Wings over the Watershed

On the sunny blue-sky morning of September 4, 2013, a small plane made its way up and down the Pemaquid River corridor. The plane was a Maule, a high-winged aircraft similar to a Cessna 172 but with more power. Picture a man strapped into a safety harness in the back seat where the door had been removed to provide greater visibility for photo-taking. Picture the photographer and pilot working in sync to have the plane make steep banks to the left when the photo opportunity called for it. Picture a woman in the passenger seat navigating the route and identifying key photo targets, particularly the great ponds. From this well orchestrated team in the sky, Pemaquid Watershed Association (PWA) received over 100 aerial photographs of the Pemaquid River system, which spans 19 miles from Tobias Pond in Waldoboro to Pemaquid Harbor in Bristol.

PWA was able to make this flight happen thanks to LightHawk, a non-profit organization that arranges donated flights for groups working on natural resource issues. PWA thanks Jonathan Milne of LightHawk for coordinating the flight, pilot Jim Knowles for donating his time and fuel costs, dare-devil photographer Dave Cleaveland of Maine Imaging for taking photos pro bono, and Karen Berg for volunteering to guide the route and label and map all the photos.

The photos will be used in a variety of ways, including in an educational video showing a bird’s eye journey over the watershed. Look for the video, “Wings over the Pemaquid River Watershed,” at the PWA web site (pemaquidwatershed.org), and enjoy the collection of amazing full-color photos. See pages 10-11 for a taste of the glorious views.

Bird’s eye view down the Pemaquid River watershed, with Duckpuddle Pond in the foreground.
Photo by Maine Imaging, with aerial support from LightHawk.
Executive Director’s Corner

What a year 2013 has been! This year marked 25 years as a Land Trust, a decade of education at Beachcombers’ Rest Nature Center in partnership with the Town of Bristol, and a decade of Doyle Preserve sponsorship by The First. The 10th Anniversary of the nature center garnered significant notice, including a congratulatory letter from Senator Susan Collins.

For the first time, PWA had a second staff person in the office (at least for part of the time). Those who have had the chance to interact with Carolyn can attest to how lucky we are to have her on board. We coordinated several unique outreach offerings, including an expertly guided walk in the rocky intertidal zone at Pemaquid Point and a workshop about the ecology and uses of seaweed that was co-presented by a biologist and a holistic healer. The grant that PWA received in 2011 for pro bono services from the marketing firm, Causality, culminated in the production of a beautiful brochure to help businesses learn about the benefits of being a PWA Business Member. Out of the blue, a 4-foot foam ducky came our way, thanks to the creativity and generosity of New Harbor sculptor, Michael Morrison. “Pemaquacky” attracted a lot of attention and did a stellar job as the new Pace Ducky for our annual Rubber Ducky River Race. And, as you can see on the front page and pages 10-11 of this edition of The Watershed Watch, PWA now has a set of really great aerial photographs of the Pemaquid River system. I am so excited about how wonderfully this year turned out!

What really fills my sail with wide-eyed anticipation is the fact that the momentum we have co-created already is birthing tremendous gifts and achievements for next year. The things on the horizon are HUGE, and I will share those juicy morsels of announcements with you in the spring edition. Keep envisioning the brilliant success of PWA in all realms…it’s working!

Donna Minnis,  
Executive Director
October was Volunteer Recruitment Month. We are so lucky to live in a community where volunteerism and giving back is such an integral part of our lives. I never cease to be amazed at the level of involvement and by the many ways in which people give back.

My first introduction to this concept took place soon after my husband and I moved to Damariscotta and I signed up for the Midcoast Stewards program. All the speakers were from our community; they were all volunteers and represented many local organizations. Many of the participants were already involved in volunteering, and the program gave the rest of us many opportunities to sample places we could pitch in and give back. It was one of the most exciting, rewarding and beneficial courses I have ever experienced, and I was hooked.

My preference is to work on projects as opposed to a regular weekly or monthly task. So, I am currently training to be a LakeSmart evaluator. I am working with some very smart experienced evaluators who are opening my eyes to details never before noticed. I am learning to look at lakefront property in completely new ways with the goal of protecting our environment. And, I am meeting wonderful members of our lake communities who are committed to PWA’s mission.

As I begin my first term as President of the PWA Board of Directors, I am once again amazed by how much work our volunteers accomplish and how engaged they are in our community. Many have been doing this for decades. We welcome anyone to join us as we work to protect our environment. There are flexible opportunities to fit your interests and schedule, you can be indoors or outdoors, something new can be learned, new friends can be made and you can see results from doing good.

Peggy Drake, President
president@pemaquidwatershed.org
(207) 563-7025
The annual survey of loons by the Maine Audubon Society took place on Saturday, July 20, 2013. Throughout the State, volunteers went out on lakes and ponds from 7:00 to 7:30 in the morning to count loons. The ponds in the Pemaquid River watershed are always included in the loon count; this year's count totaled 29 adult loons. (Last year, 27 adults were counted on the ponds in the Pemaquid River watershed.) Unfortunately, again this year, there were no chicks sighted on loon count day. The last time a chick was included in the count from the Pemaquid River watershed ponds was in 2010.

Our thanks go to all the counters for their willingness to go out on their respective ponds to count loons. Our loon population seems to be “holding its own.” On the other hand, loons are still vulnerable to a number of threats:  
- Predators, such as eagles, turtles, snakes, and raccoons.
- Disturbance by human activity, such as boats, jet skis, floatplanes, and boaters in small craft that come too close to loons or their nests
- Fishing gear, such as monofilament line lost or cut loose, lures, and lead sinkers and jigs (the largest single cause of adult loon death is from the ingestion of lead sinkers and jigs)

Anyone wishing to join in on the annual loon count should contact us at faulstichs@waltzingcat.com. 

Results of the 2013 loon count for the Pemaquid River watershed:

<table>
<thead>
<tr>
<th>Pond</th>
<th>Volunteer Counters</th>
<th>Number of Adults/Chicks Counted</th>
</tr>
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<tr>
<td>Biscay</td>
<td>Gard Rand, Bill Bausch, Laurie Chandler, George Apgar</td>
<td>0 0</td>
</tr>
<tr>
<td>Boyd</td>
<td>Natasha &amp; Randy Domina</td>
<td>1 0</td>
</tr>
<tr>
<td>Duckpuddle</td>
<td>Scott Barber &amp; Tracy Harkins, Chris Augusta &amp; Barbara Boardman</td>
<td>3 0</td>
</tr>
<tr>
<td>Little</td>
<td>Mary Bowers</td>
<td>2 0</td>
</tr>
<tr>
<td>McCurdy</td>
<td>Bonita Sampson</td>
<td>3 0</td>
</tr>
<tr>
<td>Paradise</td>
<td>Megan &amp; Chuck Dinsmore</td>
<td>1 0</td>
</tr>
<tr>
<td>Pemaquid</td>
<td>Ed McDonald, Cynthia Hilton, Marci &amp; Steve Wheeler, Wally Benjamin, Chris Hayes, David West, Gail &amp; Gerry Clark</td>
<td>19 0</td>
</tr>
</tbody>
</table>

Things You Can Do to Be Loon-Friendly:

- Obey no-wake law within 200 feet of shore.
- Use lead-free tackle. Good alternatives are made of steel, tin and bismuth...exchange your tackle at the PWA office.
- Dispose of fishing line so it does not get tangled up in a loon’s feet or bill.
- If you live on a lake, use phosphorus-free fertilizer and plant shrubs as a buffer along the shoreline to reduce run-off.
- If you see a loon on a nest, keep your distance and watch with binoculars.

For loon count data from past years and to learn more about how to be loon-friendly, visit maineaudubon.org/wildlife-habitat/the-maine-loon-project/
Carol Knapp Receives PWA Lakesaver Award

Pemaquid Watershed Association’s Board of Directors has selected Carol Knapp of Nobleboro as this year’s David McLeod Memorial Lakesaver Award winner. This award recognizes an individual who has demonstrated a tremendous volunteer commitment to protecting water quality.

Carol volunteers for PWA as a Courtesy Boat Inspector and an Invasive Plant Patroller to help prevent the spread of invasive aquatic plants. She also has been a Water Quality Sampler for PWA’s freshwater beach monitoring program and has helped on watershed surveys to identify sources of polluted run-off. Beyond water quality work, Carol has been a PWA Director since 2009, is newly Vice-President of the Board, serves on the Nominations Committee, helps with PWA’s educational programs, has been part of the Osborn-Finch Cabin Cleaning Crew, helps on trail crews, and assists in the PWA office. “Carol is one of those quiet, gentle souls who float about doing good work with an effervescent smile,” said PWA’s Executive Director, Donna Minnis. “Over and over, she steps up to demonstrate her keen commitment to a clean and healthy environment and is clearly deserving of this special award.”

This award is named in honor of David McLeod who passed away in February of 2003. McLeod was President of PWA from 1974-1976 and served a total of 9 years as a member of the Board of Directors. He was an active participant in the water quality monitoring program and always made himself and his pontoon boat available for training and re-certifying of water quality monitors.

Meet PWA’s New Board Members

DR. GEORGE KEYES (WALDOBORO):
Chair of Waldoboro Conservation Commission, Trustee for Lincoln County Historical Society, former Chief Curator, Detroit Institute of Arts. Brings fundraising, finance, trail construction, and teaching expertise.

ROGER PANEK (DAMARISCOTTA):
Former Co-Chairman of the Environmental Information Clearinghouse, retired architect. Brings natural resources conservation, special event coordination, and building and design expertise.

New PWA Director, George Keyes, is the steward of the Bristol Recreational Trail.

New PWA Director, Roger Panek, at the 2013 Coastal Cleanup.
With the help of numerous dedicated volunteers, the Gulf of Maine Council on the Marine Environment (GMCE), Maine Coastal Program (MCP), Maine Department of Marine Resources (DMR), and the Town of Bristol worked together this past spring to implement a standardized protocol for counting the number of alewives that successfully pass over the Bristol Mills fishway. Annual alewife counts provide information about the number of alewives reaching the upper portion of the Pemaquid River and how changes in water flow and modifications to the fishway can affect the number of alewives passing upstream. The DMR estimates that the ponds above Bristol Mills have the potential to support over 600,000 adult spawning alewives; however the number of alewives currently ascending Bristol Mills to spawn is thought to be much lower.

Due to large-scale population declines that started with the period of major dam building in the 1800s, alewife restoration is a high priority. Each spring alewives initiate a migration that starts in the open ocean and brings them to Maine’s freshwater spawning grounds. After breeding in lakes, ponds and other still waters, alewives head back to the marine environment. Newly hatched fish spend several months in their freshwater nurseries before heading to the ocean. After 3 or 4 years, they return to their natal waters in Maine and repeat the cycle. Dams and roads that block fish passage interrupt the cycle. Maine is thought to have once supported numerous runs of millions of alewives each; however, only one of Maine’s rivers currently is documented to support over a million returning adult alewives.

The journey to and from freshwater spawning habitats is perilous for alewives and not only critical for their survival as a species, but also to the ecosystems through which they pass. Along the way, alewives nourish the surrounding environment as predators like marine fish, eagles, ospreys, herons, minks, otters, and freshwater sportfish capitalize on the seasonal bounty. Of course, alewives also have economic value, being an important seasonal bait source for Maine’s lobster fishery. Some communities have successfully promoted the spectacle of alewives in the many thousands crowding narrow streams bank to bank — and the wildlife they attract — as a revenue-generating public attraction.

A commercial fishery for river herring (both alewives and blueback herring) once operated on the Pemaquid River under the municipal river herring rights that Bristol holds. Out of concern about the declining run, the Town closed the commercial fishery in 2002. Fishing river herring for personal use was allowed until 2009. Since 2010, however, no fishing for river herring is allowed in any Bristol town water for conservation purposes.

### Sampling Design

In an effort to collect data documenting the status of the Pemaquid River alewife run, the GMCE, MCP, and DMR established a monitoring program to count the number of alewives passing over the Bristol Mills fishway. The 2013 counting protocol requested volunteers to perform 30-minute counts at the exit of the fishway during each of three 4-hour blocks every day.

### 2013 Count Results

Volunteers conducted counts from May 7 to June 14. Of the 117 alewife counts scheduled, 77 (65%) were actually counted. The average daily number of alewives counted ranged from 0 (on multiple dates) to 160 (on May 22) (Figure 1). Counts indicated that the run peaked during two periods: May 19 – 24, and May 31 – June 10. Periods when higher numbers of alewives were counted may have been due to multiple factors including fishway and leader fence improvements, river discharge (flow), and of course, the number of fish in the river at a given time. The data were extrapolated to estimate a total run size for the year using methods described by G. Nelson in *A Guide to Statistical Sampling for the Estimation of River Herring Run Size Using Visual Counts* (MADMF TR-25, 2006). The run size successfully ascending the Bristol Mills fishway was estimated to be 10,192 (+/- 400) alewives, which is considerably less than what the upstream spawning habitat could support.

Observing the fishway for a few months under various conditions provided evidence of several likely causes for low numbers of passing fish. One factor is that alewives are more attracted to the stronger stream current at the base of the dam than they are to the entrance of the fishway.
Summary of Results

Slade Moore, Maine Coastal Program and the Gulf of Maine Council on the Marine Environment, and Claire Enterline, Maine Department of Marine Resources

A temporary fence meant to lead fish into the fishway requires considerable annual installation and maintenance effort; however, this fence is not entirely effective. We observed that many alewives were so attracted to the area below the dam instead of the fishway that many found their way past the fence to the “wrong” side of the fence and were then trapped. These alewives may have spawned below the dam, but many may have become exhausted and failed to spawn this year. Furthermore, those alewives that did reach the entrance to the fishway could not always reliably enter the fishway because the entrance was perched, meaning that there was a jump between the water level in the river and the fishway entrance. Unlike salmon, alewives cannot jump but must swim through a steady stream of water to ascend vertical obstacles. This year, alewives were able to enter the structure only with the assistance of a wooden ramp installed at the entrance to the fishway. Although the ramp improved access under some conditions, it did not make it “easy” for fish to get into the fishway, only “less difficult” under some flow conditions.

Next Steps

Given the long observed problems with the current fishway design and low numbers of passing alewives counted in 2013, it seems prudent to recommend an investigation of engineering alternatives for cost effective modifications to the fishway. Future years’ efforts may test the accuracy of the visual count method with those obtained using video or electronic counters. We will be continuing the visual count in 2014, as several years of data are required to provide the necessary level of confidence to understand this site and its alewife run. We are hoping to incorporate more counts each day, so we encourage you to sign-up when you see our call for volunteers in the spring. Thanks again to the Pemaquid Watershed Association and the volunteers who helped make this first season of counting alewives at the Bristol Mills dam a success.

Figure 1. Average number of alewives counted at the Bristol Mills fishway per 2013 sampling date. Error bars represent daily standard error. The dates of fishway modifications are noted above the counts, and periods of heavy rain are noted below the counts.
Spotlight on the Volunteer of the Year

- **Name:** Mary Bryant Berger
- **Occupation:** Retired Realtor, CRS, GRI
- **How long have you volunteered with PWA?** Full time volunteer since 2002. I always attended Annual Meetings no matter how far I had to drive to get to one.
- **Programs you most often volunteer for?** Board of Directors, LakeSmart, Lands Committee, trail work, hosting events, PWA Paddlers, education and summer camp, Courtesy Boat Inspection, Non-Point Source pollution surveys, Invasive Plant Patrol, Nominating Committee, membership development, fundraising, Ducky Race & Big Ducky Debut, office fun.
- **First PWA program you volunteered at & memories of that experience?** Joining the Board of Directors on my birthday in 2004 to fill an unexpired Board term. We met in the old PWA office, which was in the basement of the Main Street complex, below where the candle shop used to be. I was the only female board member then.
- **How long have you lived in Bremen?** My parents bought the land in 1947 for Camp Biscay, where I now live.
- **Favorite food?** Lobster and oysters
- **Last song you had stuck in your head:** I Hope You Dance
- **Where did you grow up?** I never ‘grew up’ but went to school in Glen Ridge NJ, and college in Delaware. In summers and for many vacations Karl, our sons and I headed to Biscay Pond. That’s where our best youthful memories focus.
- **Hobbies/interests?** Downhill skiing, boating, kayaking, hiking, equestrian activities, swimming, camping, fly fishing, gathering with friends and family.
- **Dream vacation?** Sailing and snorkeling in the British Virgin Islands and horseback riding in Costa Rica have been the best vacations so far…I’m still looking forward to finding some more dream-like ones.
- **Favorite PWA memory?** The last night my beloved husband, Karl, and I were together volunteering at Party on the Pier in 2007.
- **What keeps you coming back each year to PWA as a member and volunteer?** The wonderful people that I’ve met and enjoy being with. Our volunteers are intelligent, compassionate, friendly, capable, interesting, active, fun and share my ideals of continuing to make this gorgeous Pemaquid Peninsula a better place now and for generations to come. Donna, Carolyn, and our volunteers are like a family to me.

Mary B. Berger is the 2013 PWA Volunteer of the Year. From 2004 to 2009, Mary served on the PWA Board of Directors, including in the officer roles of President and Secretary. In 2011, she began her second term on the Board. She chairs the Nominations Committee, and she serves on the Lands Stewardship Committee, the Development Committee, and the PWA Paddlers Subcommittee. She is a LakeSmart site evaluator, helps with monitoring of conservation easements, and helps in the office. She has been a Courtesy Boat Inspector to educate boaters about invasive aquatic plants, has volunteered on watershed surveys and trail crews, and has served on the Education Committee. On top of all of that, she hosts at her home major events, including the PWA Emeriti Board Social, the Volunteer Gala, and, this year, the Big Ducky Debut. She helps with fundraising events, including as First Ducky Mate on the launch boat for PWA’s annual Rubber Ducky River Race. New this year, she has become “Pemaquacky’s Momma,” caretaking for the 4-ft foam ducky that became the official Pace Ducky at this year’s race. In 2010, Mary received PWA’s David McLeod Memorial Lakesaver Award for her outstanding contributions to water quality protection. “The very long list of Mary’s volunteer roles clearly demonstrates her commitment to PWA and her dedication to service,” said PWA Executive Director Donna Minnis. “Beyond her extreme generosity of her time, energy, and talents, she brings warm graciousness and a contagious beaming smile. Her father, Dick Bryant, was a founding member of PWA, and she carries on his legacy with vigor and grace. Mary is an angel of a human being and an incredible volunteer for whom I give thanks every day.”

Mary B. Berger
The Call of the Loon...Volunteer Today!

Can you spare some time and talent this autumn and winter to help PWA? 
Heed the Call...To learn more about volunteer opportunities with Pemaquid Watershed Association, contact Carolyn Shubert, Program Coordinator, via email or in the PWA office (above Salt Bay Café in downtown Damariscotta) from 9 to 5 on Tuesdays through Thursdays: coordinator@pemaquidwatershed.org  (207) 563-2196

Match your talents and interests with PWA’s volunteer needs...

Do you love to create using Microsoft Publisher? → Produce a PWA merchandise brochure 
→ Edit/update our “Activities for Families” booklet

Do you fish our ponds or just love loons? → Help protect loons by being involved with PWA’s lead tackle exchange program; identify key fishing spots to offer tackle exchange to anglers and place posters at area tackle vendors.

Do you like local history and stories? → Become a PWA “living history” scribe...interview PWA’s long-time members and collect stories of the watershed.

Do you have fun planning events, hikes, and fundraisers? → Join in on the 2014 events planning.

Do you like data entry? → Add PWA information to spreadsheets.

Are you a creative woodworker? → Make walking sticks for our new medallions, possibly from branches found on PWA preserves.

Do you love the holidays? → Decorate the PWA office 
→ Help plan and throw a 2013 holiday party

Are you happy when things are neat and clean? → PWA office needs bi-weekly cleaning; we have supplies.

Like to paddle? → Join our new Invasive Paddle Patrol baseline project where you will be trained and equipped to take photos of ponds so we can monitor the ponds and be better able to detect aquatic plant infestations.

Like helping people and don’t mind sitting at a desk? → Volunteer to staff the office, flexible hours with general duties like answering the phone. (We especially need someone on Monday afternoons.)

Volunteers are perpetually needed to help keep chaos from taking over in PWA’s store room.

This past summer, Linda Shafer (left) organized maps, and Roger and Joan Panek (right) took a stab at putting things on shelves in a tidy fashion.

Thank you to the fantastic team of PWA volunteers, who, even during the busy summer months, find time to help!
Top: Looking southwest, with Pemaquid Falls to the far right and tidal Pemaquid River to the left.

Above Left: Looking northwest over Boyd Pond.

Above Center: Looking north, Pemaquid River between Bristol Mills and Biscay Pond.

Above Right: Looking north, with Biscay Pond in the foreground and, in the distance, Pemaquid Pond at the top and McCurdy Pond at the top right.

Left: Looking south, McCurdy Pond to the left, the base of Pemaquid Pond to the right bottom, and Biscay Pond in the upper right.

Photos by Maine Imaging, with aerial support from LightHawk.
Memorial Gifts
July through mid-October 2013

In memory of Kate Ireland,
from John Dunlap

In memory of Stafford Kay,
from Mary Gordon

Office/Equipment Needs:
· Desktop Computer & Software — $1,299.00
  (23” screen All-in-One; 3.4 GHz/1000 GB hard drive)
· Thermal & Cold Laminator (12.5”) — $199.99
· Tabletop Phone Conferencing Unit — $362.00

Other:
· 5 Orange Safety Cones — $34.45
· 5 Orange Safety Vests — $29.95
· Heavy Duty Staple Gun with case & staples — $37.99

All you need to do is send a check in the amount of the item to PWA at P.O. Box 552, Damariscotta, Me 04543, and note in the check memo what you are “buying” for PWA.

Wish Grantors:
2 “No Wake—Do Not Disturb Loons” signs — Laura Sproul Stubbs
3 “No Wake—Do Not Disturb Loons” signs and “Entering the Watershed” signs — Mike & Jane Trefren
1000 Trail Markers — David & Bridget Watkins

Have you wanted to help PWA with their Wish List but just haven’t had what they’ve been looking for? Well, now fulfilling a PWA Wish is easier than ever! Instead of donating the actual item, you can now donate its value so PWA can acquire it! (Of course, we still gladly accept gently used items.)
Donate to PWA online!

Network for Good is an e-philanthropy portal that provides PWA the tool to accept online donations.

Visit www.networkforgood.org today, and tell a friend!

PWA receives 100% of your donation and pays no fees or costs. Donors receive records of contributions for tax purposes.

PWA Membership

I am / We are pleased to □ Join □ Renew at the following level:

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□ I am enclosing an additional donation of $__________.
□ I will send a gift of $__________ from a Donor-Advised Fund.
□ I will ask my employer to send a matching gift.
□ Send me information about including a bequest to PWA in my will or trust.
□ Contact me about volunteering.

Make check payable to “Pemaquid Watershed Association” and mail to PO Box 552, Damariscotta, ME 04543.