

## GIS Steering Committee

Meeting Minutes - 5/17/95

**NOTICE OF MEETING.** A public notice of the meeting pursuant to Section 84-1411 R.R.S. 1943, was published in the Omaha World Herald on May 10, 1995.

Present were (\* authorized to vote):

* Rod Armstrong	Governor's Policy Research Office
Mahendra Bansal	Natural Resource Commission
Larry Brooks	Natural Resources Conservation Service
* Jim Brown	State Surveyor's Office
* Dennis Burling	Department of Environmental Quality
Rob Christian	Saunders County
* Blaine Dinwiddie	Omaha Public Power District
* Steve Henderson	Department of Administrative Services
Jim Lacy	CALMIT
* Les Howard	Conservation and Survey Division
Erik Hubl	Lancaster County Assessor's Office
Ed Kelley	Game and Parks Commission
Kelly Klenke	Natural Resources Conservation Service
Mark Kuzila	Conservation and Survey Division
* Jim Langtry	Lancaster County Engineer's Office
Kim Menke	Natural Resources Commission
* John Miyoshi	Lower Platte NRD
* Jon Ogden	Department of Roads
Tim Prescott	Natural Resources Conservation Service
Larry Ragon	Natural Resources Conservation Service
Scott Richert	Game and Parks Commission
Steve Scheinost	Natural Resources Conservation Service
Russ Shultz	Lancaster County Noxious Weed Control
Connie Watson	SAIC
* Dayle Williamson	Natural Resources Commission
* Dennis Wilson	City of Omaha
Paul Yamamoto	Department of Environmental Quality
Larry K. Zink	Coordinator, GIS Steering Cmte.

### **PRESENTATIONS ON THE DEVELOPMENT OF DIGITAL COUNTY SOILS SURVEYS.**

Representatives from three agencies (Natural Resources Conservation Service, Natural Resources Commission, and the Conservation and Survey Division - UNL) had been invited to provide the Str. Cmte. with presentations on current thinking and plans for the development of digital county soils surveys. Due to the recent death of Terry Kubicek's father, NRC's presentation was delayed until the June 14th Str. Cmte. meeting. Because there was not quite a quorum at 10:00 am, it was decided to proceed with the presentations and formally convene the meeting later.

Natural Resources Conservation Service. Larry Brooks, NRCS, introduced and moderated a presentation by NRCS and follow-up discussion on the background and steps involved in the development of county soils surveys. Steve Scheinost, NRCS, provided the Str. Cmte. with an overview of the current situation with soil surveys in Nebraska. Steve S. noted that "modern" soil surveys are almost completed for all of Nebraska's 93 counties (some are not yet published).

Steve S. also noted that the soil surveys for some of these counties are based on outdated soil surveying techniques and they probably need to be resurveyed or remapped prior to being digitized (14 counties according to a draft summary compiled by Norm Helzer, NRCS State Soil Scientist, which had been mailed out with the meeting agenda). Commitments for much of this work has already been made and scheduled for over the next 5 to 10 years, based on cooperative agreements with local governmental entities. Steve S. also explained that over the last several years, the NRCS has organized its work according to Major Land Resource Areas (MLRA). In general, MLRAs are areas of similar soil types and climate. According to Steve S., another significant focus of NRCS's soil survey work for the next several years will be revisiting many county soil surveys and working to standardize the coding or soil type legends across county boundaries, within a common MLRA. This is known as recorrelating the soil surveys or soil legends. (According to the draft summary compiled by Norm Helzer, NRCS State Soil Scientist, approximately 56 counties need recorrelation of soil legends.)

Conservation and Survey Division - UNL. Mark Kuzila, lead soil scientist with CSD, provided the Str. Cmte. with an overview of the process and considerations which soil scientists use in developing a county soil survey. Mark K. noted that some of the major factors considered in defining a soil type include: topography, underlying geology or origin of soil forming materials, nature of natural forces or action upon those soil forming materials, and increasingly the impact of man (*minute-taker's apology for the poor representation of Mark's presentation here, I am afraid I would fail the exam*). Mark also shared with the Str. Cmte. the historical and institutional development of soil survey work in Nebraska. Mark K. noted that CSD was created by the Legislature in 1921 and the first responsibility listed in the statute was soil surveys. Mark K. discussed the early cooperative soil survey work by CSD and the predecessors of NRCS. Mark K. noted that in 1976 the Legislature acted to accelerate the completion of modern soil surveys by providing additional funding. The Legislature created the Nebraska Soil Survey Fund, administered through NRC, for the purpose of contracting with CSD to accelerate the program of modern soil surveys. Mark K. noted this statute is the basis of the current three-way association of CSD, NRCS, and NRC in the development of modern soils survey. Mark K. also noted that in addition to these three agencies, local governmental entities (primarily NRDs) have played a major role in providing additional funding to expedite modern soil surveys. Through cooperative agreements between all of these parties, CSD was able to hire additional soil scientists and consequently the development of modern soil surveys were greatly expedited during the late 1970s, 1980s, and early 1990s.

Development of Digital, Vector County Soils Data. During, and following the presentations by NRCS and CSD, discussion turned to the process and plans for converting existing county soils information into a digital format. There appeared to be a general agreement among the representatives from NRCS and CSD that efforts should be made to achieve the national soils SSURGO standards for county soils data. It was noted that a primary feature of the SSURGO standard is a requirement that county soil data be compiled (redrawn) on a ortho-rectified, stable base (USGS 7.5 topo or DOQs). Once compiled on this stable ortho-base, the follow-up digital product, derived from this base, is evaluated primarily for how well it reproduces the soil lines on this stable ortho-base master.

The discussion highlighted the point that probably the biggest hurdle, by far, to overcome in creating digital county soils data for Nebraska is arranging for this recompiling (redrawing of soil polygons) onto stable ortho-bases. The NRCS estimate for this recompiling was the equivalent of approximately 31 employee-years to complete this task for the roughly 1,300 quads for Nebraska. This compares to an overall total estimate of 5.3 employee-years to digitize and label the quads for Nebraska after each quad of the county soils survey has been recompiled. There was general agreement among the representatives from NRCS and CSD that this recompilation step requires, at a minimum, significant

oversight by a trained soil scientist. Some felt that the work should actually be done by a soil scientist as there is significant interpretation involved in redrawing the lines relative to the contours lines on the ortho-base. These estimates of 31 employee-years and 5.3 employee-years for a total of 36.3 employee-years to recompile, digitize and label Nebraska county soil surveys were with the very rough range of what other surrounding states report (*based on interpretations of a phone survey conducted by Jim Lacy, CALMIT, see attached*).

In addition to this estimate of 36.3 employee-years for recompiling and digitizing, the NRCS summary prepared by Norm Helzer, also estimated 49 employee-years will be required for remapping 14 counties and 70 employee-years will be required for recorrelation of soils legends in 56 other counties.

Responses to Str. Cmte. Questions. As part of its invitation to these three agencies, the Str. Cmte. forwarded four questions for their response. Draft responses were available to some or all of these questions from both NRCS and CSD. The NRCS summary responses were from Norm Helzer, NRCS State Soil Scientist. Larry Brooks, NRCS, noted that the agency was still in the process of putting together an overall agency plan for developing digital data. Larry B. indicated that while he could not commit to having that plan available by the June Str. Cmte. meeting, he hoped to have made significant progress by that time. NRCS and CSD responses to the four questions were as follows:

1. **To help clarify the types and amount of prep work that is desired or required prior to the digitization of a county's soils survey to SSURGO standards, please categorize each of Nebraska's 93 county soil surveys into one of the following four categories which you feel best reflects its readiness for vector digitization.**
  - a. **County soil survey is currently compiled, or nearly compiled, onto a stable, ortho rectified base and is ready to be digitized.** NRCS's summary identified 3 counties. CSD indicated a general agreement with NRCS's listing of counties.
  - b. **County soil survey should be recompiled onto a stable, ortho rectified base and then it will be ready to be digitized.** NRCS's summary identified 20 counties. CSD indicated a general agreement with NRCS's listing of counties.
  - c. **County soil survey should be recorrelated (standardizing legends with very limited field survey work) and recompiled onto a stable, ortho rectified base and then it will be ready to be digitized.** NRCS's summary identified 56 counties. CSD indicated a general agreement with NRCS's listing of counties.
  - d. **County soil survey should be remapped (significant field survey work) and compiled onto a stable, ortho rectified base and then it will be ready to be digitized.** NRCS's summary indicated 14 counties. CSD indicated a general agreement with NRCS's listing of counties.
2. **Please outline any significant problems and/or shortcomings that you feel these categories have in terms of facilitating a discussion of the types and amount of work that needs to be done to prepare existing soil surveys for digitization.** NRCS's summary noted that category 1.d. requires the additional workload of Line Overlays for publication and digitizing activities. CSD noted no significant problems and/or of the categories.

3. Digitizing county soil surveys to meet SSURGO standards requires them to be compiled onto and digitized from a stable, ortho rectified base. That ortho base can be either ortho-topos (USGS 7.5 minute quads) or orthophotos. Given your best projection of the likely available resources, and likely production scenarios, identify the ortho base which you would propose to use for each of the four categories (a, b, c, d) outlined above, in order to have at least 90% of Nebraska's county soils surveys digitized over the next five years? Ten years? Please discuss the rationale for your selection, including costs and timelines.

- 1.a. NRCS's summary: Orthophoto Base (1:12,000 for eastern 1/3 of Nebr. and 1:24,000 for western 2/3 of Nebr.)  
CSD: Ortho-topo and Orthophoto non-digital
- 1.b. NRCS's summary: USGS mylar 1:24,000, 7.5 min. quad with contour lines  
CSD: Ortho-topo
- 1.c. NRCS's summary: USGS mylar 1:24,000, 7.5 min. quad with contour lines  
CSD: Ortho-topo or DOQ
- 1.d. NRCS's summary: Orthophoto Base (1:12,000 for eastern 1/3 of Nebr. and 1:24,000 for western 2/3 of Nebr.)  
CSD: Orthophoto or DOQ

4. Any large-scale effort to develop digital soils data for most of Nebraska's counties over the next five to ten years will likely require very significant investment in most, if not all, of the following activities: recompiling existing soils data, recorelating existing soils surveys, remapping existing soils surveys, certifying recompiled and/or remapped soils surveys, digitizing soil lines, developing related soil attribute databases, certifying digitized soil surveys, the purchase of ortho-topo quads, and the production of orthophotos. Please discuss two or three scenarios, including the proposed activities of each of the four actors listed below, to achieve the five year (and ten year) digitization goals referred to above. Please also note any additional significant activities areas that should be considered.

- Natural Resources Conservation Services (NRCS)
- Natural Resources Commission (NRC)
- Conservation and Survey Division (CSD)
- Other contractors (public or private)

- 1.a. CSD response only: Compilation: NRCS, CSD; Digitization: NRCS, NRC, CSD, other
- 1.b. CSD response only: Recompilation: NRCS, CSD, other; Digitization: NRC, other
- 1.c. CSD response only: Recorelation: NRCS, CSD; Recompilation: NRCS, CSD, other;  
Digitization: NRC, other
- 1.d. CSD response only: Remapping: NRCS, CSD; Compilation: NRCS, CSD;  
Digitization: NRC, other

Additional Discussion Planned for the June GIS Str. Cmte. Meeting. NRCS and CSD representatives were thanked for sharing their time and expertise. They were also invited to attend the June Str. Cmte. meeting and share their perspective as NRC gives its presentation and the GIS Str. Cmte. continues to explore what might be done to expedite the development of digital county soils data. Particular interest was expressed in any plan which NRCS might develop related to this matter. Salient issues which seem to require further discussion include:

1. Which stable ortho-base should be used for recompiling which counties?
2. How will the very large scale recompilation and recorelation tasks be undertaken and managed?

3. Which scale (1:12,000 or 1:24,000) ortho-base should be used for recompiling which counties?
4. How much additional funding will be required and where will it be found?
5. What is the justification for this additional funding?

Following the presentations by NRCS and CSD and the related discussions, the meeting broke for an hour for lunch.

**ROLL CALL AND MINUTES.** Following lunch, the meeting was formally called to order and a motion was made by Jon O., seconded by Dayle W., to approve the minutes of the April 19, 1995 Str. Cmte. meeting, as distributed and to call the roll. Nine duly authorized representatives were present and therefore there was a quorum to conduct business. The motion to approve the minutes passed with eight voting "for" and one "not voting" (*see the attached Voting Record sheet, vote #1*). Rod A. and Dennis W. arrived shortly after the roll call and vote.

**UPDATE ON CADASTRE / PLSS TASK FORCE.** Jim B. gave a brief overview of the initial meeting of this ad hoc task force. Jim B. noted that an initial focus will be to attempt to identify how we might develop a money figure for the current cost of property parcel mapping by local governments. Jim B. also noted that the group decided to initially focus on getting the PLSS into a digital coordinate system and then move to tackling property parcel issues. Jim B. reported that the task force will attempt to meet the day prior to the Str. Cmte., if anyone is interested in attending the meeting. Blaine D. raised a question about the group meeting more regular than monthly, to move the process along. It was Blaine's feeling that this was a desire of the Str. Cmte. Jim B. indicated that he felt the geographic dispersion of the task force members would make that difficult. Jim B. stated his feelings that this limitation would be worth the broader input that would be possible. Larry Z. reported that current task force members included a County Commissioner from Saunders County; a County Register of Deeds from Kearney; a County Engineer/Surveyor from North Platte; and a representative of the Lancaster County Assessor's office. Larry Z. also indicated that most or all local government representatives had good connections with NACO.

Blaine raised a concern about the task force's attention to the matter of a definition of a base map, which was in the motion passed to authorize the task force. Jim B. expressed skepticism about the feasibility of that task. Larry Z. indicated that the only way he saw that coming out of this group was if he, or someone else, developed a series of drafts and solicited feedback on them at each task force meeting. Larry Z. indicated that he would try to do that.

Larry Z. reported that the current thinking of the task force was to attempt to develop conceptual proposals regarding the development of PLSS and property parcel digital data and present those at the July Str. Cmte. meeting. Depending on the response from the Str. Cmte., the task force would then take those conceptual proposals and proceed to add detail. The Str. Cmte. expressed general support for this approach.

**DISCUSSION OF ACTION ON THE REMAINING TWO PRIORITIZED ITEMS FROM THE STR. CMTE. PLANNING RETREAT.** Rod A. introduced this topic by noting that "Local Government Land Records Modernization and GIS Development" and "Major Educational Effort Focused on Government Officials and Representatives" were two priorities that ranked right up there with a focus on developing priority spatial databases in the Str. Cmte. retreat. Larry Z. expressed a concern that if no action were taken on these items they were likely to fall off the agenda. It was noted that the PLSS / Property Parcel Task Force would be doing some work in this area. Larry Z. asked if the Str. Cmte. wanted the Task Force to take on these broader areas. The general response seemed to be that another group should be responsible. One suggestion was that the local government

representatives on the Str. Cmte. from a subcmte. to develop these ideas. It was also noted that the GIS Symposium would be a vehicle for educating government officials. Blaine D. suggested that private vendors were another avenue for educating government officials. Jim B. noted that the real estate industry was also one that needs to be involved in this process as their support will be necessary. It was suggested that the item be placed on the June agenda for further discussion.

**GIS REVIEW SUBCMTE.** Larry Z. reported that there had been three purchase requests forwarded to the GIS Review Subcmte. since the Str. Cmte. last meeting: 1) a request from NRC for a windows print driver for a Calcomp plotter; 2) a request from DOR for six survey quality GPS units; and 3) an inquiry from the Dept. of Agric. regarding the support of the Str. Cmte. for a possible purchase request for one copy of ArcView 2 software. Larry Z. noted that the Review Subcmte. had not meet, because individual Subcmte. members had individually supported all three proposals. Because there was some concern expressed on issues related to GPS, that issue was separated from the others. Jim B. moved, Jon O. seconded, that the Str. Cmte. recommend approval of NRC's purchase request (#105-M) for a Calcomp print driver, and Dept. of Agric. interest in a single copy of ArcView 2 software. The motion passed unanimous (*see vote #2 on attached Voting Record sheet*).

Larry Z. expressed a desire for the Str. Cmte. to decide whether or not it would take on a responsibility related to GPS oversight. Larry noted that each time it comes up, questions are raised as to whether this is GIS and therefore part of the Str. Cmte.'s responsibility. Both Rod A. and Jim B. expressed concern about the need for oversight/review of GPS equipment purchases and coordination of it use. Dayle W. expressed some frustration about the difficulty of coordinating between NRC and DOR regarding GPS use and the HARN system. Dayle W. also expressed some concerns about what was meant by the need for oversight and coordination of GPS. Larry Z. responded by noting that there was this current DOR request for six units, and he had just that day received another request for review from Game and Parks that includes GPS units, and it was his understanding that another request from NRC related to GPS was on its way to him. Dayle W. indicated that he didn't think that there was such a request coming from NRC for GPS equipment. Following further discussion, Rod moved, Steve H. seconded, that it was the intent of the Str. Cmte. to provide oversight/review of GPS equipment purchases and coordination of survey quality GPS use and needs. In discussion clarifying the intent of the motion, Jim B. noted that the primary burden for achieving coordination of use and needs should rest with the agency that needs another agency's assistance. The motion passed unanimously (*see vote #3 on attached Voting Record sheet*).

Jim B. moved, Blaine D. seconded, that the GIS Str. Cmte. recommend approval of the DOR's purchase request (#R-697-95) for six survey quality GPS units. The motion passed unanimously (*see vote #4 on attached Voting Record sheet*).

**DATA INVENTORY SUBCMTE.** No report.

**POLICY SUBCMTE.** Rod A. raised the question of continuing the practice of the last two meetings of meeting at 10:00 am instead of having a separate Policy Subcmte. meeting. Rod A. noted that this allows members who have to travel to attend the meetings to participate in these policy discussions. It was decided to continue this practice for at least the summer. It was requested of Rod A. and Larry Z. that the agenda specify whether or not the formal Str. Cmte. meeting will be convened at 10:00 am or later.

**TECHNICAL STANDARDS SUBCMTE.** No report.

**EDUCATION SUBCMTE.** No report.

**GPS COORDINATION SUBCMTE.** Jim B. reported that the Legislature's Appropriation Committee had reported out funding for the statewide GPS Base Station proposal.

**EXPLORING THE GIS STR. CMTE.'S ROLE WITH FEDERAL GEOSPATIAL COORDINATION EFFORTS.** Larry Z. indicated that he would like to get a sense from the Str. Cmte. relative to its interest in exploring the relationship of the Str. Cmte. to federal geospatial coordination efforts. Larry Z. noted that there are several possible initiatives in which the Str. Cmte. could possibly play a role and thereby place itself more clearly "in the loop" as geospatial decisions related to Nebraska are made relative to federal agencies. Concern was expressed regarding the amount of time these activities could take. However, the Str. Cmte. expressed support for initiatives by Larry Z. to explore possible relationship and bring these matters to the attention of the Str. Cmte.

**STR. CMTE. MEMBERS UPDATES ON THEIR AGENCY GIS ACTIVITIES.** Mahendra B. reported that NRC had completed the DEMs for the Lancaster County DOQQ product and they had been approved by USGS. Jon O. reported that DOR and Integraph Corp. had held some preliminary meeting on a possible safety management project in which they are exploring possible applications by Health, Patrol, and DMV. Larry Z. handed out on behalf of Jim Merchant information about an upcoming meeting on the GAP land cover data development project.

**OTHER BUSINESS.** Rod A. drew the Str. Cmte.'s attention to information on a Kansas meeting on developing statewide standards. Rod A. reported that Larry Z. indicated that he thought it might be worth the trip for him to attend the one-day meeting, Rod A. asked the Str. Cmte. for their thoughts. There was general support expressed for Larry's attendance, assuming that funds were available for the travel. Rod A. also reported that the Appropriations Committee had reported out the proposal which would provide funding for staff support for the Str. Cmte. and geo-spatial data coordination. The position would be a part of DAS Intergovernmental Data Services Division and Rod noted it was looking pretty hopeful that the position will come through. Larry Z. noted that June is the last scheduled Str. Cmte. meeting. Larry asked how folks felt about scheduling meetings on the third Wednesday of the month. Someone raised the question of possible conflicts with holidays. Larry Z. was asked to put together a tentative meeting date list and mail it out.

**NEXT MEETING.** Wednesday, June 14, 1995, 10:00 am, East Campus Union, UNL.

GIS Steering Committee  
VOTING RECORD

Date 5/17/95

*Attendance Minutes*    *Rev. Submits*  
*GPS Bl.*    *Roads*

		#1	#2	#3	#4					
DAS - Steve Henderson	P	+	+	+	+					
DEQ - Tom Lamberson <u>Dennis Burling</u>	P	+	+	+	+					
CSD - Perry Wigley <u>Les Howard, Jim Merchant</u>	P	+	+	+	+					
NRC - <u>Dayle Williamson</u> Terry Kubicek	P	+	+	+	+					
PRO - Rod Armstrong	A/P		+	+	+					
DOR - Jon Ogden	P	+	+	+	+					
Surveyor - Jim Brown	P	NV	+	+	+					
LRD - Laura Valenziano	A									
John Miyoshi	P	+	+	+	+					
Blaine Dinwiddie	P	+	+	+	+					
<del>Judy Larsen</del> <u>Cliff Welsh</u>	A									
Larry Worrell <u>Jim Langtry</u>	P	+	+	+	+					
Lash Chaffin	A									
Duane Stott	A									
Dennis Wilson	A/P		+	+	+					
TOTALS	9-P /11-A	8(+)	11(+)	11(+)	11(+)					

P = present  
A = absent

"+" = voting for  
"-" = voting against  
"NV" = not voting