STATE OF THE MOUNTAIN BIRDS:

Mountain Birdwatch 2025 Report

Population trends in northeastern high-elevation forests

"MONTANE BIRD POPULATIONS CONTINUE TO DECLINE ACROSS THE NORTHEAST ."
CHIEF MOUNTAIN BIRDWATCH SCIENTIST, DR. JASON HILL

Bicknell's Thrush
© Jeff Nadler

VERMONT CENTER FOR ECOSTUDIES
Uniting People and Science for Conservation

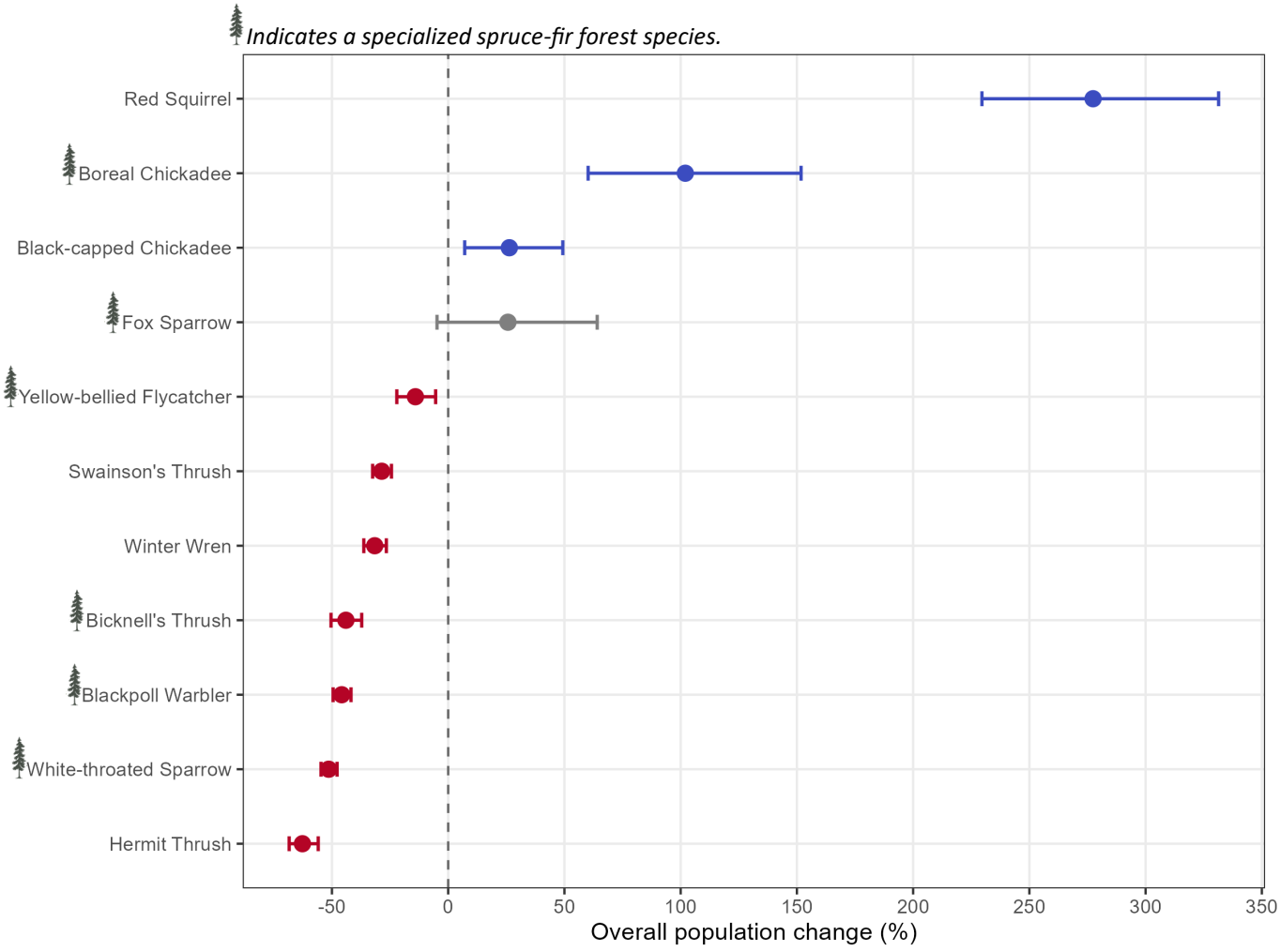
Since 2010, Mountain Birdwatchers—have contributed to the most comprehensive long-term monitoring effort for high-elevation birds in the northeastern United States. Each June, volunteers hike into remote mountain forests before dawn to conduct standardized point counts at nearly 800 long-term monitoring stations across the sub-alpine forest.

Together, these dedicated observers have conducted > 33,000 bird surveys across high-elevation spruce-fir forests. These forests host a unique assemblage of birds adapted to cool mountain climates. Few monitoring programs in North America provide such detailed insight into the population dynamics of these climate-sensitive species.

Results from the 2025 State of the Mountain Birds analysis indicate that several spruce-fir specialists continue to decline across the Northeast. Long-term trends since 2010 show substantial population declines for species such as Blackpoll Warbler, Bicknell's & Hermit Thrush, and White-throated Sparrow.

Understanding the causes of these declines remains a central challenge for conservation. Possible drivers include climate-driven habitat change, reduced reproductive success, or pressures encountered during migration and on the wintering grounds. Continued long-term monitoring through Mountain Birdwatch will be essential for detecting future trends and informing conservation strategies for these iconic mountain birds.

Cumulative population change (2010-2025) for Mountain Birdwatch species across the northeastern United States.
Dots represent mean population change estimates with 95% credible intervals (bars). Colors indicate the overall confidence in those observed changes—significantly positive (blue), uncertain (gray), and significantly negative (red). These estimates are derived using hierarchical community N-mixture models (more information here).



Mountain Birdwatch regions

Mountain Birdwatch monitoring sites are grouped into five regional units representing major high-elevation forest systems in the northeastern United States:

- Maine
- New Hampshire
- Adirondack Mountains (New York)
- Catskill Mountains (New York)
- Vermont

These regions allow researchers at the Vermont Center of Ecostudies to detect geographic differences in population change across the spruce-fir zone.

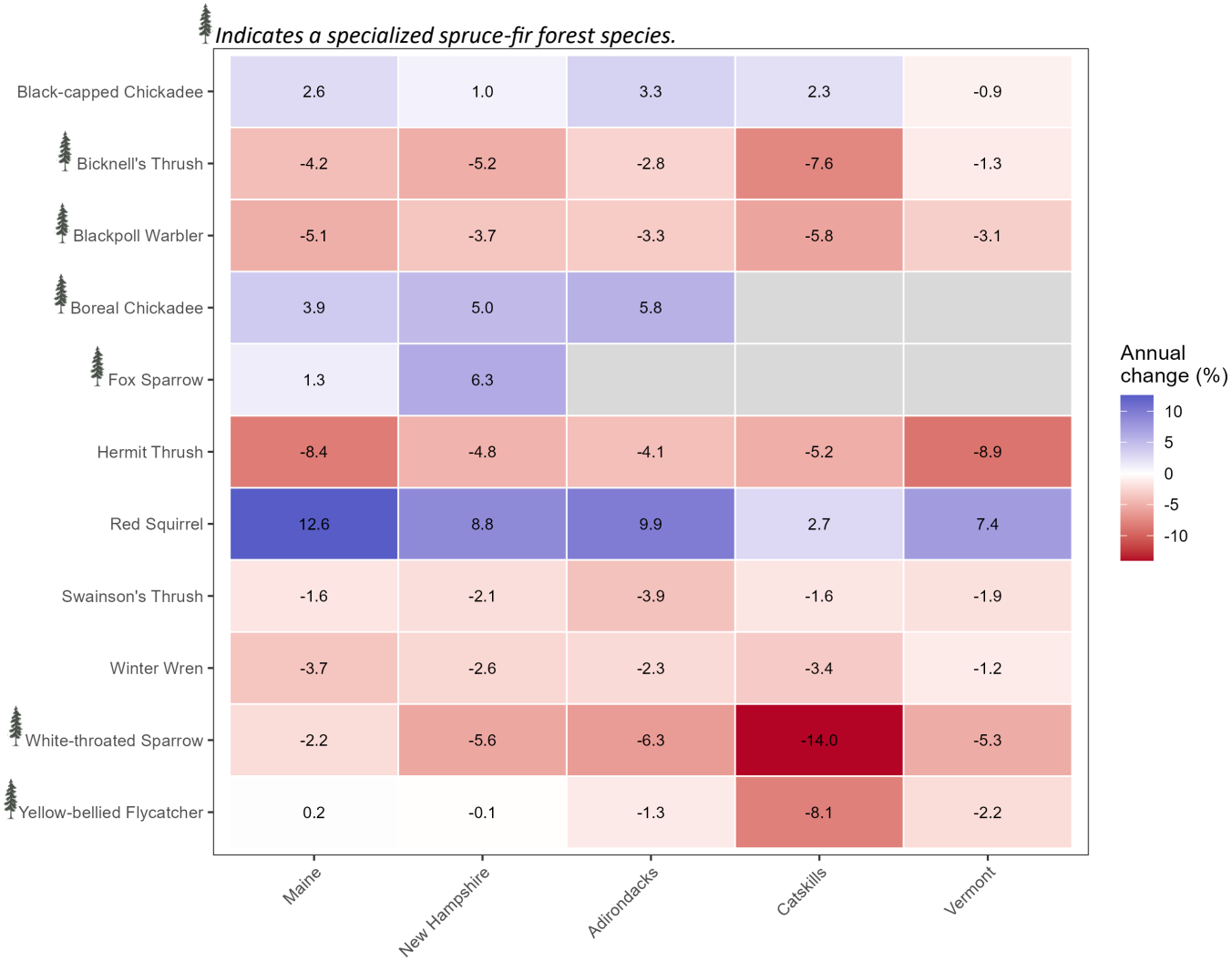
A changing mountain bird community

Declines are particularly pronounced in the Catskill Mountains. Five species have declined there by more than 50 percent since 2010, suggesting that populations near the southern edge of the spruce-fir ecosystem may be especially vulnerable to environmental change.

Across the broader monitoring network, species are not responding uniformly, suggesting a reshuffling of the montane bird community rather than a uniform decline. These differences across regions highlight how local conditions and geographic position can shape species' responses to environmental change.

Annual population change for Mountain Birdwatch species since 2010 across five monitoring regions.

Colors indicate estimated overall population change (2010–2025) based on hierarchical community N-mixture models. Red indicates population declines and blue indicates increases. Gray boxes indicate regions outside the primary breeding range for that species. Several high-elevation specialists—including Blackpoll Warbler, Bicknell's Thrush, and White-throated Sparrow—show substantial declines across multiple regions, with the steepest declines occurring in the Catskill Mountains.



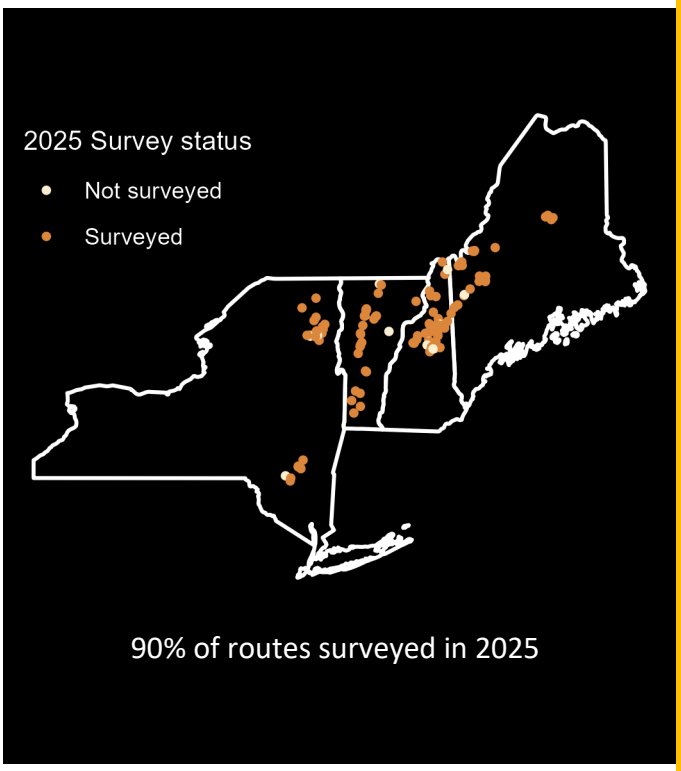
Why long-term monitoring matters

Because many spruce–fir birds breed in remote and relatively inaccessible habitats, their populations are rarely monitored by traditional survey programs. Mountain Birdwatch fills this critical gap by providing consistent monitoring across the region's high-elevation forests.

These data allow scientists to track population trends and regional variation in species responses, while also informing conservation planning across the Northeast, including State Wildlife Action Plans and species recovery efforts.

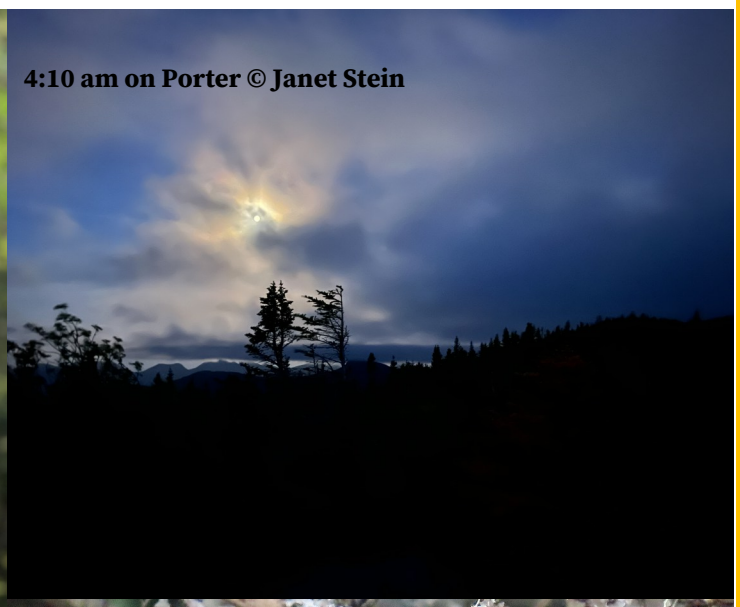
Although the causes of these population changes are not fully understood, several factors may be contributing, including climate-driven habitat change, reduced reproductive success, and conditions encountered during migration or on the wintering grounds.

Long-term monitoring programs like Mountain Birdwatch are essential for translating ecological change into informed conservation action.



Mountain Birdwatch 2025: Photo Highlights


© Sarah Courchesne on Madison.

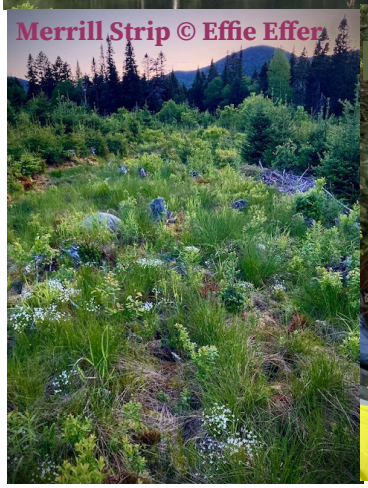

4:10 am on Porter © Janet Stein


© Canada Jay by Tova Mellen

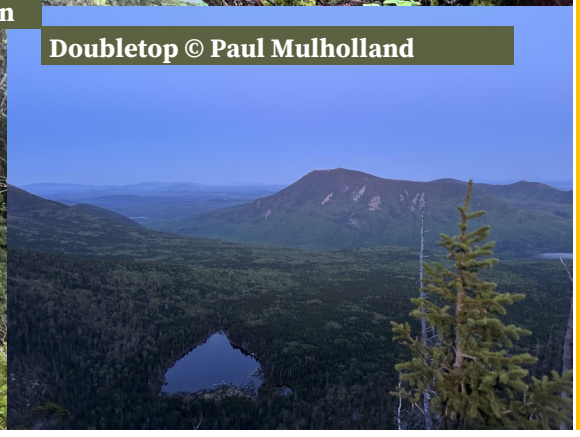

Tuckerman's Ravine © Laura Tobin


Bicknell's © Paul Mulholland

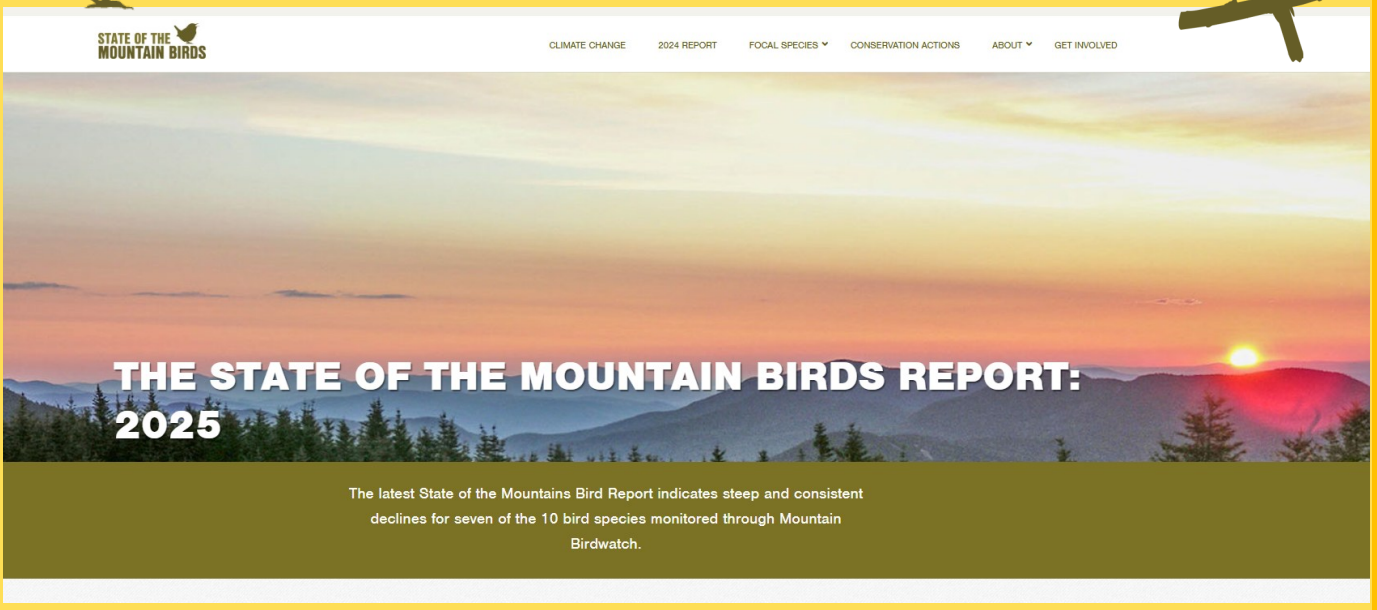

Spruce Grouse © Nancy Eaton


Merrill Strip © Effie Effer


© Katherine Paul with Mara Scallon


Doubletop © Paul Mulholland

The State of the Mountain Birds Report is a dual-medium document, and you are currently interacting with the Executive Summary. For full trends, methods, further figures and analysis results updated throughout the year, visit the State of the Mountain Birds web site.



Get involved in Mountain Birdwatch

To adopt a route please visit our Mountain Birdwatch Community Science webpage, or email Mountain Birdwatch Program Leader, Jason Hill (jhill@vtecostudies.org). Mountain Birdwatch takes place every June across the Northeast, on a day of the observer's choice, where they conduct an early-morning, high-elevation survey for just 10 bird species and one loud, chattering mammal (Red Squirrel). Mountain Birdwatch is a supportive community, with simple protocols, concise training materials, online data entry, and personalized help one text, email or phone call away. We like to say: *you don't have to be an expert, just enthusiastic*. Your data contribute to the only comprehensive monitoring program in existence for these at-risk species in the Northeast.

About Mountain Birdwatch and the Vermont Center for Ecostudies

The Vermont Center for Ecostudies advances wildlife conservation across the Americas through research, monitoring, and community engagement. We envision a society that sustains healthy ecosystems through science-based decision making. Started in 2000, Mountain Birdwatch consists of >130 long-term sampling routes, and provides the only comprehensive assessment of the montane bird populations within the north-eastern US (Maine, New Hampshire, Vermont, and eastern New York).

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Authors: Jason Hill (jhill@vtecostudies.org) is a quantitative ecologist and program leader of Mountain Birdwatch. Dana Williams (dwilliams@vtecostudies.org) is the Community Science Coordinator at the Vermont Center for Ecostudies.

2025 Mountain Birdwatchers: Abbie Castriotta, Alice Goodwin, Amy Blooomfield, Andrew Thompson, Ann Chalmers, Ann Little, Ann Speth, Anna Hubbard, Anne Blooomfield, Anne Calder, Asa Searles, Ashley Meyer, Aubrianna DeLario-Brown, Austin Gelinas, Ben Jones, Beth Cooper, Bird Warde, Brad Joubert, Brendan Doyle, Brett Hillman, Brianna Denoncour, Bryce Hopper, Caleb Milliken, Caley Doell, Cassandra Davis, Catherine Holland, Cedar Stanistreet, Chris Hummel, Chris Pennock, Christina Root, Christina Scharf, Christine Bane, Christophe Courchesne, Christopher Gangon, Clint Parrish, Colleen Murphy, Dan Calder, Daron Tansley, David Hayes, Dean Grover, Doug Suitor, Ed Merrens, Effie Elfer, Eleanor Milliken, Elisabeth (Tii) McLane, Ellen Cronan, Elliott Siegrest-Jones, Emily Filiberti, Emily Zimmermann, Eric Hanson, Eric Myskowski, Erica Duda, Erin Cocca, Evan Horne, Evan Sullivan, Gavin Young, Giovanni Pambianchi, Greg Russ, Howie Wemyss, Ira Orenstein, Jack Milliken, Jack Riffle , Jackie Lavoie, Jackson Saul, Jake Campbell, James Longo, James Smith, James Welch, Janel diBiccari, Janet Stein, Janiene Licciardi, Jasmine Poliquit, Jason Crooks, Jeremy Kirchman, Jessica Glant , Jessica Halm, Jim Bouton, Joan Collins, Joel Holtrop, John Berkholtz, Jonathan Hawkins, Jordon Tourville, Josh Gagne, Joshua Phillips, Kate Locke, Kate Voorhees, Kate Yard, Kateri Kosek, Katherine Paul , Katherine Smith, Katie Manaras, Kevin Nye, Kit Farnsworth, Kory Whittum, Kristin Pennock, Kyle Gavin, Laura Deming, Laura Newman, Laura Tobin, Lauren diBiccari, Lauren Pasniewski, Lewis Grove, Lewis Holmes, Liam Ebner, Linda Gionti, Logan Reidsma, Lu Ann Laquerre, Mara Scallon , Marc Mendes, Margaret McGrath, Matt Beagle Bourgault, Matt Denoncour, Matt Hallahan, Matt Walter, Meghan Oberkircher, Michael Brockway, Michelle Sczpanski, Mik Oyler, Mikayla Shubert, Mistie Boule, Molly Brogan , Nancy Eaton, Nancy Olmstead, Natalie Levin, Nelson Hawkins, Nicholas Carter, Noah Bonesteel , Peg Merrens, Per Sveen, Randy Dettmers, Robert Bate, Robert Thompson, Ryan Rebozo, Sandy Thompson, Sarah Courchesne, Sean Lawson, Sherman O'Brien, Sheryl Goffman, Siler Russ, Sophie Garland-Doré, Stacia Brezinski, Steve L McMullin, Sue Pike, Sue Wemyss, Tim Duclos, Tim Flight, Tim ODonoghue, Tim Ostap, Tina Hartell, Tom Bjorkman, Tom Danielson, Tony Baptista, Tova Mellen, Tracy Little, Tracy Meade, Wanda Rice, Wendy Garland, Will Durkin, and Mary Russ!

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