

2009 NALMS e-Newsletter



April

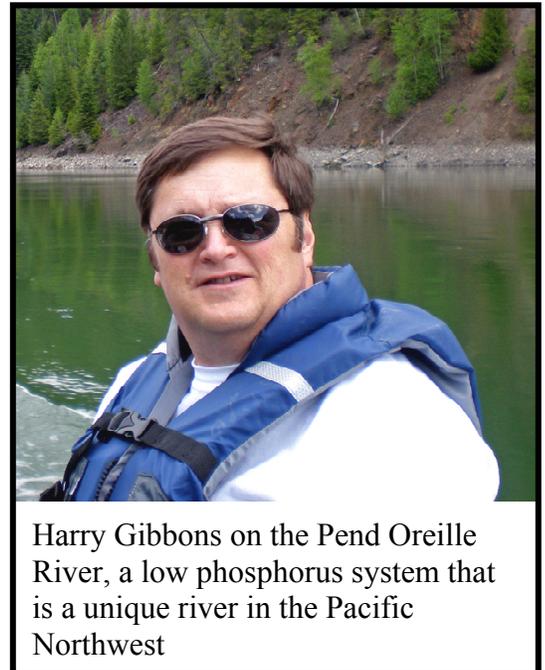
President's Message – Importance of Affiliate Action to Lakes and NALMS

Our affiliates are truly active and make real contributions helping to improve and maintain our lakes and watersheds. NALMS is extremely privileged to be affiliated with similar minded regional organizations. I want to point out some specifics about one affiliate's activities of late to illustrate a larger issue that we all have to learn how to overcome if we are to be successful in managing our lakes and reservoirs for both the environment and to preserve the beneficial uses of these water bodies.

That issue is a minority of individuals are not fortunate enough to have access to or take advantage of the plethora of information that would allow for understanding of new approaches or not become emotionally against change when presented information as to why this is in all our best interest. For example, the recent attempt of NALMS' affiliate, WALPA, to promote a phosphorus ban in dishwashing soaps through legislative action at state and local levels resulted in both support and outrage from individuals from all different parts of the country. What is really surprising is this mixed response was the direct result of a recent news article where it was clearly stated that many states already have and are banning phosphorus in dishwasher detergents and a representative of the Soap and Detergent Association stated that by July 2010 the industry will roll out all new products that are either phosphorus-free or low-phosphorus.

The real point here is several of us while working independently have made progress, but more progress can be made by pooling our resources and working together. However, the message that excess phosphorus in our everyday products can lead to water quality degradation has not been received or understood. Perhaps by working more closely together we can get the message out a little better and without the emotional discouragement from those who do not agree. Then the debate as to what is the best approach for a given situation can truly be carried out based on the exchange of factual information. Only then will we be able to define directions for action that can be agreed upon through mutual understanding and respect for the complex issues that are associated with environmental management.

When it comes to lakes and reservoirs, NALMS is ready to move forward with its affiliates and members to reach out to current and potential partners to enhance the understanding of lakes and reservoirs. Communication is the keystone to information exchange, and NALMS encourages you



Harry Gibbons on the Pend Oreille River, a low phosphorus system that is a unique river in the Pacific Northwest

to get involved with the organization and find issues that are of mutual interest to your local groups and NALMS. Please contact me or your regional director and ask how you can get more involved with the many NALMS activities. Go to www.nalms.org to find contact information for NALMS officers, directors, and committees.

Thanks,

Harry Gibbons
President, NALMS

WITHIN NALMS

Word from the Executive Director – Susan Urbas

The Chicago conference having just ended and Harry's message above about the importance of action at the affiliate level, I am going to jump on what appears to be the theme for the month, our affiliates members. Turns out, there is in fact a lot going on in that corner of the NALMS world.

Affiliate Information on the NALMS Website: There are two places on the new NALMS website which are devoted to our affiliate organizational members.

One is in the *Resources* area accessed at the top of the home page, under the *NALMS Affiliate Members* button, where the affiliates and their contact information is listed, and affiliate newsletters (see item below) are posted. This information is located in this area of the website as a way to promote its availability to a broad audience. We recently discovered that the web page links provided by many of the affiliates on the list were lost in transition to the new site, so we will be reinstating the web page links for affiliates which provided links to us in the past. We can also add web page links for any affiliates who have not already provided us with that information (send to info@nalms.org).

The other area of the new website devoted to affiliate information is in the *Services* area accessed at the top of the home page, under the *Affiliates/Non-Profits* button. Although content there is presently limited to a link to the Affiliates Yahoo Group, we plan on making this a quick reference area for services that are especially helpful to our affiliate and non-profit organizational members, and welcome input from our affiliate and non-profit organizational members concerning the kind of information they would like to have posted there for their quick reference. Please send your ideas to info@nalms.org.

Affiliate Newsletters: I want to invite all of our affiliates to submit their newsletters for posting to the website. We now have a special section of the website devoted to affiliate newsletters: go to Resources/NALMS Affiliates/Newsletters. Just send an electronic copy of the newsletter as a PDF to info@nalms.org, and we'll get your newsletter posted on the NALMS website.

Invasive Species Cards: Thanks to a grant from BoatUS Foundation, NALMS now has four baseball size cards available to help lake users in the identification and fight against invasive species. These will be distributed free of charge to our affiliates for distribution to their members upon request submitted via a form that will be made available on our website by April 27th. (Samples of the cards will also be posted on the website for viewing). While supplies last, the cards will also be made available to our other organizational and individual members upon request submitted via the form, for the cost of shipping.

Free NALMS Trial Membership for Affiliate Members: NALMS has also decided to offer a free three month trial membership in NALMS to the members of our affiliate organizations. We have some preparatory work to do yet before we can implement the online registration system for the trial memberships, but we will soon be contacting our affiliate organizations directly to get the system going as quickly as possible.

UPCOMING CONFERENCES & EVENTS

2009 NALMS Annual Symposium in New England

As many of you know, the North American Lake Management Society (NALMS) is holding its Annual Symposium in New England in 2009, thanks to the New England affiliate of NALMS, which is the host committee. The meeting is being held in Hartford, CT at the Connecticut Convention Center during the last week of October 2009. More information on the conference venue, program, and planning committee contact information can be found at http://www.nalms.org/nalmsnew/userfiles/file/2009%20Symposium%20Call%20for%20Papers,%2002_23_09.pdf.

Following is a breakdown of the program activities:

Tuesday October 27th - Pre-conference workshops

Wednesday October 28th through Friday October 30th - Concurrent technical sessions (with opening remarks and plenary presentations on Wednesday)

Saturday October 31st - Lake Steward and Technical Workshops

Also, as part of the usual technical meeting format for a NALMS Symposium, we will also be adding a special 'Lake and Watershed Steward' package for lake association members and other non-technical lake activists. Special tracks of talks will be offered throughout Friday for those taking advantage of this discounted two-day registration package, and Saturday workshops and events will also offer useful information on lake and watershed protection, lake association formation and coordination, and sampling and monitoring techniques, among others. Please share this with your local lake association contacts and encourage them to attend.

The NALMS office expects online registration for the conference to open on May 15, 2009.

Please consider submitting a technical paper or coordinating a workshop to share information on a project or subject you are working on. We also welcome topics that may not be included in the Call. *Abstracts must be received by May 15th, 2009. The abstract submission system is now up*

and running. The link for submitting abstracts is <https://nalms.conference-services.net/authorlogin.asp?conferenceID=1720&language=en-uk>.

Calgary Fostering Sustainable Behavior Workshops

The cornerstone of sustainability is behavior change. If we are to move toward a sustainable future we must encourage individuals and businesses to engage in a multitude of actions (e.g., waste reduction, water and energy efficiency, pollution prevention, etc.). To date, most programs to encourage such activities have relied upon disseminating information. Research demonstrates, however, that simply providing information has little or no effect on what people or businesses do. But if not ads, brochures or booklets, then what? Over the last decade, a new approach -- community-based social marketing -- has emerged as an effective alternative for delivering programs to foster sustainable behavior.

This May Dr. McKenzie-Mohr, an environmental psychologist, will be presenting introductory and advanced community-based social marketing workshops in Calgary (May 14th and 15th -- please note that these sessions are the only the training sessions being offered until the spring of 2010 in this region). Dr. McKenzie-Mohr is the founder of community-based social marketing and has written and presented extensively on the topic. We invite you to attend either or both of these workshops, as we are confident that the training they provide will fundamentally change the way you think about program delivery.

Over the last decade more than 40,000 program managers have attended workshops on community-based social marketing that Dr. McKenzie-Mohr has delivered internationally.

Introductory Workshop (May 14th): The one-day introductory workshop provides a comprehensive introduction to community-based social marketing and how it is being applied throughout the world to foster sustainable behavior. Those who attend the introductory workshop will learn the five steps of community-based social marketing (selecting behaviors, identifying barriers, developing strategies, conducting a pilot, and broad scale implementation) and be exposed to numerous case studies illustrating its use.

Advanced Workshop (May 15th): The one-day advanced workshop builds on knowledge gained from the introductory workshop. It provides an in-depth exposure to community-based social marketing and provides participants with the knowledge they need to design and evaluate their own community-based social marketing programs. Participants will have extensive opportunity to discuss the application of community-based social marketing to actual programs.

If you design or fund programs to encourage individuals or businesses to engage in environmentally beneficial behaviors -- such as those involved in waste reduction, water and energy efficiency, watershed protection, pollution prevention or transportation changes -- you will find these workshops invaluable. The workshops will also be useful for environmental education professionals who work in settings such as zoos, aquariums and parks. Public health professionals who work to foster sustainable lifestyle changes, such as being more active, will also benefit from attending.

Please visit <https://register.cbsm.com/workshops/?site=Calgary> to register for these sessions.

AFFILIATE TALK

To foster better communication amongst the diverse group of NALMS Affiliates, this section will feature a monthly topic or question which may be of interest to many affiliates. The goal is to help affiliate groups learn from each other, be more efficient with their time and resources, and better manage our lakes and reservoirs.

Phosphate ban on dish detergents – Many states have had phosphate detergent laws in affect for over 30 years while other states have never had one. The new push is to include a similar state-wide ban on dishwashing detergents (see *Phosphorus Dish Soap Smugglers in Washington State* article below). As in the lake news article below, Washington State and the NALMS Affiliate, WLPA, are doing their best to get public support for a new ban in the state.

How can other states with active affiliate groups get a phosphate ban in place? How do you write the legislative bill? Do you need to pay for a lobbyist? Will a new federal law trump any existing state laws? Does every state need to establish a ban or can a few key states do the hard work so that the soap and detergent industry has to change their products for all the states?

Here is a list of states that currently have a ban or are going to ban on phosphates in dishwasher detergent: Washington, Maryland, Pennsylvania, Virginia, Michigan, Vermont, Minnesota, Illinois, Massachusetts, and New York. If there are any affiliates out there working on this, please share your experiences.

Request from a fellow member - Do you have a copy of the 2nd Annual NALMS Symposium Proceedings from 1983? Specifically, pages 214 - 218 written by B.J. Kangasniemi? If you do, please contact Maggie Bell-McKinnon at 360-407-6124 or mbel461@ecy.wa.gov

LAKE NEWS & INFORMATION

Advanced Septic Treatment Near Chesapeake Bay Shoreline

Moving to correct a major water pollution problem in some portions of the Chesapeake Bay, the Maryland Senate agreed recently to require nitrogen-removing technology on all new or replacement household septic systems near the shoreline.

Under the bill, the state would cover the extra cost of replacing a failing septic system with an enhanced one capable of removing nitrogen from household wastewater. But homebuyers would have to bear the added cost of about \$5,600 for an enhanced system when building a house along the shore.

Though septic systems account for only 5 percent of all the nitrogen fouling the bay, they are a significant source of pollution in rural and some suburban waterfront areas where homes have been built beyond sewage treatment networks. Officials estimate that the 40,000 septic systems in Anne Arundel County, generate more of the nitrogen getting into local waterways than is discharged by the county's sewage treatment plants.

Only three counties now require nitrogen-removing septic systems on new waterfront homes - Anne Arundel, Queen Anne's, and Worcester. The bill passed by the Senate would extend the requirement statewide - a major shift in policy. A decade ago, a bill that would have required denitrifying systems on all new homes failed to get out of committee in the face of opposition by realtors and builders.

For the past few years, Maryland's Department of the Environment has been providing grants under a voluntary program to encourage homeowners to upgrade their septic systems with nitrogen-removing technology. Funds for the program come from a \$30 annual fee levied on all 420,000 homes that are on septic systems. The state has underwritten 638 septic upgrades, 346 of them along the waterfront.

But officials estimate that there are about 51,000 homes on septic systems in the "critical area," the environmentally sensitive strip of land within 1,000 feet of the bay and its tributaries. About 240 of those septic systems are repaired or replaced annually, but the agency estimates that almost three times that number actually fail in any given year and should be replaced.

Fish and Wildlife Department's Sewer Pipe Goes to Storm Pipe

The lesson here is that it can happen anywhere. City of Vancouver workers learned, to the shock of Washington State's Ecology and Fish and Wildlife departments, that a sewer pipe from their own state office building has been dumping raw sewage into a stormwater pipe that runs directly into Burnt Bridge Creek and eventually entering Vancouver Lake. A sewer pipe that should be connected to the city sewer line was incorrectly hooked up to a stormwater line. Adding to the shock is the possibility that this pollution has occurred for more than three decades.

Burnt Bridge Creek runs 13 miles through the middle of Clark County's most developed area, ending at Vancouver Lake. This lake, next to the Columbia River, has had a history of high levels of fecal coliform.

City workers discovered this problem thanks to the use of special equipment to survey underground pipes. Even though this was a major mistake that has been going on for many years, the positive side is that it was discovered and hopefully other lake communities will learn from this situation.

Phosphorus Soap Smugglers in Washington State

The quest for clean dishes has turned some law-abiding people in Spokane into dishwasher-detergent smugglers. They are bringing traditional detergent brands across the boarder from Idaho because the eco-friendly varieties required under Washington state law are perceived as not working as well. Spokane County became the launch pad last July for the nation's strictest ban on dishwasher detergent made with phosphates, a measure aimed at reducing water pollution. The ban will be expanded statewide in July 2010, the same time similar laws take effect in several other states.

Many people were shocked to find that products like Seventh Generation, Ecover, and Trader Joe's did not clean as well as the traditional detergents. The reason is because of hard water, which is mineral-rich and resistant to soap.

As a result, there has been a quiet rush of Spokane-area shoppers heading east on Interstate 90 into Idaho in search of old-school suds. This does not break the new law, you can possess phosphate detergents in Washington, but you just can't sell them.

As Harry Gibbons stated in his president's article, communication is key. Whether or not phosphorus really makes a difference in how clean your dishes look is not the issue. The real issue is educating the public about what phosphorus does to downstream waters and how expensive it is to remove that phosphorus from a eutrophic lake or reservoir. Maybe if Spokane citizens were fully educated about the entire phosphorus situation and this push for new phosphate-free detergents came from them, then maybe they would not be driving to the nearest Idaho Costco.

Below is an example of how the media tried to explain the reason for the new ban on phosphate detergents in Spokane.

“Phosphates — the main cleaning agent in many detergents and household cleaners — break down grease and remove stains. However, the chemicals are difficult to remove in wastewater treatment plants and often wind up in rivers and lakes, where they promote the growth of algae. And algae gobble up oxygen in the water that fish need to survive.”

Unless you fish or are already in the “green” choir, the above statement does not connect to the general public. Most people don't even know where their wastewater goes. People reading this article in their daily paper will retain that phosphates are the main cleaning agent and that they remove grease and stains. So it is no surprise that people are noticing that the new detergents don't work as well. People might be inspecting their dishes more closely and think there are no degreasing agents in the detergent.

The general public cares about what it will cost them and that big-brother government is just getting bigger. These are two very big hurdles to get over to get people to change their daily norms in order to improve a lake that is miles downstream. Ideally, the emphasis should be on people learning about water quality issues in lakes downstream, not the different chemical agent properties of a detergent.

A big credit does go out to the NALMS affiliate in Washington, the Washington Lake Protection Association (WLPA). WLPA has launched a campaign to encourage people to give the environmentally friendly brands a fair chance. The NALMS affiliate suggests consumers experiment with different brands or install water softeners to help the green detergents work better.

Among other states that have banned or are banning phosphates in dishwasher detergent are Maryland, Pennsylvania, Virginia, Michigan, Vermont, Minnesota, Illinois, Massachusetts and New York. A bill on Capitol Hill would impose a nationwide ban. Hopefully other NALMS affiliates in these states will begin to share their experiences to help other pass similar bans with great public support.

New Study Supports Old Advice: Regular Testing of Well Water

Important

A U.S. Geological Survey (USGS) study of water quality in household wells supports some old advice: Well owners should test their water regularly.

Private homeowners are accountable for making sure their furnace, fireplace, water heater, and smoke detector are in good working order. In the same way, private well owners are accountable for their residential well systems and the water they supply. Testing the water is an important part of that accountability.

USGS tested up to 219 substances or properties in water—more than public water systems are required to monitor. Samples were taken at the well, not the tap, and therefore did not take into account any water treatment technology installed by the owner.

Water was tested from household wells in 30 of the nation's 62 principal aquifers. Results showed notable variations in what was found among geographic regions and even among wells in very close proximity to one another.

For this reason, the National Ground Water Association (NGWA) supports establishing a federal tax credit to encourage routine voluntary testing by well owners, who can consult with local officials to determine what locally is worthy of testing.

NGWA recommends well owners test annually for bacteria, nitrates, and anything of local concern. The water should be tested more frequently if there is:

- Any change in the water's taste, odor, or appearance
 - A problem such as a broken well cap or a new contamination source
 - A family member or houseguest who has recurrent incidents of gastrointestinal illness
 - A pregnant woman or infant living in the home
 - A dangerous contaminant shows up in your neighbors' water
 - A need to monitor the efficiency and performance of home water treatment equipment.
- To determine what might be of local concern, well owners should ask state or local authorities involved in public health or well construction (<http://www.ngwa.org/govaffairs/statereg.aspx>).
 - To find a qualified drinking water testing lab, well owners should contact their state or local health department, or check the "Water Quality" section of NGWA's Web site, www.wellowner.org. If local labs do not test for substances a well owner wishes to check, national water testing labs may be able to help such as National Testing Labs (www.ntllabs.com) and Underwriters Laboratories (www.ul.com).
 - Upon receiving test results, well owners can ask the lab if there are any contaminants that present a health risk—or check with the appropriate state or local agency involved in public health or water regulation. Well owners also can check test results against the U.S. EPA's maximum contaminant levels on its Web site (<http://www.epa.gov/safewater/contaminants/index.html>).

- Should any contaminants above levels of health concern remain after proper maintenance, it does not mean the ground water cannot be used. Well owners should talk to a qualified water well system contractor about water treatment devices to address the specific water quality issues. The professional can advise the well owner on how to proceed.
- When considering a water treatment device, well owners should make sure its specifications match up to the substances and concentrations you wish to treat. Also, there are performance testing programs for treatment systems, such as those of the Water Quality Association and NSF International. A contractor should evaluate if the technology being provided to the customer has been voluntarily submitted for performance testing.

Who Ate All the Algae? – I Think NALMS Members Can Answer This One

Recently in the news, a group of Indian and German researchers tried a large-scale experiment to fertilize the ocean. The goal was to grow algae in the ocean as a way to sequester carbon dioxide (CO₂). On paper, the ocean is fertilized, algae grow and take up CO₂ by photosynthesis, and then they die and settle to the bottom of the ocean ultimately taking with them the carbon. This “test” included using iron in the Southern Ocean, near Antarctica, to stimulate a giant phytoplankton bloom

Maybe they should have had a NALMS member on their team. The experiment did not quite turn out like they had planned. After using six tons of iron sulfate over a 300 square kilometer area and trolling rough seas for two-and-half months following the algae bloom, the scientists discovered that it did not work.

Two things went wrong. First, the scientists picked the wrong limiting nutrient. The goal was to grow diatoms that are less likely to be eaten by the crustaceans (copepods), but silica was the limiting nutrient so the added iron did not produce as much diatoms as predicted. Secondly, the algae that did grow were quickly eaten. Instead of growing diatoms, the iron was better suited for *Phaeocystis*, algae that is among the most heavily grazed by copepods.

In the end, only a small amount of CO₂ was sequestered to the bottom of the ocean, the food web could have been seriously altered, and Mother Nature outsmarted humans once again.

Featured Lake – Ancient Lakes of the World - Lake Titicaca

Exploring the 18 oldest lakes in the world – We know jump over to South America.

Lake Titicaca is the largest freshwater lake in South America and the highest of the world’s large lakes. Titicaca is one of less than twenty ancient lakes on earth and is thought to be three million years old. Lake Titicaca sits 3,810 m above sea level straddling the border between Peru and Bolivia.

This oligotrophic lake has a residence time of 1,343 years. The volume is 932 km^3 , surface area is $8,400 \text{ km}^2$, and mean depth is 107 meters (maximum depth is 304 meters). The catchment/surface area ratio is 7:1.





In 1994 Bolivia and Peru, through their chancelleries, applied for a joint petition to the United Nations Global Environment Fund (GEF) for the development of the Biodiversity Conservation Project in the Watershed of the Titicaca Lake – Desaguadero – Poopo – and Copasa Salt Lake (TDPS System). In 1998 the agreement for the project is subscribed between the Bolivian and Peruvian governments and the United Nations.

Floods and droughts are becoming increasingly significant in the region

causing damage to the economy of the area. Furthermore there are problems associated with the regulation of water resources for economic activities and natural resources. Soil erosion threatens the region as well; more than a quarter of total watershed area is considered vulnerable to erosion (LBMI 200).

Mexico City, Sitting on an Old Lake Drinking from New Reservoirs

The biggest metropolis in the Western hemisphere is confronting problems with its water supply, both impacting an old lake bottom and reservoir water levels.

The old lake: The site of Mexico City was once a large lake, where the Aztecs founded their island citadel Tenochtitlan in 1325. When the Spanish conquerors took control they drained much of the water, laying the basis for the vast expansion of the metropolis across the entire Valley of Mexico. As the growing population continues to use groundwater below the valley floor, Mexico City is sinking down into the old lake bed at a rate of about three inches a year. This settling puts extra pressure on water distribution pipes, which are now so leaky they lose about 40% of liquid before it even reaches homes.

The new reservoirs: Recently, about five million people, or a quarter of the population of Mexico City's urban sprawl, woke up to dry taps. The recent drought has made it necessary to do temporary stoppages of drinking water to residents to ration depleting reservoir levels. Government officials hope this and four other stoppages will keep water flowing until the rainy season fills the basins back up.

Mexico City relies on the Cutzamala system, a network of reservoirs and treatment plants that pump in water from hundreds of miles around. However, this year Cutzamala is running dry. Its main basin is only 47% full, compared to an annual average of 70% for early April. To make it to the rainy season (late summer), the entire Cutzamala system will be shut down for 36 hours in April.

Mexico City has a strong connection to lakes –past, present, and the future and climate changes can have a major impact. Spain and Southwest United State last year, California and Mexico this year, who will be next?

Arkansas Snakehead Eradication

The Northern Snakehead Eradication Project commenced on March 20, 2009 and ended on March 27, 2009. Over 130 personnel from the Arkansas Game and Fish Commission, U.S. Fish & Wildlife Service Region 4, Tennessee Wildlife Resources Association, National Park Service, Tennessee Tech University, and University of Central Arkansas participated. Over 39 miles of main stem Piney Creek, 2800 acres creek backwater, and 400 miles of ditches were treated with 3,000 gallons of liquid rotenone and somewhere around 15,000 lbs. of cube-powder rotenone. Post-treatment assessments indicated very good fish kills in all treatment zones.

Over 800 adult and juvenile northern snakeheads were recovered by the University of Central Arkansas, which was contracted to evaluate the impact of northern snakeheads on the Piney Creek fish community. A large proportion of the recovered snakeheads were juveniles. Recovered fish represent only a portion of the total kill, which should easily number in the thousands. The large proportion of juvenile fish is troubling and suggests the snakehead population was poised to rapidly expand their range.

Final cost of the project will be close to \$750,000.

A video of the project will be posted on the AGFC website soon (http://www.agfc.com/fishing/snakehead_eradication.aspx).

Websites of the Month – <http://www.track-trace.com>

Here is a great website to bookmark for your next lake restoration project. This site is a hub to track any package or shipment that you have ordered. Covering over 200+ shipping companies across the world, you can keep track of when your aerator or next shipment of alum is coming in.

Open Invitation to Add to the Next E-newsletter

If you are having a conference, have a lake-related question, need advice, looking for similar lake problems/solutions, have an interesting story to share, or just want to be heard throughout NALMS, please send your material to Steve Lundt at slundt@mwr.dst.co.us.

All e-newsletter material is due to Steve Lundt by the first Friday of each month to be considered for inclusion in that month's e-newsletter.