Development of the Summary Matrix and Public Participation in Rapid Watershed Assessment

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Summary Matrix

- An evaluation of watershed resources to determine the size, scope, and value of natural resource needs.
  - What is the current level of practice utilization
  - What could the level of participation be in the future
  - Identify watershed resource concerns (resource profile)
  - What conservation practices best address these concerns in *your* watershed
  - What resources are needed to reach the future level of conservation

Level of Conservation

- Identify the number of acres in a specific landuse type at each level of conservation
- 5 year time frame how many acres will see
  - No Change
  - Baseline to Progressive
  - Progressive to RMS

Future Outlook

- Based on selected practices and participation levels, the matrix estimates:
  - Change in conservation
  - Cost (USDA and Private)
  - Impact on Resource Concerns

CONSERVATION INVESTMENT INFORMATION

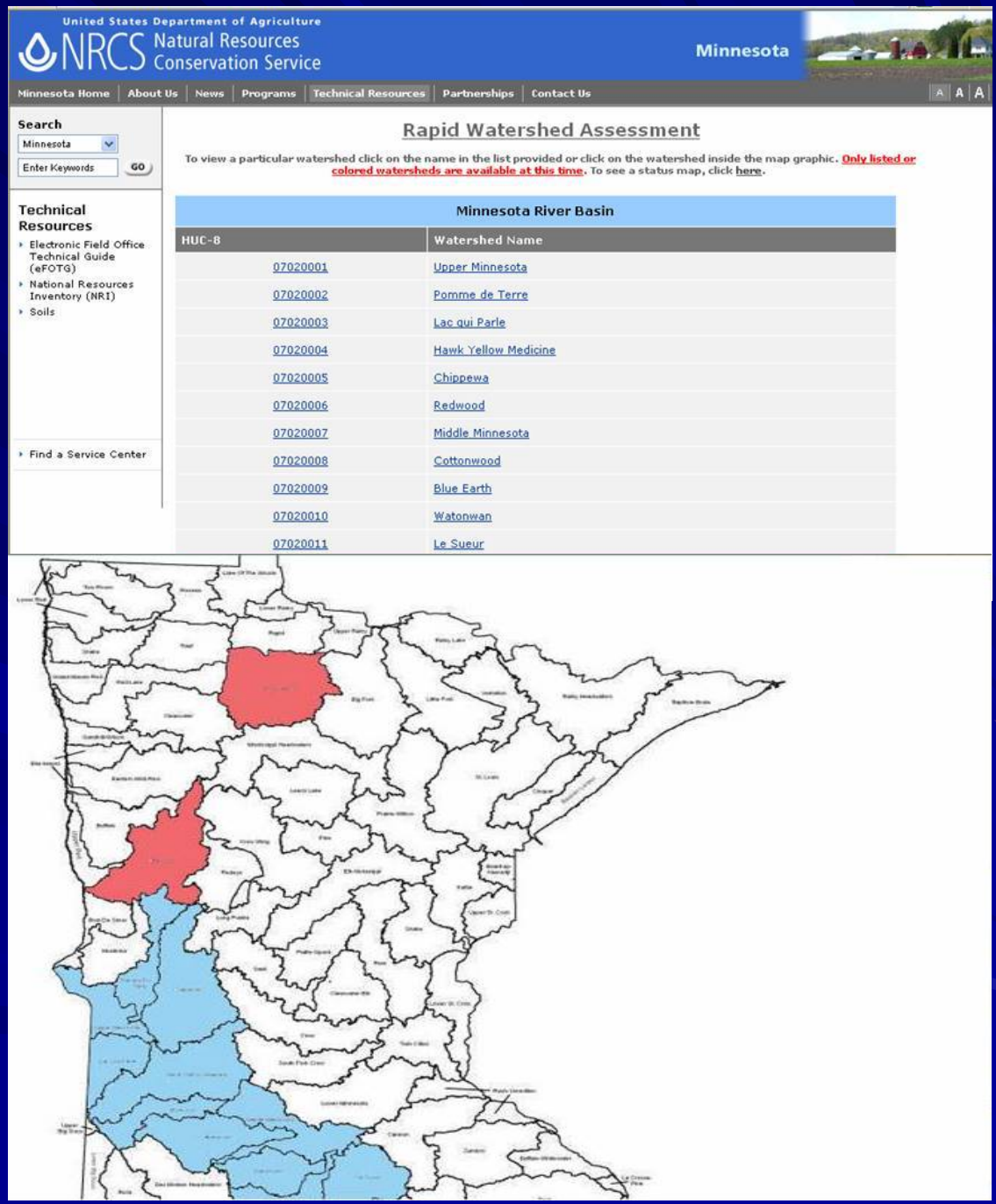
Conservation Systems by Treatment Level	FUTURE	USDA INVESTMENT				PRIVATE INVESTMENT		
	New Treatment Units	Installation Cost 50%	Management Cost - 3 yrs 100%	Technical Assistance 20%	Total Present Value Cost	Installation Cost 50%	Annual O & M + Mgt Costs 100%	Total Present Value Cost
Progressive System Acres Treated	**19,320**							
Fence (ft.) 382	483,000	$603,750	$0	$120,750	$724,500	$603,750	$24,150	$705,479
Irrigation System, Sprinkler (ac.) 442	3,864	$1,352,400	$0	$270,480	$1,622,880	$1,352,400	$54,096	$1,580,272
Irrigation System, Surface and Subsurface (ac.) 443	1,932	$4,830	$0	$966	$5,796	$4,830	$290	$6,051
Irrigation Water Conveyance, Pipeline (ft.) 430	0	$0	$0	$0	$0	$0	$0	$0
Irrigation Water Management (ac.) 449	9,660	$0	$579,600	$115,920	$632,346	$0	$193,200	$297,403
Pipeline (ft.) 516	48,300	$60,375	$0	$12,075	$72,450	$60,375	$2,415	$70,548
Prescribed Grazing (ac.) 528	19,320	$67,620	$0	$13,524	$81,144	$67,620	$0	$67,620
Pumping Plant (no.) 533	97	$313,950	$0	$62,790	$376,740	$313,950	$12,558	$366,849
	Subtotal	**$2,499,525**	**$579,600**	**$615,825**	**$3,631,776**	**$2,499,525**	**$292,505**	**$3,215,236**
Resource Management System (RMS) Acres Treated	**30,188**							
Fence (ft.) 382	483,000	$603,750	$0	$120,750	$724,500	$603,750	$24,150	$705,479
Forage Harvest Management (ac.) 511	30,188	$0	$724,500	$144,900	$790,432	$0	$241,500	$371,753
Irrigation System, Sprinkler (ac.) 442	6,883	$2,408,963	$0	$481,793	$2,890,755	$2,408,963	$96,359	$2,814,860
Irrigation System, Surface and Subsurface (ac.) 443	0	$0	$0	$0	$0	$0	$0	$0
Irrigation Water Conveyance, Pipeline (ft.) 430	0	$0	$0	$0	$0	$0	$0	$0
Irrigation Water Management (ac.) 449	24,754	$0	$1,485,225	$297,045	$1,620,386	$0	$495,075	$762,095
Nutrient Management (ac.) 590	30,188	$0	$1,358,438	$271,688	$1,482,061	$0	$452,813	$697,038
Pasture & Hayland Planting (ac.) 512	6,038	$271,688	$0	$54,338	$326,025	$271,688	$5,434	$294,576
Pest Management (ac.) 595	30,188	$0	$1,811,250	$362,250	$1,976,081	$0	$603,750	$929,384
Pipeline (ft.) 516	48,300	$60,375	$0	$12,075	$72,450	$60,375	$2,415	$70,548
Prescribed Grazing (ac.) 528	19,320	$67,620	$0	$13,524	$81,144	$67,620	$0	$67,620
Pumping Plant (no.) 533	97	$313,950	$0	$62,790	$376,740	$313,950	$12,558	$366,849
Spring Development (no.) 574	151	$188,672	$0	$37,734	$226,406	$188,672	$3,773	$204,567
Upland Wildlife Habitat Management (ac.) 645	30,188	$0	$905,625	$181,125	$988,040	$0	$301,875	$464,692
Use Exclusion (ac.) 472	6,038	$36,225	$0	$7,245	$43,470	$36,225	$2,174	$45,381
Water Well (no.) 642	151	$765,253	$0	$153,051	$918,304	$765,253	$15,305	$829,724
Watering Facility (no.) 614	193	$96,600	$0	$19,320	$115,920	$96,600	$5,796	$121,015
	Subtotal	**$4,813,095**	**$6,285,038**	**$2,219,627**	**$12,632,715**	**$4,813,095**	**$2,262,976**	**$8,745,579**
TOTAL ACRES TREATED / ESTIMATED TREATMENT COSTS	**49,508**	**$7,312,620**	**$6,864,638**	**$2,835,452**	**$16,264,491**	**$7,312,620**	**$2,555,481**	**$11,960,814**

MN Approach to Matrix Development

1. Buy in from field staff
   - Review of resource profiles
2. Meetings with interested parties outside of NRCS
   - Watershed groups, NGO's, concerned citizens
3. Revisions based on group interactions
4. Meeting with field staff to develop matrix
5. Comment/Review Period

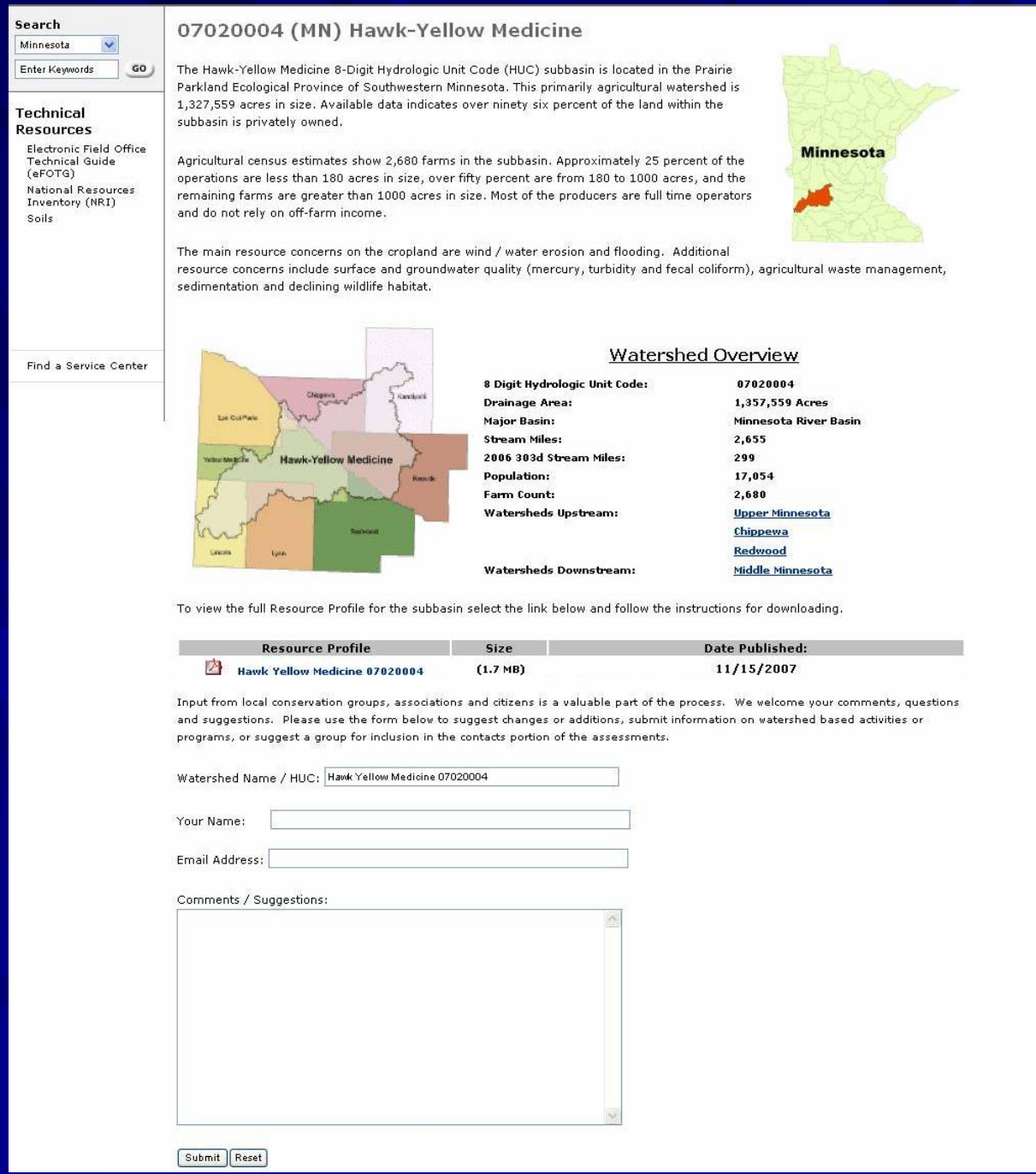
Review of Resource Profiles

- http://www.mn.nrcs.usda.gov/technical/rwa/Assessments/index.html
- As profiles become available for review, notice is sent to ASTC-FO's, ARC's, DC'c



Review of Resource Profiles

- Download profile
- Easily provide comments or edits
- Sent directly to RWA leader



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07020004 (MN) Hawk-Yellow Medicine

The Hawk-Yellow Medicine 8-Digit Hydrologic Unit Code (HUC) subbasin is located in the Prairie Parkland Ecological Province of Southwestern Minnesota. This primarily agricultural watershed is 1,327,559 acres in size. Available data indicates over ninety six percent of the land within the subbasin is privately owned.

Minnesota

Agricultural census estimates show 2,680 farms in the subbasin. Approximately 25 percent of the operations are less than 180 acres in size, over fifty percent are from 180 to 1000 acres, and the remaining farms are greater than 1000 acres in size. Most of the producers are full time operators and do not rely on off-farm income.

The main resource concerns on the cropland are wind / water erosion and flooding. Additional resource concerns include surface and groundwater quality (mercury, turbidity and fecal coliform), agricultural waste management, sedimentation and declining wildlife habitat.

Hawk-Yellow Medicine

Watershed Overview

8 Digit Hydrologic Unit Code:	07020004
Drainage Area:	1,357,559 Acres
Major Basin:	Minnesota River Basin
Stream Miles:	2,655
2006 303d Stream Miles:	299
Population:	17,054
Farm Count:	2,680
Watersheds Upstream:	Upper Minnesota Chippewa Redwood
Watersheds Downstream:	Middle Minnesota

To view the full Resource Profile for the subbasin select the link below and follow the instructions for downloading.

Resource Profile	Size	Date Published:
Hawk Yellow Medicine 07020004	(1.7 MB)	11/15/2007

Input from local conservation groups, associations and citizens is a valuable part of the process. We welcome your comments, questions and suggestions. Please use the form below to suggest changes or additions, submit information on watershed based activities or programs, or suggest a group for inclusion in the contacts portion of the assessments.

Watershed Name / HUC: Hawk Yellow Medicine 07020004

Your Name:

Email Address:

Comments / Suggestions:

Submit Reset

Local/Public Participation

- Meeting set up by ASTC-FO's
- Review of resource profile
- Overview of methods and content

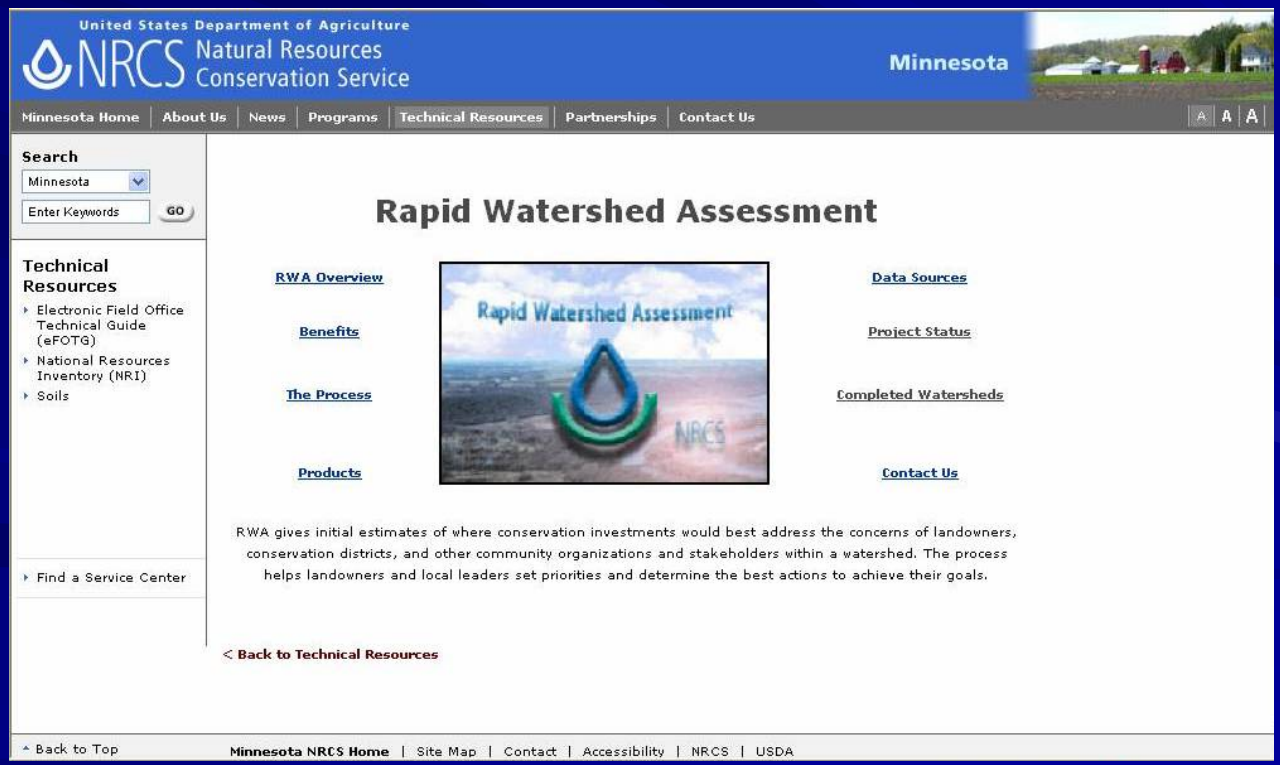
- Addressed questions and concerns
- Discussed the role of the summary matrix

Local/Public Participation Feedback

- **Useful, consistent standardized documents throughout state**
- **Important tool for data review by districts to aid in development of annual, 5 & 10 year conservation plans. This report provides much of the leg work.**
- **EQIP local workgroups – support for decision making**
- **Negative: Though useful, easy access to prepared information may result in tight competition between districts and organizations for grant dollars**
- **Wanted to include conservation practices outside of NRCS FOTG**

Revisions to Profiles

- Using input from field staff and work groups, revised resource profiles and make available to public via MN NRCS website http://www.mn.nrcs.usda.gov/technical/rwa/index.html



Development of the Summary Matrix

- NRCS staff
  - Knowledge of practices, issues with establishing consensus in groups
- Preview of what we were doing and why
  - Tool to provide starting point for natural resource professionals to plan conservation
  - Qualitative estimate of potential conservation over 5 year period
  - Does not serve to monitor progress that is dependent on future funding levels

Development of the Summary Matrix (Cont.)

- Review of resource profile
- Used Oregon Excel model to develop matrices for: (acreages based on NLCD)
  - Row Crops
  - Pasture/Hay
  - Forest
- Work through model tab by tab, using knowledge and experience of field staff to reach consensus on inputs to the model

Items to Consider in the Matrix Development Process

- Getting group to think on a broad scale. Most field staff are technical and quantitative
- Thinking at the watershed level and not their county
  - % of each county in watershed
  - Map with landmarks, county boundaries, and transportation may be useful
- Establishing Practice Factors
  - Feet/MU, % of MU at baseline, progressive and RMS levels

Items to Consider in the Matrix Development Process (Cont.)

- Determining baseline level of conservation and appropriate practice factors
  - Use of PRS data from previous years was helpful
  - to help set baseline conservation, practice factors (feet/MU, or % of MU)
- For some practices it is better to think about at the WS level and others at the MU
  - Residue Mgmt. – Watershed
  - Terrace – Management Unit

Items to Consider in the Matrix Development Process (Cont.)

- Have appropriate cost data in model
  - EQIP Practice Payment Schedule
  - Using OR for practices we don't cost share on
  - Practice Codes (Residue Mgmt.)
  - Make sure units in payment schedule and model are the same (Animal walkways and trails – feet vs. acres)
- Time consideration
  - 1st landuse took ~3 hours, 2nd less.
  - Plan on at least half a day or more if you want to complete all landuses.
- Bring food or other incentives

Additional Feedback/Revisions

- Draft matrices circulated for review
  - Allow for additional items post meeting
  - Revision of model inputs
    - Practice factors, treatment levels
- Field staff discussion with local groups on matrix results and potential revisions
- Potential for additional meetings with local groups to include additional practices

Questions?