

# AAVSO Newsletter

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## Message from the President

William G. Dillon

In a simple ceremony at AAVSO Headquarters this past October, Dan Kaiser passed me the historic gavel that once belonged to Harlow Shapely, a gavel that has opened many an AAVSO meeting. With it, came the Presidency, and trust and confidence of the Council which elected me. It is a great honor, and I will strive to show that trust and confidence was well placed.

I thank Dan for his two years of service as President. I'm sure I will appreciate it all the more as time goes by! It's also comforting to know that I can rely on Dan's wisdom and advice, as he continues to serve on the Council as Past President.

Foremost in our thoughts at this time is our Director's recovery from acute Leukemia. It struck Janet with surprising speed and severity, reminding us once again that life can take unexpected, and devastating turns. I recall one weekend when we weren't sure whether she'd still be with us at the end. But Janet did pull through, and in a pleasant surprise, is recovering with astonishing speed. I spoke with Janet a week ago, her voice was as strong as ever, as was her spirit and determination to recover. One never would have known what an ordeal she had just been through.

When life and death hung in the balance, I'm convinced that all the prayers and good wishes and thoughts tipped the balance for the side of life. Janet still has a long road to full recovery, please keep those positive thoughts, notes, and prayers coming!

Before going into the hospital, Janet appointed long-time Headquarters staff member Elizabeth Waagen to act in her place. The Council confirmed Elizabeth as Interim Director at the Fall Meeting, and we've all been impressed with how Elizabeth has responded to acting on Janet's behalf. The Headquarters staff has also risen to the challenge. Pulling together as never before to meet this challenge may be the "blessing disguised as misfortune".

My best wishes for you in this holiday season, with clear skies and many observations in 2004. I look forward to meeting many of you in California for our next meeting.

—Bill Dillon

## From the Director

Janet A. Mattei

Season's Greetings to All! Happy Winter (to those of you in the Northern Hemisphere) and Happy Summer (to those of you in the Southern Hemisphere)!

Just an update on me - my strength continues to increase each day as I add more and more physical exercises to my daily routine. Now I can walk without a walker the whole length of the hallway on my floor!

I will be in the rehabilitation center for about two more weeks, continuing to regain my strength and independence. Then I will have another, lighter set of treatments for my leukemia. After that,

God willing, I will go home later in January. I'm taking one step at a time, always grateful to be able to do what I can, and looking forward to getting back to being my old self.

Spaulding Rehabilitation Center, where I have been since mid-November, is a wonderful facility. It is located in downtown Boston near the Charles River and the ocean, and has magnificent skyline views of different parts of the city. The view from my window - the new, beautiful Zakim bridge (part of the "Big Dig" massive construction project in Boston) - is spectacular, particularly so at sunrise and sunset with the play of colors on its white guidewires and superstructure.

I am very much enjoying visits from friends, colleagues, AAVSO staff, and my family. I am excited to learn about the recent findings in astronomy made through the multiwavelength NASA satellites from my dear colleague Margarita Karovska, and I feel very proud to read papers recently published by the AAVSO technical staff and observers.

I thank you most sincerely for your wonderful messages, cards, best wishes, and prayers. They continue to overwhelm me, and they give me strength and determination.

Again, I very much appreciate the encouragement you have given and continue to give me. Please keep me in your prayers. Have a wonderful Holiday, and a happy and healthy New Year!

—Janet

## Message from the Interim Director

Elizabeth O. Waagen

As I write this near the end of 2003, I feel we have so much to be grateful for. Janet is astounding her doctors and filling us with joy at the speed of her recovery in the current phase of her treatment. AAVSO President Bill Dillon, Secretary Martha Hazen, Treasurer Lou Cohen, and all our other Council members are working very hard on behalf of the Association.

AAVSO Headquarters is very busy: the Data Validation Project is 67% completed; plans for a very exciting Spring Meeting in California are progressing; membership renewals are pouring in;

*(continued on next page...)*

### In this issue...

Message from the President . . . . .	1
From the Director . . . . .	1
Message from the Interim Director . . . . .	1
What's New at HQ . . . . .	2
Awards and Recognition . . . . .	3
From the AAVSO Archives . . . . .	3
92nd Annual Meeting, Cambridge, MA . . . . .	4
Meeting Memories . . . . .	4
AAVSO: Then and Now . . . . .	8
In Memoriam . . . . .	6
AAVSO 2002-2003 Observer Totals . . . . .	7

(continued from page 1)

members and friends are responding generously to our fund-raising letter; visual, CCD, and PEP observations continue to arrive in impressive numbers; research is going on; gamma-ray burst afterglows are being chased; archival materials are being catalogued...

In early January, Dr. Matthew Templeton, Aaron Price, and I will attend the American Astronomical Society meeting in Atlanta to represent the AAVSO and present posters on different areas of AAVSO activity. Matt will discuss some of his LPV research findings, Aaron will describe the grass-roots outreach to observers occurring through our High Energy Network, and I will discuss the Data Validation Project and show some examples of the exciting long-term light curves -- the results of our observers' dedicated work over the decades -- that are becoming available as the project progresses. We look forward to spreading the good word about the AAVSO to our colleagues!

Personally, I thank Janet and the Council for their faith in me in appointing me to act as Interim Director during Janet's illness, and I am very grateful for the guidance, support, and encouragement I have received from them. I recognize the great responsibility I carry and am doing my best for the AAVSO. We are so fortunate to have an excellent, reliable, and committed staff at Headquarters that works as a true team.

Yes, we have much to be grateful for! May 2004 bring all of us and our loved ones good health, happiness, and prosperity!

—Elizabeth

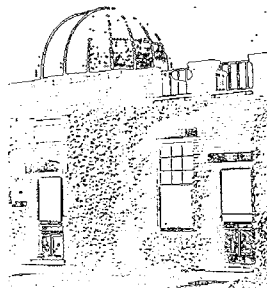
## MISFORTUNES AS BLESSINGS IN DISGUISE

*The Story of My Life*  
by Dorrit Hoffleit

Senior Research Astronomer  
Emeritus Yale University, and  
Director Emeritus, Maria Mitchell  
Observatory

\$25.00 (\$21.00 for AAVSO  
members)  
plus \$5 U.S. shipping (\$10  
others).

(check, money order, and  
Mastercard/Visa credit cards  
accepted).



Order Your Copy  
Today!

\* \* \* \* \*  
Many thanks to all those that sent along Holiday cards and greetings to HQ. Your warm wishes helped to brighten the office and our holiday season!  
\* \* \* \* \*

## What's New at AAVSO Headquarters

News and Notes from AAVSO HQ.



### The 93rd Spring Meeting of the AAVSO

### ASTROCON 2004!

Mark your calendars! A truly once-in-a-lifetime conjunction of the Astronomical League, the American Association of Variable Star Observers, the Association of Lunar and Planetary Observers, and the Astronomical Society of the Pacific will be held on the campus of Mills College in Oakland, California. This first of its kind meeting of these organizations will be held **July 20-24 2004!**

The AstroCon 2004 focus will be on observational astronomy and public outreach. A number of field trips are planned, including one to Lick Observatory, home of the 36-inch Clark Refractor and 120-inch Shane reflector.

And if all goes according to preliminary plans, the closing Banquet will not be one you will want to miss! July 24th is the 35th anniversary of the recovery of Apollo 11. The aircraft carrier responsible for that recovery, the U. S. S. Hornet, is now a floating museum in the Bay Area. Talks are in progress about a special Banquet aboard the U. S. S. Hornet, with observing on the flight deck following the Banquet.

This is a meeting you don't want to miss! For more information and continual updates check out: <http://www.aavso.org/aavso/meetings/spring04.shtml> and <http://www.astrocon2004.org>.

### 11 Million Observations and Counting!

We reached another observational milestone this past year as we passed the 11 million-observation mark in the AAVSO International Database. With the 432,660 observations received from 752 observers in 41 countries, the grand total of AAVSO observations received since 1911 now stands at 11,202,974!

Who contributed the 11 millionth observation? Our latest "millionaire" is Gary Poyner of Birmingham, England, with his observation of 0959+68 CH UMa at visual magnitude 14.7 on 2452758.419 (2003 April 28.919 UT).

Gary is unique in that he is an AAVSO "double-millionaire" - he also contributed the 8 millionth observation to the AAVSO International Database! Congratulations, Gary, and keep observing!

### M I L E S T O N E S Janet Mattei: 30 Years as AAVSO Director

The American Association of Variable Star Observers is proud to celebrate Janet Mattei's *Thirtieth Anniversary* as *Director* of the Association. Janet was awarded with a special recognition plaque at this year's 92nd Annual Meeting at AAVSO Headquarters in Cambridge. Turn to page 3 to read more about this award. Thank you Janet!

# Awards and Recognition

## Special Recognition Award Honoring

**Janet A. Mattei - 30 Years as AAVSO Director**

It was with great pleasure and gratitude that the AAVSO awarded a Special Recognition plaque and citation to AAVSO Director Janet Mattei for her 30 years of outstanding leadership. While Janet was unable to attend the meeting due to her medical condition, her husband Mike accepted the award on her behalf.



Below are a some excerpts from the citation:

“The American Association of Variable Star Observers wishes to honor **Janet Akyüz Mattei** on this, the thirtieth anniversary of her Directorship of the Association...”

“Janet’s accomplishments during her 30 years as director have been many. Since October 20, 1973, she has led the AAVSO in its growth from a small organization to a truly independent, vibrant, cutting-edge institution...”

“A born mentor, she has encouraged, guided, and supported countless individuals, especially young people, not only in astronomy but also in their choices of life paths. Always intense and enthused, Janet is never satisfied with doing merely a good job - she insists on excellence. Leading by example, she has always set the highest standards for herself and the AAVSO.

All the membership wishes to thank and congratulate Janet for her 30 years of service, not only to the AAVSO but also to the entire variable star community, amateur and professional, past, present, and future. Janet, you are an exemplary director, and our hats are off to you!”



*Janet's husband and AAVSO Clerk Michael Mattei accepts the award on Janet's behalf at the 92nd Annual Meeting flanked by AAVSO President Dan Kaiser and Interim Director Elizabeth O.Waagen.*

## The Nova/Supernova Award

At the Annual Meeting in October, 1928, a Nova Award Medal was instituted to encourage and recognize the visual discoverers of novae. The Medal was not restricted to members of the AAVSO, but it would be awarded to the original discoverer of a nova by direct visual methods. The AAVSO was proud to announce at this fall's 92nd Annual Meeting the presentation of a Supernova Award to:

**Robert O. Evans**

of Hazelbrook, NSW, Australia, for his visual discovery of the following supernovae:

Supernova 2003B near NGC 1097 on January 5.5 UT  
Supernova 2003gd IN M74 NGC 628 on June 12.82 UT  
Supernova 2003gs IN NGC 936 July 29.75 UT  
Supernova 2003hn IN NGC 1448 Aug. 25.70 UT

## From the AAVSO Archives...

### *Seasonal Gaps*

Craycroft F. Wilson, 1958, East Meadow, LI (WX)

I regret that there are so few observations to report this month. When I wasn't sick, the weather was.

C. S. Walton, Candy maker, 1939, Wheatridge, Colo. (WCS)  
The U.S.A. craves candy and I must try and relieve some of the craving this month, so no more time for observing. Merry Christmas to you.

# AAVSO 92nd Annual Meeting

AAVSO Headquarters Cambridge, MA October 25, 2003

This year's AAVSO Annual Meeting was an "abridged" meeting consisting of Executive Board and Council meetings, a membership meeting, followed by a dinner buffet. The meeting was held at AAVSO Headquarters in Cambridge, Massachusetts. The meeting was small, attended mostly by the AAVSO Council, HQ staff, and a handful of members and observers. Those in attendance agreed it was a complete success, and in customary AAVSO tradition offered attendees the chance to "talk shop" and enjoy the company of fellow VSOers.

At the membership meeting AAVSO Interim Director Elizabeth Waagen presented a summary of the Annual Director's report which describes the activities of the organization for the previous fiscal year. Elizabeth noted that the ongoing two year validation project to error check all AAVSO data is moving forward at a quick and efficient pace. As of the printing of this newsletter nearly 70% of the AAVSO International Database has been validated.

Treasurer Lou Cohen reported on the association's finances. The AAVSO Council continues to keep a close eye on the organization's fiscal situation and while the AAVSO was feeling the effects of last year's economic downturn, the organization remains very strong thanks to the ongoing support from past benefactors and excellent financial stewardship.

Among the other highlights of the meeting were a Supernova Award presented to well known nova hunter Robert O. Evans of NSW, Australia and a Special Recognition Award presented by the organization to AAVSO Director Janet Mattei for her 30 years of exemplary service and leadership.



*Passing on the Presidency: Bill Dillon accepts the gavel from Dan Kaiser.*



*Geoffrey Clayton, Chuck Pullen, and Arne Henden share a table at the dinner buffet.*

## Meeting Memories

By Arthur Pearlmutter

Auburn, MA (PN)

When I left home to attend this year's fall meeting I wasn't sure what to expect. I didn't know what the mood of the meeting would be, who would be there, or how I would react to a meeting minus all the usual papers and speakers. On top of all this there was the recent notification of the major dues hike (I had been eligible for the discontinued senior rate for several years) and my much diminished participation as an observer in recent years.

I am very happy to say that the format of the meeting did not disappoint. I do enjoy the annual meetings as normally constituted, but will be very happy to attend meetings such as this one. It was good to know that



*Longtime members and observers Art Pearlmutter (left) and Charles Aronowitz (right) are coincidentally reunited after more than 35 years! They were Junior Astronomers together.*

Janet's condition was improving and that did lighten the load a little. I was pleasantly surprised by the attendance, although I was hoping to see more of the people from the New England area. That gap was more than made up for by the return of Keith and Sylvia Danskin to our meetings and the biggest surprise was, of course, seeing Charles Aronowitz for the first time since I left New York City in 1965. He was talking about the Junior Astronomy Club years.

As I remember it, he was active only after I had left high school, and my presence was in more of an advisory capacity, but I do remember that. We were also part of the original membership of the Observing Group of the Amateur Astronomers Association. We were both active in that group for many years.

Over those years we shared many observing sessions and many of the same friends. It was good to see him again and I hope we can get together again next year. I did not spend nearly as much time with him as I would have liked to.

I had a wonderful time at this meeting and am looking forward to next year with great anticipation.

**Did you know...** The AAVSO website features tons of information on AAVSO meetings both past and present, including a page of AAVSO group meeting pictures that span the last eighty years? Log on and check it out at:

<http://www.aavso.org/meetings>

# How Far We've Come

## The AAVSO: Then and Now

By Jim Bedient  
Honolulu, Hawai'i

*(This message was originally posted to the AAVSO discussion group.)*

I've been around a while, and I thought it might be fun to do a little compare and contrast, then and now, for those that haven't been around more than a few years:

Where we are now vs. where we were:

**1983:** Get a copy of the chart catalog from HQ, and write separately to Clint Ford for a copy of the preliminary chart catalog. Look through them and pick out stars to observe. Write to HQ and Clint, enclosing a check for \$0.25 for each chart (yes, gang, we \*paid\* for charts!). A few weeks later, packages arrive with charts - happy day! Now you can observe.

**2003:** Look out the window at sunset, see it's clear, and decide to observe. Check the Bulletin online, pick out a few LPVs to observe - oops, no charts for that one... download the appropriate charts, or print them from the Chart CD. 30 minutes later you're at the eyepiece.

**1983:** Finish observing for the night. Read from a table the JD and fraction for each observation. Transcribe your observing log into a notebook which has a page for each star you've ever observed, filed in order of the Harvard designations. At the end of the month, page through this notebook, and transcribe, again, each observation for that month onto a report form, in order of Harvard designation, then mail it off to HQ. Sometime that month, someone at HQ will look at it.

**2003:** Finish observing for the night. Type observations into WebObs. JD is instantly calculated for you. Observations are instantly available in the AAVSO International Database.

**1983:** Submit your observations to AAVSO. Wait years, or perhaps decades. See a monograph, or an article in JAAVSO, and vaguely remember observing that star. Feverishly look through ancient, dusty observing records, and see that yes! you did observe that star! Check to see how your observations compared with others... at last, feedback!

**2003:** Submit observations via Webobs. Use the Quick Look and the Light Curve Generator 15 minutes later to see how you're doing.

**1983:** Separately mail in CV observations for inclusion in the AAVSO Circular. A month later, get a copy of the Circular, and see that SS Cyg had gone into outburst two months ago... on the night you decided to watch "Dallas" instead of observe. Doh!

**2003:** Get the AAVSO "News Flash" by e-mail in the afternoon. Sorry, honey, I'm skipping "Survivor" tonight, SS Cyg is up!

**1983:** A Japanese amateur suspects a nova in Sagittarius. 8 days later, you get an Alert notice with charts in the mail.

**2003:** A Japanese amateur suspects a nova in Sagittarius. You pick up the mounting buzz on the e-mail lists, and by dark you can go out with binoculars and confirm it. The following morning, AAVSO charts are available for downloading.

**1983:** Observe the new nova. Mail in reports at the end of the month. Never hear about it again.

**2003:** Observe the new nova. Submit observations via Webobs. The next day, your observation and name is in an IAU Circular on the nova, e-mailed over to CfA by on-the-ball HQ staff.

**1983:** Just who \*are\* these HQ people, anyway?

**2003:** Exchange e-mail with Aaron Price on an idea I had for the web site, which of course he thought of long ago. Get a polite e-mail from Gamze Menali indicating that she'd removed the observation that my fat fingers entered incorrectly the night before. Read Janet's thoughts, written this morning, on the latest controversy that started yesterday.

**1983:** Observe variable stars - it is a solitary pursuit, with little feedback, and the only satisfaction is knowing you are one of the few people with their finger on the pulse of the galaxy, even if you don't actually \*know\* any of the others.

**2003:** Observe variable stars - participate in an active, vibrant scientific community knit together by the Internet and the way that the membership and HQ staff have adapted it to our needs.

Our lives as observers are so much better today than in the past. There is always room for further improvement, but in the context of our "instant satisfaction" culture, let's not lose sight of the great progress made to date.

## The Observers' Forum Returns

### Calling all observers!



One of the more popular and entertaining features in past Newsletters was the Observers' Forum, faithfully edited by John Isles (ILS). The Observer's Forum was a place to share observing experiences, make suggestions, ask for advice, and sound off on just about any topic likely to interest other observers.

We would like to bring back the Observers' Forum and encourage all observer's to send along material for publication in the spring edition of the Newsletter. Material for inclusion in Observers' Forum can be sent to: *Observers' Forum, AAVSO Headquarters, 25 Birch Street, Cambridge, MA 02138*. Email: [aavso@aavso.org](mailto:aavso@aavso.org)

## ❧ In Memoriam ❧

The AAVSO extends its most sincere sympathy and condolences to the families, friends, and colleagues of the following members, colleagues, and friends who have passed away since the publication the previous *Newsletter*:

### Katherine Hazen

Cambridge, Massachusetts

Katherine S. Hazen (1905-2003), the mother of AAVSO Secretary Martha Hazen and a long-time AAVSO friend and Headquarters volunteer, passed away on November 19, 2003, at the age of 98. Katherine came to the AAVSO in 1980 through Martha, who told Director Janet Mattei her mother was looking for a volunteer activity after the death of her husband and wondered if there might be something she could do at the AAVSO. Janet said she thought there was, and a wonderful relationship was born.

With Katherine's background in science (she graduated from Mt. Holyoke College in 1926 with a degree in chemistry), world travels and many years in the university setting through her husband's career, extensive experience with fundraising as a class agent for Mt. Holyoke, and cheerful willingness to help with any project going, there were countless activities and projects at Headquarters - large and small - that benefited from her expertise. Katherine also contributed very generously to the association financially over the years, for which generosity we are most grateful.

After Katherine "retired" from the AAVSO after more than 11 years of dedicated volunteer service, we were always delighted to welcome her back to AAVSO meetings, pizza lunches, and holiday events at Headquarters whenever she could join us - it was always a joy to see her.

—Elizabeth O. Waagen

### James Bush

Palm Beach, Florida

### Robert Fried

Flagstaff, Arizona

## Supporting the AAVSO

In order to sustain the AAVSO and its operations, we rely on the generous support provided by members, sponsors, donors, and staff. Together we are the AAVSO. Your gift is a way for you to say that you believe in what we are doing and that you want it to continue moving forward. Every dollar given and membership purchased benefits the AAVSO in a necessary and unique way.

Your donations help support the coordination, collection, and dissemination of variable star observations, variable star research and educational outreach, as well as organization, description, preservation, and computerization of the archives.

To help support the AAVSO please visit us online at <http://www.aavso.org/aavso/support/>.

## Thoughts of a Very Variable Volunteer

I give a toast to variables —  
The observers, NOT the stars.  
Amateurs or astronomers  
Your union knows no bars.

You vary in your home towns,  
Your sex, your size, your age.  
You use binoculars or scope.  
To find a Nova is the rage.

You pop into the office  
By impulse or by plan.  
You linger or you hasten on.  
The bus is handy if you run!

You want to see the building;  
You want to meet the staff;  
You want to chat with Janet.  
That isn't all by half.

You're awed by our computers,  
Our office space so gracious,  
The library's peace and quiet,  
And the storage rooms are spacious.

Your data clog our pipelines.  
We love it! Send in more!  
We chew them up, record them,  
And digest them by the score.

Keep up the work! Stay up all night!  
May darkened skies be always bright  
With many variables in sight.  
And may your estimates be right!

— Katherine S. Hazen

## Feedback

### The New AAVSO Website

In June of 2003 the AAVSO proudly unleashed its new and improved website design. Here are just a few of the comments we received about our new look.

*"Personally, I like the new web page. The new AAVSO site does everything that it used to do, and more. It is functional and I can learn to navigate it. What else can a person ask for!"*

*"The AAVSO web-site is one of my favorite astronomy tools. Thanks!"*

*"From time to time, I teach web page design...and always have my students browse the internet and critic various sites. AAVSO has always been, what I considered a premier site."*

*"Looks Great! I just spent the last 30 minutes browsing. Very accessible. Kudos to all involved!"*

*"[I]t's great! I like it and like the colors. I've found everything I use and it loads quickly. I use dialup and appreciate that there are few time-consuming pictures, logo's etc..."*

## 2002-2003 AAVSO Observer Totals by Country and State

Please note that the table of individual observers and their totals (Table 3) will be posted on the AAVSO website ([www.aavso.org](http://www.aavso.org)) and will be published in the *Journal of the AAVSO*.

Table 1. AAVSO Observer Totals 2002 - 2003 by Country

Country	No. Observers	No. Observations	Country	No. Observers	No. Observations
ARGENTINA	5	970	JAPAN	4	2,340
AUSTRALIA	25	55,565	MALTA	1	96
AUSTRIA	2	655	NETHERLANDS	11	12,334
BELARUS	1	18	NEW ZEALAND	2	20,522
BELGIUM	21	31,328	NORWAY	4	2,275
BRAZIL	18	4,981	POLAND	24	14,020
CANADA	57	26,194	PORTUGAL	4	3,701
CHILE	1	30	ROMANIA	10	13,316
CZECH REPUBLIC	1	90	RUSSIA	8	1,279
DENMARK	3	217	SAUDI ARABIA	1	98
ENGLAND	19	19,544	SLOVENIA	1	564
FINLAND	12	8,513	SOUTH AFRICA	12	1,149
FRANCE	31	21,387	SPAIN	31	5,213
GERMANY	38	22,588	SWITZERLAND	4	749
GREECE	6	2,576	TURKEY	1	7
HUNGARY	72	17,581	UKRAINE	13	2,068
INDIA	4	39	UNITED ARAB EMIRATES	1	19
IRELAND	3	239	URUGUAY	1	82
ISLE OF MAN	1	104	USA	271	133,800
ISRAEL	2	115	VENEZUELA	1	39
ITALY	25	6,255	TOTAL	752	432,660

Table 2. AAVSO Observer Totals 2002 - 2003 USA by State or Territory

State	No. Observers	No. Observations	State	No. Observers	No. Observations
ALABAMA (AL)	2	88	MONTANA (MT)	1	47
ARIZONA (AZ)	12	3,449	NEBRASKA (NE)	3	205
ARKANSAS (AR)	1	13	NEW HAMPSHIRE (NH)	3	378
CALIFORNIA (CA)	38	23,592	NEW JERSEY (NJ)	2	102
COLORADO (CO)	7	1,274	NEW MEXICO (NM)	6	6,153
CONNECTICUT (CT)	10	1,011	NEW YORK (NY)	15	4,588
FLORIDA (FL)	6	9,162	NORTH CAROLINA (NC)	1	4
GEORGIA (GA)	3	64	NORTH DAKOTA (ND)	1	36
HAWAII (HI)	2	2,585	OHIO (OH)	10	951
ILLINOIS (IL)	13	6,269	OKLAHOMA (OK)	1	674
INDIANA (IN)	8	4,252	OREGON (OR)	5	1,740
IOWA (IA)	5	699	PENNSYLVANIA (PA)	6	1,704
KANSAS (KS)	5	7,474	PUERTO RICO (PR)	2	69
KENTUCKY (KY)	2	236	RHODE ISLAND (RI)	4	1,371
LOUISIANA (LA)	3	100	TENNESSEE (TN)	3	127
MAINE (ME)	4	2,729	TEXAS (TX)	16	2,554
MARYLAND (MD)	8	1,081	UTAH (UT)	3	829
MASSACHUSETTS (MA)	12	12,171	VIRGINIA (VA)	9	3,602
MICHIGAN (MI)	9	10,370	WASHINGTON (WA)	4	156
MINNESOTA (MN)	8	2,504	WEST VIRGINIA (WV)	2	784
MISSISSIPPI (MS)	1	2	WISCONSIN (WI)	13	18,394
MISSOURI (MO)	2	207	TOTAL	271	133,800