CELEBRATING 80 YEARS OF SERVICE

SKAGIT CONSERVATION NEWS

SOIL • WATER • WOODLAND

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This is a reprint of the WSDOH article

A FLOOD OF MANURE AND HOW TO STOP IT

What do you do if 30 million gallons of liquid manure threatens public health? When heavy rains came late last year, a battalion of truck drivers, farmers, local officials, and state agency workers got to work. Their mission: To protect water systems, shellfish farms, and people from potentially bacteria-laden floods from manure lagoons. It was a very dangerous threat to public health that required multiple state and local agencies to work together. And, farmers in Skagit and Whatcom counties needed to work to transfer millions of gallons of liquid manure to safer storage.

Many dairy farmers across the state keep manure lagoons — big pools of cow manure — over fall and winter. They store the nutrient-rich resource so they can use it as fertilizer when the weather warms and the fields are drier and ready for its benefits. Downstream from the lagoons are people and an environment at serious risk if flooding occurs. Sometimes that includes shellfish farms.

In late 2021, back-to-back storms dumped hundreds of millions of gallons of water on Western Washington in just a few days. In northwest Washington, the rain hit Whatcom and Skagit counties especially hard, with intense, widespread flooding. In only two weeks, almost three months' worth of rain fell in the area. Sewage spilled from a wastewater treatment plant. Officials closed three shellfish harvest areas because of flooding along the Nooksack River. Much of the rainy season still lay ahead.

Many of the manure lagoons are open to the elements. Structures that store manure collected more than 97 million gallons of rain in addition to cattle waste. Some were nearing total capacity early in the rainy season, said the Whatcom Conservation District.

This meant a serious public health hazard. "The liquid — which was full of bacteria — was at risk of flooding into nearby streams, putting public health at risk," said Clara Hard with DOH. "Also, that water flows into Puget Sound, which would have devastating effects on water quality and the safety of eating shellfish from the area." The solution: Move the manure

continued on page 5

WE WANT TO HEAR FROM YOU!

Have you shopped at our annual Native Plant sale? Did you have a good experience? Or do you wish you could have participated? Every year in late winter/early spring we host a plant sale at discounted prices. Let us know how you heard about the sale and what you would like to see more of as we transition to using an online system.

Plant Sale Feedback

WORD SEARCH

W H A J U U T C X I S N A T K I L Q J R
P D Y G K J O D O H X S R I P Z K I N F
F A W T U E W O T N E V H K B R K K T O
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Q L W M M Y V N K E Y I C C I R R A Q S

fecal coliform	conservation	pollinators
clean water	covercrops	shellfish
hedgerow	livestock	erosion
buffers	forests	skagit

WHATS YOUR FOOD & FARM IQ?

(CIRCA 1994)

How much food do you think a family of four eats in one year?
A. 5000 lbs
B. 1000 lbs
C. 500 lbs

Which country spends the most disposable income on food?
A. France
B. India
C. United States

If farmers stopped using crop production products, the health of Americans would:
A. Improve
B. Decline
C. Remain the same

How did Irelands potato famine start?
A. Insects from France
B. Animals from America
C. Fungus from Mexico

Which has helped farmers keep up with the worlds growing demand for food?
A. Better seeds
B. Better machinery
C. Effective crop protection products

Without crop protection products, what percentage of crops would we lose?
A. 50%
B. 25%
C. 15%

Which of these federal agencies helps ensure the quality of our food?
A. CIA
B. FBI
C. EPA

Answers on page 10

SKAGIT COUNTY'S JOSEPH SHEA ON KING 5 NEWS

AUTHOR: ERIC WILKINSON

SKAGIT COUNTY, Wash — Alongside the potato fields of Skagit County sits a plant so poisonous it can kill a thousand-pound cow in just a couple of hours. So, imagine what it could do to a child or pet. Poison hemlock is growing and spreading across Skagit County. "It is really dangerous," said Joseph Shea, noxious weed coordinator for Skagit County. "It presents a big risk, especially in public places where people are walking."

The plant, which is identified by purple splotches on the stem, can cause painful rashes on the skin, and just a small amount is lethal if swallowed. "Kids are kids; they'll play around with things and ingest it," Shea said. "They can get sick real quickly and have some serious complications."

Many of those poisoned think hemlock is a harmless vegetable. "Wild foragers will go out picking it thinking it's a wild carrot or something else that's edible," said Shea. "Unfortunately, they'll include it in their food and poison themselves or their family members." That was the case for a Bellingham man who found the plant growing in his garden in 2010. He ended up in the ER. That same year a Tacoma woman died after eating a salad that contained the weed.

Officials say poison hemlock has spread so quickly in Skagit County this year because our wet spring hampered the ability to spray herbicides. The county is also experiencing a post-pandemic worker shortage.

It is up to individual property owners to get rid of the weed. Skagit County can force people to remove it, but officials far prefer for people to do it on their own. "Getting the community to help each other out is really, really important," Shea said. "Just make sure you put on a pair of gloves. You get down to the base as far as you can and pull. You should be able to get that whole taproot out."

People should put the plant in a garbage bag and take it to the dump, Shea said. Don't mow, compost or burn it.

EQUIPMENT SHARE

I - L-SA

The District is now offering several rentals for our Skagit County customers. We have a ground driven manure spreader, self-contained, towable cone spreader, an ESCH no-till drill, and a hand-operated weed wrench. Visit out webpage to fill out the rental agreement form and select your reservation dates.

Rent Me

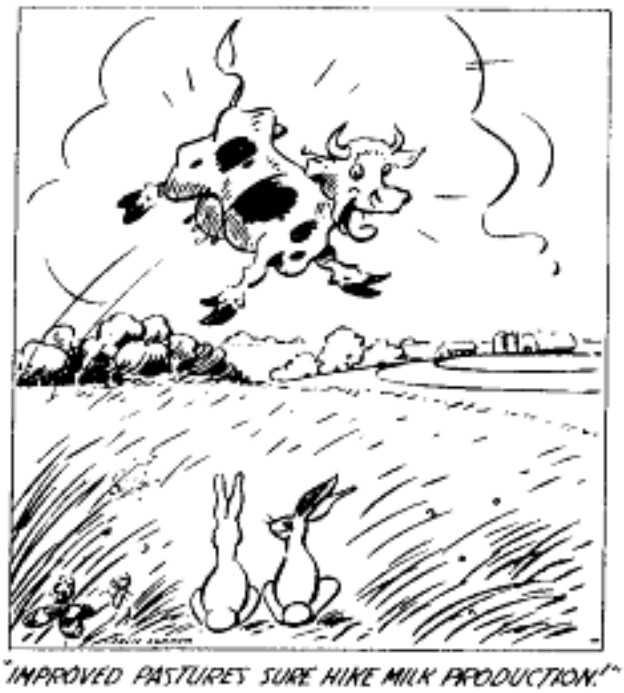
TRUE OR FALSE?

A given piece of land can have an unlimited amount of manure applied? This statement is false. Manure application rates should be based on the nitrogen content of the manure. Nitrogen is the most mobile nutrient of those considered to be pollutants.

Calculation of correct application rate involves variables such as type of storage and handling, acceptance capability of the soil and crop requirements.

Proper application rates reduce the possibility that manure nutrients will leach through the soil profile into underground water or runoff into waterways.

Another advantage of proper application rates is the economic gains due to less physical damage to the plants and correct plant need/nutrient ratios.



"IMPROVED PASTURES SURE HIKE MILK PRODUCTION!"

SCD NEWSLETTER 1987 EDITION

TIMES ARE CHANGIN'

Like many other organizations, the Skagit Conservation District has lost a couple of our long-term professionals to great opportunities allowing them to achieve their personal goals. Tom Slocum who had been our District Engineer for over two decades is now in New Mexico assisting rural landowners in having secure and safe water and sanitation systems and improving their quality of life. Jenny Coe, our Firewise coordinator, who also worked with the District for a couple of decades, recently accepted a job with Washington Department of Natural Resources. This new position continues to help expand her footprint of influence, now providing wildfire education and preparedness for the entire west side of the state. They are both very missed and we wish them the best in their adventures. We will likely be working very closely with Jenny when her position is replaced.

Jess Knutzen, sewing oat sacks during threshing opertation on his farm- September 19th, 1952. Jess, a dedicated local farmer, also served as asupervisor for the District for over 20 years.

continued

We got to work quickly with partners — the state Department of Ecology, the Conservation Commission, and local officials. Our goal was to help farmers whose manure storage facilities were at risk of overflowing. First, the Whatcom and Skagit Conservation Districts (CDs) tried to contact every dairy farmer in the area to measure the threat from flooded lagoons.

- The Whatcom CD found at least 19 livestock owners who needed to move 26.5 million gallons of manure to safe storage.
- The Skagit CD found 5 farms with almost 4 million gallons.

What does moving 30 million gallons of liquid manure look like, you ask? Farmers used existing buried manure lines that connect farms to move most of the manure. But some also relied on trucking. Bill Blake of the Skagit CD said their contractor used 9,000-gallon trucks. They're about 42 feet long. To transport 30 million gallons would take about 3,333 tanker trucks, like the kind that deliver gasoline to stations. Put them end to end and the convoy of manure-filled trucks would stretch about 26.5 miles. Some farmers used their own trucks. Others used contractors, such as Pacific Plumbing.

"The Washington State Department of Health reached out immediately once our disaster relief need was identified," said Corina Cheever, conservation planning coordinator at the Whatcom Conservation District.

They worked quickly to secure funds to address the issue our local dairies were facing. We are thankful for their streamlined support and follow up."

The cost of moving the manure was about $360,000. Thanks to the work of many people across diverse agencies, and funding, in part from the U.S. Environmental Protection Agency through the National Estuary Program's Shellfish Strategic Initiative, we were able to move 30 million gallons of manure. We also supported more than 30 farms to help protect the environment from potential catastrophe. The liquid was moved to other farms. All of it stayed in the county in which it was created. Those farmers "were happy to get those nutrients" to use on their fields this year, said Aneka Sweeney of the Whatcom CD.

Recent rains continue to threaten water quality in Western Washington. We continue to work to keep people in Washington safe from disease when flooding and other incidents occur.

This is a reprint of the WSDOH article

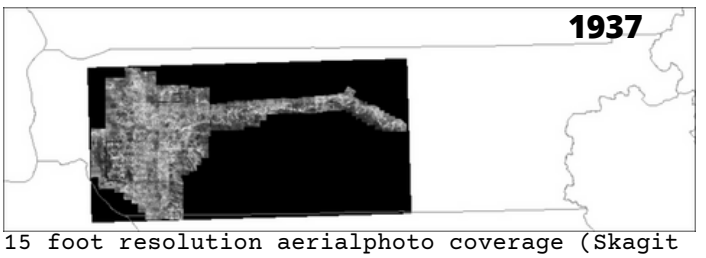
SKAGIT COUNTY AERIAL PHOTOGRAPHY THEN AND NOW

From carrier pigeons to drones aerial photography has evolved over the years.

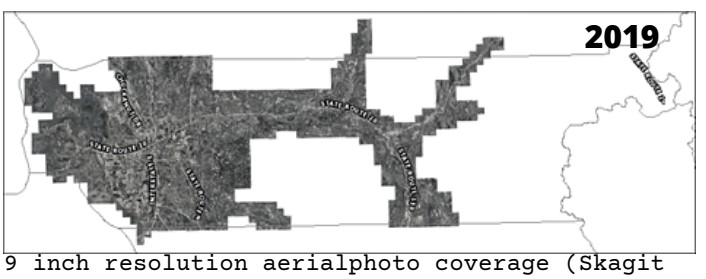
One of the earliest uses of aerial photography in natural resource management date back the 1920's for aerial detection surveys of forest health issues (Wickman etal, 2002). In 1935 the newly created Soil Conservation Service began issuing contracts for demonstration areas to be mapped from aerial photographs (Magruder, 1949). Skagit county saw its first large scale aerial photography acquisitions as early as 1937 by Army Corps of Engineers. By the 1940's the U.S. Forest Service was routinely utilizing aerial photos in forest management for a variety of applications from timber volume measurements, road planning, to fire assessment (Garver and Moessner, 1949). By the 1950's and 60's aerial photos were routinely used by government and producers alike to address a wide variety of land management decisions. Add satellite imagery that have been continuously collected by NASA's LandSat program since 1972 and we have multitude of spatial and temporal scales of imagery.

The Conservation District has a long track record of using aerial photos in providing technical assistance and outreach and education, thanks to the state, federal, county, and private land managers that continually acquire aerial imagery which in turn drives the innovation by companies to advance the technology.

Aerial Detection Surveys

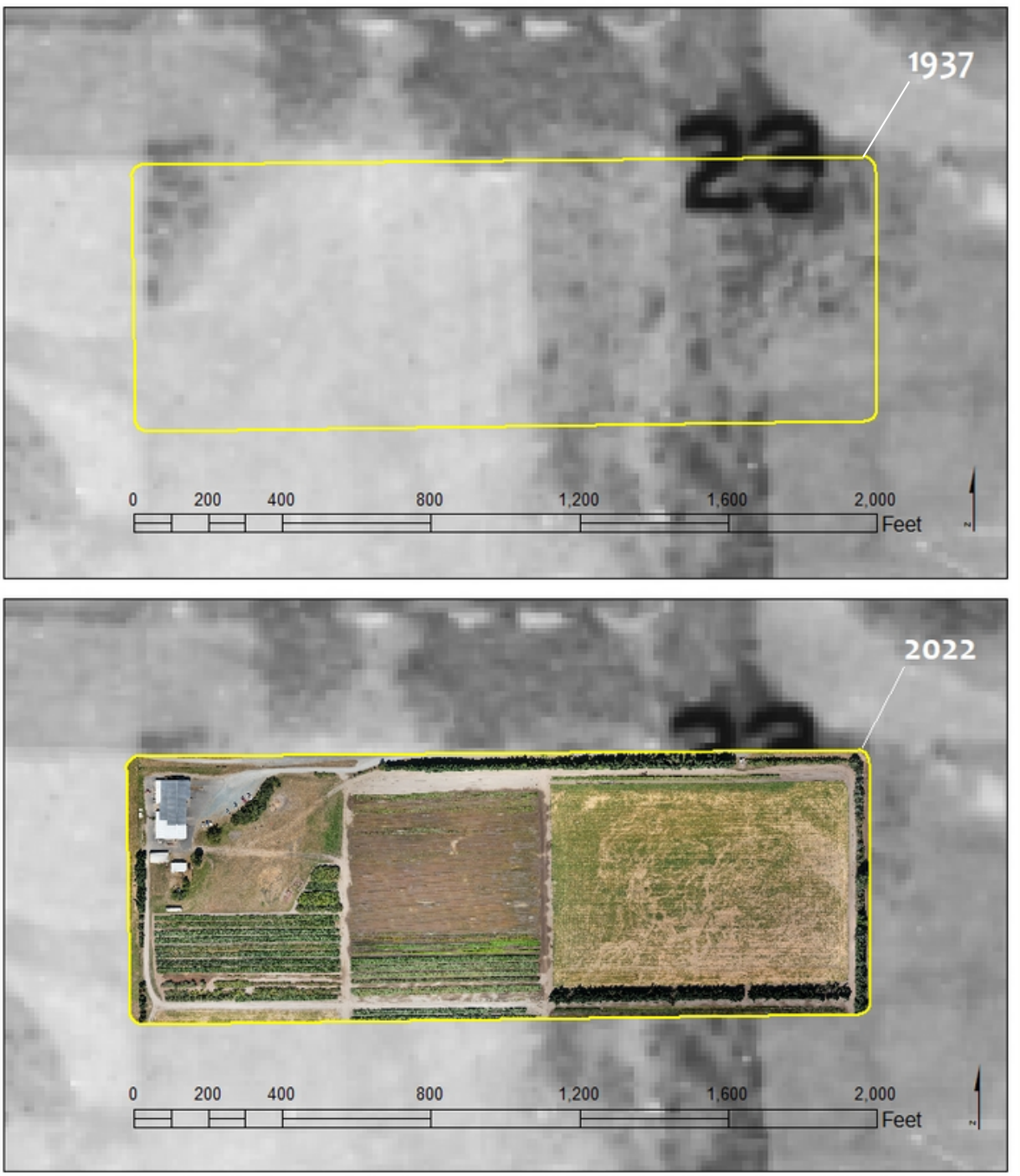


15 foot resolution aerialphoto coverage (Skagit County PUD/GIS, 2019)



9 inch resolution aerialphoto coverage (Skagit County GIS, 2019)

The county now contracts for 3 to 9 inch resolution aerial photos of a large portion of the county every two years while the U.S. Department Agriculture's National Aerial Image Program acquires countywide 3 foot resolution photos every 2 years. With permission from the landowner, the District is now taking to the skies for the next stage in the aerial photo evolution. The District is using unmanned aerial systems (aka drones) to achieve image resolutions and near real-time results that are unmatched by other traditional platforms. District aerial photography are generated to meet the needs of cooperating landowners and tailored to address their resource concerns. The 2022 'orthomosaic' (approximately 30 acres), created from stitching and georectifying overlapping photos, was captured and created in a couple of hours.



2.7 inch resolution orthomosaic over the 1937 aerialphoto (Skagit CD, 2022)

PASTURE MANAGEMENT AND HEALTHY ANIMALS

Any Skagit farmer can attest to the quick change that fall brings to their pastures. Dry fields and dormant grasses quickly awaken and flush with new growth when fall rains return. Cooling temperatures and increasing precipitation can quickly meet soil water holding capacity and create the conditions for mud. Mud negatively affecting animal health is often overlooked; mud does not have to be a standard of winter livestock care in our area. Research is clear on the negative effects of muddy conditions on animal performance. Keeping livestock off saturated pastures is critical, and pasture management is the number one way you can combat this.

Unregulated turnout and continuous grazing can quickly impair pastures, especially during the wet winter months. Hooves compact the soil, suffocating plant roots and reducing the soil's capacity for holding or infiltrating water. Livestock can also remove all vegetation during the winter, leaving exposed bare ground that can erode into nearby waterways.

Mud is dangerous footing for livestock and living in this mud can cause numerous health problems such as mud rot, rain scald, and thrush. Mud can also cause animals to make fewer trips to food, which results in lower feed intake and trudging though the mud means more energy is spent. The result is reduced growth and production.

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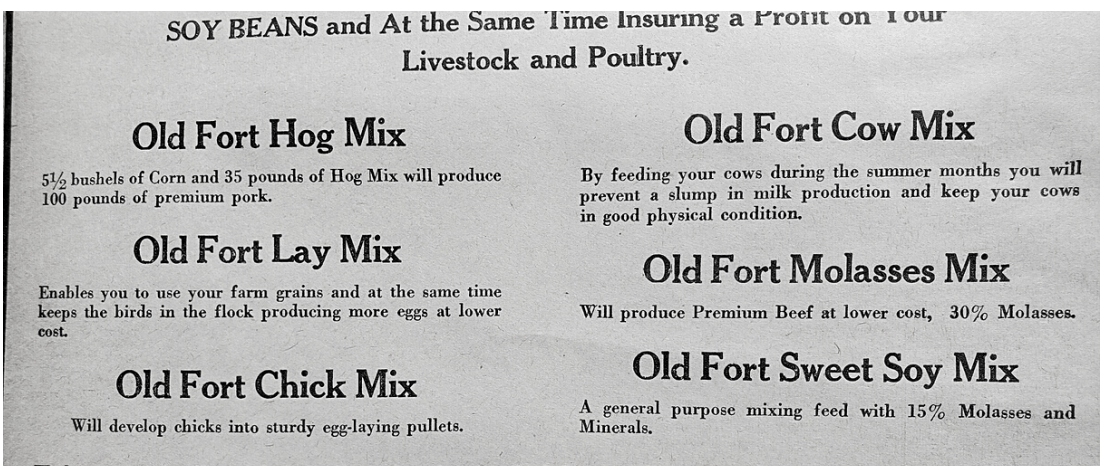
When you implement a Farm Plan or a confinement area, the health of your livestock and feed to energy ratio increases! Contact us!

Farm Planning


SOY BEANS and At the Same Time Insuring a Profit on Your Livestock and Poultry.

Old Fort Hog Mix

5½ bushels of Corn and 35 pounds of Hog Mix will produce 100 pounds of premium pork.

Old Fort Lay Mix

Enables you to use your farm grains and at the same time keeps the birds in the flock producing more eggs at lower cost.

Old Fort Chick Mix

Will develop chicks into sturdy egg-laying pullets.

Old Fort Cow Mix

By feeding your cows during the summer months you will prevent a slump in milk production and keep your cows in good physical condition.

Old Fort Molasses Mix

Will produce Premium Beef at lower cost, 30% Molasses.

Old Fort Sweet Soy Mix

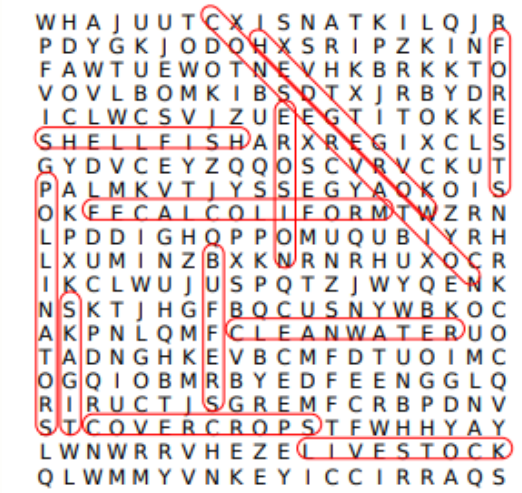
A general purpose mixing feed with 15% Molasses and Minerals.

WELCOME

The District recently welcomed newly elected Taylor Reijm to the Board of Supervisors. He is a husband, and father of two boys. Taylor and his wife, Katie, are both lifetime Skagit county residents. He is an engineer and part time cattle rancher, as well as amateur beekeeper, orchardist, and gardener. Taylor is very excited to be joining the District team, because this is a unique and exciting position to benefit current and future farmers and ranchers, while preserving and improving the magnificent outdoor opportunities that Skagit County offers for future generations.

3/27/52. Supervisors of Skagit Soil Conservation District. Left to right-- Jess Knutzen, Albert Gerriets, James Ovenell, James Wylie, and W.E Jennings. Photo by A.F. Harms

The District created a new position of Conservation Specialist, that was filled by Taylor Studzinski. Taylor grew up in the area and has worked managing natural resources in the Skagit for the past several years. Along with her "get-in-the-mud" and have fun attitude, Taylor brings a new skill set that helps us continue our goal of connecting with all generations in the pursuit of conservation and management of our precious natural resources. Within the first couple of months, Taylor got our Instagram and YouTube accounts set up and we haven't looked back. We feel very fortunate to have Taylor as part of the team and are looking forward to many new initiatives she helps advance for the benefit of our customers.



(1.)A (2.) B (3.) B (4.) C (5.) A,B,C (6.) A (7.) C

Congratulations to our Poster Contest Winners. Overall Winner was sixth grader, Greyson Entrikin, from Edison Elementary. He was awarded a $50 Tri-Dee gift card, a plaque, and professional framing of his poster. Our Runner-Up Winner was eighth grader, Yamileth Ocampo, from Conway Elementary. Thank you all for your participation!

FOLLOW US!

Skagit Stream Team

Skagit Conservation District — Marine Biotoxin

Skagit County — Serving With Pride — Washington