person with the responsibility all summer. Special considerations may be:

- Who take responsibility during summer vacations?
- Who will watch for and repair vandalism?
- Who will water the patch every day for six weeks after planting?

B. Long-Term Plans

Burning

After the prairie is established (in 4-6 years) you will want to burn off the dead plant material about every three years. The prairie ecosystem evolved with regular fires, and actually does better being burned regularly. The best time for this is in mid spring (when plants are less than 30 cm tall) or, if you have early-blooming flowers, try burning as soon as the snow cover is gone. Burn half of the plot one year, then the other half the next year. This provides constant habitat for the insects, birds, and small mammals which use the prairie. When you plan to burn

the plot, **first get advice** (see Appendix II: Resource People, and Appendix III: Reference Material), and then get permission from the city and local fire departments. Note that obtaining permits for burning in a city takes a great deal of time. Finally, advertise this event, so that neighbors do not panic, and so that interested people can come and watch. John Morgan, Canada's foremost prairie restorationist, emphasizes the importance of burning: "if you won't be able to burn, then you might want to reconsider the whole project".

When doing a prescribed burn, ensure that an experienced person is in charge of it (see Appendix II). Have everyone involved wear safety equipment, and have a source of water handy in case you begin to "over achieve" with the burn. Keep observers away from the actual flames! Be very safe, and very clear in definition of how much is going to burn, how it will burn, and who is in charge.

Fire works very well! You will likely see profuse flowering after a burn. Safety is always a concern when working with fire, and a prescribed burn in early spring, with experienced persons in charge, is the safest way to do it. In fact, controlled burns reduce risk of an uncontrolled burn (started "accidentally") at another time.

C. Documentation

Finally, to ensure that the success of your projects is known and shared by everyone, you need to document the whole process, and continue after the initial work is done. For example, your photographer could take a picture of the plot from the same place before the project starts, after initial planting, and every season or year after that. This gives a striking illustration of how far you've come. Another idea is to find a good nature photographer (a volunteer, or hire someone) to get GREAT pictures of your prairie patch, and use the pictures for Christmas cards, posters, postcards, calendars, and so on. This not only maintains interest, it can also be a source of ongoing funding.

Congratulations! You've just begun a unique and very interesting process. Be patient. A prairie plot will take 4-6 years before it looks like a true prairie. Watch your site as it grows and matures. The species composition will slowly change over the years, and interesting bugs, birds, and small mammals may visit your plot.

Appendix I - Native Species of Saskatchewan

KEY: **Moisture:** Favored moisture regime: D = dry, M = moist, VM = very moist, W = wet
Texture: Favored texture of soil: F = fine, M = medium, C = coarse

Tolerance: Tolerances of these plants: D = drought, A = alkalinity, S = salinity, F = flooding, Ac = acidity

PBA: P = perennial (comes up every year), B = biennial (comes up for only two years), or A = annual (only grows for one year)
Height: Maximum height in normal Saskatchewan conditions.

Reprod: Reproductive method: T = tillers (rootlets), S = seeds, R = rhizomes, St = stolons, B = bulbs

Season: Season of growth: W = warm season growth, C = cool season growth

Growth Habit: Grasses are classified as bunch (tufted) or mat forming (rhizomatous)

Flowering Time: Time of year when the plant is flowering. Also includes notes about interesting characteristics of the plant.

GRASSES

Common name	Species name	Moisture	Texture	Tolerance	PBA	Height	Reprod	Season	Growth habit
Big Bluestem	(<i>Andropogon gerardii</i>)	D to M	M-C		P	1.5m	SR	W	mat forming
Blue Grama Grass	(<i>Bouteloua gracilis</i>)	D	F-C	D	P	0.2m	TSR	W	bunch, sod
Blue Grasses	(<i>Poa</i> spp.)								
Early Blue Grass	(<i>P. cusickii</i>)	D			P	0.4m	TS	C	bunch
Canby Blue Grass	(<i>P. canbyi</i>)	D to M	F-C	DAS	P	0.8m	TS	C	bunch
Sandberg's Blue Grass	(<i>P. sandbergii</i>)	D	F-C	DAAc	P	0.3m	TS	C	bunch
Canada Wild Rye	(<i>Elymus canadensis</i>)	D to VM	M-C	A	P	1.2m	TS	C	mat forming
Cord Grasses	(<i>Sparina</i> spp.)	M to W		SA	P	1.0m	SR	W	mat forming
Dropseeds	(<i>Sporobolus</i> spp.)								
Prairie Dropseed	(<i>S. heterolepis</i>)	D to VM			P	0.7m	SR	W	bunch
Sand Dropseed	(<i>S. cryptandrus</i>)	D	M-C	D	P	0.8m	S	W	bunch
Fringed Brome	(<i>Bromus ciliatus</i>)	M			P	1.0m	S	C	mat forming
Hair/Tickle Grass	(<i>Agrostis scabra</i>)	D to M	F-C	DAc	P	0.7m	TS	C	bunch
Hooker's Oat Grass	(<i>Helictotrichon hookeri</i>)	M	F-C		P	0.4m	TS	C	bunch
Indian Grass	(<i>Sorghastrum nutans</i>)	D to M			P	1.5m	SR		mat forming
Indian Rice Grass	(<i>Oryzopsis hymenoides</i>)	D	M-C	DAS	P	0.6m	TS	C	bunch

Common name	Species name	Moisture	Texture	Tolerance	PBA	Height	Reprod	Season	Growth habit
June Grass	(<i>Koeleria gracilis</i>)	D	M-C	DA	P	0.3m	TS	C	bunch
Little Bluestem	(<i>Andropogon scoparius</i>)	D	M	C	P	0.7m	SR	W	bunch
Muhly Grasses	(<i>Muhlenbergia</i> spp.)								
Mat Muhly Grass	(<i>M. richardsonis</i>)	M	M	A	P	0.3m	SR	W	bunch, mat
Prairie Muhly Grass	(<i>M. cuspidata</i>)	D to M	M-C	C	P	0.2m	SR	W	bunch
Needle Grasses	(<i>Stipa</i> spp.)								
Green Needle Grass	(<i>S. viridula</i>)	D to M	F-M	DA	P	0.8m	TS	C	bunch
Needle & Thread Grass	(<i>S. comata</i>)	D	C	DA	P	0.6m	TS	C	bunch
Porcupine Grass	(<i>S. spartea</i>)	D to M	M		P	0.6m	SR	C	bunch
Western Porcupine Grass	(<i>S. curtisetia</i>)	D to M	M		P	0.6m	SR	C	bunch
Oat Grass	(<i>Danthonia intermedia</i>)	D to M	F-M		P	0.5m	TS	C	bunch
Plains Rough Fescue	(<i>Festuca hallii</i>)	D to M			P	0.6m	SR	C	bunch
Plains Reed Grass	(<i>Calamagrostis montanensis</i>)	D to M			P	0.4m	TSR	C	mat forming
Salt Grass	(<i>Distichlis stricta</i>)	M to W	F-M	DAS	P	0.4m	SR	W	mat forming
Sand Reed Grass	(<i>Calamovilfa longifolia</i>)	D	M-C	DA	P	1.2m	SR	W	mat forming
Sedges	(<i>Carex</i> spp.)	D to W							
Sweet Grass	(<i>Hierochloa odorata</i>)	D to M		DAS	P	0.6m	SR	C	mat forming
Switch Grass	(<i>Panicum virgatum</i>)	D to M			P	1.5m	SR		mat forming
Tufted Hair Grass	(<i>Deschampsia caespitosa</i>)	M to W	F-M	ASAc	P	1.2m	S	C	bunch
Wheat Grasses	(<i>Agropyron</i> spp.)								
Awne Wheat Grass	(<i>A. subsecundum</i>)	D to M	M	DASF	P	0.8m	TSR	C	bunch
Northern Wheat Grass	(<i>A. dasystachyum</i>)	D to M	F-C	DASF	P	0.7m	TSR	C	mat forming
Slender Wheat Grass	(<i>A. trachycaulum</i>)	D to M	M	DASF	P	0.8m	TSR	C	bunch
Western Wheat Grass	(<i>A. smithii</i>)	M to W	F-M	DASF	P	0.6m	TSR	C	mat forming - AGGRESSIVE

WILDFLOWERS

Common name	Species name (<i>Zizia</i> spp.)	Moisture	Texture	Tolerance	PBA	Height	Reprod	Flowering Time
Alexanders								
Golden Alexander	(<i>Z. aurea</i>)	M to W			P	0.6m	S	June-July
Heart-leaved Alexander	(<i>Z. aptera</i>)	D to M			P	0.6m	S	June-July
Alum Root	(<i>Heuchera richardsonii</i>)	D to M	M-C		P	0.4m	SR	June-July
American Hedsarum	(<i>Hedysarum alpinum</i>)	D to M	F-M	DAS	P	0.7m	S	June-July - AGGRESSIVE
Anemones	(<i>Anemone</i> spp.)							
Cut-leaved Anemone	(<i>A. multifida</i>)	M	C		P	0.5m	S	June-July
Long-fruited Anemone	(<i>A. cylindrica</i>)	D to M			P	0.8m	S	late May-June
Prairie Crocus	(<i>A. patens</i>)	D to M	C		P	0.4m	S	April-early May
Asters	(<i>Aster</i> spp.)							
Many-flowered Aster	(<i>A. ericoides</i>)	D to M			P	0.8m	SR	Aug-Sept - AGGRESSIVE
Smooth Aster	(<i>A. laevis</i>)	M to W			P	1.0m	SR	Aug-Sept
Beardtongues	(<i>Penstemon</i> spp.)							
White Beardtongue	(<i>P. albidus</i>)	D			P	0.3m	S	late May, early June
Lilac-flowered Beardtongue	(<i>P. gracilis</i>)	M			P	0.4m	S	mid June-July
Smooth Blue Beardtongue	(<i>P. nitidus</i>)	D	F-M	D	P	0.3m	S	May-June
Slender Beardtongue	(<i>P. procerus</i>)	M			P	0.4m	S	May-Aug - AGGRESSIVE
Bergamot	(<i>Monarda fistulosa</i>)	D to VM	M		P	0.7m	SR	July-Aug - AGGRESSIVE
Black-eyed Susan	(<i>Rudbeckia hirta</i>)	D to VM			B	0.6m	S	July--Sept
Blazingstars	(<i>Liatris</i> spp.)							
Dotted Blazingstar	(<i>L. punctata</i>)	D			P	0.6m	SR	August

Common name	Species name	Moisture	Texture	Tolerance	PBA	Height	Reprod	Flowering Time
Meadow Blazingstar	(<i>L. ligulistylis</i>)	M			P	0.5m	S	August
Blue Lettuce	(<i>Lactuca pulchella</i>)	M to W			P	0.6m	SR	Aug-Sept - AGGRESSIVE
Blue-eyed Grass	(<i>Sisyrinchium montanum</i>)	D to M	M		P	0.5m	SR	June-July
Broomweed	(<i>Gutierrezia sarothrae</i>)	D	F-C	D	P	0.3m	S	June-Aug
Cinquefoils	(<i>Potentilla</i> spp.)							
White Cinquefoil	(<i>P. arguta</i>)	M to W			P	0.9m	S	June-July
Plains Cinquefoil	(<i>P. bipinnatifida</i>)	D to M			P	0.5m	S	
Early Cinquefoil	(<i>P. concinna</i>)	D			P	0.1m	SR	
Prairie Cinquefoil	(<i>P. pensylvanica</i>)	D to M			P	0.4m	S	
Colorado Rubberweed	(<i>Hymenoxys richardsonii</i>)	D to M			P	0.2m	S	June-July
Field Chickweed	(<i>Cerastium arvense</i>)	D to M			P	0.3m	S	May - AGGRESSIVE
Flax	(<i>Linum</i> spp.)							
Wild Blue Flax	(<i>L. lewisii</i>)	D to M	M-C	D	P	0.7m	S	June-July - AGGRESSIVE
Yellow Flax	(<i>L. rigidum</i>)	D	M-C	Di	A	0.4m	S	late June-August
Fleabanes	(<i>Erigeron</i> spp.)							
Hairy Daisy	(<i>E. pumilus</i>)	D	F-M		P	0.2m	S	
Tufted Fleabane	(<i>E. caespitosus</i>)	D			P	0.2m	S	July
Gaillardia	(<i>Gaillardia aristata</i>)	D	F-C	D	P	0.6m	S	July-Aug - roadsides
Gentians	(<i>Gentiana</i> spp.)	D to VM						
Oblong-leaved Gentian	(<i>G. affinis</i>)	M	C	A	P	0.3m	S	Aug-Sept
Northern Gentian	(<i>G. amarella</i>)	D to M			A	0.5m	S	Aug-Sept
Golden Bean	(<i>Thermopsis rhombifolia</i>)	D to M	F-C		P	0.4m	SR	May-June - AGGRESSIVE

Common name	Species name	Moisture	Texture	Tolerance	PBA	Height	Reprod	Flowering Time
Goldenrods	(<i>Solidago</i> spp.)							
Canada Goldenrod	(<i>S. canadensis</i>)	D to M	F-C	D	P	1.0m	SR	Aug-Sept - A GGRESSIVE
Low Goldenrod	(<i>S. missouriensis</i>)	D to M			P	0.6m	SR	July-Aug - AGGRESSIVE
Stiff Goldenrod	(<i>S. rigida</i>)	D to M	M-C		P	0.8m	SR	Aug-Sept - AGGRESSIVE
Hairy Fruited Parsley	(<i>Lomatium villosum</i>)	D to M	M-C		P	0.3m	S	May
Hairy Golden-aster	(<i>Chrysopsis villosa</i>)	D	M-C		P	0.6m	S	July-Sept
Harebell	(<i>Campanula rotundifolia</i>)	D to M	M-C		P	0.4m	SR	June--Sept
Joe-Pye Weed	(<i>Eupatorium purpureum</i>)	M to W			P	1.8m	S	August
Locoweeds	(<i>Oxytropis</i> spp.)							
Early Yellow Locoweed	(<i>O. sericea</i>)	D			P	0.2m	S	May-June
Late yellow Locoweed	(<i>O. campestris</i>)	D			P	0.4m	S	June-July
Showy Locoweed	(<i>Oxytropis splendens</i>)	D to M			P	0.3m	S	June-July
Milk-vetches	(<i>Asragalus</i> spp.)							
Ascending Purple Milk-vetch	(<i>A. striatus</i>)	D			P	0.4m	S	late June-early July
Two Grooved Milk-vetch	(<i>A. bisulcatus</i>)	D to M	M-C		P	1.0m	S	June
Slender Milk-vetch	(<i>A. flexuosus</i>)	M			P	1.0m	SR	
Narrow-leaved Milk-Vetch	(<i>A. pectinatus</i>)	D to M	F-M	A	P	0.6m	S	early June
Ground Plum	(<i>A. crassicaarpus</i>)	D to M	M		P	0.4m	S	May-June
Moss Phlox	(<i>Phlox hoodii</i>)	D to M	C		P	0.1m	S St	early May - AGGRESSIVE
Northern Bedstraw	(<i>Gallium boreale</i>)	M to W			P	0.6m	SR	July-Aug - AGGRESSIVE
Nuttall's Atriplex	(<i>Atriplex nuttallii</i>)	D to W			P	0.7m	S	
Pale Comandra	(<i>Comandra pallida</i>)	D to M			P	0.2m	S	May-June

Common name	Species name	Moisture	Texture	Tolerance	PBA	Height	Reprod	Flowering Time
Puccoons	(<i>Lithospermum</i> spp.)							
Hoary Puccoon	(<i>L. canascens</i>)	M			P	0.3m	S	June - roots=red/violet dye
Narrow-leaved Puccoon	(<i>L. incisum</i>)	D to M			P	0.2m	S	
Prairie Onion	(<i>Allium textile</i>)	D			P	0.3m	S	May-June
Prairie Lily	(<i>Lilium philadelphicum</i>)	M			P	0.6m	S	June
Prairie Sage	(<i>Artemesia ludoviciana</i>)	M	M-C		P	0.6m	SR	August - AGGRESSIVE
Prairie-clovers	(<i>Petalostemon</i> spp.)							
Purple Prairie-clover	(<i>P. purpureum</i>)	D	F-C	D	P	0.6m	S	July-Sept
White Prairie-clover	(<i>P. candidum</i>)	D	F-C	D	P	0.6m	S	July-Sept
Prairie Coneflower	(<i>Ratibida columnifera</i>)	D	M	D	P	0.5m	S	July-Sept - root=orange dye
Psoraleas	(<i>Psoralea</i> spp.)							
Silver leaf Psoralea	(<i>P. argophylla</i>)	D to M			P	0.6m	SR	July
Indian Breadroot	(<i>P. esculenta</i>)	D			P	0.3m	SR	June-July
Lance-leaved Psoralea	(<i>P. lanceolata</i>)	D	F		P	0.6m	SR	July
Purple Coneflower	(<i>Echinacea angustifolia</i>)	D to M			P	0.6m	S	July-Sept.
Pussytoes	(<i>Antennaria aprica</i>)	D			P	0.2m	S	June-July
Scarlet Gaura	(<i>Gaura coccinea</i>)	D to M			P	0.4m	SR	June-July
Scarlet Mallow	(<i>Malvastrum coccineum</i>)	D	M-C	DA	P	0.2m	SR	May-July - AGGRESSIVE
Scarlet Paint Brush	(<i>C. coccinea</i>)	D to M			P	0.5m	S	July-Aug
Seneca Root	(<i>Polygala senega</i>)	M			P	0.5m	S	June-July
Shining Arnica	(<i>Arnica fulgens</i>)	M to W			P	0.6m	SR	June-July
Showy Milkweed	(<i>Asclepias speciosa</i>)	M			P	1.0m	S	July

Common name	Species name	Moisture	Texture	Tolerance	PBA	Height	Reprod	Flowering Time
Shooting Stars	(<i>Dodecatheon</i> spp.)	M to W		S	P	0.2m	S	May
Skeletonweed	(<i>Lygodesmia juncea</i>)	D	F		P	0.4m	SR	August
Smooth Camas	(<i>Zigadenus elegans</i>)	M		S	P	0.6m	S	June
Spiny Iron Plant	(<i>Haplopappus spinulosus</i>)	D to M			P	0.3m	S	August
Sunflowers	(<i>Helianthus</i> spp.)							
Rhombic-leaved Sunflower	(<i>H. laetiflorus</i>)	D to M	M-C		P	1.0m	SR	August-Sept
Narrow-leaved Sunflower	(<i>H. maximiliani</i>)	D to M			P	1.5m	SR	August-Sept
Three-flowered Avens	(<i>Geum triflorum</i>)	D to M			P	0.4m	SR	May-June
Veiny Meadow-rue	(<i>Thalictrum venulosum</i>)	M to W			P	0.9m	SR	June-July - AGGRESSIVE
Violets	(<i>Viola</i> spp.)							
Early Blue Violet	(<i>V. adunca</i>)	M			P	0.1m	S	May
Nuttall's Yellow Violet	(<i>V. nuttallii</i>)	M			P	0.1m	S	May-June
Crowfoot Violet	(<i>V. pedatifida</i>)	M			P	0.2m	S	June
Western Canada Violet	(<i>V. rugulosa</i>)	M			P	0.6m	S	June-Aug - shady places AGGRESSIVE
Wild Licorice	(<i>Glycyrrhiza lepidota</i>)	M to W			P	1.0m	SR	July - AGGRESSIVE
Wild Mint	(<i>Mentha arvensis</i>)	W		F	P	0.5m	SR	July-Aug
Wild Peavine	(<i>Lathyrus venosus</i>)	M			P	1.0m	SR	June-August
Wild Strawberry	(<i>Fragaria virginiana</i>)	M			P	0.1m	S St	May-July - AGGRESSIVE
Wild Vetch	(<i>Vicia americana</i>)	M	M-C		P	1.0m	S	June-August
Yarrow	(<i>Achillea millefolium</i>)	D to VM	M-C	DAC	P	0.8m	SR	June-Aug - AGGRESSIVE
Yellow Owl's Clover	(<i>Orthocarpus luteus</i>)	D			A	0.3m	S	Aug-Sept
Yellow Evening-Primrose	(<i>Oenothera biennis</i>)	M	C		B	1.2m	S	July-Aug
Yellow Umbrella Plant	(<i>Erigeron flavum</i>)	D			P	0.2m	S	June

Sources:

Budd's Flora, A Guide to using Native Plants on Disturbed Lands, Trees and Shrubs of the Qu'Appelle Valley, Wildflowers Across the Prairies, Growing a Native Prairie Garden

Appendix II - Resource People

Information and Know-how

Garth Wruck, Native Plant Society of Saskatchewan, Inc. Box 21099, Saskatoon SK. S7H 5N9.
(306) 668-3940.
E-mail: info@npss.sk.ca
Website: <http://www.npss.sk.ca/>

Michael Champion, Ducks Unlimited Canada. P.O. Box 4465, 1030 Winnipeg St., Regina SK. S4P 3W7. (306) 569-0424

Luc Delanoy, Meewasin Valley Authority, #402 3rd Ave. South, Saskatoon, SK. S7K 3G5. (306) 665-6887

Jennifer Lohmeyer, Prairie Stewardship Program. Saskatchewan Watershed Authority, #420 - 2365 Albert St., Regina, SK. S4P 4K1.
(306) 787-8707.

John Morgan, Prairie Habitats, Inc. Box 1, Argyle, MB. R0C 0B0.
(204) 467-5004

City of Winnipeg - (any of: Bluestem Nature Park, Bradley Nature Park, Kil-Cona Regional Park, Little Mountain Park, Living Prairie Museum). City of Winnipeg Parks and Recreation Department, Interpretive Services, 2795 Ness Ave., Winnipeg, MB. R3J 3S4. (204) 832-0167

Controlled burns

John Morgan, Prairie Habitats, Inc. Box 1, Argyle, MB. R0C 0B0. (204) 467-5004.

University of Saskatchewan, Department of Horticultural Science and Plant Ecology. Room 4D36, Agriculture Building, 51 Campus Drive, University of Saskatchewan, S7N 5A8. (306) 966-4944.

Native plants and seed

See Native Plant Society of Saskatchewan webpage for information and contact numbers.
<http://www.npss.sk.ca>

Appendix III - Reference Material

Availability:

RPL = Regina Public Library

NS = Nature Saskatchewan Bookstore

Rm 206 - 1860 Lorne St., Regina, SK. S4P 2L7

(800) 667 - 4668 or (306) 780 - 9273

RSM = Royal Saskatchewan Museum

2445 Albert St., Regina, SK.

(306) 787-2815

If you had to choose a few....here's the top five resource books.

1. Currah, R., A. Smreciu, M. Van Dyk. 1983. **Prairie Wildflowers: An illustrated manual of species suitable for cultivation and grassland restoration.** Friends of the Devonian Botanic Garden. University of Alberta, Edmonton, Alberta. NS
**Gives habitat and growth information, and tells which plants grow together naturally.
2. Looman, J. 1982. [OR Best, K., J. Looman, and J. Campbell. 1971.] **Prairie Grasses Identified and Described by Vegetative Characters.** Minister of Supply and Services Canada. Canadian Government Publishing Centre, Supply and Services Canada, Ottawa, Ontario. K1A 0S9. RPL.
**One of the best guides to grass identification, requires learning technical terms
3. Morgan, J., D. Collicutt, and J. Thompson. 1995. **Restoring Canada's Native Prairies.** Prairie Habitats: Argyle, Manitoba. (Obtain from Manitoba Naturalists Society, 401-63 Albert St., Winnipeg, Manitoba. R3B 1G4 (204) 943-9029.) NS RPL
**The definitive guide to all aspects of prairie restoration.
4. Nernberg, Dean. 1995. **Native Species Mixtures for Restoration: in the prairie and parkland ecoregions of Saskatchewan.** Send \$15 plus \$3 s&h to Mixed-Grass Prairie Habitat Restoration Project, c/o Canadian Wildlife Service, Box 280 Simpson, SK. S0G 4MO. (306) 836-2022 NS
** Gives suggestions of species mixes that will produce natural species composition of different prairie types.
5. Vance, F., J. Jowsley, J. S. McLean, and F. A. Switzer. 1999. **Wildflowers Across the Prairies.** Greystone Books - A Division of Douglas & McIntyre Ltd., Vancouver, British Columbia. NS RPL
** A wonderful pictorial book of Prairie Wildflowers, with good identification tips.

Website:

<http://www.evergreen.ca>

Prairie restoration

- Abouguendia, Zoheir. 1995. **Seeded Native Range Plants**. Grazing and Pasture Technology Program and Extension Service, Saskatchewan Agriculture and Food: Regina, Saskatchewan. (306) 787-5140. RPL (government publications)
- Ahrenhoester, R., and T. Wilson. **Prairie Restoration for the Beginner**. P.O. Box 83, North Lake, Wisconsin.
- Growing a Native Prairie Garden**. The Regina Prairie Garden Project, Royal Saskatchewan Museum. Booklet. NS RSM
- Gerling, H. S., M. G. Willoughby, A. Schoepf, K. E. Tannas, and C. A. Tannas. 1996. **A Guide to Using Native Plants on Disturbed Lands**. Alberta Agriculture, Food, and Rural Development, and Alberta Environmental Protection. (for a copy, call (800) 292-5697)
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* **Grounds for Change.** Video. Learning through Landscapes. Produced by the Evergreen Foundation. Explores the positive impact of school ground naturalization featuring planners, ecologists, teachers, and students sharing their discoveries.

* **Making the best of your School Grounds.** Video. Learning through Landscapes. This video will help you to take a detailed look at your school grounds and will encourage you to undertake a process which will greatly enhance your students' learning environment.

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* call Green Brick Road (800) 473-3638

Appendix IV - Safety Issues and Permits

Safety

Keep a well-supplied first-aid kit on hand while planting the prairie, and while doing any prescribed burns. Injuries are unlikely to happen in these circumstances, but it is best to be ready for anything.

Many people have allergies to bee stings, grasses, or weeds, although most native prairie plants do not cause hay fever. These allergies can be uncomfortable, and in some cases, deadly. Make sure that everyone involved in the project, with a known allergy, has a treatment handy. You may wish to keep an antihistamine solution and even a bee-sting kit in the first aid equipment.

If special equipment is necessary, for example, herbicide, a rototiller, backhoe, or burning equipment, ensure that only qualified people handle the equipment.

Permits

You may need permits for

- : planting prairie (especially if in a park)
- : herbicide application
- : burning
- : gathering native seeds

Consider these permits before going ahead with these activities.

Appendix V - Media Release Outline

A press release is a way to inform radio and television stations and newspapers about an issue or event. It should contain enough information that it can be used without the news person calling for more details.

Decide what the purpose of the release is, and what the most interesting parts of the story are. Verify all full names, spellings, titles, and figures. Present your facts concisely, clearly, and completely.

1. Prepare a press advisory

- Use your organization's letterhead (or name and address of organization)
- Put the 5 W's in the first paragraph. (Who is doing this project and who is funding the project, what is the project, when is it happening, where is it happening, and why it's important)
- In the next paragraph, expand a little bit about who will be participating, what they are doing, and why it is important. Are there any planned highlights?
- Invite the press to attend.
- Give a contact number and person, and ask the press to contact him or her if they want to attend.
- Attach a fact sheet (about native prairie, the group doing the restoration)
- Attach an agenda of the events of the big day (especially the best time to be there)

2. Two weeks before the event (initial planting), send out the press advisory to all the radio stations, newspapers (don't forget community and alternative papers), and television stations.

3. Three days before the event, contact those press agencies again, and inquire whether they are interested in the story, and whether they will show up.

4. Have a "news story" prepared, and send it out to the media on the actual day, in case the press doesn't have the time to prepare one of their own.

5. The day of the big event, have someone (or a few people) who will take care of the press; get them to the right people to interview, guide them to the best spots, get them to special events on time, etc.

Remember to make this process as smooth as possible for the media - if they run your story, it's free advertising!