

1993-94 SESSION
COMMITTEE HEARING
RECORDS

Committee Name:

Joint Committee on
Finance (JC-Fi)

Sample:

Record of Comm. Proceedings ... RCP

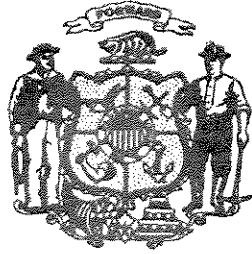
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- Appointments ... Appt
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- Committee Hearings ... CH
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- Executive Sessions ... ES
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- Hearing Records ... HR
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- Miscellaneous ... Misc
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State of Wisconsin

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JOINT COMMITTEE ON FINANCE

April 6, 1994

TO: Mr. James R. Klauser, Secretary
Department of Administration

FROM: Senator Joe Leean
Representative Barbara J. Linton
Co-Chair, Joint Committee on Finance

We have reviewed the request from the Department of Administration dated March 17, 1994 under s. 16.515 and 16.505(2) pertaining to requests from the Department of Natural Resources and the State Fair Park Board.

There were no objections to these requests and accordingly they have been approved.

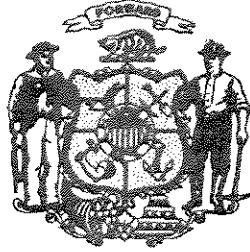
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cc: Roger Grossman
Bob Lang

State of Wisconsin

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JOINT COMMITTEE ON FINANCE

March 17, 1994

TO: JOINT COMMITTEE ON FINANCE MEMBERS

FROM: Senator Joe Leean
Representative Barbara J. Linton
Co-Chair, Joint Committee on Finance

Attached is a copy of a request from the Department of Administration dated March 17, 1994 pertaining to requests from the Department of Natural Resources and the State Fair Park Board.

Please review these items and notify Senator Leean's office not later than Tuesday April 5, 1994 if you have any concerns about the requests or would like the Committee to meet formally to consider them.

Also, please contact us if you need additional information.

JL:BJL:ns

Attachments

CORRESPONDENCE/MEMORANDUM

**STATE OF WISCONSIN
Department of Administration**

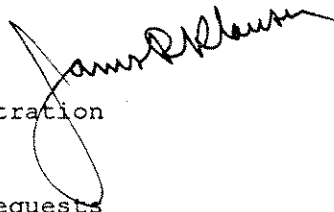
Date: Mar. 17, 1994

To: Honorable Joseph LEEAN, Co-Chair
Honorable Barbara J. Linton, Co-Chair

From: James R. Klauser
Secretary
Department of Administration

Subject: s. 16.515/16.505(2) Requests

4/5



Enclosed are requests which have been approved by this department under the authority granted in s. 16.515 and s. 16.505(2). The explanation for each request is included in the attached materials. Listed below is a summary of each item:

| <u>AGENCY</u> | <u>DESCRIPTION</u> | <u>1993-94</u> | | <u>1994-95</u> | |
|---------------------------|-------------------------------|----------------|------------|----------------|------------|
| | | <u>AMOUNT</u> | <u>FTE</u> | <u>AMOUNT</u> | <u>FTE</u> |
| D.N.R. 20.370(8) (nk) | Geographic Info. Systems | | | | 3.0 |
| S.F.P.B. 20.190(1) (h) | General Program Operations | \$ 828,400 | | \$ 623,300 | |

As provided in s. 16.515, this request will be approved on Apr. 8, 1994 unless we are notified prior to that time that the Joint Committee on Finance wishes to meet in formal session about this request.

Please contact Roger Grossman at 266-1072, or the analyst who approved the request in the Division of State Executive Budget and Planning, if you have any additional questions.

Attachments:

CORRESPONDENCE MEMORANDUM

STATE OF WISCONSIN
Department of Administration

Date: March 7, 1994

To: James R. Klauser
Secretary

From: Shelley L. Moore *DPS Rev SM*
Policy and Budget Analyst

Subject: Department of Natural Resources s. 16.505 Request for Geographic Information Systems Programmer Positions

REQUEST

The Department of Natural Resources (DNR) requests 4.0 FTE three-year PR project positions under s. 20.370 (8)(mk) (general program operations--service funds) in the Bureau of Information Management for development of a statewide land cover map within a geographic information system format. After further discussion, DNR changed the request to apply to s. 20.370 (8)(nk) (geographic information systems, general program operations--service funds). Since this is a continuing appropriation, any necessary expenditure authority modifications can be approved through the allotment process.

BACKGROUND

The requested positions are as follows: 4.0 FTE positions classified as Management Information Specialist 3, of which 2.0 FTE positions are requested to begin upon approval of this request and 2.0 FTE positions are requested to begin July 1, 1994 (note that the start date for the latter 2.0 FTE was corrected by DNR from the original request of July 1, 1995).

The positions are requested to conduct Geographic Information System (GIS) development. GIS is a data processing discipline that combines database management systems, mapping sciences, automated spatial and numeric data analysis, and computer graphics capabilities to quickly analyze, model and display information in an easy-to-understand format. GIS allows integration of numerous data bases and models to provide more integrated and comprehensive decisionmaking, on a more timely basis. The Governor and Legislature have recognized the potential value of GIS through creation of the Land Information Board (attached to the Department of Administration) and numerous initiatives funded in past budgets for state agencies, including DNR. As an example, 1993 Act 16 provided a net total of \$844,000 PR and 6.0 FTE positions to fund expansion of the DNR GIS section to meet increased demand for services, including digitizing DNR properties and the endangered resources Natural Heritage Inventory. The new positions are requested to conduct GIS production associated with the new Wisconsin Initiative for Statewide Cooperation on Land Cover

Analysis and Data (WISCLAND) project. WISCLAND is a cooperative project currently sponsored by the following eleven state, private and federal entities:

- ✧ DNR
- ✧ State Cartographer's Office
- ✧ UW Institute for Environmental Studies
- ✧ UW Environmental Remote Sensing Center
- ✧ Wisconsin Geologic and Natural History Survey
- ✧ Wisconsin Land Information Board (attached to DOA)
- ✧ USDA, Forest Service, Chequamegon National Forest
- ✧ US Dept. of Interior, National Biological Survey-
Environmental Management Technical Center
- ✧ US Geological Survey (USGS)
- ✧ US Soil Conservation Service
- ✧ Wisconsin Power and Light Co.

The purpose of WISCLAND is to pool resources to cooperatively develop a statewide land cover mapping project which is cost-effective, complete, detailed, and current. The WISCLAND articles of participation were signed on December 1, 1993 and are in effect for a three-year period. A related memorandum of understanding between WISCLAND and USDA Forest Service (Chequamegon National Forest) was signed on November 9, 1993 and remains in effect until 30 days following written termination by the WISCLAND Steering Committee, DNR, or Chequamegon National Forest.

The following list details some of the identified potential DNR applications for land cover mapping:

Bureau of Wildlife Management

- ✧ Analysis of requirements for species introductions or transplants (e.g., elk reintroduction or deer relocation)
- ✧ Environmental corridor management
- ✧ Quantification of deer-range habitat
- ✧ Habitat management through the Master Planning process for DNR properties
- ✧ Wildlife population assessments
- ✧ Landscape-scale management (e.g., biodiversity assessments)

Bureau of Forestry

- ✧ Assessment of forested acreage
- ✧ Inventory and modeling of types of wood fuel
- ✧ Fire suppression
- ✧ Insect and disease assessment (e.g., gypsy moth trapping and spraying)
- ✧ Timber, pulp or fuel mill siting

Bureau of Endangered Resources

- ✧ Inventory location of endangered species
- ✧ Environmental review analyses

Bureaus of Water Resources and Wastewater

- ✧ Point source and water quality planning
- ✧ Stormwater management and modeling of urban runoff
- ✧ Agricultural runoff modeling

Bureau of Air Management

- ❖ Risk assessments, analysis and modeling
- ❖ Source/transport modeling (e.g., Lake Michigan Ozone Study)
- ❖ Impact analysis for new/existing air permit review

Bureau of Environmental Analysis

- ❖ Assessing alternatives to proposed actions
- ❖ Utility/highway corridor routing to avoid sensitive habitats and fragmentation
- ❖ Analyzing proximity of sensitive/protected resources
- ❖ Locating potential habitat mitigation areas

Bureau of Water Regulation and Zoning

- ❖ Hydrologic analyses for floodplain mapping
- ❖ Dam failure analysis and proposal review

ANALYSIS

GEO/WISCLAND Position Complement

The requested positions would be located in the DNR Bureau of Information Management (BIM) GEO Services Section, Production Unit, which is currently operated as a service center for DNR program bureaus. The Production Unit currently consists of 11 permanent or project positions, 9 LTE positions, and one student intern.

The 2.0 FTE project positions requested for FY94 will backfill 2.0 permanent positions approved in Act 16 that have been reallocated to the WISCLAND project. These positions will work on base workload, such as those projects approved in Act 16 (e.g., digitizing DNR properties). The two additional project positions in FY95 would be used to meet additional workload needed to complete WISCLAND.

DNR plans to use the requested positions to convert existing LTEs to project position status thereby retaining experienced and trained LTE staff. DNR argues that these qualified individuals are in high demand from other governmental entities, such as Dane County. According to DNR, the potential loss of expertise and time invested in training, combined with WISCLAND workload demand over the next four years justifies converting existing LTE positions (some of whom have had 3 to 4 LTE appointments) to project status.

Projected WISCLAND Workload

The WISCLAND project is currently budgeted over a three-year period, from FY94 through FY96. DNR staff workload is projected to occur over a four-year period (FY94 through FY97), due to differences in state and federal fiscal years and delays in position hires and receipt of funding. WISCLAND is defined as occurring in the three phases detailed below. Note that the term "phase" defines concurrent project components.

Phase I: Using statewide LANDSAT satellite imagery donated by the U.S. Fish and Wildlife Service (USFWS), DNR will produce larger-scale

vegetative cover maps for urban and rural areas. The first maps to be produced will probably include northwest and eastern portions of the state that are part of the Lakes Superior and Michigan drainage basins. The phase is funded at \$1,166,000.

Phase II: DNR will contract with local governments and regional planning agencies to use orthophotos to produce smaller scaled and more detailed maps of urban areas. Orthophotos are aerial photos which have been corrected by removing distortions, such as those caused by camera systems or plane tilt. This phase is funded at \$505,000.

Phase III: The USGS will contract with the private sector to produce statewide detailed smaller-scaled maps (orthophotos) for the 90% of the state not mapped under Phase II or by individual counties through Land Information Board grants. This phase is funded at \$4 million.

Under Phase I, two different sets of LANDSAT satellite scanner coverage will be converted, reviewed and outlined by land cover type, and then identified and correlated with computer classifications. Through this process, errors will be identified (e.g., correctly classifying corn on uplands versus cattails on wetlands, which can look very similar on satellite imagery). In addition, data from two satellite scanner dates will be classified and merged, to raise accuracy levels from a 70% level (with one photo set) to 85%-90% accuracy.

The DNR GEO Section Chief, who has supervised production of land cover mapping efforts in two states (South Dakota and Arizona), estimates that one person can analyze one scene of images per year. LANDSAT coverage of Wisconsin includes 20 scenes (digital photos). However, some of these scenes are only partial scenes (e.g., they include portions of adjoining states that do not need to be mapped). Of that amount, he estimates the WISCLAND project workload includes 12 professional person years, for performance of highly technical functions, and 6 years of lower level staff time (LTEs or interns) to do less involved work, such as tracing urban areas.

The workload associated with the requested positions is associated mainly with Phase I production. Phases II and III will include some additional workload for GIS permanent staff. Under Phase II, DNR staff work will consist of awarding and supervising contracts with local governments and planning agencies. Phase III will also require some management responsibility working with USGS and the contractor to ensure integration and compatibility with other WISCLAND products.

WISCLAND Budget

Table 1 details the projected WISCLAND budget compared with funding which has been committed to date:

Table 1: Committed and Budgeted WISCLAND Funding (Thousands/\$)¹

| WISCLAND Member | FY94 | FY95 | FY96 | Total |
|--|--------------|---------------|---------------|----------------|
| DNR ² | \$125 | \$190 | \$175 | \$490 |
| USDA/Soil Conservation Service | \$100 | \$100 | \$100 | \$300 |
| USFWS/GAP | \$30 | \$100 | \$100 | \$230 |
| USDA/Forest Service | \$10 | ? | ? | \$10 |
| USGS/WRD | \$5 | ? | ? | \$5 |
| EPA/Env. Man. Tech. Center | \$95 | ? | ? | \$95 |
| Other Members | ? | ? | ? | ? |
| TOTAL | \$365 | \$390 | \$375 | \$1,130 |
| Budgeted WISCLAND Expenditures | \$365 | \$670 | \$635 | \$1,671 |
| Portion for Requested Staff | \$135 | \$305 | \$267 | \$707 |
| Funding Shortfall (Budgeted Less Committed) | \$0 | -\$280 | -\$260 | -\$541 |

¹ Includes funding committed through February 15, 1994 for Phases I and II only.

² The DNR funding committed for this project is from the following sources: Bureau of Wildlife Management (\$235,000); Bureau of Information Management (\$30,000); and Division of Environmental Quality (\$225,000).

In addition to the Phase I and II costs detailed above, USGS has reportedly committed \$4,000,000 in funding for Phase III. Of the anticipated total project cost of \$6,000,000 over a four year period, \$1,130,000 has been committed to date. DNR's top management staff will be approaching additional potential users of WISCLAND land cover maps to solicit further partnership funding.

Although full funding for the Phase I and II costs of WISCLAND have not been obtained, funding has been committed to fully fund the costs of the requested positions. DNR has indicated that if the project experiences a shortfall in anticipated funding, necessary personnel costs will be obtained through a reduction in planned expenditures for Phase I supplies and services and a delay in Phase II.

DOA BITM and Land Information Board Review

DOA Bureau of Information and Telecommunications Management staff were asked to review this request. They agreed that WISCLAND will be work intensive and indicated the requested resources were appropriate. In addition, the DOA Land Information Board (also a WISCLAND member) staff support this request. Board staff found the number of new positions appropriate for the task. Furthermore, WISCLAND will allow the state to leverage a great deal of federal funding to meet the needs of state and local governments. Board staff also stated that WISCLAND is going to be of tremendous benefit for its members and for local governments in particular, as they will be able to utilize its work product immediately. Note that the WISCLAND project cannot be conducted or funded by the Board, as it is limited by statute to funding local governments' projects.

Contracting

DNR staff were asked to evaluate the use of contractors for Phase I efforts, in addition to the planned contractor utilization in Phases II and III. The agency argues that, for Phase I efforts, detailed interactions are necessary with local government and WISCLAND members which could not be effectively managed by contractors. DNR staff experience with GIS contractors (e.g., the Lake Michigan Ozone Study) is that maps are provided without sufficient interpretation related to quality assurance and control. DNR staff also argue that using contractors for Phase I efforts will result in additional project costs (which is the reason WISCLAND members created this coalition and specified DNR as the Phase I producer). While the current DOA Bulletin does not list contractors for this specialized purpose, the comparable cost of contractors for the Lake Michigan Ozone study is estimated at \$45-\$65/hr, as compared to DNR chargeback rates of \$15-\$35/hour, depending on the professional level of the employee.

GEO Section Workload Projections

The following table summarizes the current workload projected for the remainder of FY94 and FY95 (further detail is provided in Attachment 1). "Committed" workload represents staff needs associated with projects requested and approved by the GEO section. "Uncommitted" workload is the difference between committed workload and the total staff hours available in the section. "Billable staff hours" are those elements of a position's workload that can be attributed to a project and billed to its requestor.

Table 2: Committed & Uncommitted Workload (Billable Staff Hours)

| GEO Production Unit | FY94 ¹ | | FY95 | |
|---------------------------------------|-------------------|--------------|---------------------|--------------------------|
| | Committed | Uncommitted | Committed | Uncommitted |
| Property Management Applications Team | 3,521 | 0 | 5,792 | 1,137 |
| Water Resources Applications Team | 3,063 | 1,144 | 6,468 | 2,141 |
| Land Cover Applications Team | 2,886 | 0 | 12,467 ² | 0 |
| Wildlife Applications Team | 1,433 | 277 | 3,988 | 648 |
| TOTAL | 10,903 | 1,421 | 28,715 | 3,926³ |

¹ Includes work projected from February 20, 1994 through June 25, 1994.

² Although 12,467 hours are committed, only 8,931 staff hours are available from base staff.

³ Note that because the committed work hours of 12,467 on the Land Cover Applications Team exceed available work hours by 3,536 hours, the net uncommitted available work hours is reduced to 390 (see Table 3).

As Table 2 illustrates, a total of 12,324 work hours remain in FY94, of which 11.53% (1,421 hours) are uncommitted at this time (i.e., available production time is 88.47% utilized).

For FY95, 29,105 available work hours are available from base staff (98.66% of available production time is utilized and 390 hours are available for growth). DNR indicates that, if demand increases as

expected in FY95, they will add additional LTEs to accommodate the additional growth projected for FY95 (see Table 3).

Position Needs

DNR could continue to utilize LTE assistance for some of the projected GIS workload. In FY94, DNR utilized 13 LTEs, 3 of whom exceeded 1040 hours (through accepting multiple LTE appointments). For FY95, DNR assumed use of 7 LTEs, 6 of whom are projected to fill multiple LTE appointments. The use of LTE staff on multiple appointments must be continually evaluated to ensure compliance with personnel requirements. Table 3 provides additional detail on DNR's workload projections:

Table 3: Available and Needed Production Unit Capacity

| | FY94 ¹ | FY95 |
|--|--------------------|---------------|
| Available Base Staff Hours (Billable Hours) | | |
| Permanent/Project Hours | 6,813 | 15,370 |
| LTE Hours | 5,511 ² | 13,735 |
| Total | 12,324 | 29,105 |
| Committed Workload | | |
| Committed non-WISCLAND Workload | 8,017 | 16,248 |
| Committed WISCLAND Workload | 2,886 | 12,467 |
| Total Committed Workload | 10,903 | 28,715 |
| DNR-Projected Growth Workload ² | 1,762 | 6,892 |
| Total Workload (Committed & Projected) | 12,665 | 35,607 |
| Available Staff Hours Less Committed Workload | +1,421 | +390 |
| Available Staff Hours Less Total Workload | -341 | -6,502 |

¹ FY94 estimates includes work projected from February 20, 1994 through June 25, 1994. LTE estimates are based on January 23, 1994 through June 30, 1994. FY95 projections are for the full fiscal year.

² Assumes an allocation for growth over committed workload of 8% for four remaining months in FY94 and 24% growth in FY95.

In FY94, total LTE hours are estimated at 11,307 and FY95 LTE hours are assumed to be 13,735 hours. Using 972 billable hours per LTE position, total LTE hours is equivalent to 11.63 LTE positions in FY94 and 14.13 LTE positions in FY95. Therefore, it does not appear DNR is requesting the project positions simply to convert LTE hours to project staff hours.

In addition, DNR has attempted to roughly maintain an equal ratio between permanent and project staff to LTE staff, due to concerns about program continuity, as well as the increased supervisory responsibility (and resulting decrease in billable hours for direct project work) incurred by base staff in managing increasingly large LTE complements. Given the four-year nature of this project, the committed workload demands, and the continued use of multiple LTE appointments, LTEs do not appear to be appropriate for full staffing of a project of this scope.

For FY94, the agency's workload projections do not appear to justify receipt of two project positions (to backfill for the 2.0 permanent positions reallocated to WISCLAND), as the Production Unit would then have

1,421 uncommitted hours. It appears that the current staff complement is sufficient to address workload demands in this fiscal year.

However, for FY95, 98.66% of existing staff hours are committed with only 390 hours available for growth. Furthermore, based on the DNR projected growth allocation of 24% of committed workload, a projected workload deficit of 6,502 hours exists. Assuming that 85% of staff time is billable (1768 hours per FTE) and all new projects are supported by permanent or project positions, the DNR growth projection results in a need for 3.67 FTE positions. While this 24% projected growth factor cannot be documented, it does include those miscellaneous small projects which are received on short notice (which in FY94 are projected to total 1,318 hours) and new projects which were not identified at the beginning of the fiscal year. According to the GEO Section Chief, in past years this growth factor has ranged from 40% to 60%, thus DNR has a high degree of confidence that a 24% growth factor is reasonable.

DNR argues that, even with receipt of 4.0 FTE project positions, additional LTEs will still be needed to meet the demand from new and miscellaneous projects included in that growth factor. Furthermore, the DNR estimates that the LTE staffing equivalent will increase from 11.63 in FY94 to 14.13 in FY95. However, assuming the DNR growth projections are indeed accurate and are met solely by permanent and project positions, 3.67 FTE project positions would be needed in FY95. If the current division between permanent or project position hours and LTE position hours (55% to 45%) is applied to the projected growth factor, then the position need is further reduced to 2.0 FTE project positions. Therefore, based on DNR assumptions and actual workload distribution, the position need ranges from 2.0 to 4.0 FTE project positions.

Considering the uncertainties regarding the workload projections, balanced with the length and complexity of the WISCLAND project, it appears that the agency has demonstrated the need for an additional 3.0 FTE project positions in FY95. Additionally, given the relatively uncertain nature of projected workload growth, as well as future WISCLAND funding, the duration of these project positions should only extend through October 1, 1995, to allow reconsideration of the agency's GIS needs by the Governor and the Legislature in the 1995-97 biennium.

RECOMMENDATION

Under s. 20.370 (8)(nk) (geographic information systems, general program operations -- service funds), create 3.0 FTE project positions, effective July 1, 1994 through October 1, 1995.

Attachment 1: PROJECTED PRODUCTION UNIT COMMITTED WORKLOAD

| | Remaining FY94 Work Hours ¹ | FY95 Work Hours |
|---|--|-----------------------|
| Direct Chargeback Projects | | |
| Property Management Applications Team: | | |
| Property Boundaries | 3,224 | 3,994 |
| Groundwater Retrieval Network | 30 | |
| <i>Team Subtotal</i> | <i>3,254</i> | <i>3,994</i> |
| Water Resources Applications Team: | | |
| Basin Planning | 57 | 1,000 |
| Fractured Bedrock Study | 56 | 265 |
| Priority Watersheds | 956 | 3,303 |
| Hydrography Pilot | 625 | 1,900 |
| Retention Pond Monitoring | 225 | |
| <i>Team Subtotal</i> | <i>1,919</i> | <i>6,468</i> |
| Land Cover Applications (WISCLAND) Team: | | |
| Land Cover-WISCLAND Pool | 1,470 | 12,467 |
| USFWS | 1,416 | |
| <i>Team Subtotal</i> | <i>2,886</i> | <i>12,467</i> |
| Wildlife Management Applications Team | | |
| Wildlife Management GIS | 125 | 2,598 |
| Southern Dist. Wildlife Areas | 2 | |
| Endangered Resources | 645.5 | 1,390 |
| Lake Michigan District-Door County | 29.5 | |
| North Central District Projects | 22.5 | |
| Miscellaneous Projects ² | 608.5 | ? |
| <i>Team Subtotal</i> | <i>1,433</i> | <i>3,988</i> |
| <i>Direct Chargeback Total</i> | <i>9492</i> | <i>26,917</i> |
| System Support³ | | |
| Property Management Team | 267 | 1,798 |
| Water Resources Team | | |
| Land Cover Applications Team | | |
| Wildlife Management Applications Team | | |
| <i>Subtotal</i> | <i>267</i> | <i>1,798</i> |
| TOTAL PROJECTED COMMITTED WORKLOAD | 10,903 | 28,715 |

¹ Includes work projected from February 20, 1994 through June 25, 1994.

² Includes small projects done on an as-needed basis, usually upon short notice.

³ Includes maintenance of the GIS data base, filling data orders, and support for the following equipment, hardware and software: ARC (on PCs and workstations), the film recorder, phaser, electrostatic plotter and UNIX.

Shelby 12/17/93

CORRESPONDENCE/MEMORANDUM

State of Wisconsin

DATE: December 17, 1993

FILE REF: 9310

TO: Richard G. Chandler
State Budget Office
Department of Administration

FROM: George E. Meyer *GM* Secretary
Department of Natural Resources

SUBJECT: Request for 4.0 FTE Three-year Program Revenue Service Project Positions under s.16.505 and Additional Spending Authority under s.16.515

REQUEST

The Department requests 4.0 FTE three-year Program Revenue-Service (PR-S) Project positions in the Bureau of Information Management GEO Services Section. The positions will develop statewide land cover maps for the Wisconsin Initiative for Statewide Cooperation on Land cover Analysis and Data (WISCLAND Coalition). This cooperative program is being supported by a wide range of State, Federal and Regional agencies, so that each of them can accomplish collectively what none can complete individually. To provide additional background information on this program, a brochure, a recent DNR GEO newsletter, sample land cover maps, and a list of potential uses of the data by DNR programs are attached.

The Department requests 2 Management Information Specialist (MIS) 3, effective on the date of request approval, and two MIS 3 positions, effective July 1, 1995. Annual costs for the MIS 3's will be \$12.99*2088=\$27.125 *1.356=\$36,900 each. The department also requests \$147,600 in additional spending authority in appropriation s.20.370(8)(mk) for FY95 to support the costs of the four requested positions. Because of delays in hiring new staff earlier this fiscal year, additional expenditure authority for FY94 is not required.

The DNR budget analyst contact for this request is Joy Stewart, 266-2159.

BACKGROUND

Two years ago, the Bureau of Wildlife Management (WM) held a GIS workshop to set directions and prioritize needs for GIS applications to support the business functions of the Bureau. At that facilitated workshop, production of statewide vegetation/land cover data was identified as the highest priority database development project. Bureau staff allocated base funding to begin implementation. The resources available, however, were only enough to complete a cursory job. Rather than settle for an inadequate product, or delay implementation by waiting to submit a budget request for the next biennium, WM asked GEO staff to seek partners to help fund a higher quality, more timely product than WM could afford on their own.

*Corrected
1/4/93*



This effort has been most successful. Phase I of the WISCLAND program is slated to be completed in three years at a cost of \$1.2 million. WM and IM have committed up to \$315,000 to support this effort. An additional \$685,000 has been committed by other agencies to date, and several potential contributors have not yet finalized their support levels. A program budget, the WISCLAND Articles of Participation and several draft Memoranda of Understanding have been attached for reference. The funding support from discretionary state or federal budgets and the timing for execution of the agreements is as follows:

| <u>Agency</u> | <u>FY94 Contribution</u> | <u>Expected Timing</u> |
|-----------------------------------|--------------------------|------------------------|
| DNR Wildlife Mgt. GIS Budget | \$85,000 | Committed |
| DNR/BIM/GEO operating budget | \$15,000 | Committed |
| Chequamegon National Forest | \$10,000 | Received |
| US Geological Survey | \$5,000 | Expected 12/15/93 |
| EPA \$ -> Nat'l Biological Survey | \$70,000 | Expected 1/1/94 |
| USDA Soil Conservation Service | \$100,000 | Expected 2/1/94 |
| Nat'l Biological Survey | \$100,000 | Expected 3/1/94 |

Note that several potential state agency or private sector contributors have not yet finalized their level of contribution, including DNR Environmental Quality Bureaus, Wisconsin Department of Transportation, Wisconsin Power and Light, Northern States Power, and Wisconsin Electric Power Company.

The implementation of this project was not anticipated when DNR's 1993-95 biennial budget request was submitted in September of 1992. This request is directed at securing the position and expenditure authority to complete this high priority project. Our existing staff complement will be fully utilized, with the new PRS positions authorized in Act 16 to be filled by March 1, 1994.

The BIM/GEO Services Section Production Unit is an in-house service bureau to support GIS data, map and applications development for DNR customers. Demand for services continues to escalate. This unit operates as a business within state government. Its success can be attributed to affordable, high quality products, timely provision of services, and responsiveness to customer needs. To be able to continue meeting such high performance standards in a growth mode, the program needs to receive support for new positions to complete this important work.

NEED

Production of land cover maps from satellite scanner imagery is a highly skilled, labor intensive task. Compared to the alternatives, however, it is a very cost effective solution. BIM/GEO needs to add staff with the scientific and software expertise to complete this project. While some of the lower level tasks can be completed by LTE staff or work-study students, the more complex work requires full time, professional staff. The need for continuity rules out the use of temporary type positions (LTE or Student) to complete the higher level work. Also, competition for such highly skilled professionals is such that we could not expect to be able acquire the necessary skills without at least project positions to offer.

Regarding the need for the data, numerous potential applications have been identified. (See attachment for a compilation of some potential DNR applications.) Given the Secretary's initiative for better intergovernmental cooperation to support better land use management, this project is a natural.

It will provide valuable data to support decision-making at all levels of government.

The value of this initiative to the state land information community is signified by the participation of the Wisconsin Land Information Program (WLIP), a part of the DOA Division of Finance and Program Management. The WLIP is a member of the coalition, signatory of the Articles of Participation, and WLIP staff sit on the WISCLAND Steering Committee. The organization and funding structure of the program has been cited by Land Information Board staff, members and others as a model of how such statewide, multi-user projects should be implemented. A great deal of effort has been invested in developing the cooperative climate which makes implementation possible, and provides the necessary funding. Now it is time to begin developing the substantive product of the program - land cover maps. This requires staff, so that we can produce and deliver the needed information to the cooperators, inside and outside the Department.

Thank you for reviewing this request. We will be contacting you to set up a time to discuss the project, and respond to any questions you have.

Approved: Francis M. Fennessy
Francis M. Fennessy, Administrator

12/14/93.
Date

cc: Shelley Moore DOA
Ken Weidner FN/1
Paul Tessar IM/8
Linda Freitag IM/8
Janet Price IM/8
Franc Fennessy AD/5
Joe Polasek MB/5
Joy Stewart MB/5
Susan Felker-Donsing MB/5
Paul Willihnganz PE/5

Dave --

Paul Tessar in the Bureau's GIS Unit would gladly give you a detailed briefing how this fits into the department's overall GIS strategy and how it fits with other agencies at various governmental levels. Please call if you have questions. Thanks.

Dave

WISCLAND
*WISCONSIN INITIATIVE FOR STATEWIDE
COOPERATION ON LAND COVER ANALYSIS AND DATA*

ARTICLES OF PARTICIPATION

Department of Natural Resources
State Cartographer's Office
Chequamegon National Forest
Environmental Management Technical Center
U.S. Geological Survey
U.S.D.A. Soil Conservation Service
Wisconsin Land Information Board
Wisconsin Power & Light Company
UW Institute for Environmental Studies
UW Environmental Remote Sensing Center
Wisconsin Geologic and Natural History Survey

WISCLAND MISSION STATEMENT:

The purpose of WISCLAND is to develop a statewide land cover mapping project on a cooperative basis. By pooling resources, expertise and other commitments, Participants can ensure that this effort is more complete, detailed, and cost effective. In addition, cooperation will help foster an effective means for custodianship, maintenance and updating of the data. Potential Participants include all forms and levels of government, the private sector, and academia. Contributions by Participants may include funds, previously purchased satellite imagery, staff assistance, quality assurance and control, and other in-kind products and services.

The purpose of these Articles are many, including the following:

- ◆ To build and maintain a trusting and productive relationship between entities producing and using land cover mapping information.
- ◆ To build, use and accept land cover data for analysis, decision making, and project reviews
- ◆ To support data acquisition and analysis which provides the cooperative members a periodic update of Wisconsin land cover.
- ◆ To develop a mechanism to provide supplemental data and a process for classification decisions which result in a quality product at the lowest possible price.
- ◆ To agree on statewide land cover classification criteria for all non urban land uses.
- ◆ To encourage and enable Participants to improve on their individual and collective functions.
- ◆ To provide a future framework for a wide range of functional, institutional relationships. and
- ◆ To encourage governments, the private sector and academia to become more efficient, effective and responsive to citizens through the development of an enduring partnership among federal, state, regional and local governments and the private sector.

TERM OF ARTICLES AND EXTENSION

These Articles of Participation shall remain in effect for a period of three (3) years from the date hereof. These Articles may be extended by written agreement by the Participants. Participation is contingent upon an individual Participant's adherence to the terms and conditions of these Articles, its attachments and addenda. Participants may withdraw from the coalition without cause upon six months written notice. New Participants may be added to the coalition on such terms and conditions as a majority of Participants shall agree.

SHARED GOALS AND OBJECTIVES:

- ◆ To create an enduring partnership among Participants to provide the means by which the Wisconsin land cover mapping initiative may be accomplished, maintained and updated on a reasonable, regular interval.
- ◆ To provide a mechanism that gives incentives for participation through defined contribution and benefits.
- ◆ To provide for maintenance, prescribed custodianship, and mediation and remediation.
- ◆ Identify and support Participant's activities that require land cover and other WISCLAND data themes. Identify by compiling a list of the key Participant's activities, processes and decision support that use land cover. Support by working with the various agencies to gain acceptance of the WISCLAND data as the most current, comprehensive and up-to-date source available.
- ◆ Develop and maintain a useful land cover GIS database to support the Participant's needs.
- ◆ Create a cooperative and sharing environment to facilitate use of WISCLAND data for regulatory and decision making processes.

DEPARTMENT OF NATURAL RESOURCES FUNCTIONAL OBJECTIVES AND SERVICES TO WISCLAND PARTICIPANTS:

- ◆ Design a program which meets as many needs for land cover data as cost-effectively as possible. Work with participants to improve the program over time.
- ◆ Acquire necessary data, including satellite images, supplementary aerial photography, existing cover type maps and ground truth information. Provide mechanisms for sharing these source layers among the participants.
- ◆ Perform image interpretation tasks to convert the various raw data-sets to useful land cover information. Maintain and update the database over time, including acquisition and interpretation of new imagery at future dates.
- ◆ Organize, structure and administer the database.
- ◆ Perform quality assurance, quality control and accuracy assessment tasks.
- ◆ Document data content, lineage and quality.
- ◆ Communicate program status regularly to WISCLAND participants.
- ◆ Provide responsive, value added customer services on a time and materials basis to participants as described under Participant Benefits and Privileges.
- ◆ To non-participants, the Department shall provide copies of the standard land cover data-sets consistent with Open Records and Freedom of Information laws.

PARTICIPANT CONTRIBUTIONS TO WISCLAND MAY INCLUDE:

- ◆ Working with the State Cartographer's Office and the Wisconsin Land Information Board to develop an intergovernmental, inter-sector coalition of program Participants.
- ◆ Financial contribution to statewide land cover mapping and analysis during each calendar year between 1993 and 1995 based on agreed to goals and objectives.
- ◆ Providing existing statewide GIS coverages and attribute files that are available and would complement land cover classification.
- ◆ Providing special regional GIS coverages, as available, that could be used in special projects.
- ◆ Providing ground truthing capabilities to deal with regional classification issues.
- ◆ List of regional or program specific land cover products that will be needed over the next three years and the estimated value of that information.
- ◆ Attending WISCLAND meetings, serving on Steering Committee, Issue Resolution Subcommittee, Performance Review Committee or Technical Subcommittee or other ad hoc committees as appropriate to level of participation, interest and expertise.
- ◆ The specific contribution of each WISCLAND participant that is a signatory to these Articles, whether financial or in kind, is to be detailed in the various addenda which will be attached hereto and will be incorporated herein by reference.

PARTICIPANT BENEFITS AND PRIVILEGES:

- ◆ Membership on one or more the following:
 - WISCLAND Steering Committee
 - Issue Resolution Subcommittee
 - Performance Review Subcommittee
 - Technical Subcommittee
 - Other Standing or Ad Hoc Committees
- ◆ Assurance of the creation of data to address the particular applications of interest to the Participant, e.g., croplands, urban lands, etc.
- ◆ A voice in the determination of the priority of the geographic areas for data production.
- ◆ Access to copyrighted raw satellite data to the extent allowed under the purchasing agreement on the recent national purchase by several federal agencies.
- ◆ Copyright protection and access to data developed under the terms and conditions of these Articles
- ◆ Access to custom, value added services on a time and materials basis from the Department of Natural Resources, the primary technical resource, including:
 - Technical assistance in use of WISCLAND data (user support);
 - Priority access to copies of digital land cover data in various projections, coordinates systems, data structures, file formats and for user-specified areas;
 - Production of specialized classifications resulting from different combinations of ancillary data and different interpretation rules;
 - Generation of products using alternative classification systems;
 - Analytical and graphical combinations of land cover data with other Department of Natural Resources data layers such as the Watershed Boundaries, Wisconsin Wetlands Inventory data, etc.; and,
 - Hard and soft copy of the above custom products.
- ◆ Access to standard products or deliverables, at a cost agreed to in the side agreements.

ISSUE RESOLUTION, MEDIATION AND REMEDIATION:

The development of a list of known issues that need to be discussed and resolved will be pursued. From this list develop an issue resolution process that assigns member representatives to deal with each type of issue and sets performance standards for issue resolution. This includes:

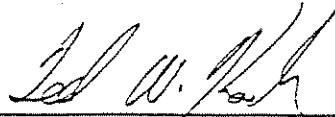
- ◆ A commitment to resolve all existing issues.
- ◆ Development of a mediation or issue resolution panel.
- ◆ Development of a mechanism for encouragement of participation and enforcement of this agreement to ensure participation.
- ◆ Development of a process for technical classification review.

COOPERATIVE PERFORMANCE REVIEWS:

Participants agree to develop a performance evaluation process and performance evaluation matrix which ties back to the mission and goals and objectives. Quantity and quality standards from the objectives shall be used to measure performance. Reviews shall also be used to determine the future directions of the WISCLAND effort.



William S. Holland, Executive Director
Wisconsin Land Information Board



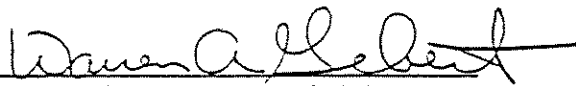
Ted W. Koch, State Cartographer
Wisconsin State Cartographer's Office



Barry Drazkowski, Deputy Program Manager
Environmental Management Technical Center
U.S. Department of Interior



George E. Meyer, Secretary
Department of Natural Resources



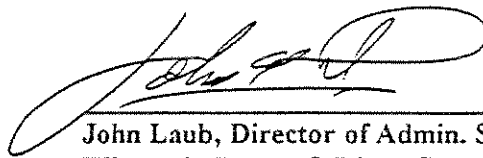
Warren Gebert, District Chief
U.S. Geological Survey
U.S. Department of Interior



Earl Cosby, State Conservationist
U.S.D.A., Soil Conservation Service



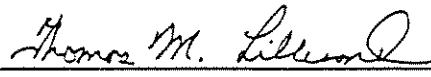
Jack Troyer, Forest Supervisor
Chequamegon National Forest
U.S.D.A., Forest Service



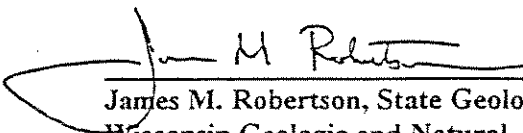
John Laub, Director of Admin. Services
Wisconsin Power & Light Company



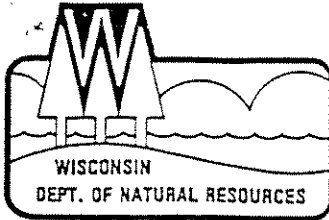
Thomas M. Yuill, Director
Institute for Environmental Studies
University of Wisconsin Madison



Thomas M. Lillesand, Director
Environmental Remote Sensing Center
University of Wisconsin Madison



James M. Robertson, State Geologist
Wisconsin Geologic and Natural
History Survey



George E. Meyer
Secretary

State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

101 South Webster Street
Box 7921
Madison, Wisconsin 53707
TELEPHONE 608-266-2621
TELEFAX 608-267-3579
TDD 608-267-6897

Jack G. Troyer, Forest Supervisor
USDA Forest Service
Chequamegon National Forest
1170 South 4th Avenue
Park Falls, WI 54552

SUBJECT: WISCLAND Memorandum of Understanding

Dear Mr. Troyer:

Enclosed are three fully executed copies of a Memorandum of Understanding between the WISCLAND Coalition, The Wisconsin Department of Natural Resources, and the Chequamegon National Forest, USDA, Forest Service. The DNR is most pleased with your support of the statewide land cover mapping effort toward which this intergovernmental partnership is working. Land Use management is a critical statewide issue at all levels of government. The WISCLAND Coalition is a model cooperative effort to build the databases needed to support wise land use decisions. Your participation in this program will help to assure its success.

We look forward to a worthwhile and beneficial cooperative relationship through which we can all reap the benefits of information sharing for this project, as well as gaining a better understanding of each other's missions and programmatic activities.

Sincerely,

George E. Meyer, Secretary

enclosures

xc: Tim Weiss, WM/4
Paul Tessar, IM/8



Forest
Service

Chequamegon
National Forest

1170 4th Avenue South
P.O. Box 530
Park Falls, WI 54552
(715) 762-2461

Reply to: 6600

Date: November 1, 1993

Paul Tessar
Chief, GEO Services Section
Wisconsin Department of Natural Resources
P.O. Box 7921, IM/8
101 South Webster
GEF 2
Madison, Wisconsin 53707-7921

Dear Mr. Tessar:

Enclosed are three copies of a Memorandum of Understanding between the WISCLAND Coalition, the Wisconsin Department of Natural Resources, and the Chequamegon National Forest, USDA, Forest Service. This Memorandum of Understanding is designed to facilitate the cooperative efforts of the WISCLAND coalition participants. As the primary work accomplishments of image classification are expected to be done by your section within the Department of Natural Resources, the Memorandum of Understanding is between the coalition, the WI DNR and the Forest Service. Please have Mr. Meyer sign and date all copies of the Memorandum of Understanding and return them to us. We will obtain Bob Gurda's signature as Chairman of the WISCLAND Steering Committee, then return a copy for your files.

We look forward to a productive and worthwhile cooperative relationship by which we can all reap benefits of both data and information sharing for this particular project as well as gaining a better understanding of each others missions and principles.

Sincerely,

JACK G. TROYER
Forest Supervisor

Enclosures



Memorandum of Understanding

between

Wisconsin Initiative for Statewide Cooperation on
Land Cover Analysis and Data Coalition

and

USDA Forest Service, Chequamegon National Forest

Authority

This Memorandum of Understanding is made and entered into by and among the Wisconsin Initiative for Statewide Cooperation on Land Cover Analysis and Data coalition ("WISCLAND coalition"), and the United States Department of Agriculture, Forest Service, Chequamegon National Forest ("Forest Service"), under provisions of the by-laws and other governing documents for the WISCLAND coalition, and under existing laws and regulations for the Forest Service. The WISCLAND coalition is governed by the "Articles of Participation", of which this Memorandum of Understanding is made a part.

Introduction and Purpose

The WISCLAND coalition is seeking ways to improve cooperative acquisition, analysis, and distribution of information about vegetation and other physical features that cover the surface of the State of Wisconsin. This coalition of other federal agencies, various state and local governmental agencies, the private sector, academia, and non-profit groups interested in land conservation have multiple needs for this information, including natural resource management, environmental analyses of numerous types, analysis of biological diversity, water resource planning and management, pollution modeling and abatement, wildlife population assessments and modeling, fire, insect, or disease assessments and modeling, watershed assessments, and facility siting.

Acquisition of this information on a statewide basis has not been completed in the past. Some of this information was collected over parts of the state in response to particular needs of individual organizations. A coordinated, statewide effort has not developed previously due to the complexity of the process and the significant resources required. No federal or state agency has been mandated, directed, or funded to perform repeated statewide land cover data. With the advent of new technology such as satellite image data collection, many agencies have begun to develop data, often overlapping the needs and landbase of other agencies with similar needs and efforts. By combining efforts, the collection, analysis, and distribution of land cover data on a statewide basis, repeated periodically, can eliminate duplication and save money at a time most agencies are struggling with budget shortfalls.

WISCLAND coalition participants share the need for similar information on land cover, to assist them in meeting their individual organization needs and missions. The purpose of this Memorandum of Understanding is to:

- Provide a foundation, along with the WISCLAND Articles of Participation, for cooperative development of statewide land cover information using satellite image technology.
- Eliminate duplication of effort between the Forest Service and other WISCLAND coalition participants in the development of similar data needs.

- Encourage cooperation and coordination between WISCLAND coalition participants and the Forest Service on this project and other projects of mutual interest where such cooperation and coordination will reduce costs for all participants and result in higher quality of information than would otherwise be available.
- Enhance working relationships among various governmental agencies, private interests, and non-profit organizations where each are concerned with natural resource conservation and use as well as other physical resources of the State of Wisconsin.

It is the desire of all parties to cooperate fully with each other, including exchange of information and other resources, in matters relating to the development of statewide land cover information through cooperative efforts including, but not limited to:

- Acquisition of appropriate satellite images and classification of such images by other WISCLAND coalition participants.
- Participation of Forest Service in various WISCLAND committees to facilitate the cooperative effort of data collection, classification, analysis and product development.
- Sharing of Forest Service GIS coverages and data that would assist in classification and testing of classified satellite data, and in development of land cover information.
- Production and sharing of GIS data developed from satellite imagery by other WISCLAND coalition participants pertaining to land cover and other physical features.
- Forest Service assistance in ground-truthing data developed by the satellite image classification process. Ground-truthing will involve National Forest and non-National Forest lands within the National Forest area of interest.
- Production and sharing, by any WISCLAND coalition participant, of reports, abstracts, maps and other materials associated with data acquisition, testing, classification, and publication.
- Development and sharing, by any WISCLAND coalition participant, of educational products, programs, or displays resulting from land cover data.

Now, therefore, in consideration of the above premises, the parties hereto agree to:

1. Share information developed through the WISCLAND initiative.
2. Cooperate in the planning, implementation, and monitoring of statewide land cover information development.
3. Meet as required with representatives of all parties to discuss and reach agreement on project development and workload planning.

It is mutually agreed and understood by and among the parties that:

1. This Memorandum of Understanding, or supplements hereto, in no way restricts the WISCLAND coalition or Forest Service from participating with other public and private agencies, organizations, and individuals or from accepting contributions and/or gifts for the improvement, development, administration, operation, and preservation of this or any other activities.
2. The WISCLAND *Articles of Participation* more fully designate the participants of the WISCLAND coalition, and the responsibilities and benefits of participants. This Memorandum of Understanding is hereby made an addendum to the WISCLAND *Articles*.
3. Specific actions that involve the transfer of funds, services, or property between the parties to the Memorandum of Understanding will require execution of separate agreements, contracts, or

purchase instruments, contingent upon the availability of funds as appropriated by Congress or from other sources. Each subsequent agreement or arrangement involving the transfer of funds, services, or property between the parties to this Memorandum of Understanding must comply with all applicable statutes and regulations, including those statutes and regulations applicable to procurement activities, and must be independently authorized by appropriate statutory authority.

4. No member of, or delegate to, Congress, or Resident Commissioner, shall be admitted to any share or part of this Memorandum of Understanding or to any benefits that may arise therefrom, but this restriction shall not be construed to extend to this Memorandum of Understanding if made with a corporation or company for its general benefit.
5. Nothing in this Memorandum of Understanding shall be construed as obligating any party to expend, or as involving any party in any contract or other obligation for the future payment of, any amount in excess of appropriations authorized by law and administratively allocated for this work.
6. The principal contacts for this agreement are:

Robert Gurda
State Cartographer's Office
143 Science Hall
University of Wisconsin
Madison, WI 53706-1404
608 - 262-6850

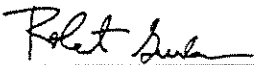
Dennis G. Kanten
USDA Forest Service
Chequamegon National Forest
1170 South 4th Avenue
Park Falls, WI 54552
715 - 762-5711

Paul Tessar
Wisconsin Department of Natural Resources
Geo Services Section
PO Box 7921
101 South Webster
GEF 2, IM/8
Madison, WI 53707-7921
608 - 266-3054

Execution, Modification, and Duration of Agreement

This agreement will become effective upon the date subscribed by the last signatory, and shall remain in force until terminated by either party upon 30 days written notice.

This Memorandum of Understanding may be revised as necessary by mutual consent of the parties, effective upon approval by all parties of a written amendment.



ROBERT GURDA
Chairperson,
WISCLAND Steering Committee

Date: 11/04/93



GEORGE E. MEYER
Secretary
WI Department of Natural Resources

Date: 11/9/93



JACK G. TROYER
Forest Supervisor
USDA, Forest Service
Chequamegon National Forest

Date: 11/1/93

Taczwa

Soil Conservation Service Inter Office Memo

To: Alison Curley
 From: Bob Martin
 Date: November 1, 1993
 Subject: Draft Three Year WISLAND Agreement between SCS and DNR

Attached is a copy of the WISLAND ARTICLES OF PARTICIPATION. This document has been finalized and is being routed for signature. It has been agreed that SCS will be a signature to these articles. In addition we will develop an agreement with DNR which sets up the specific deliverables that we will exchange over the next three years. This memo is an attempt to provide you the framework for drafting this agreement.

Authority: Conservation Operations (CO - 01)

Statement of dependence and interest: Statewide land cover mapping using LANDSAT coverage obtained in 1992 and some 1993 provides a unique opportunity for members of the WISLAND Initiative to pool resources in a manner that results in the preparation of a Wisconsin Digital Land Cover Map. This map will be a valuable resource and unifying link between SCS National Resource Inventory, US F&WS National Wetlands Assessment, SCS Soils Survey, WI DNR State Wetland Mapping, WI DNR Wildlife Habitat Programs, WI DNR Water Resource Protection, WI DNR Woodland Inventory Program and SCS Resource Protection Programs. However, each of the WISLAND has neither the financial nor technical capabilities to develop this land cover map alone.

Therefore, WI DNR has agreed to provide the technical leadership for this project. This agreement sets forth the agreed to actions and deliverables that SCS and WI DNR will exchange in order to complete this project over the next three years. Additional products and services may also be provided through amendments.

WI DNR agrees to:

1. Provide the technical staff equipment and management necessary to provide a technically sound Digital Land Cover Map over the next three years.

2. Provide a Digital Land Cover Map to SCS in an agreed to format over the life of this agreement in three installments of approximately one third each year.
3. Provide periodic "Progress Reports" to SCS during the life of this agreement.
4. Provide a forum for the exchange ideas between the technical staff and users.
5. Bill SCS for completed work on a quarterly basis.

SCS agrees to:

1. Provide digital and attribute data from the Wisconsin 1992 NRI in an agreed to format and based on a schedule consistent with the image classification process.
2. Provide digital and attribute data from the STATSCO Map for Wisconsin in an agreed to format and based on a schedule consistent with the image classification process.
3. Provide spot ground truthing assistance based on individual requests where SCS has unique knowledge or access to special information.
4. Provide WI DNR \$100,000 each year over the next three years for the completion of the 1992 Wisconsin Digital Land Cover Map. This payment will be made on the completion of the mapping work.

↑
 We will need to define "Completion" of the satellite imagery already resides at DNR, this may constitute partial completion.

5. Participate as a full partner in the technical and user exchanges and classification decisions that must and will be made during the classification process.

Mutually agree to:

1. Support the objectives and goals set forth in the WISLAND Articles of Participation in spirit and deed.
2. Seek to resolve all conflicts within the WISLAND forum.

3. Support a continuing Wisconsin land cover mapping effort based on ever-changing land cover conditions and meeting user growing expectations for value added products and services.

I hope that this is enough information to get you started on a draft agreement. Please let me know if there is a need to clarify or add to this material. I am sending you a copy of this memo in E-Mail to facilitate the preparation of the draft agreement. Please let me know when I can expect a first copy of the draft agreement so I can keep DNR informed.

Thanks!

CC: Chuck Cobb, Earl Cosby, Ken Lubich, Sheryl Paczwa, Steve Payne, Neil Sheldon, Doug Zwank, Brian Huberty

— Draft —

FWS Agreement
14-48-0003-93-
DCN:
Fund:
\$70,000

COOPERATIVE AGREEMENT
Between the

NATIONAL BIOLOGICAL SURVEY
Environmental Management Technical Center

and the

STATE OF WISCONSIN
Department of Natural Resources

THIS COOPERATIVE AGREEMENT is made and entered into between the National Biological Survey, an executive agency of the United States Department of the Interior, hereinafter referred to as the "NBS" and the State of Wisconsin, Department of Natural Resources, hereinafter referred to as the "Department." The primary point of contact with the NBS will be the staff of the Environmental Management Technical Center, hereinafter referred to as the "EMTC."

The NBS enters into this Cooperative Agreement in accordance with the Fish and Wildlife Act of 1956, 16 U.S.C. 742d; and the Federal Grants and Cooperative Agreement Act of 1977, 31 U.S.C. 6301-6308. It is in the public interest that the Department enters into this agreement with the NBS to provide support to the Gap Analysis Program.

PURPOSE AND OBJECTIVE

This Cooperative Agreement is made for the purpose and objective of delineating the roles and responsibilities of the EMTC and the Department in the implementation of the Midwest Biodiversity Assessment and Gap Analysis Program; specifically including, but not limited to, the development of a state-wide land cover/land use data base from Landsat Thematic Mapper satellite imagery, ownership and land management status, and species range maps. The data base will be developed at a resolution consistent with that defined by the group of natural resource managers participating in the Midwest Biodiversity Assessment planning effort. These natural resource managers consist of resources planners, foresters, biologists, and ecologists from the Minnesota, Wisconsin, and Michigan State resource management agencies, and cooperating Federal agencies including the Environmental Protection Agency, Fish and Wildlife Service, National Biological Survey, Soil Conservation Service, Forest Service, Bureau of Land Management and Geological Survey. The Department will classify all scenes required to produce a state-wide map over a three-year time period. Approximately one-third of the imagery will be processed each year, with the Great Lakes Basin as a priority for the first year. In addition, the Department will assist in the development of a land ownership data base for the state and the development of wildlife species habitat relationship for species range map development.

MUTUAL COOPERATION

For a period hereinafter set forth, the NBS and the Department will provide and furnish all necessary personnel, materials, services, facilities, and equipment, and otherwise perform all things necessary for, or incident to, the performance of this Agreement in accordance with the following statements entitled "Specific Obligations of the Parties."

SPECIFIC OBLIGATIONS OF THE PARTIES

A. NBS's Obligation

- 1) The NBS will provide standards for data acquisition and classification to meet the Gap Analysis protocols.
- 2) The NBS will coordinate activities between the Gap Analysis cooperators, including the States of Minnesota, Michigan, and Wisconsin.
- 3) The NBS will provide Landsat Thematic Mapper satellite imagery to support land cover classification.
- 4) The NBS will maintain accountability for any and all property which might be procured under this agreement; however, the Department will be responsible for the maintenance and security of said property should any be located at the Department. All property procured under this agreement will be the property of the NBS and will be returned upon completion of this Agreement. Property management will be in accordance with the "Instruction Manual for Control of Government Property by Contractors, Grantees and Cooperators." This manual will be made part of this agreement and is provided as Attachment A. The Property Officer for the Department will be the Department's Project Officer.
- 5) The NBS will reimburse the Department an amount not to exceed seventy thousand dollars (\$70,000) for Fiscal Year 1994. Future funding will be determined at the beginning of each Fiscal Year and this agreement will be amended appropriately.

B. Department's Obligations

- 1) Provide the necessary hardware, software, ancillary data and staff required to process and classify the Landsat Thematic Mapper satellite imagery to a resolution acceptable for the Gap Analysis Program.
- 2) Provide all classification protocols, methods, and algorithms in a timely manner to facilitate implementation of consistent classification procedures and resulting land cover databases with the other Upper Midwest partners. Provide classified imagery and associated, ancillary land cover databases to the EMTC upon completion. Classification objectives, in terms of scale and resolution are being set by the Biodiversity Assessment planning group. Coordination with this group will occur on an interactive

and regular basis to insure their informational needs are met in the context of technical capabilities.

- 3) Coordinate the organization and collation of all data pertinent to the development of a land ownership data base at a scale consistent with other activities discussed under this Agreement, but no smaller than 1:100,000.
- 4) Assist in the identification of relationships between the native wildlife species and land cover classification types.
- 5) Approximately one-third of the imagery will be processed each year, with the Great Lakes Basin as a priority for the first year. A pilot image classification process will be conducted to identify and coordinate classification issues with the Biodiversity Assessment Group.

TERM OF AGREEMENT

This Cooperative Agreement will become effective upon being completely executed by both parties and will remain in full force and effect through September 30, 1998. It will be negotiated on a fiscal year basis and agreed to by execution of an amendment to this agreement.

FINANCIAL ADMINISTRATION

The NBS will provide payments by Treasury check to the Department upon submission of properly executed invoices in amounts not to exceed the obligated amount of seventy thousand dollars (\$70,000). For invoice purposes, the Department will use Standard form 270, Request For Advance Or Reimbursement. On a quarterly basis, the Department will submit Standard Form 269, Financial Status Report (the short form SF-269A is acceptable), and Standard Form 272, Federal Cash Transactions Report. Submittal of report and billings will be made to the following address:

National Biological Survey
Environmental Management Technical Center
575 Lester Avenue
Onalaska, Wisconsin 54650
ATTN: Thomas S. Kelly, Chief, Support Services

Disbursement of funds will take place during Fiscal Year 1994 or until such time as this cooperative effort is completed. Payment of the total obligated amount will be authorized upon execution of this agreement by both parties.

PROJECT OFFICERS

The NBS's designated Project Officer will be:

Mr. Thomas S. Kelly
Chief, Support Services
Environmental Management Technical Center

National Biological Survey
575 Lester Avenue
Onalaska, Wisconsin 54650
(608) 783-7550, ext. 42

The Department's designated Project Officer will be:

Mr. Tim Weiss
Wildlife Management, WM/4
Wisconsin Department of Natural Resources
Madison, Wisconsin 53707

GENERAL PROVISIONS

The Department of Interior, Fish and Wildlife Service's General Provisions dated August 1, 1985, and included as Attachment B, and the following provisions listed below are hereby made a part of this Agreement.

A. Liability

Each party agrees that it will be responsible for its own acts and the results thereof and will not be responsible for the acts of the other party and the results thereof. Each party, therefore, agrees, to the extent authorized by applicable law (as specified below), that it will assume all risks and liability to itself, its agents, or employees, for any injury to persons or property resulting from any operations of its agents or employees under this agreement, and for any loss, cost, damage, or expense resulting at any time from any and all causes due to any acts, or negligence, or the failure to exercise proper precautions of or by itself or its own agents to this Agreement.

The liability of the Federal Government will be governed by the Federal Tort Claims Act (28 U.S.C. 2761 et. seq.). The liability of the Department will be governed by applicable State statutes.

B. Special Terms and Conditions

The NBS incorporates into this Agreement the copyright materials documentation as described in Attachment C.

TERMINATION

It is the intent of the parties represented here that this Agreement will not be terminated prior to its completion, but that it may be terminated by either of the parties upon a sixty (60)-day written notice and acceptance by the other party.

AMENDMENTS

Amendments to this Agreement may be proposed by either of the participants and will become effective upon being reduced to a written document and executed by both parties.

IN WITNESS WHEREOF, each party hereto has caused this Cooperative Agreement to be executed by an authorized official on the day and year set forth opposite their signature.

National Biological Survey

By: _____

Date: _____

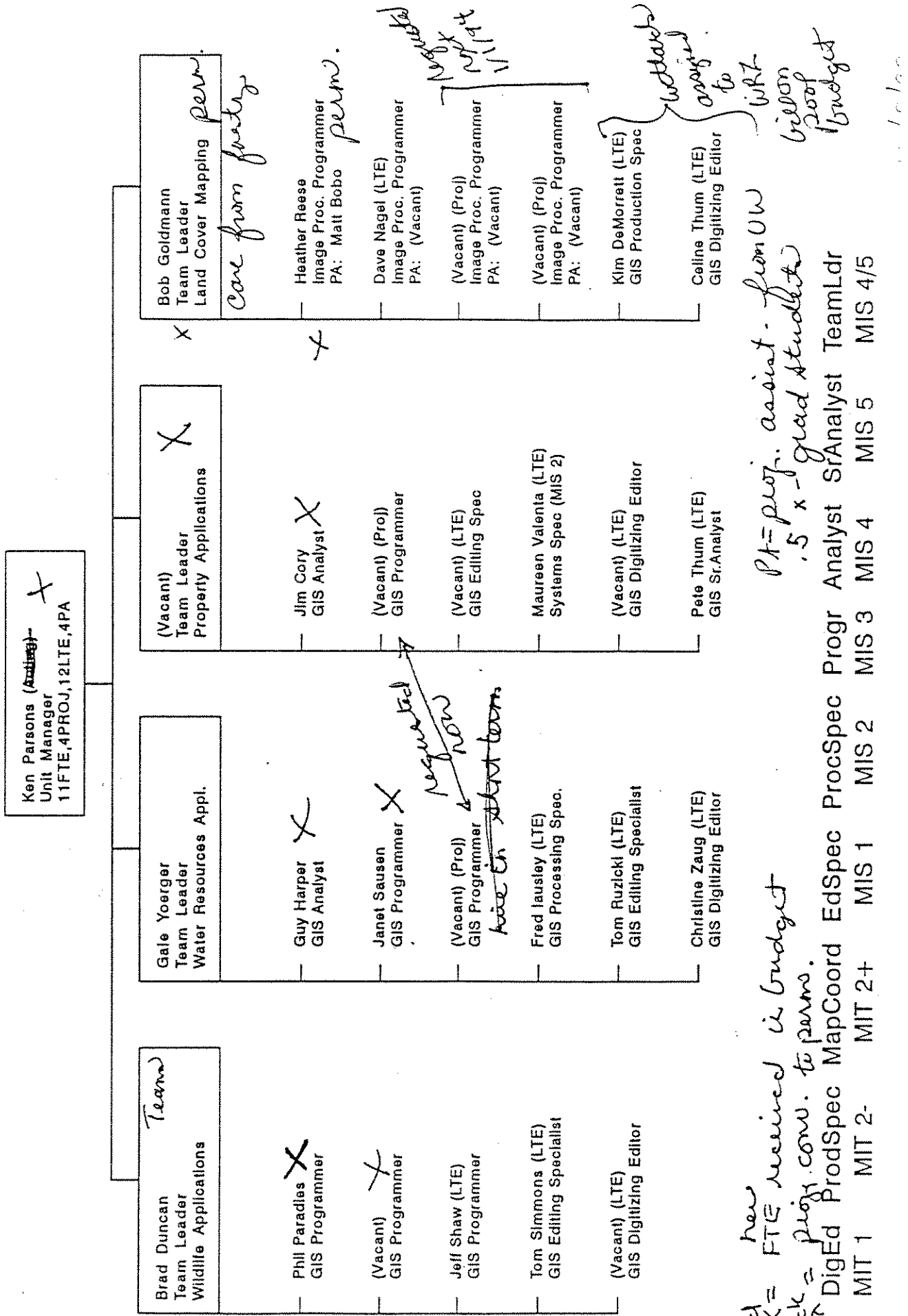
Name and Title: _____

DEPARTMENT OF NATURAL RESOURCES




















By: _____

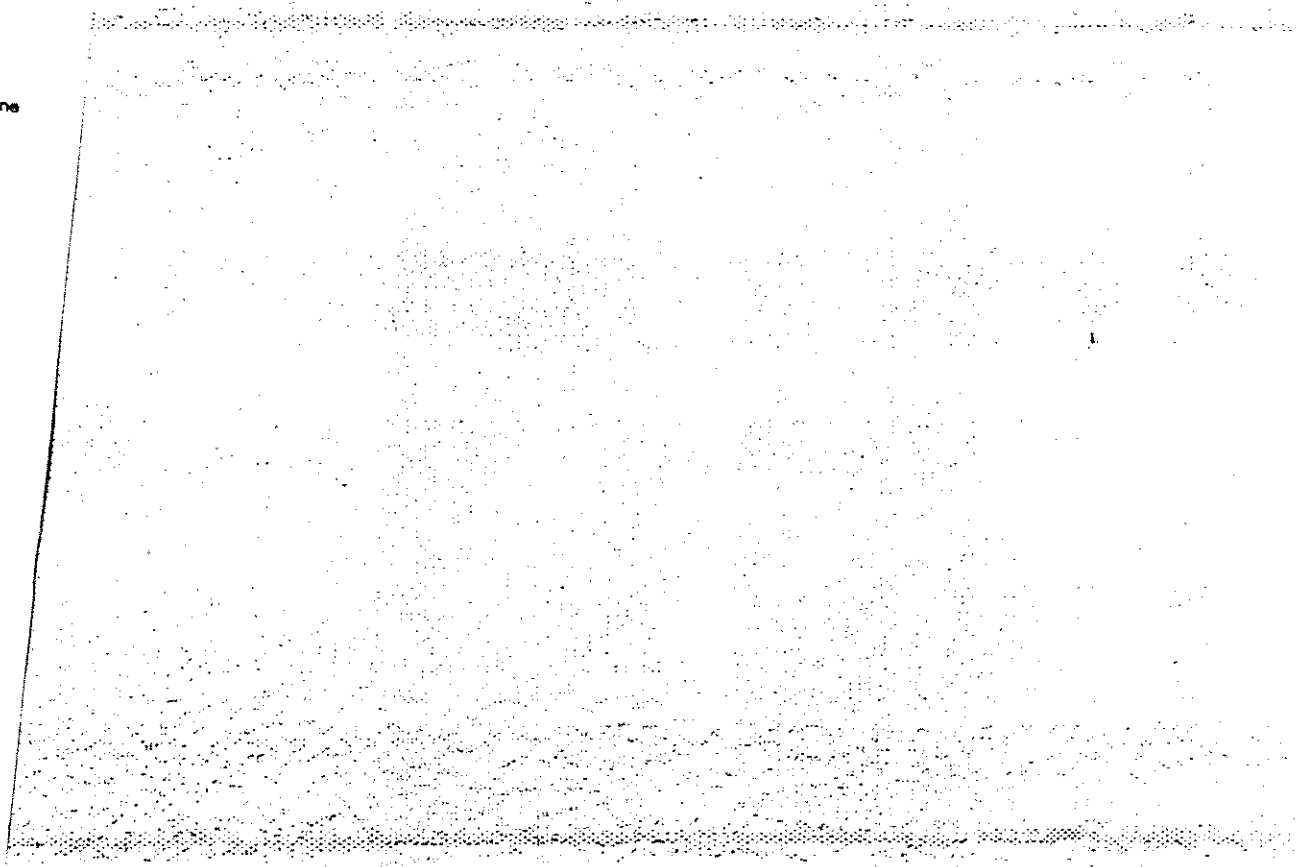
Date: _____

GEO Production Unit (Projected)



at 1:40,000 scale

-  Aspen
-  White Birch
-  Oak
-  Northern Hardwoods
-  Red/White Pine
-  Jack Pine
-  Fir/Spruce/Tamarack
-  Scrub Oak
-  Lowland Brush
-  Upland Brush
-  Grassland
-  Barren/Grass
-  Barren/Brush
-  Urban/Bare Soil
-  Agriculture
-  Bog/Muskeg
-  Aquatic Vegetation
-  Water
-  Roads



Study Area



Douglas County

Land cover derived from Landsat Thematic Mapper data at 1:100,000 scale

- Aspen
- White Birch
- Oak
- Northern Hardwoods
- Red/White Pine
- Jack Pine
- Fir/Spruce/Tamarack
- Scrub Oak
- Lowland Brush
- Upland Brush
- Grassland
- Barren/Grass
- Barren/Brush
- Urban/Bare Soil
- Agriculture
- Bog/Muskeg
- Aquatic Vegetation
- Water
- Roads



Figure 1