

From Amy Smagula **the Editor**

As multi-use pressures increase across our landscape, it becomes even more critical to protect vital sources of freshwater to maintain quality systems. We can each likely think of our own examples of competition over a resource, and the compounded effects of overuse



or mismanagement of a system. In many cases, this results in degraded water quality and impairments in the designated uses of waterbodies. Protecting those resources from impacts becomes even more critical, particularly for those waterbodies used as a drinking water supply. In this issue of *LakeLine*, we focus on source water protection (SWP) from a number of angles, to stress the importance of protecting the resource from degradation, and the programs that exist to protect these important systems.

NALMS recognizes that SWP is an important issue, and has developed both a [white paper](#) and a [position statement](#) on the subject. Additionally, NALMS is connected through its membership with a network of interest groups, including the Source Water Collaborative. In recent interactions with that group, the development of a themed issue of *LakeLine* on source water protection was born.

We start off with a lead in article from **Chi Ho Sham** with the Eastern Research Group, Inc., who provides an overview of SWP, what it is, and the regulatory framework related to source water protection.

Dan Yates, co-chair of the Source Water Collaborative and director of the Ground Water Protection Council, outlines the goals of that group, and highlights the importance of collaborations among various partners to protect source water.

Josh Weiss, Bill Becker, Jim DeWolfe, Christine Owen, Wendy Krkosek, and Graham Gagnon outline a decision support framework used in addressing changing water quality in reservoirs. They discuss how real time and evolving conditions in source water, like turbidity, algae and organic matter, drive change at the operational level in drinking water treatment plants, and how those plants need to be dynamic in adjusting for changing conditions real-time.

Next we hear from two water utilities on how they are actively addressing source water protection in their watersheds. **Kate Dunlap and Michelle Wind** discuss watershed management activities in Colorado for the City of Boulder water supply. They review specific threats they face in their watershed, and monitoring and collaborative efforts to protect their source in order to ensure quality drinking water for their customers. **Pierce Rigrod and John O'Neil** discuss the importance of forest management as it relates to source water protection in the Lake Massabesic watershed in New Hampshire, highlighting different examples of forest change, and resulting downstream impacts in that state and beyond.

Collaboration and buy-in are critical in this landscape level approach at source water protection, and there are some very good examples of outreach and education to encourage stewardship of source waters and their watersheds. **Matthew Rich, Becky Roark, and Brad Hufhines** detail some creative outreach and education activities they have found useful in educating their watershed residents about source water protection in the Beaver Lake watershed in Northwest Arkansas, building on NALMS' [Lakes Appreciation Month](#) and [Secchi Dip-In](#) events each July.

Paul Susca and Tom O'Brien highlight challenges faced in managing

source water in multi-use water supply lakes. While some waterbodies are exclusively used for drinking water supply and all other uses are restricted, many are multi-use systems with competing uses and demands. They discuss regulatory frameworks implemented to protect the supply in these multi-use systems, including how some overlap in protections can be useful, and how a patchwork of different approaches can quickly become complicated and confusing. They also discuss LakeSmart, a program intended to involve the community in lake protection and stewardship activities.

Finally, **V. Reilly Hanson, Kelly Coburn, Cayelan Carey, Kevin Boyle, Michael Sorice, Nicole Ward, and Kathleen Weathers** provide some insights that can be useful in educating and motivating individuals about protecting lakes. In their article they look at human response to changing lakes, and evaluate those to help resource managers in making compelling motivators for protecting resources.

In our Student Corner, we welcome an article from **Sarah Coney** on her work and experience with aquatic invasive species, and the impacts that these have in our freshwater systems.

This is one of the bigger issues of *LakeLine* we have had in a while, but source water protection is an expansive topic, and one with many angles. We hope you find the information in this issue to be useful and informative.

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