

# Seed Mixes 101

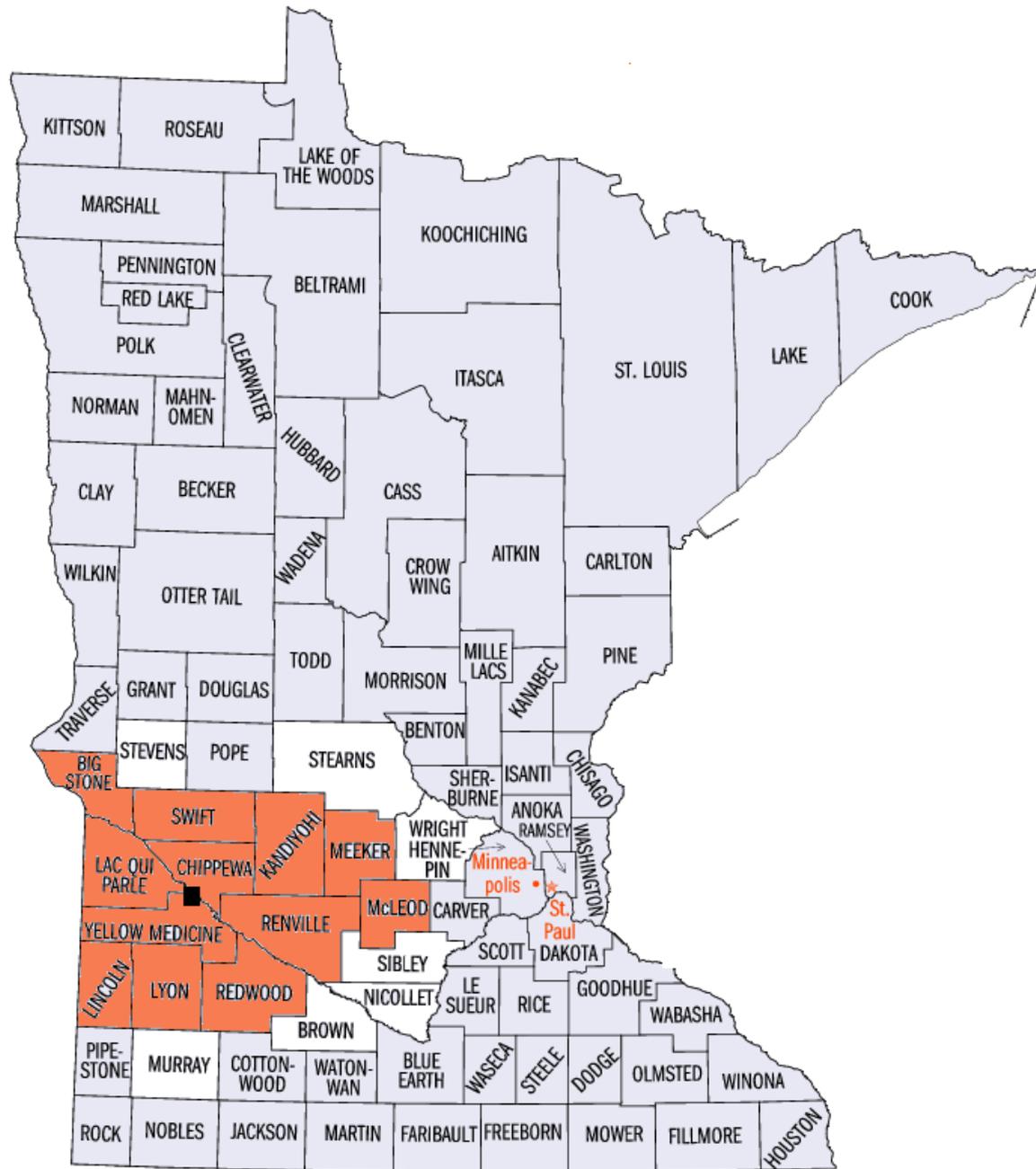
**Dennis Pederson**

**Habitat Specialist, Habitat Forever**

**Montevideo, Minnesota**

# Mission Guidance - 2002

**Get out there,  
do good habitat work, and  
generate enough revenue to  
pay for yourself**



# Product Lines

- **Native seed sales**
- **Prescribed burning**
- **Seeding installation**
- **Consultations & technical advice**
- **Site prep**
- **Post-seeding management**
- **Promotion & education**

# Customers

- **Private landowners**
- **Agencies – DNR & USEFWS**
- **Other habitat organizations**
- **Watershed districts, counties, municipalities**
- **FSA, NRCS, SWCDs**



# Seed Mixes 101

## *Disclaimers*

- Ask 10 guys
- West central Minnesota
- Agricultural region
- Provided equipment set
- Organizational influence

# Seed Mixes 101

*Diversity! Diversity! Diversity!*

“more” being always better than “less”

and

*Forb Dominance!*





# Seed Mixes 101

## Pheasant Habitat

- Limiting factor is not winter cover
- Limiting factor is nesting/brood cover
  - o Abundance & quality
- Short-lived so must repro at high rates
- Chicks can't thermo-regulate
- Bugs for body mass!
- Diversity for bugs!

# Seed Mixes 101

*Pollinators !!!*

# Seed Mixes 101

*Diversity! Diversity! Diversity!*

“more” being always better than “less”

and

*Forb Dominance!*

# Seed Mixes 101

## Information Needs

- **Program?** (Whose \$\$?)
- **Conservation practice?**
- **High & dry, low & wet, or between**
- **How many acres?**
- **Aerial photo of site (FSA preferred)**
- **Site condition**
- **Landowner attitude**

# Seed Mixes 101

- **CRP?**
- **WRP?**
- **RIM?**
- **Other conservation program?**
- **Upland habitat?**

# Seed Mixes 101

## Information Needs

- Program?
- Conservation practice?
- High & dry, low & wet, or between
- How many acres?
- Aerial photo of site (FSA preferred)
- Site condition
- Landowner attitude

# Seed Mixes 101

- CP23A
- CP25
- CP27/28
- CP38
- CP37
- CP21

# Seed Mixes 101

## Information Needs

- Program?
- Conservation practice?
- High & dry, low & wet, or between
- How many acres?
- Aerial photo of site (FSA preferred)
- Site condition
- When/how to be seeded?
- Landowner attitude

# Seed Mixes 101

## Mix Development Objectives

- Practice standard requirements
- Price point
- Reasonable balance
- Suitable to site
- As much diversity as possible
- Mirror test

# Seed Mixes 101

## 643/CP25, CP38, WRP, Others?

- $\geq 7$  PLS LBS grass
- $\geq 16$  PLS OZ forbs
- $\geq 35$  seeds/square foot
- $\leq 20\%$  cool season grass (ex. Wetlands)
- $\geq 30\%$  forb seeds/square foot
- No single forb  $> 20\%$  of forb total
- $\geq 15$  total varieties,  $\geq 5$  grass,  $\geq 5$  forb
- Grass species %-age limits

# Seed Mixes 101

## 327/CP2, CP23, CP27-28, CP37

- $\geq 8$  PLS LBS grass, 30-40 seeds/sqft
- $\geq 4$  PLS OZ forbs, 2-4 seeds/sqft
- $\leq 20\%$  cool season grass (ex. Wetlands)
- $\leq 90\%$  grass seeds/square foot
- No single forb  $> 50\%$  of forb total
- $\geq 5$  species,  $\geq 3$  grass,  $\geq 1$  forb
- Grass species %-age limits

# Seed Mixes 101

## Mix Development Objectives

- Practice standard requirements
- Price point
- Reasonable balance
- Suitable to site
- As much diversity as possible
- Mirror test

# Seed Mixes 101

## Seeding Principles

- 1 Match soil/moisture conditions**
- 2 Use quality seed**
- 3 Do the prep – don't cut corners**
- 4 Avoid tillage**
- 5 Firm seedbed**
- 6 Use the right equipment**
- 7 Dry ground**

# Seed Mixes 101

## Match Soil & Moisture

June grass won't grow in the swamp

&

Cattails won't grow on gravel

# Seed Mixes 101

## Soil/Moisture Match

Does the site lend itself to seeding multiple mixes?

or

Does it require a “shotgun” approach?

# Seed Mixes 101

## Principles

- 1 Match soil/moisture conditions**
- 2 Use quality seed**
- 3 Do the prep – don't cut corners**
- 4 Avoid tillage**
- 5 Firm seedbed**
- 6 Use the right equipment**
- 7 Dry ground**

# Seed Mixes 101

## Use Quality Seed !!

- Good seed grows
- **Check source reputation !!**
- Producers preferred ... usually
- No one producer grows everything
- Local adaptation

A landscape background showing a blue sky, green hills, and a body of water.

# Seed Mixes 101

**If principles are followed,  
natives are almost foolproof**

# Seed Mixes 101

## Why Seedlings Fail

- **Junk seed \***
- **Planted too deep \***
- **Seed not in drill \***
- **Seed not locally adapted \***
- **No weed control (caveat) \***
- **Seed mix not as advertised \***
- **Herbicide carryover \***
- **Way bad weed competition**
- **Inadequate moisture (caveat)**
- \* **Can all be controlled**

# Seed Mixes 101

## *Origin Philosophies*

- Prairie purists
- State standards
- Wildlife
- **Make a buck**
- Practical reality
- NRCS standards

# Seed Mixes 101

## Origin Philosophy

### Basic Questions

1. How many acres do we have to plant?
2. How many varieties do we need/want to use?
3. At what distribution rates?

# Seed Mixes 101

## *NRCS Origin Philosophy*

- Approved cultivars
- 150 miles south
- 200 miles north
- 1000' elevation change E-W
- Some “cultivars” are not
- Native mix ??

# Seed Mixes 101

## *“Problem” Species*

- Western wheat grass
- Canada wildrye
- Big bluestem
- Echinacea purpurea
- Illinois bundleflower
- Blanket flower
- Rattlesnake master/Compass plant

# Seed Mixes 101

## *Really Spendy Species*

- **Prairie phlox**
- **Prairie smoke**
- **Culver's root**
- **Giant sunflower**
- **Meadow blazingstar**
- **Thimble weed**
- **Mountain mint**

# Seed Mixes 101

## *Species With Big Seeds*

- Cup plant
- Prairie rose
- Common milkweed
- Butterfly milkweed
- Swamp milkweed
- Narrow leaf purple coneflower
- Round-headed bush clover

# Seed Mixes 101

## *Big Seeds & Spendy*

- Prairie rose
- Prairie phlox
- Butterfly milkweed
- Cup plant
- Giant sunflower
- Prairie smoke
- Dotted blazingstar

# Seed Mixes 101

## *Short Supply Species*

- **Prairie smoke**
- **Prairie phlox**
- **Dotted blazingstar**
- **Prairie coreopsis**
- **Northern bedstraw**
- **Prairie alumroot**

# Seed Mixes 101

## *“Wetland” Species*

- Swamp milkweed
- New England aster
- Boneset
- Giant hyssop
- Blue vervain
- Mud plantain
- Cup plant
- Sweet flag
- Meadow blazingstar
- Joe Pye weed
- Sneezeweed
- Great blue lobelia
- Monkey flower
- Mountain mint
- Canada blue joint grass
- Reed manna grass
- Dark green bulrush
- Brown fox sedge
- American sloughgrass
- Wool grass
- Fowl manna grass
- Virginia wildrye
- Prairie cordgrass
- Fowl bluegrass

# Seed Mixes 101

## *Makes Me Crazy*

- “50 point mix”
- “Native mix” or “Native grass mix”
- “3 grasses & 1 forb (legume)”
- 2 Oz ea. of 2 forbs, 4 total Oz
- Natives vs. “native someplace”
- “1 Bu Oats,” cover crops

# Seed Mixes 101

## *What Matters*

- Practice standard
- Conservation practice
- PLS weight – grass & forbs
- %-age restrictions
- The more diversity the better

# Nelson Wetland Restoration Project

April 21, 2003

Before



# Nelson Wetland Restoration Project

July 21, 2005

After



A decorative header image showing a landscape with green hills and a blue sky with white clouds.

# Seed Mixes 101

*Questions ??*

# Seed Mixes 101

## Stinger/Milestone Tolerance

- By degrees
- Better when well-established
- Manage applicators
- Cheap flowers
- Don't use Curtail/Forefront

# Seed Mixes 101

## *Stinger/Milestone Tolerant Var.*

- Milkweeds
- Asters
- Goldenrods
- Leadplant
- Vervains
- Anise hyssop
- CMV
- Golden Alex
- Blazingstars
- Cup plant
- Large penstemon
- Prairie cinquefoil
- Prairie onion
- Showy tick trefoil
- Wild bergamot