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## Osprey Nation Report for the 2022 Season

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*This report includes a table showing data from 2014 through 2022; a summary of the 2022 season with graphs and a map; a discussion of the natural history of the Osprey; and a list of the stewards who volunteered for Osprey Nation in 2022. Without these volunteers and the hundreds of others who have volunteered over the years, there would be no Osprey Nation project. We thank them sincerely!*

	2014	2015	2016	2017	2018	2019	2020	2021	2022
Stewards	100	146	224	287	314	342	231	342	385
Nests with data	174	322	420	540	603	732	733	814	827
Active nests	210	250	337	394	416	501	510	558	606
Fledglings	NA	356	490	607	725	650	549/ 744 *	858	835
Fledglings per nest	NA	1.42	1.45	1.54	1.74	1.3	1.08/ 1.46	1.54	1.38

\*observed/estimated

## Summary

Osprey Nation is a citizen science project that documents Connecticut's Osprey nesting data each year. Created in 2014 by the Connecticut Audubon Society, its purpose is to track the rise or fall of the Osprey population, map the location of nests, and collect data that potentially can be used as an indicator of other environmental issues.

**In 2022, 385 volunteer stewards confirmed 835 Osprey fledglings. The 835 fledglings was 2.6% lower than in 2021. This marked the first time in the eight years of results that the reported number of fledglings has fallen.**

The number of volunteer stewards was the highest since the start of the project in 2014. In all, almost 900 Connecticut residents have volunteered to monitor the state's Ospreys.

The stewards volunteer throughout the nesting season, from April through August, contributing about 5,000 volunteer hours each year.

They regularly monitor the hundreds of nests that have been reported to us. Many stewards have been volunteering for several years and have gotten to know their nests very closely. The Osprey Nation Project would not succeed without them.

In 2021 we changed the categories of the status of nests to allow us to collect more information about why a nest might have failed. It also allowed us to determine how many fledglings there were for each successful nest. This more specific information gave us a better metric for nest success, and was used again in 2022.

## 2022

This year, the 385 Osprey Nation stewards compiled data on 827 nests. Of these, 606 were active, meaning Ospreys attempted to reproduce in some capacity — eggs were laid or young were hatched. Regardless of whether the nest was successful, it was counted in the active nest category.

Out of the active nests, 413 successfully fledged 835 young.

As noted above, this year marked the first time since the project started that the number of confirmed fledglings went down year to year.

However the actual number of fledglings was likely greater than the reported count. For several nests, the data were inconclusive or incomplete. Reports on those nests were few, and while some had confirmed young, we received no reports about whether the young fledged. Many nests are inaccessible or difficult to view, which largely accounts for the nests we did not receive data for or were inconclusive.

While many Osprey pairs fledge their entire clutch, it is also common for some chicks to die before they leave the nest. Therefore, we cannot assume the number of chicks reported equals the number that fledged. Fledging must be explicitly confirmed.

If the drop in the number of reported fledglings represented an actual decline, one year's worth of data is not enough to draw conclusions as to why that happened. Possibilities could include random fluctuation. It's also possible that with 606 active nests and 835 fledglings comprising at least 2,047 individual birds the Osprey habitat in Connecticut has reached carrying capacity.

Because Ospreys were among several species driven to the point of extinction 50 years ago by the use of the pesticide DDT, one of the purposes of Osprey Nation is to serve as an early-warning system should other environmental problems arise.

There is no indication in 2022 that that is the case. That possible conclusion, as well as the others mentioned here, would require several more years of data to confirm.

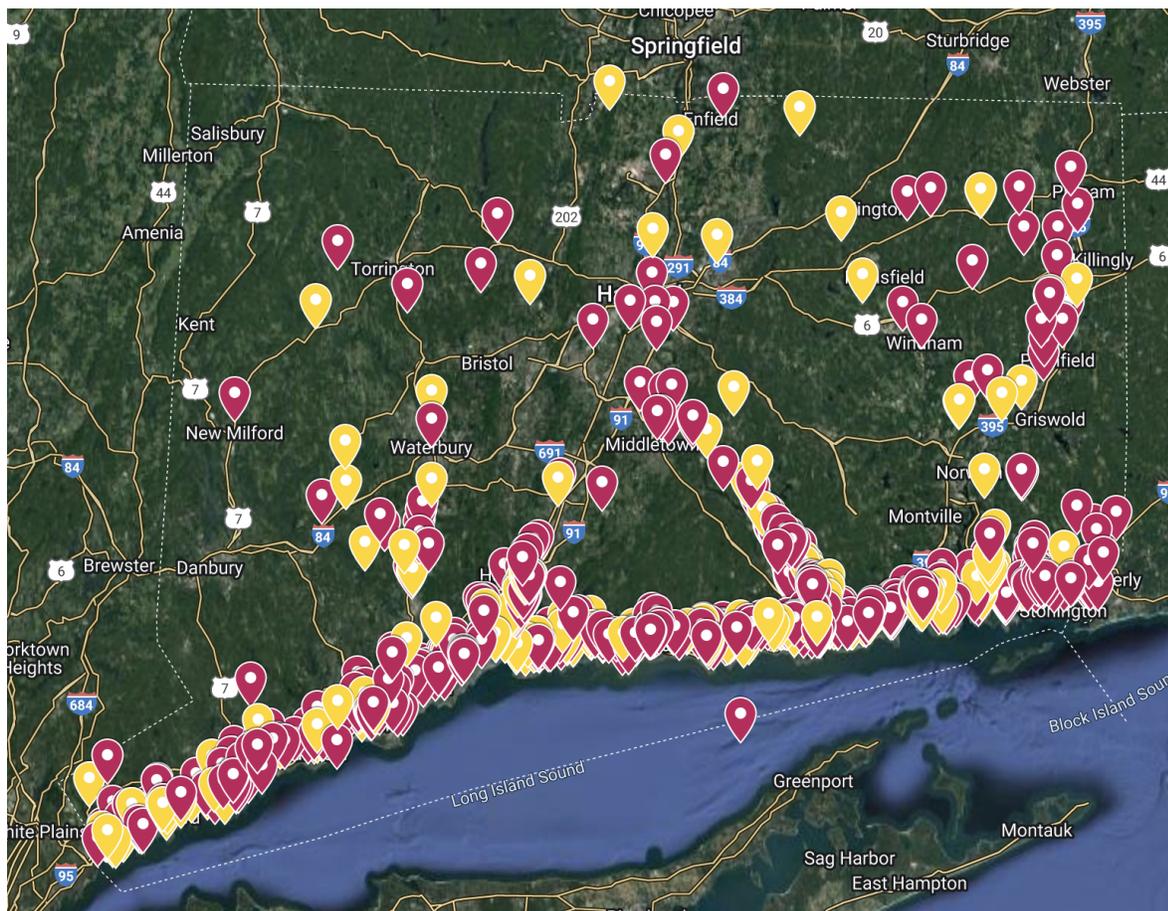
Connecticut Audubon sends Osprey Nation data to the Connecticut Department of Energy and Environmental Protection each year. Our Osprey Nation data is also available for researchers to analyze.

## 2022 Season Results

### Nest Site Map

Picture 1. Osprey Nation nests throughout the state of Connecticut in 2022.

Red pins indicate nests that we have received conclusive data for. This means the reports allowed us to confirm fledge count, an incubation failure, a post-hatch failure, an abandoned nest, or a destroyed nest. Yellow pins represent nests that we did not receive data for, or that we received some reports for but the data was not conclusive. We would need additional information to make a conclusion for any of the \_\_\_ pins. All the pins will be reset to be the same color for the start of the 2023 season.



As the map indicates, the distribution of Connecticut Osprey nests follows our major coastlines – along the Sound and up the shores of the three major rivers (Housatonic, Connecticut, Thames). There is also an

expanded presence of Osprey in inland Connecticut, along certain ponds, lakes, and smaller rivers. The greatest concentration of Osprey nests in the state is on Great Island in Old Lyme, at the mouth of the Connecticut River.

## 2022 Data

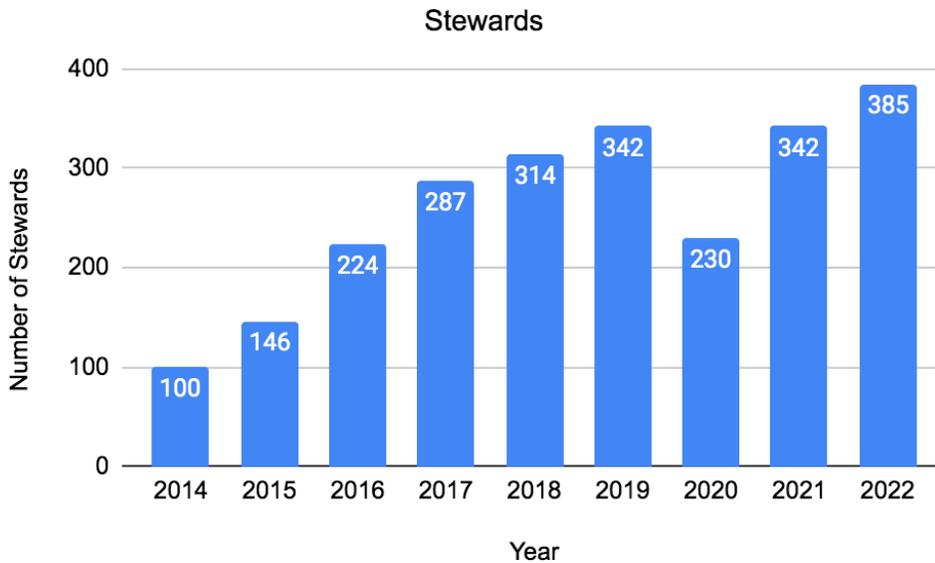


Figure 1. The number of stewards from 2014 through 2022. The number of stewards has had an upward trend in general. 2020 had a decrease in stewards due to the COVID-19 pandemic, but 2021 steward numbers made it back to the 2019 numbers, and even increased in 2022. There were 259 returning stewards and 126 stewards new to the Osprey Nation project this year.

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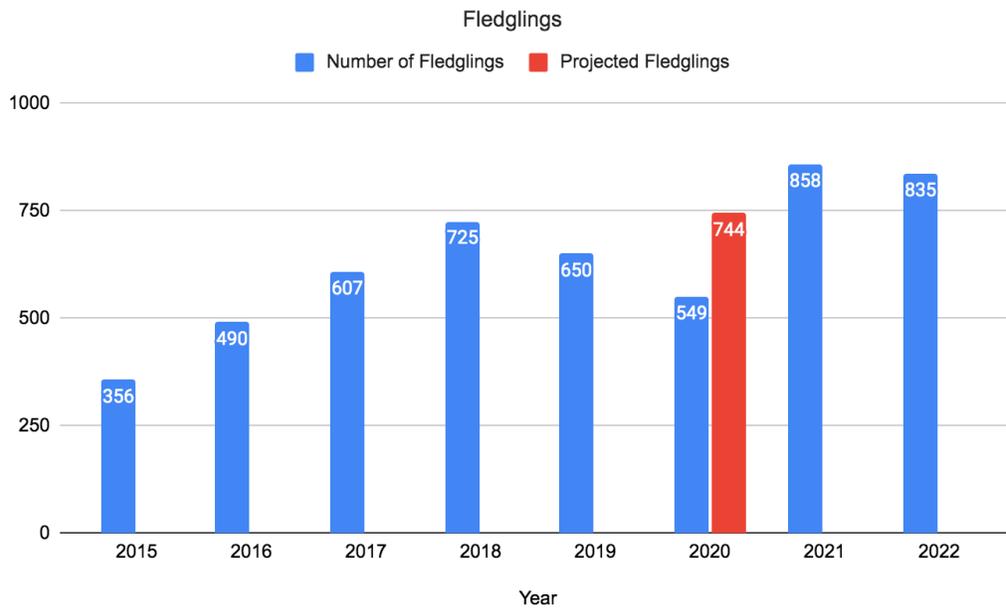


Figure 2. The number of fledglings from 2015 to 2022. The number of total confirmed fledglings reported to us has had an upward trend, although 2019 and 2020 had slightly lower numbers. 2022 saw a slight decline from 2021.

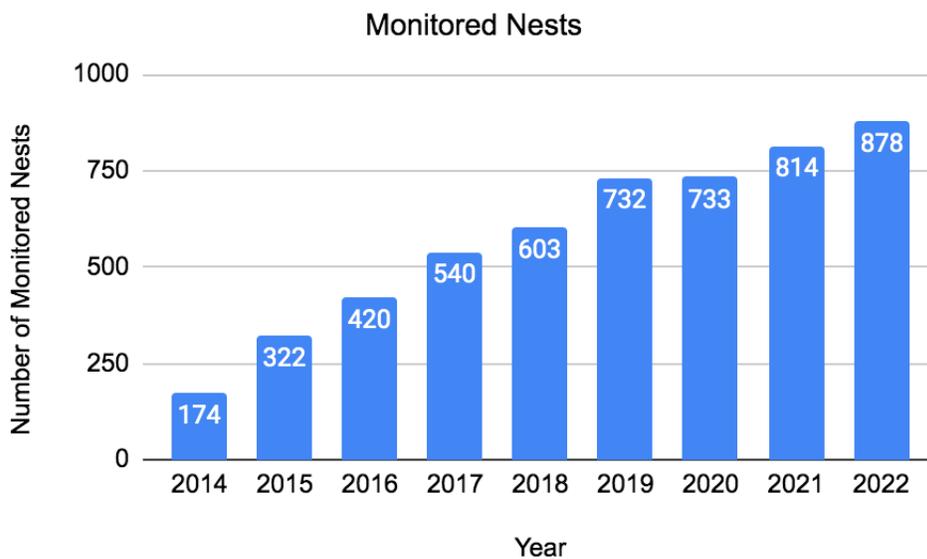


Figure 3. Monitored nests from 2014 through 2022.

Monitored nests have increased each year that Osprey Nation has recorded data. This is a sign that the Osprey population is growing, but is also in part because the Osprey Nation program is growing. We have more stewards that are involved and are collecting information. The coverage of nests is increasing.

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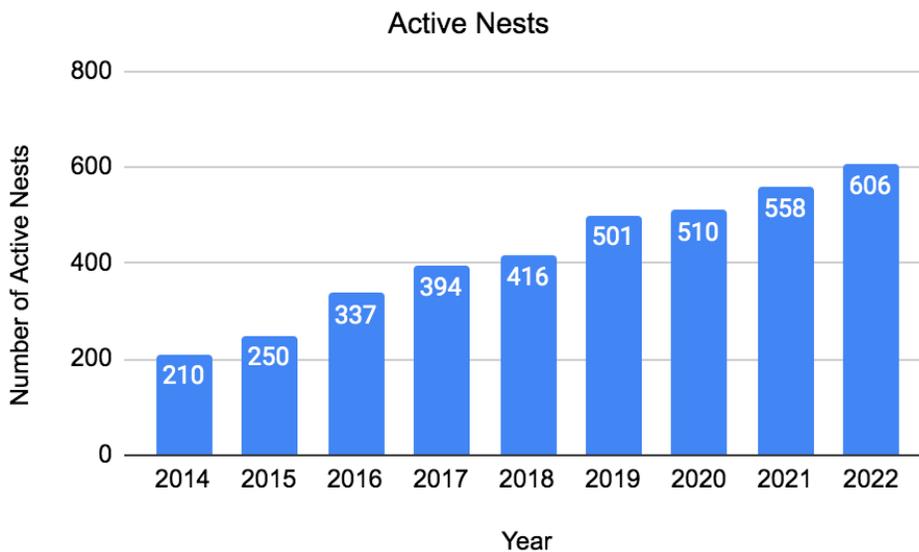


Figure 4. Active nests from 2014 through 2022. Active nests have increased each year that Osprey Nation has recorded data. 2022 had the highest number of active nests. There was a net gain of 23 nests this season.

### Natural History of the Osprey

The Osprey, *Pandion haliaetus*, is one of the most widespread and well-known of the raptors – it is native to all continents except Antarctica. It is the only raptor known to plunge-dive feet first in pursuit of fish, which make up virtually all of its diet. That diet restricts them to habitats with shallow, fish-rich water, including wetlands, coastal areas, and salt and freshwater.

Most Ospreys in Connecticut nest along the coast, where there is an abundance of rich shallows and suitable nest sites. Many also nest along the state's biggest rivers. The Osprey Nation map, below, provides a good illustration of this.

In New England, Ospreys nest naturally on dead trees. Elsewhere throughout their worldwide range, they nest on cliffs, large boulders, live trees, and on the ground if there are no predators.

In Connecticut, many have taken advantage of human-made structures such as utility poles, communications towers, railroad catenaries, and Osprey platforms.

Their ability to nest within developed landscapes has been crucial to their conservation success.

Between 1950-1970, Ospreys suffered widespread and unprecedented declines across their North American range. Some of the worst losses occurred on the heavily developed coastline stretching between New York and Boston, including all Long Island Sound. Here, approximately 90% of Osprey pairs disappeared, turning an abundant raptor into an imperiled species. Birders growing up around the Sound during this period did not count Osprey as common or familiar. An abundance that new birders today might take for granted is seen as miraculous by those who bore witness to the scarcity that came before.

The primary cause of the Osprey's decline, and that of many other birds of prey, was pesticide pollution.

Pesticides such as DDT/DDE were commonly used during the mid-20th century. Small amounts of DDT/DDE contained in the flesh of fish entered Osprey repeatedly, and this repeated exposure caused the chemical to build up in the birds' systems.

This high concentration came with a range of adverse health effects. The most severe was eggshell thinning because of the chemicals' interference with calcium production and absorption.

During the period of steepest declines in the Northeast, Osprey eggshells on average were 20% thinner than pre-DDT levels. This caused widespread reproductive failure – eggs were broken in the nest and chicks lost.

Raptors in general were prone to the reproductive consequences of DDT, and remain susceptible to pollutants today.

DDT and other associated pesticides were banned in the US in 1972. The population of Ospreys and other birds swiftly rebounded. Trace amounts of the chemical can still be found in certain Osprey populations, especially in industrialized areas. But contamination is comparatively low and is, for the most part, no longer a threat.

Osprey are still of some conservation concern, however, and face other threats including collision with human-made structures, fishing-line entanglement, and habitat/food-chain degradation.

As with all migratory species, the threats differ between breeding and winter territories, as well as en route.

Comprehensive management plans for Osprey must consider the conditions they experience here on the East Coast and in northern South America and the West Indies, where they winter.

Thank you to the 2022 Osprey Nation volunteer stewards!

Adam Tulin	Freyda Rose	Marla Whalen
Alicia Marini	Gail Hirst	Marsha Vetare
Alison Mead	George Kenyon	Martha Asarisi
Alison Zyla	George Schaedler	Mary Barravecchia
Amanda Baker	Glen Cummings	Mary Casey
Amanda Wilson	Gregory Brenner	Mary Fort Boyle
Amy Barrett	Gretchen Levesque	Mary Seidner
Amy Edwards	Groton Utilities - Watershed Division	Mary Sue Hermann

Amy Kennedy	Harry Walpole	Maryann Leach
Amy Poturnicki	Heather Milardo	MaryEllen Walpole
Andrea Bunger	Heather Williams	Maura Bonafede
Andrew Crispino	Heidi Zapata	Maureen Bashaw
Andrew Griswold	Holly Turner-Moore	Maureen Obrien
Andrew Joyce	Hugh McManus	Maureen Patten
Andrew Towle	Iona Eden Siemer	Megan Czekaj
Anjani Jain	Jacquelyn Conn	Melissa Garthwait
Ann Colson	Jamie Flynn	Melissa McDowell
Ann Judd	Jan Prentice	Melissa Weiss
Ann Phillips	Jane Purcell	Michael Ferry
Anna Reiter	Janer Belson	Michael Mishik
Anne McNulty	Janet Messick	Michael Proskin
Anne Semmes	Janet Sundman	Michele Millham
Annie Andreoni	Jared Boulet	Michelle Fogarty
Barbara Landau	Jarrod Ackles	Mike Widmer
Barbara Ryden	Jay Harwin	Morgan Werner
Ben Philbrick	Jean Hopkins	Nancy Anderson
Bennett Pudlin	Jean Webber	Nancy Breininger
Beryl Thorpe	Jeffrey Rodia	Nancy Cleary
Beth Mariotti	Jen Singer	Nancy James
Beth Skudder	Jenn Healy	Nancy McClelland
Bethany Gugliemino	Jennifer Heath	Nancy Moon
Betty Hadlock	Jennifer Hollstein	Nell Twining
Betty Slanetz	Jennifer Place	Nick Maiorino
Beverly Propen	Jerilyn Duefrene	Nico Knuttel
Bill Alletzhauser	Jessica Gray	Nicola Johnson

Bill Herbert	Jessie Shepard	Pamela Jones
Bill Murphy	Jill Notar-Francesco	Pamela Reeser
Bill Ponterella	Jim Denham	Pat Brune
Bill Watts	Jim McKay	Patricia Collins
Bob Myers	JoAnne DePalmer	Patricia Laudano
Bob Singer	Joe Carney	Patricia Mazella
Bob Sundman	Joe Suarez	Patricia Monahan
Brenda Rich	John Brezina	Patricia Pickard
Brian Geddes	John Cunningham	Patti Palmer
Brian Rapillo	John Duddy	Patti Palmer
Britton Sanders	John Kofron	Patty Nizlek
Bruce Wartlieb	John Marcek	Paul Criscuolo
Candace Clark	John Nichols	Paul Grady
Candi Calcandy	John Ogren	Paul Hyatt
Cara Biega	John Sargent	Paul Zwynenburg
Carey Emig	John Shegirian	Peter Alessi
Carlie Page	John Stoddard	Peter DeLisa
Carol Dunn	Jon Colson	Peter Lombardo
Carol Reimers	Joseph Canterino	Polly Parker
Carol Stevens	Joseph Szalay	Ray Gaulke
Carolina Erni	Joshua Feil	Richard Madonna
Carolyn Book	Joy Merrill	Rick Allison
Carolyn Doan	JP Babineau	Rick Baumhauer
Cathy DeMeo	Judy Davies	Rick Landau
Cathy Malin	Judy Thompson	Rick Newton
Chaleen Abely	Julia Gwen Rice	Rob Coolidge
Cheryl Fitzpatrick	Julie Alnwick	Robert Klein

Chet Kirby	Kaitlyn Turner	Robert Raufeisen
Chris Graham	Karen Gallo	Robert Stanton
Christine Gaynor	Karen Hannon	Robert Stout
Christine Peyreigne	Karen Morley	Robin Copperthwaite
Christine Rapillo	Karen Smith	Robin Wallace
Christine Scussel	Karen Stigliano	Ron Roy
Chuck Fitzgerald	Kate Webb	Roni Widmer
Cindy Oksanen	Kathleen DePasquale	Sandi Voogd
Cindy Slane	Kathleen Krause	Sandra Jones
Claudia Pessagno	Kathryn Hotchkiss	Sandra Robinson
Clay Thompson	Kathryn Smolkis	Sandy Ianello
Craig Coleman	Kathy Kirkland	Sarah Coccaro
Craig Healy	Kathy O'Brien	Sarah Davison
Craig Hotchkiss	Kathy Simpson	Sarah Isgate
Cynthia Ehlinger	Kelly Quinn	Sarah Johnson
Cynthia Ellis	Ken Ewell	Sarah Saucedo
Cynthia Lee DeRosa	Kendra Wingate	Scott and Karen Harris
Dale DiFronzo	Kerryn Griffin	Scott Brinckerhoff
Dan Broom	Kevin Blagys	Scott Engel
Dan Rottino	Kirsten Begg-Swider	Scott Kegley
Dana Wells	Kit Fratus	Scott Murphy
Danelle Kegley	Kristin Hays	Sharon Foster
Darcy Ellis	Kumu Fernando	Sharon Hirsch
Dave O'brien	Laura Bastien	Shawna Wainwright
Dave Roger	Laura Higgins	Shelley Wehrly
David Schreiber	Lauragene Lyons	Sherry Duff
David Wallace	Laurette Meyer	Shirley Clevenger

Deb Cody	Laurette Saller	Sophie Diamond
Deborah Lepine	Leigh Knuttel	Stephanie Kollet
Debra Lee	Lesley Orłowski	Steve Lights
Debra Perez	Leslie Van Orsdel	Steve Parker
Denise Palnitkar	Linda Graham	Steven Dodd
Diana DeLisa	Linda Wenner	Steven Peake
Diana Whitelaw	Linette Tracey	Sue Driscoll
Diane Hull	Lisa Cardella	Sue McCann
Diane Von Schleusingen	Lisa Dickal	Sue Winkler
Dianne McHutchinson	Lisa Falasco	Susan Durant
Dina Tresnan	Lisa Jarosik	Susan Franco
Donald Parrott	Lisa Lovejoy	Susan Gagliardi
Donna Brinckerhoff	Lisa McKay	Susan Taff
Donna Hansen	Lisa Peake	Susan Worboys
Donna Kapitan	Lisa Roger	Susan Yolen
Donna Meadors	Lisa Tryon	Suzanne Thompson
Donna VanHorn	Lisa Zawadski	Sylvia Goncalves
Dorothy Gillespie	Liz Coolidge	Sylvia Laudette
Dottie Gutaj	Liz Hellwig	Tab Carter
Doug Erni	Lorain Rock	Tammy Suarez
Doug Heller	Loralee Richter	Tanisha Bergeron
Doug Van Tornhout	Lori Bassett	Tanya Patten
Douglas Miller	Lori Guliani	Taryn Westfall
Douglass Rothman	Lorrie Shaw	Ted Liston
Ed Ianello	Lucy Crescenzi	Tenille Martin
Eileen Kopec	Lynn Craska	Terri Ames

Elizabeth Sammarco	Lynn Dorsey	Thomas Martin
Ellen Kennedy	Lynn Johnson	Timothy Widmer
Ellen van Wees	Madeline Raleigh	Tolby Regan
Emily Glasfeld	Madison Landau	Tom Green
Erin Grady	Maggie Peretto	Tom McLoughlin
Erin Mahoney	Maire Valade	Tom Pfeifer
Eugene Ralph	Marcia Wilcox	Tom Thompson
Eunice Demond	Margaret Ackley	Tony Spinelli
Eve Coolidge	Margaret Kelly	Traci Boiselle
Eve Hubelbank	Maria Ehrhardt	Valerie Richardson
Frank Sandler	Marian Rockwood	Valerie Workman
Fred Ames	Marilyn Citron	Virgini Wahl
Frederick Crosby	Mark Geist	Will Dittman
		William Chantrell