

State of Alaska FY2002 Governor's Operating Budget

Department of Natural Resources
Information Resource Management
Component

Component: Information Resource Management

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Component Mission

To serve as the central data processing unit for the Department of Natural Resources, ensuring the creation and updates of essential land status maps; and raising the productivity of DNR staff by programming innovative business and mapping systems.

Component Services Provided

The Information Resource Management (IRM) component provides several primary services for the public, the department, other government agencies, and the private sector:

- 1) This component creates and maintains the state graphic land record, the Status Plat. There about 20,000 plats that depict the state's land ownership, and the history of actions taken that affect that ownership position. The public can now easily access these land records via the Internet at <http://dnr.state.ak.us/landrecords>. Land records constantly change as the department does business with the public and makes decisions effecting land management activity. These changes are captured on the state Status Plats. About 15,000 changes need to be made each year. To maintain accurate maps of state land ownership, classification, disposals, and disposition of property rights. The majority of annual changes relate to mineral properties, especially mining claims.

- 2) The IRM Component creates and maintains the department's resource transaction and revenue receipting system; the Land Administration System (LAS). This legacy, mainframe computer system is the primary means for DNR to track the status of an individual case-file through the adjudication process, and for assuring timely management of billing, receipting, and distribution of DNR revenues. Business activity for over 28,000 active customers is summarized in the following table. Customers include major industry groups for Oil and Gas and Mining, as well thousands of Alaskans working with DNR to help develop the state and its resources. This Unit also designed and supports the computer system used by the State Recorder's Office to index property records. About 200,000 legal documents are recorded each year in this statewide system.

Land Administration System Activity Type:	Case Summary As of November 2000	
	Active Cases	Total
Land Title	8,567	12,898
Classifications	3,264	3,297
Surveys	1,097	10,001
Land & Ag Sales	4,993	21,511
Leases	2,601	8,732
Home Sites	1,026	2,272
Easements, Right-of-Way	2,934	4,202
Mun. Entitlement	360	1,051
Mining & Coal	61,566	164,050
Oil and Gas	1,536	8,062
Water	17,007	24,837
All Other Cases	10,106	20,318
TOTALS	115,057	281,231

- 3) The IRM Component provides computer programming, resource analysis, inventory mapping, and database management through Geographic Information Systems, or GIS. Alaska's vast geographic expanse requires the application of mapping systems to inventory and monitor key resources. GIS applications support strategic decision making by combining a wide variety of information sources and presenting scenarios to policy makers and land managers. The GIS Unit provides support and training to several department wide GIS user projects, especially those located in Mining, Land and Water; Geological Survey; and Forestry. The GIS Unit is

responsible for the computer system that operates the automated Status Plat System used by Status Graphics Staff. The public receives an important service through the GIS Public Access program which assures data and maps are available. A useful Internet site is <http://asgdc.state.ak.us> .

- 4) The IRM component provides the management environment for the staff of department's statewide telecommunications and computer network. These staff provide computer and networking support to all DNR offices. Computer and network services costs are now consolidated under the Data Processing Chargeback Component where Local Area Network costs are now combined with the Dept. of Administration Wide Area Network costs.

Component Goals and Strategies

IRM projects make a direct difference with the public, whether they are major industry groups, such as the Mining Industry, or individual Alaskans who need to work with DNR. Public transactions are kept in the information systems supported by IRM. IRM is a 'foundation layer' for the department's business.

Business Programming:

1. Re-program the DNR Land Administration System (LAS) to meet customer needs for data input and reporting.
Outcomes: Automated data processing systems for all DNR to efficiently manage financial and business transactions. Timely and efficient transfer of receipts to the general fund, Permanent Fund, and other funds as required by law.
2. Expand e-commerce, expand web forms and payment options; support DNR division's to make on-line permitting faster & easier.
Outcomes: Reduced DNR processing costs, improve service level for the customer, lower cycle times for record system updates.
3. Introduce Document Imaging System - start with State Recorder's Office.
Outcomes: Improved customer satisfaction, more efficient internal operations, and elimination of duplicate key entry strokes between related systems - eg. mining records and recorder's office.
4. Expand Electronic Data Interface(EDI) filings by the industry of Royalty and Operator Reports for Oil & Gas Leases - with Div. Of Oil & Gas.
Outcomes: Raise quality of state records by eliminating thousands of redundant keystrokes, speed analysis of royalty reporting, and strengthen support for state oil and gas auditors.

Status Graphics:

1. Establish a 45 day turn around time for mining claim updates from recording date to plat update.
Outcomes: Mining property records must be reliable to support the growth of Alaska's \$1billion industry. Eliminates redundant work between recorder's office and mining staff.
2. Maintain four month turn around time for all other pending actions against Arc Townships.
Outcomes: Satisfied customers, current records save everyone time and effort, public record is more reliable.
3. Convert older legacy data formats to GIS database as possible.
Outcome: Ability to maintain public land records. Mylar base maps deteriorating, too expensive to maintain. Digital format saves money.

Geo-Info Systems:

1. Integrate the department's tabular databases with DNR's spatial systems - build Oracle GIS system.
Outcome: Information becomes more accessible via Internet, records are more consistent, and customers' applications for permits and leases can be processed faster.
2. Collaborate with federal agencies. to build statewide digital basemap of digital orthophoto quads with major mapping effort.

Outcomes: New and detailed maps can be made from high quality data that other states have, but Alaska lacks. Cost savings from fire management, agricultural management, land management, mining permitting, etc. all benefit from new and detailed basemaps.

3. Expand use of federal GIS basemaps work to meet DNR and State needs.
4. Expand use and knowledge of GIS and remote sensing within the department.

Computer Information Center:

1. Manage Information Technology resources as a department asset - control costs, maximize sharing on over 950 devices.

Outcome: The physical plant of computers, networks, and software remains current and fully operational.

2. Minimize network costs to Dept. of Administration with efficient design and deployment.

Outcome: Strong network architecture and minimized components reduces operating costs for DNR and DOA.

Key Component Issues for FY2001 – 2002

Today's society demands that we bring DNR's data base records, maps, and documents to the desktops of resource managers and staff; and to make our systems generally more open and available to the public. These rising expectations require using technology in a way that is cost effective, secure, and reliable. Declining revenues and budgets have forced DNR to reduce staffing, and thus increase average workloads. Productivity per staff has risen because of streamlined procedures and better technologies such as email. Further gains in productivity for DNR staff are possible by raising the quality of technology used to deliver essential services, and decreasing the amount of time staff need to answer basic questions about land use regarding applications, permits, leases, land sales, water rights and so on. DNR staff require high volumes of information from a wide range of sources to successfully process applications and plan land management activities. The IRM component is a strategic partner with all DNR staff as we try to offer the highest quality information systems in support of our mission.

Our major issue for FY02 is with the central data processing system, the Land Administration System(LAS). A rewrite (through CIP funding) of the Land Administration Legacy System is essential and long overdue. LAS is the primary means for entering and accessing land and resource information related to case files for all of the DNR employees. The System was written in the seventies and is in desperate need of updating and streamlining.

A second issue is the integration of recording, mining, and land records data bases addressed in FY2001 and FY2002. Driven by the need to greatly improve the manner in which mining property rights are managed and tracked, this issue brings federal funds to a solution that benefits the public who rely upon state and federal land records to determine land status. This project puts the customer's perspective ahead of any specific agency agenda, and works to deliver information that bridges historically isolated information systems.

A third key issue is regarding the maintenance of our land status plats. Cutbacks and rising costs have reduced staffing to point we cannot maintain the public graphic land to the standards expected of us. A key increment request is included to address this problem.

A more detailed view of the issues comes from taking a more technical view. The key technical challenges for the IRM Component are in three main areas:

Transaction Processing

- Moving DNR toward a "paperless office" - introduce operational efficiencies with document systems.
- Re-designing business processes, especially those that cross organizational boundaries.
- Linking Mainframe ADABAS systems to the INTERNET - a common problem for many departments.
- Expanding business transaction services over the Internet (payments, applications, cabin rentals, etc.)
- Using automation to improve public notice, review, and comment process, reduce processing time.
- Putting DNR permit information on line, including applications and status information.

Land Records / Geographic Information Systems

- Reducing the time required to update status plats.
- Integrating state and federal land records via web programming, use a customer-centric design.
- Building a common database for the land record system; finish plat conversion effort.
- Moving GIS to relational database and introduce parcel management system.
- Acquiring statewide digital orthophoto image basemap for state, and local use.
- Building on-line access to USGS topographic maps with ability to add-in DNR specific information.

Data Management

- Offering on-line search capability for staff and the public to find information.
- Alaska Framework databases from USGS needs to be made available to DNR.

Major Component Accomplishments for FY2000

1. Provided free public web site for on-line access to our State Status Plats & Surveys, which allowed us to discontinue the aperture card distribution system. See <http://www.dnr.state.ak.us/landrecords>
2. Gained operational efficiencies in the Recorder's Office System, which is highly successful. (1/4/99 start).
3. New Mining Claims system greatly streamlines old methods - Links DNR Land Administration System to use input from Recorder's Office System for Mining Claims. Eliminated backlog of over 6000 mining claims.
4. Credit Card processing available on the Web for DNR issued leases and rental payments, establishes e-commerce foundation. See <https://nutmeg.state.ak.us/ixpress/dnr/case/lasmenu.dml>
5. Completed conversion of all DNR to Enterprise Email System.
6. Successful move from mid-town to downtown, created fast network system for Anchorage DNR working with DOA Information Technology Group.
7. Oil & Gas Royalty Reports are now received electronically, creating efficiencies in the industry and improving accuracy. (OGRA-EDI Project)
8. Oil and Gas Royalty-In-Kind Project moved into full production, old system shut off. Monthly billings completed in faster and more efficient operating environment.
9. Major update to DNR Ownership Priority List to help manage 20+ million acres of selections.
10. Public Access program has major advances via Web Site development, & user training, see <http://www.asgdc.state.ak.us>
11. Successful DNR Y2K Rollover for mainframe, Unix, and PC systems - no staff downtime.
12. Developed Status Plat Interpretation Class and LAS Internet Training; curriculums and classes are underway.
13. Strengthened the Technical Workforce: successfully recruited and hired a GIS Manager, LAS Administrator, Network Manager, Network Specialist and Technicians, Web Master, Analyst Programmer to extend DNR technical capabilities.
14. Updated and maintained ownership maps and status plats on over 106 million acres of state entitlement lands, processed 19,154 updates to the status plat.
15. Provided systems for billing, accounting, and receipting of department generated revenue, ~\$1.0 Billion in FY00 distributed to public funds.

Statutory and Regulatory Authority

This component operates under Alaska Statutes, 38.05.020; 38.05.035; 38.04.065; 41.08.030; 38.05.030; 09.25.115; 41.08.020; 40.21.060; 37.14.425; 09.25.120; 41.08.035; and Alaska Administrative Codes, 6AAC Chapter 96; 11AAC 05.010.

Key Performance Measures for FY2002

Measure: Maintain computer systems to support annual volume of transactions on LAS and Recorder's Office index.

(Revised from Legislature's FY2000 version.)

Current Status:

Systems are being maintained.

Benchmark:

The benchmark represents a three year average for transactions for both LAS and the Records Office.

Revenue and Billing transactions are ~ 220,000

Land Administration System transactions - 100,000, of which 15,000 require status plat updates.

Transactions can be for:

Land Titles, classifications, Surveys, Land sales, leases, homesites, easements, Rights-of-Way, Municipal Entitlements, Mining Claims & leases, Oil & Gas Leases, Timber Sales, Water Rights, RS2477, receipts for a variety of programs, etc.

Background and Strategies:

Automation in high transaction environments is highly cost effective. Information Resource Management (IRM's) strategy is to reduce update cycle time by sharing information between historically isolated systems and to continue to reduce operating costs.

Measure: Complete at least 80% of computer system deliveries on schedule and within budget.

(Developed jointly with Legislature in FY2000.)

Current Status:

This goal was met. Phase One of the Mining Transaction System was effectively rolled out and a 3 month backlog was eliminated in about 2 weeks time. Records of new mining claims and prospecting sites are now current in LAS.

Benchmark:

Benchmark is provided by the annual LRIS detailed project plan and schedule.

Background and Strategies:

Information systems are planned, scheduled, and budgeted. This measure accesses the accuracy of that planning and budgeting effort. This strategy assures customers know the cost of their service request and programmers are accountable for their work estimates.

Measure: Reduce Data entry cycle time for status plat updates by 30% (12 month maximum age).

(Not yet addressed by Legislature.)

Current Status:

The average backlog for land status plats updates now is 9 months.

Results: Exceeded the goal for Arc/Info automated townships, 12 months reduced to six months. These are the majority of our townships (~60%). Reduced total backlog on older automation (Synercom) by 30%, but oldest actions are still 36 months. Reduced total backlog on mylar townships by about 15%, but oldest actions are 36 months. Clearly, automated townships are the key to successful record keeping.

Benchmark:

IRM must maintain three media for status plats: GIS format, CAD format, and ink on mylar. The update benchmark for GIS format is twelve months (oldest request); the update benchmark for legacy CAD format is three+ years; and the ink on mylar benchmark is two+ years. Distribution of plats by media is 61% GIS, 33% Legacy CAD, and 6% Ink on Mylar. Mylar and CAD formats are being converted to GIS.

Background and Strategies:

Status plats need to be 're-invented' to take better advantage of the investments made in automation. The strategy is to move our mapping system to a parcel based foundation, where 'parcels' represent land areas under similar management profiles. Land records must also be current to meet user needs. Reduced staff has lengthened update cycle time for the plats. CIP automation has shortened update cycle times. Legacy data formats must be converted to GIS format. Automation is the key to meeting update goals.

Measure: 10% increase of public use of Department home pages on the Internet.
(Not yet addressed by Legislature.)

Current Status:

Results: This goal was exceeded - growth in total web site usage jumped 40% in the past fiscal year.

Benchmark:

FY00-01 DNR Internet Web Statistics show 1.8 million visits between 7/29/98 and 3/31/99.

Background and Strategies:

As Internet information systems expand we expect increased ability by the public to fulfill their information and business transaction needs by interacting directly with DNR information systems and not DNR staff. This approach will save the Department time and effort and provide convenience to our customers.

Measure: Maintain 75% of Public Information Center customers using DNR computing systems.
(Not yet addressed by Legislature.)

Current Status:

Results: This goal was met. Most customers are using the new land records web site, the revenue and billing system, or using the cabin system.

Benchmark:

Three quarters of the customers serviced by the Public Information Center utilize some aspect of the DNR electronic information systems. 75% is a two year average as monitored by staff in the DNR Public Information Center.

Background and Strategies:

The PIC is the focal point for public contact. Meeting customer needs depends upon DNR information systems. The basic strategy is to provide efficient service and satisfied customers.

Status of FY2001 Performance Measures

	<i>Achieved</i>	<i>On track</i>	<i>Too soon to tell</i>	<i>Not likely to achieve</i>	<i>Needs modification</i>
<ul style="list-style-type: none"> Reduce Data entry cycle time for status plat updates by 30% (12 month maximum age). 				X	
<ul style="list-style-type: none"> Maintain computer systems to support annual volume of transactions on LAS at 320,000+ and recorded transactions at 200,000+. 	X				
<ul style="list-style-type: none"> 10% increase of public use of Department home pages on the Internet. 	X				
<ul style="list-style-type: none"> Maintain 75% of Public Information Center customers using DNR computing systems. 			X		
<ul style="list-style-type: none"> 80% system delivery on schedule and within budget. 			X		

Information Resource Management
Component Financial Summary

All dollars in thousands

	FY2000 Actuals	FY2001 Authorized	FY2002 Governor
Non-Formula Program:			
Component Expenditures:			
71000 Personal Services	1,923.5	1,708.7	2,007.6
72000 Travel	27.4	7.0	7.0
73000 Contractual	219.5	204.3	207.7
74000 Supplies	223.8	123.1	128.1
75000 Equipment	0.0	0.0	0.0
76000 Land/Buildings	0.0	0.0	0.0
77000 Grants, Claims	0.0	0.0	0.0
78000 Miscellaneous	0.0	0.0	0.0
Expenditure Totals	2,394.2	2,043.1	2,350.4
Funding Sources:			
1002 Federal Receipts	270.0	60.6	30.6
1004 General Fund Receipts	1,749.6	1,586.5	1,678.7
1005 General Fund/Program Receipts	25.9	49.7	51.2
1007 Inter-Agency Receipts	207.0	183.7	153.7
1053 Investment Loss Trust Fund	0.0	8.0	0.0
1055 Inter-agency/Oil & Hazardous Waste	0.0	0.0	30.3
1061 Capital Improvement Project Receipts	141.7	151.9	405.9
1108 Statutory Designated Program Receipts	0.0	2.7	0.0
Funding Totals	2,394.2	2,043.1	2,350.4

Estimated Revenue Collections

Description	Master Revenue Account	FY2000 Actuals	FY2001 Authorized	FY2001 Cash Estimate	FY2002 Governor	FY2003 Forecast
Unrestricted Revenues						
None.		0.0	0.0	0.0	0.0	0.0
Unrestricted Total		0.0	0.0	0.0	0.0	0.0
Restricted Revenues						
Federal Receipts	51010	270.0	60.6	60.6	30.6	30.6
Interagency Receipts	51015	207.0	183.7	164.9	153.7	153.7
General Fund Program Receipts	51060	25.9	49.7	49.7	51.2	51.2
Statutory Designated Program Receipts	51063	0.0	2.7	2.7	0.0	0.0
Capital Improvement Project Receipts	51200	141.7	151.9	340.0	405.9	401.9
Investment Loss Trust Fund	51393	0.0	8.0	8.0	0.0	0.0
Interagency Recs./Oil & Hazardous Waste	51395	0.0	0.0	0.0	30.3	30.0

Description	Master Revenue Account	FY2000 Actuals	FY2001 Authorized	FY2001 Cash Estimate	FY2002 Governor	FY2003 Forecast
Restricted Total		644.6	456.6	625.9	671.7	667.4
Total Estimated Revenues		644.6	456.6	625.9	671.7	667.4

Information Resource Management

Proposed Changes in Levels of Service for FY2002

Several important changes to the Information Resource Management Component are proposed for Fiscal Year 2002.

- More timely updates are planned for the Land Administration System transactions with the addition of one cartographer through our operating increment request. We now face an average backlog of updates of 9-months or more. This position will allow us to reduce the turn around time to 30-45 days in the next four years for our automated status plats. Our user groups demand that the land record be current and relevant to their field and office work. Problems with the land title maps means delays for adjudicators working on applications for resource development, and potential problems for the public looking to stake mining claims or apply for state land offerings.
- A capital project will fund essential programming of the DNR legacy mainframe transaction system. The legacy system was designed before personal computers were even invented. This means that we face several large scale challenges to create an enterprise system that is good for the public and our employees. The system no longer meets the business needs of the department, and is increasingly expensive to maintain from both user and programmer perspectives. Data entry costs are higher than necessary due to limited function screens and obsolete labor intensive data collection procedures. Interactive COBOL programs need to be replaced with code that is less costly to update and maintain and that meets the current business needs of the department. Public service needs to be raised by building Internet applications that support on-line applications, information collection, status reporting and payment options. Divisions need new business reporting systems to ascertain their goals set by their missions and measures. FY02 is the first year of a two year project.
- The Minerals-Information-At-Risk Project is a federally funded project designed to assure minerals databases and mining related record systems are brought forward using modern technologies. The IRM Component has teamed with the Bureau of Land Management to deliver a Mining Claim Information System that will provide the mining public with a combined view of land status regarding both state and federal mining claims, mineral surveys, prospecting sites, and other land status records that effect mining. There are four primary project areas: on-line land plats, reducing the cycle time for mining records updates between related systems; providing document imaging systems for recorded mining documents; and building a mapping system to show land status information with geological information. This is a multi-year project and the FY02 emphasis will be on the imaging and mapping systems. The Division of Geological and Geophysical Survey is a partner under this program.
- IRM provides the technical management support for the programming resources needed to build and maintain the Oil and Gas Royalty Accounting System. An increment of one programmer for the Division of Oil and Gas will assure that this critical system retains the programming depth needed to advance the goals of the Oil and Gas managers. The system has a key CIP project for FY02 which will automate the handling of the many support documents that are filed with monthly summary reports, monthly operator reports, and monthly royalty reports from lessees. Roughly half of the state's oil and gas revenues come from royalties.
- Conversion efforts on manual status plats (ink-on-mylar) will slow down as we are 98% completed and will have exhausted our last CIP funding. We plan to convert the remaining manual townships as time allow and resources allow. Over 7,600 townships are now digital, by FY02 less than 100 townships will remain manual.

Summary of Component Budget Changes

From FY2001 Authorized to FY2002 Governor

All dollars in thousands

	<u>General Funds</u>	<u>Federal Funds</u>	<u>Other Funds</u>	<u>Total Funds</u>
FY2001 Authorized	1,644.2	60.6	338.3	2,043.1

	<u>General Funds</u>	<u>Federal Funds</u>	<u>Other Funds</u>	<u>Total Funds</u>
Adjustments which will continue current level of service:				
-Convert Special FY2001 Labor Cost Fund Sources to GF	2.7	0.0	-2.7	0.0
-Year 2 Labor Costs - Net Change from FY2001	10.5	0.0	4.3	14.8
Proposed budget decreases:				
-Reduction of Interagency Receipt Authorization to Level Anticipated for FY2002	0.0	0.0	-30.0	-30.0
-Reduction of Federal Grant Funding to Level Anticipated for FY2002	0.0	-30.0	0.0	-30.0
Proposed budget increases:				
-Improve Timeliness of Land Record Updates	72.5	0.0	0.0	72.5
-Authorization for CIP projects Mineral Information at Risk and Land Use Database System	0.0	0.0	250.0	250.0
-State and Regional Contingency Plan Agreement with Dept. of Environmental Conservation	0.0	0.0	30.0	30.0
FY2002 Governor	1,729.9	30.6	589.9	2,350.4

Information Resource Management

Personal Services Information

Authorized Positions			Personal Services Costs	
	FY2001 Authorized	FY2002 Governor		
Full-time	28	31	Annual Salaries	1,536,335
Part-time	0	0	COLA	21,910
Nonpermanent	0	0	Premium Pay	0
			Annual Benefits	546,044
			<i>Less 4.59% Vacancy Factor</i>	<i>(96,689)</i>
			Lump Sum Premium Pay	0
Totals	28	31	Total Personal Services	2,007,600

Position Classification Summary

Job Class Title	Anchorage	Fairbanks	Juneau	Others	Total
Administrative Clerk II	1	0	0	0	1
Administrative Manager I	1	0	0	0	1
Analyst Programmer IV	1	0	0	0	1
Analyst/Programmer I	1	0	0	0	1
Analyst/Programmer II	2	0	0	0	2
Analyst/Programmer III	4	0	0	0	4
Analyst/Programmer IV	5	0	0	0	5
Analyst/Programmer V	3	0	0	0	3
Cartographer II	9	0	0	0	9
Data Processing Mgr III	1	0	0	0	1
Natural Resource Mgr I	1	0	0	0	1
Natural Resource Mgr II	1	0	0	0	1
Natural Resource Tech I	1	0	0	0	1
Totals	31	0	0	0	31