

**REPORT OF THE ACTUARIAL VALUATION
AS OF JULY 1, 1998 STATE OF IOWA
JUDICIAL RETIREMENT FUND**

October 1998

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INTRODUCTION

INTRODUCTION

The purpose of this report is to present the results of an actuarial valuation of the State of Iowa Judicial Retirement Fund.

Section I of the report is a summary of the results of the valuation and the actuarial certification.

Section II of the report provides details regarding the assets and liabilities and the calculation of the Annual Required Contribution, the Net Pension Obligation, and the Annual Pension Cost. Much of this information is necessary for compliance with Statements Number 25 and 27 of the Governmental Accounting Standards Board.

Section III is a summary of the data, methods and assumptions used in the preparation of this report.

The assumptions and methods used in our calculations are acceptable for purposes of GASB as well as for purposes of determining an appropriate level of contributions that should be made to the fund.

The unfunded accrued liability decreased from \$18.2 million on July 1, 1996 to \$10.2 million on July 1, 1998 due to plan experience and changes to the plan. Investment earnings greater than expected had the greatest effect. Investments earned approximately 17.5% annually during the two plan years compared with 8.0% assumed for the valuation. This lowered the unfunded accrued liability by approximately \$8.0 million.

The plan also realized a gain due to salary increases (which averaged 3.0% over the two years) being lower than the assumed rate of 5.0% per year. This lowered the unfunded accrued liability by about \$2.0 million.

There were also three changes to the plan that affected the July 1, 1998 valuation. Effective July 1, 1998, associate juvenile judges and associate probate judges became eligible to join the plan. Seven of these judges joined the plan and increased the unfunded accrued liability by about \$700,000.

For judges retiring on or after July 1, 1998, the maximum benefit from the plan increased from 50% of final pay to 52% of final pay. The effect of this change was to increase the unfunded accrued liability of the plan by \$1.0 million.

The plan will also increase the monthly benefit for retired judges who retired prior to July 1, 1977 and their survivors to \$500 if their current benefit is less than \$500. The effect was to increase the unfunded accrued liability by \$200,000.

SECTION I

SUMMARY OF VALUATION RESULTS AND ACTUARIAL CERTIFICATION

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SUMMARY OF VALUATION RESULTS AND ACTUARIAL CERTIFICATION

A. Summary of Principal Valuation Results

	Actuarial Valuation as of July 1, 1998	Actuarial Valuation as of July 1, 1996
Asset and Liability Information		
Actuarial Accrued Liability	\$ 65,242,913	\$ 55,647,165
Normal Cost	\$ 2,456,491	\$ 2,209,472
Market Value of Assets	\$ 55,048,399	\$ 37,479,343
Unfunded Actuarial Accrued Liability	\$ 10,194,514	\$ 18,167,822
Contribution and Cost Information		
Annual Required Contribution	\$ 2,858,734	\$ 3,368,976
Annual Required Contribution as of Percentage of Pay	17.0%	22.2%
Annual Pension Cost	\$ 2,852,404	\$ 3,360,249
Annual Pension Cost as a Percentage of Pay	17.0%	22.1%
Summary of Data		
Active Judges	187	177
Senior Judges and Retired Senior Judges	44	38
Retired Judges	42	42
Beneficiaries of Deceased Judges	52	45
Inactive Judges with Contributions Remaining in the System	8	10
Total	333	312
Active Participant Statistics		
Total Compensation	\$ 16,823,519	\$ 15,170,892
Average Compensation	\$ 89,965	\$ 85,711
Average Age	53.12	52.59
Average Service	11.24	10.73

B. Actuarial Certification

The information and valuation results shown in this report are, to the best of my knowledge, complete and accurate and are based upon:

1. Employee census data as of July 1, 1998, submitted by the office of the Court Administrator. This data was not audited by us, but appears to be sufficient and reliable for purposes of the report.
2. Financial data as of July 1, 1998, submitted by the office of the Court Administrator. This data was not audited by us, but appears to be sufficient and reliable for purposes of the report.
3. Actuarial assumptions which, reflect the best judgment of future events affecting the actuarial present value of the benefits of the plan.
4. Actuarial methods as stated in the report and our interpretation of plan provisions as summarized in the report.

Michael L. Bollin

Michael L. Bollin, F.S.A.
Enrollment No. 96-2710

10-1-98
Date

Brent A. Hradek

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SECTION II

ACTUARIAL VALUATION RESULTS

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ACTUARIAL VALUATION RESULTS

A. Statement of Changes in Plan Net Assets

	Year-End June 30, 1998	Year-End June 30, 1997
Additions		
1. Contributions		
a. Employer	\$ 3,806,457	\$ 3,726,422
b. Employee	667,999	637,910
c. Total Contributions (a. + b.)	\$ 4,474,456	\$ 4,364,332
2. Investment Income		
a. Interest	\$ 1,980,347	\$ 1,354,833
b. Dividends	204,428	247,491
c. Gain on Sale of Investments	2,867,155	2,569,433
d. Net Appreciation	3,015,054	3,014,092
e. Investment Expenses	(243,761)	(213,326)
f. Total Investment Income (a. + b. + c. + d. + e.)	\$ 7,823,223	\$ 6,972,523
3. Total Additions (1.c. + 2.f.)	\$ 12,297,679	\$ 11,336,855
Deductions		
4. Deductions		
a. Benefit Payments	\$ 3,137,287	\$ 2,904,691
b. Administrative Expense	5,500	18,000
c. Total Deductions (a. + b.)	\$ 3,142,787	\$ 2,922,691
5. Net Increase (3. - 4.c.)	\$ 9,154,892	\$ 8,414,164
6. Net Assets Held in Trust for Pension Benefits		
a. Beginning of Year	\$ 45,893,507	\$ 37,479,343
b. End of Year	55,048,399	45,893,507

B. Unfunded Actuarial Accrued Liability

The actuarial accrued liability is the present value of projected plan benefits allocated to past service by the actuarial funding method being used.

	July 1, 1998
1. Actuarial Accrued Liability	
a. Active Participants	
Retirement Benefits	\$ 31,850,644
Withdrawal Benefits	12,650
Death Benefits	1,063,026
Total	\$ 32,926,320
b. Participants with Deferred Benefits	729,405
c. Participants Receiving Benefits	31,587,188
d. Actuarial Accrued Liability (a. + b. + c.)	\$ 65,242,913
2. Actuarial Value of Assets	55,048,399
3. Unfunded Actuarial Accrued Liability (1.d. - 2., not less than \$0)	\$ 10,194,514

C. Normal Cost

The components of normal cost under the Plan's funding method are:

Component	July 1, 1998
Retirement Benefits	\$ 2,352,782
Withdrawal Benefits	2,501
Death Benefits	101,208
Total Normal Cost	\$ 2,456,491

D. Schedule of Funding Progress
(In Thousands)

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (UAAL) (b-a)	Funded Ratio (a/b)	Covered Payroll (c)	UAAL/ Covered Payroll ((b-a)/c)
7/1/1993	\$ 23,107	\$ 47,811	\$ 24,704	48%	\$ 13,026	190%
7/1/1994	25,006	48,959	23,953	51%	13,282	180%
7/1/1995	31,929	52,012	20,083	61%	14,956	134%
7/1/1996	37,479	55,647	18,168	67%	15,171	120%
7/1/1997	45,894	59,786	13,892	77%	15,721	88%
7/1/1998	55,048	65,243	10,195	84%	16,824	61%

E. Schedule of Employer Contributions

Year Ended	Annual Required Contribution	Percentage Contributed
6/30/1993	\$ 3,162,048	76%
6/30/1994	3,351,771	79%
6/30/1995	3,263,989	97%
6/30/1996	3,427,188	92%
6/30/1997	3,368,976	111%
6/30/1998	3,150,939	121%

F. Determination of Net Pension Obligation

1. Net Pension Obligation as of July 1, 1997	\$ 3,476,451
2. Annual Pension Cost for the Year Ended June 30, 1998	3,143,116
3. Employer Contributions for the Year Ended June 30, 1998	3,806,457
4. Net Pension Obligation as of June 30, 1998 (1. + 2. - 3.)	\$ 2,813,110

G. Determination of Annual Required Contribution

1. a. Normal Cost at July 1, 1998	\$ 2,456,491
b. Interest for Year	196,519
c. Total Normal Cost as of June 30, 1999	\$ 2,653,010
2. a. Unfunded Actuarial Accrued Liability (UAAL)	\$ 10,194,514
b. Amortization Factor to Recognize UAAL Over 30 Years	12.158
c. Amortization Amount of Beginning of Year (a. ÷ b.)	838,503
d. Interest for Year (c. x .08)	67,080
e. Amortization Amount at End of Year	\$ 905,583
3. Total Annual Required Contribution (1.c. + 2.e.)	\$ 3,558,593
4. Portion Paid by Employee Contributions	
a. Annual Payroll for Upcoming Plan Year	\$ 16,823,519
b. Employee Contribution Rate	4.00%
c. Employee Contributions (a. x b.)	\$ 672,941
d. Interest on Employee Contributions	26,918
e. Employee Contributions as of June 30, 1999	699,859
5. Annual Required Contribution (3. - 4.e.)	\$ 2,858,734
6. Annual Required Contribution as a Percentage of Pay	17.0%

H. Determination of Annual Pension Cost

1. Annual Required Contribution (ARC)	\$ 2,858,734
2. a. Net Pension Obligation (NPO)	\$ 2,813,110
b. Interest Rate	8.00%
c. Interest on NPO	\$ 225,049
3. a. NPO	\$ 2,813,110
b. Amortization Factor	12.158
c. Adjustment to ARC	\$ 231,379
4. Annual Pension Cost (1. + 2.c. - 3.c.)	\$ 2,852,404
5. Annual Pension Cost as a Percentage of Pay	17.0%

SECTION III

ACTUARIAL ASSUMPTIONS AND METHODS, PLAN PROVISIONS AND PARTICIPANT DATA

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ACTUARIAL ASSUMPTIONS AND METHODS, PLAN PROVISIONS AND PARTICIPANT DATA

This section of the report presents the actuarial assumptions and methods used in the valuation, a summary of plan provisions, and participant data upon which the valuation was based.

A. Actuarial Assumptions

- Interest - 8% per annum.
- Mortality - 1983 Group Annuity Mortality Table for males and females.
- Turnover - 1.0% per year for all participants under age 45. The termination rate experienced by the system has been very small, and this trend is assumed to continue.
- Rate of Disablement;
Disabled Life Mortality - No incidence of disability was assumed.
- Salary Increases - Salaries will increase 5.0% per annum. This was based on a review of the salary increases granted during the period since 1982.

The following table indicates the effect of this salary scale on the estimated future salary of participants.

Age	Ratio of Final Average Salary to Current Salary	Ratio of Final Salary to Current Salary
35	4.77	5.00
40	3.74	3.92
45	2.93	3.07
50	2.29	2.41
55	1.80	1.89
60	1.41	1.48
65	1.10	1.16

Incidence of Retirement -

The following table indicates the assumed rate of retirement at each age.

Age	Rate
55	1%
56	1
57	2
58	2
59	3
60	3
61	4
62	10
63	5
64	5
65	20
66	15
67	15
68	100

Spouse's Benefit -

85% of employees were assumed married, with the spouse four years younger.

Internal Revenue Service

Limits on Recognized Pay -

The limit is assumed to increase based on cost of living increases of 3.0% per year.

B. Asset Valuation Method

The actuarial value of assets is equal to the market value of assets and was provided by the Office of the Court Administrator.

C. Actuarial Cost Method

The Annual Contributions for the system were calculated using the Projected Unit Credit Cost Method.

Projected Unit Credit Method

Liabilities and contributions shown in this report are computed using the Projected Unit Credit method of funding.

The objective under this method is to fund each participant's benefits under the Plan as they would accrue, taking into consideration future salary increases. Thus, the total pension, to which each participant is expected to become entitled, is broken down into units, each associated with a year of past or future credited service. When this method is introduced, there will be an initial liability for benefits credited for service prior to that date, and to the extent that the liability is not covered by assets of the Plan, there is an unfunded liability to be funded over a chosen period in accordance with an amortization schedule.

A description of the calculation follows:

An individual's **accrued benefit** for valuation purposes related to a particular separation date is the accrued benefit described under the Plan but determined using the projected salary that would be used in the calculation of the benefit on the expected separation date.

The **benefit** deemed to accrue for an individual during a plan year is the excess of the accrued benefit for valuation purposes at the end of the plan year over the accrued benefit for valuation purposes at the beginning of the plan year. Both accrued benefits are calculated from the same projections to the various anticipated separation dates.

An individual's **accrued liability** is the present value of the accrued benefit for valuation purposes at the beginning of the plan year, and the normal cost is the present value of the benefit deemed to accrue in the plan year. If multidecrements are used, the accrued liability and the normal cost for an individual are the sum of the component accrued liabilities and normal costs associated with the various anticipated separation dates. Such accrued liabilities and normal costs reflect the accrued benefits as modified to obtain the benefits payable on those dates and the probability of the individual separating on those dates.

The Plan's **normal cost** is the sum of the individual normal costs, and the Plan's **accrued liability** is the sum of the accrued liabilities for all participants under the Plan.

D. Amortization Method

Level Dollar Amortization Method

The amount to be amortized is divided into equal dollar amounts to be paid over a given number of years; part of each payment is interest and part is principal (similar to a mortgage payment on a building). Because payroll can be expected to increase as a result of inflation, level dollar payments generally represent a decreasing percentage of payroll; in dollars adjusted for inflation, the payments can be expected to decrease over time.

Open Amortization Period (Open Basis)

An open amortization period (open basis) is one that begins again or is recalculated at each actuarial valuation date. Within a maximum number of years specified by law or policy (for example, 30 years), the period may increase, decrease, or remain stable.

The amortization factor is based on the valuation interest rate and a 30-year amortization period.

E. Summary of Plan Provisions

An actuarial valuation involves the projection of the amount and timing of future benefit payments. Summarized below are the principal provisions of the plan which were used to estimate future benefit payments.

<u>Credited Service</u> -	All years of service as a judge are credited.
<u>Average Monthly Earnings</u> -	Average monthly basic salary for last three years as judge. Each year's pay is limited to \$160,000 adjusted for future inflation.
<u>Accrued Benefit</u> -	The benefit payable at Normal Retirement Date which the judge has earned based on average monthly earnings and credited service to date.
<u>Normal Form</u> -	The normal form of payment is an annuity payable for the life of the judge with one-half such amount payable to an eligible surviving spouse with a guarantee that payments totalling at least the amount of the judge's contributions will be made.
<u>Eligible Spouse</u> -	A spouse is eligible if married to the judge for at least the one year preceding death.
<u>Retirement Eligibility</u> -	Age 65 with a minimum of six years service or 25 years of consecutive service regardless of age. Eligibility at early retirement is age 55 with a minimum of 20 years service. Benefits upon early retirement are reduced actuarially using mortality of 1983 Group Annuity Table for males and an interest rate of 5%.

Mandatory Retirement Date -

Age 78 for judges participating in the Senior Judge Program.

Monthly Retirement Benefit -

3% of Average Monthly Earnings times years of credited service with a maximum of 52% of final earnings. Commencing July 1, 1998, a judge or a survivor of a judge who retired before June 1, 1977, shall receive a minimum monthly annuity payment of \$500.

Disability Retirement -

Upon total and permanent disability with a minimum of six years of credited service. The Judge receives the accrued benefit.

Vesting -

100% vesting for voluntary terminations after six years of credited service. 100% vesting for judges' contributions at all times.

Pre-Retirement Death Benefit -

Six years of service required. The death benefit payable to an eligible spouse is one-half the accrued benefit at the date of death. The death benefit shall commence on the later of the date of death or the date the spouse reaches age 60.

Judge's Contributions -

4% of salary.

Annuity for Senior Judges and Retired Senior Judges -

- a. Judges retiring and becoming Senior Judges before January 1, 1993:

The annuity for all senior judges or retired senior judges will be equal to 3% of the current base salary of the office in which the judge last served before retirement as a judge or senior judge, multiplied by the judge's years of service prior to retirement as a judge, subject to a maximum of 50% of such current base salary.

- b. Judges retiring and becoming Senior Judges on or after January 1, 1993 and before July 1, 1994:

The annuity is the same as (a) above except that the annuity will increase only until the year in which the judge attains age 78. At that point, it will remain the same until the judge's death.

- c. Judges retiring and becoming Senior Judges on or after July 1, 1994:

The annuity is the same as (b) above except that the percentage increase of the annuity each year is only 75% of the amount that it would have been under (b).

- d. Judges retiring and becoming Senior Judges on or after July 1, 1998:

The annuity is the same as (c) above, except that the maximum benefit is 52% of the current base salary.

F. Distribution of Active Participants

DISTRIBUTION OF ACTIVE JUDGES

Age	Count	Total Monthly Salary	Average Monthly Salary
34 & Under	0	\$ 0	\$ 0
35 - 39	7	51,683	7,383
40 - 44	19	142,983	7,525
45 - 49	48	372,509	7,761
50 - 54	40	315,642	7,891
55 - 59	28	224,292	8,010
60 - 64	22	174,883	7,949
65 & Over	23	187,625	8,158
Totals	187	\$ 1,469,617	\$ 7,859

G. Distribution of Inactive Participants

DISTRIBUTION OF RETIRED JUDGES

Age	Count	Total Monthly Benefit	Average Monthly Benefit
55 - 59	0	\$ 0	\$ 0
60 - 64	1	1,200	1,200
65 - 69	9	24,897	2,766
70 - 74	8	15,169	1,896
75 - 79	9	17,396	1,933
80 - 84	6	9,684	1,614
85 & Over	9	11,292	1,255
Totals	42	\$ 79,638	\$ 1,896

DISTRIBUTION OF SENIOR JUDGES AND RETIRED SENIOR JUDGES

Age	Count	Total Monthly Benefit	Average Monthly Benefit
60 - 64	0	\$ 0	\$ 0
65 - 69	9	32,238	3,582
70 - 74	19	69,287	3,647
75 - 79	8	26,400	3,300
80 & Over	8	28,464	3,558
Totals	44	\$ 156,389	\$ 3,554

DISTRIBUTION OF BENEFICIARIES OF DECEASED JUDGES

Age	Count	Total Monthly Benefit	Average Monthly Benefit
64 & Under	2	\$ 2,998	\$ 1,499
65 - 69	0	0	0
70 - 74	5	5,722	1,144
75 - 79	9	8,486	943
80 - 84	19	14,509	764
85 - 89	7	3,027	432
90 & Over	10	6,097	610
Totals	52	\$ 40,839	\$ 785

DISTRIBUTION OF INACTIVE JUDGES WITH CONTRIBUTIONS REMAINING IN THE FUND

Age	Count	Total Monthly Benefit	Average Monthly Benefit
49 & Under	0	\$ 0	\$ 0
50 - 54	1	1,306	1,306
55 - 59	3	3,882	1,294
60 & Over	4	5,195	1,299
Totals	8	\$ 10,383	\$ 1,298