

# FRIENDS

of the San Juans



Winter 2015



FRIENDS members help clean beaches and restore forage fish spawning habitat on Sucia Island.

# Us, Together

Together, our small island community is impacted by the wind, water, and sea. If 2015 was a “dress rehearsal” for some of what’s to come, we must take action now to work with neighbors, businesses and our government to develop strategies to reduce our carbon footprint and adapt to the changing landscape. Everyone must play a part in this effort—no industry, or sector, or person can be excluded, and that is why this newsletter features articles on resiliency, electric cars, and sea level rise.

FRIENDS is fighting to limit climate impacts from the export of fossil fuels through our waters, and we are leading a regional effort to make our waters safer through the designation of the Salish Sea as a Particularly Sensitive Sea Area. Inside you will read about our work to protect and restore wild places, and what you can do to help protect the islands for people and nature.

Thank you,

Executive Director

## **FRIENDS of the San Juans Mission:**

**To protect and restore the San Juan Islands and the Salish Sea for people and nature.**

### **Board of Directors:**

Orcas Island – Janet Alderton, Paul King, Marta Nielson, & Bruce Rylander

Lopez Island – San Olson, Ken Burtness, & Dixie Budke

Shaw Island – Doug Crosby

San Juan Island – Susan Dehlendorf

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Marine Policy Associate – Lauren Platman

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sanjuans.org | friends@sanjuans.org | 360-378-2319

Design – Tif & Gif Creative | www.tifandgif.com

Cover – Chris Teren | TerenPhotography.com

Printed with 100% Recycled Post Consumer Paper, Veggie Inks and 100% renewable energy.

# On the Rise

By San Olson, FRIENDS President and  
Janet Alderton, FRIENDS Vice President

Warm air holds more water than cool air. This can be seen on a glass of ice water as it gathers condensation from the warmer air outside it. Turn the glass of water into an ocean, and suddenly that condensation is a big deal. The greater quantities of moisture that build over the ocean result in storms that are more damaging than before.

Similarly, warm water takes up more space than cool water. Significant sea level rise is already impacting low-lying coastal areas on our Atlantic coast. Heat waves are not necessarily more frequent, but they are more extreme. The result, is life threatening for many, and it prolongs severe droughts and forest fires.

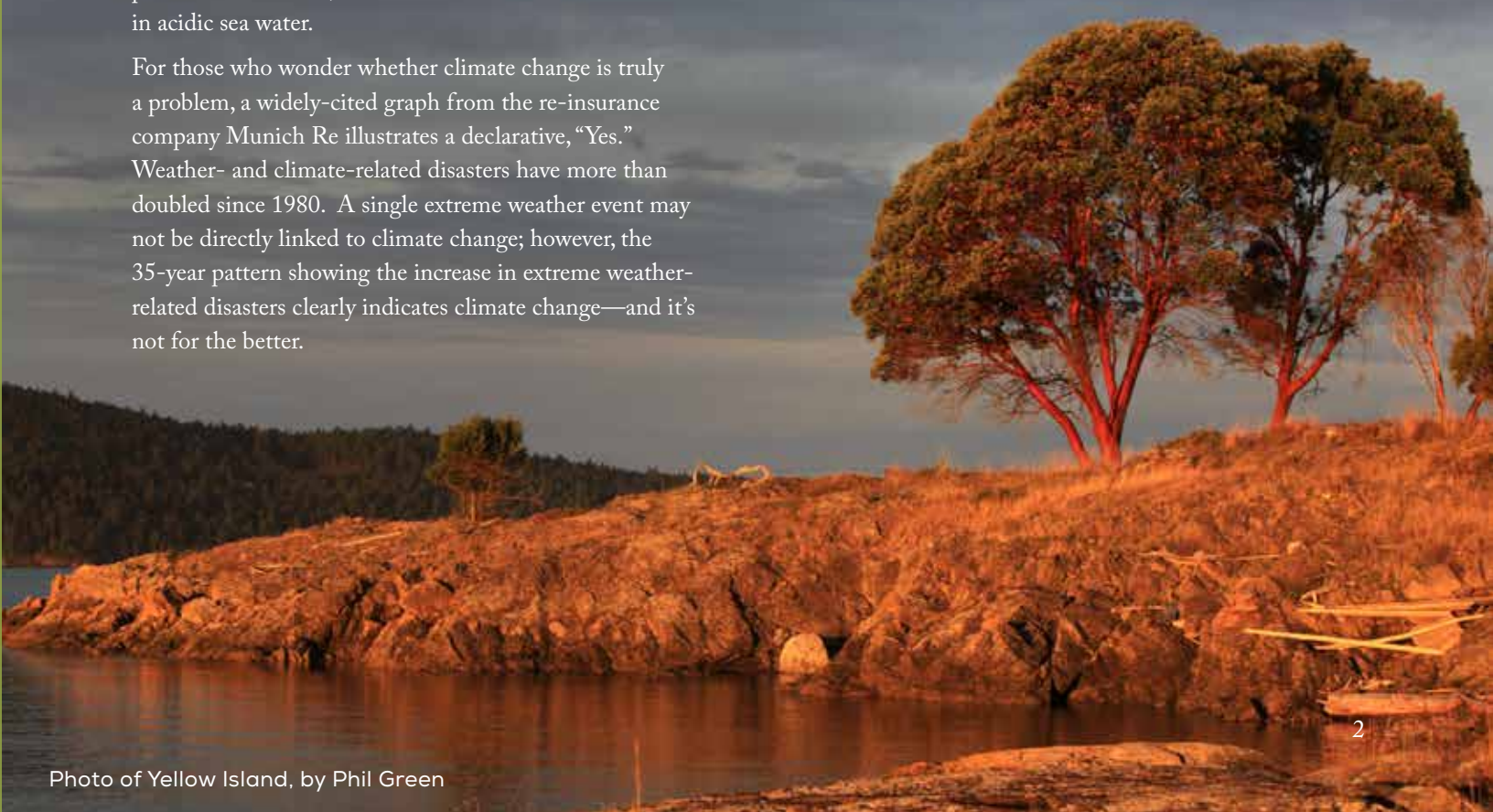
The ripple effects of these changes are vast and varied. For example, rising minimum winter temperatures have allowed bark beetles to flourish, as their population is no longer suppressed by colder winters. This factor, coupled with trees stressed by less water in the other seasons, has led to widespread destruction of pine forests in the western US and Canada.

Here in the Salish Sea, rising carbon dioxide absorbed from the air is raising our marine water acidity. The food our salmon and orca whales depend on suffers from ocean acidification because pteropods, an important base of the plankton food chain, cannot build or maintain their shells in acidic sea water.

For those who wonder whether climate change is truly a problem, a widely-cited graph from the re-insurance company Munich Re illustrates a declarative, “Yes.” Weather- and climate-related disasters have more than doubled since 1980. A single extreme weather event may not be directly linked to climate change; however, the 35-year pattern showing the increase in extreme weather-related disasters clearly indicates climate change—and it’s not for the better.

Change, however, comes with some opportunities and, increasingly, incentives—which are for the better. Alternative fuel costs are dropping, and policies that proactively implement environmental solutions are increasing. Encouragingly, it is possible to move huge systems in this direction: for example, mandates requiring California to supply 30% of electricity from sustainable sources by 2020 have led to utility-scale investments in energy storage. A recent article by Bill McKibben in *The New Yorker* reveals that while many utility companies perceive green energy as a threat to be resisted or obstructed, there are also many that are forward thinking and promote green energy alongside more traditional offerings.

Replacement of fossil fuels with wind and solar power will require energy storage and changes to the electricity grid. It will also require new ways of thinking. Renewable energy’s economic drivers and innovations are increasingly aligning themselves with our desire to preserve the biodiversity and system resilience of the natural world for our children and grandchildren.



# Resiliency...

## a Path to Thriving Communities

Resiliency is “the capacity of a system, enterprise or a person (or communities) to maintain their core purpose and integrity in the face of dramatically changed circumstances.” – *Andrew Zolli*

Imagine a place with fresh water for everyone, abundant and diversified local food, carbon- and pollution-free renewable energy sources, a flourishing natural environment, and a thriving economy where the people enjoy good health and a high quality of life. This is what a resilient community looks like.

Resiliency strengthens our capacity to survive and thrive in the face of disruptions of all kinds. Given the challenges of climate change, there are many incentives to build up our community’s resilience.

The summer of 2015 was the hottest summer on record, according to the National Oceanic and Atmospheric Administration. In Washington we saw record drought and wildfires after a winter when the snow pack was measured in May at 16% of

normal. Consider this past year as “dress rehearsal” for what could be coming our way. Some of the impacts of a changing climate can still be mitigated by embracing more sustainable practices, but others will likely require us to adapt our lifestyles.

That’s where resiliency comes in—it takes planning, innovation, and strong new connections between people, business, and government at the local, regional, and global scales.

The primary goal of resiliency is not only to be self-sufficient, but to thrive, in the face of disruption. In the San Juan Islands, many groups and individuals are working to prepare for the coming changes that our communities anticipate as a result of climate change.

**As extreme weather events linked to climate change continue to impact the San Juan Islands, we’ll need to consider water resources, human health, built infrastructure, fire preparedness, terrestrial and marine ecosystems, and agriculture and food systems.**

FRIENDS members enjoy a paddle during Canoe Island's Family Camp.



**Transition Lopez Island** supports the resilience of our island communities. They sponsor activities to promote awareness of issues of climate change and widespread use of renewable energy. Ande Finley, a steering committee member says, “Resiliency in all areas—financial, social, environmental—is critical to achieving a future that allows our island communities to bounce back and thrive, no matter what comes our way.” For more information, contact Ande at [transitionlopezisland@gmail.com](mailto:transitionlopezisland@gmail.com).

**Thrive Orcas Island** builds resiliency across the Salish Sea by shining a light on our communities’ success stories, connecting innovators to one another, and promoting the most sustainable practices from around the world. For more information, contact Gretchen Krampf at [gretchen.krampf@processexperts.com](mailto:gretchen.krampf@processexperts.com).

The **Islands Climate Resilience** group on San Juan is fostering the development of a “San Juan Islands Climate Resilient Community Action Plan.” The plan will identify needed community policies and actions that best address climate related impacts and build resiliency. For more information, visit [www.sanjuansclimate.org](http://www.sanjuansclimate.org).

**FRIENDS of the San Juans** has been leading sea level rise adaption research and education efforts in the islands. See page 11 for more information.

Building resiliency jump-starts positive changes with our relationships to the natural world, our built environment, and each other. Help support resiliency efforts—and tell your County Councilor that you care about climate resiliency and want the county to prioritize planning for the future.

## Students Slaying Energy Vampires

As more people implement smart energy use in homes, schools, and businesses, it is quickly apparent that even seemingly small changes add up when it comes to reducing our environmental impact.



FRIENDS works with students to save energy through the Cool School Challenge (CSC) in partnership with OPALCO, San Juan Islands Conservation District and Islands Energy. The CSC engages students, teachers, and school districts to find solutions to reduce energy waste, utility bills, and emission pollution school-wide.

“We’re excited to help our school save energy by slaying energy vampires. Shutting down and smart-stripping appliances are simple actions that save energy when addressed school- and community-wide,” said Cilena and Madeline, two juniors at Friday Harbor High School who are implementing the CSC as part of their community projects class.

Many aren’t aware that some electronic devices continue to draw power even when they’re turned off. In fact, the electricity wasted by these “energy vampires” costs the U.S. over \$4 billion a year, or up to \$70 annually for the average homeowner. Using smart power strips for chargers, entertainment centers, and the home office is an easy way to save. Take a tip from students at Friday Harbor High School: switch the strips off when you aren’t using them, and get ready to save energy and money.



# Electric Vehicles are in the San Juans' Future

By Bill Appel, Waldron Island

When I was five, I visited my Great Aunt Lizzie in Missouri. One morning she led me to her garage where we got into a car that looked like a top hat on wheels—I think it was a 1912 Detroit Electric. She turned it on, and it silently exited the garage and quietly rolled toward town. Aunt Lizzie bowed like a true Victorian to the pedestrians we passed at five miles an hour on the virtually empty streets of Clayton. What five year old could ever forget that elegant ride?

That was in 1941. Since Aunt Lizzie's electric car was built, we've been through wars and skirmishes to maintain access to fossil fuels in increasingly devastated lands. And it is "we," because we all use fossil fuels that contribute to this devastation.

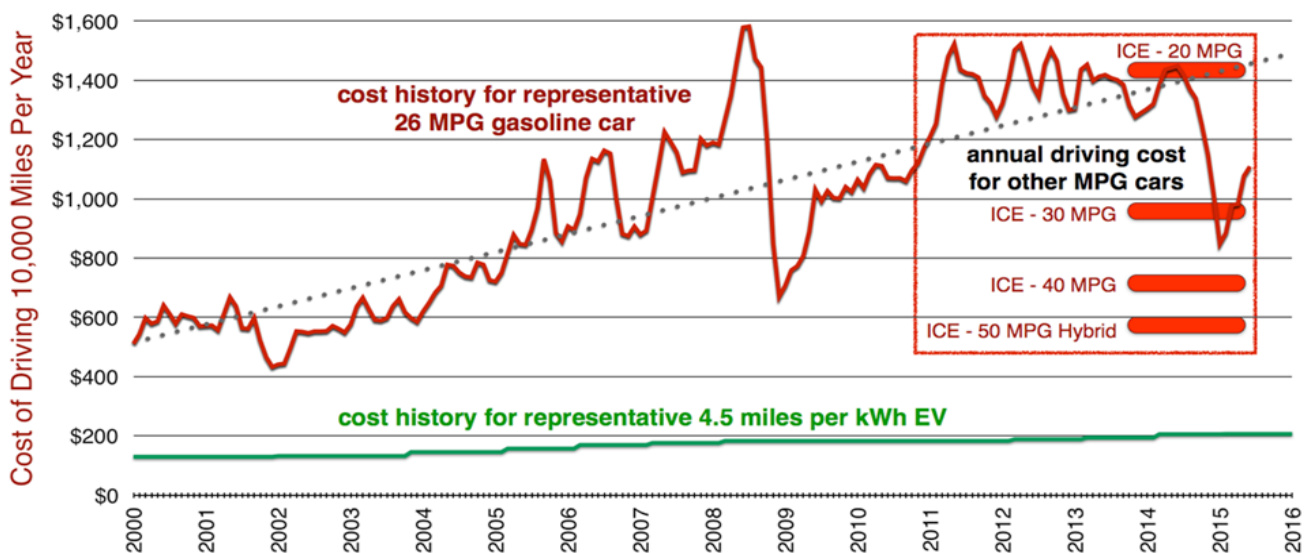
Diminishing the effects of imbalanced environmental relationships requires everyone who can act to do so. FRIENDS formed in 1979 in recognition of the need to balance human activities and nature. Our members are dedicated to achieving this balance.

San Juan County's limited travel distances guarantee the superiority of electric vehicles whose operating characteristics meet or exceed those of internal combustion automobiles. Given the short trip distances on the islands, internal combustion vehicles often can't fully warm up, decreasing gas mileage and increasing pollution. But don't stop there: gasoline costs in the San Juans are incredibly high, particularly when compared to the cost of OPALCO electric power (see graph below).

The economic savings over time are compelling, and so are the environmental savings. Our San Juan Islands are a great place to do what we can in leading the way toward greater resiliency. Driving an electric vehicle, if possible, protects and restores the San Juan Islands and the Salish Sea for people and nature: a mission FRIENDS fully supports!

## Annual Fuel Cost of Driving a Gas Car Versus Electric Vehicle (EV)

Driving 10,000 miles each year - various gasoline cars versus representative EV



Electric price based on OPALCO rate plan to 2016. Representative EV gets 4.5 miles per kWh. Regular octane gasoline average US price through June 2015. Island gas prices tend to be 10%+ higher. Representative gasoline car gets US average 26 MPG. 2015 comparison based on 2 year average gasoline price to smooth volatility, showing gasoline cars with Internal Combustion Engines (ICE) from 20 to 50 MPG.

Source: EIA, OPALCO

# FRIENDS Seeks International Protection from Shipping Risks



## NEW ANNUAL VESSEL TRANSITS

1	Discovery	760
2	Fraser Surrey	160
3	Woodfibre	80
4	Richardson Int'l (increase in vessel size)	
5	Neptune	352
6	Centerm	130
7	W. Coast Reduction	22
8	Viterra	144
9	Westridge	696
10	Pacific Coast	134
11	WesPac	244
12	Roberts Bank 2	520
13	Westshore	86
14	Deltaport	86
15	Malahat	228
16	GPT	974
17	Tesoro	120
18	Seaport Alliance	564
<b>TOTAL NEW TRANSITS</b>		<b>5,300</b>
<b>2013 TRANSITS</b>		<b>12,394</b>
<b>TOTAL 2013 + NEW TRANSITS</b>		<b>17,694</b>

Map of proposed terminals and refineries, which would result in 5,300 additional annual trips—a 43% rise in vessel traffic (September, 2015). Visit [www.sanjuans.org/safeshipping](http://www.sanjuans.org/safeshipping) for more information.

## Proposed 43% Increase in Marine Vessel Traffic

In 2013 there were 12,394 large, commercial vessel transits in the Salish Sea. Fossil fuel interests have proposed new and expanding terminal and refinery projects that, if built, would result in 5,300 more annual trips, a 43% increase in vessel traffic. These transits would occur via large,

commercial ocean-going vessels—container ships, bulk cargo carriers, oil tankers, liquefied natural gas (LNG) carriers—and underwater pipelines.

This leads to some big questions: How would the addition of these fossil fuel export terminals impact climate change? Where will these additional vessels anchor? What is our ability to respond to an oil spill? What are the impacts

to underwater sound from increased vessel traffic? How well do Canadian and US Coast Guards harmonize vessel incident reporting? FRIENDS is asking policymakers to consider these concerns in their project reviews.

Most of the increased vessel traffic would come from British Columbia (BC), Canada, including four proposed LNG export facilities. The Malahat LNG proposal, south of Mill Bay, BC, also includes the proposed Island Gas Connector pipeline project. This project would transport natural gas from Sumas, Washington, over land to Cherry Point, then the pipeline goes under water through Whatcom and San Juan counties and into BC. The threats to natural environments from these proposed projects is significant.

The project representing the greatest oil spill risk is Kinder Morgan's proposed Trans Mountain Pipeline Expansion project, which would increase Canadian oil sands crude oil exports from 300,000 to 890,000 barrels per day. The oil spill risk is compounded by increased vessel traffic in addition to the volume and type of crude oil cargo, which is more environmentally damaging and more costly to clean up in the event of a spill.

## International Maritime Protection

To reduce the risks posed by an oil spill from global shipping, FRIENDS is leading a transboundary effort in Washington State and B.C. to designate the Salish Sea as a Particularly Sensitive Sea Area (PSSA) under the International Maritime Organization (IMO). With our waterways already crowded and intense expansion of international shipping traffic proposed, a PSSA designation can synchronize the Salish Sea's complex, and often conflicting, domestic and international laws and policy goals.

To achieve a PSSA designation, an area's ecological, social or cultural resources must be vulnerable to impacts from international shipping. A PSSA designation allows specific measures to control the maritime activities of large international shipping vessels in that area. These measures include implementing best practices for things such as anchorages, routing systems that avoid certain areas, discharge of ballast water, vessel maintenance, and equipment for ships.

**"This [Kinder Morgan] project will benefit few while posing undue risk for those along its route... This project does not exist in a vacuum."**

San Juan County Council,  
Trans Mountain Pipeline Expansion Comment letter to Canada's  
National Energy Board



## Effects of PSSA Designation

A PSSA designation would benefit the wildlife, marine habitat, air quality, and people who live, fish and recreate in the Salish Sea. FRIENDS has engaged with tribes, scientists, government, industry, and non-governmental partners to draft the nomination report that would tailor protections to regional needs. The designation continues to garner strong support.

## The Value of the Salish Sea

No single measure can accurately capture the impact of a spill, as the effects are so far reaching, on multiple levels. Al Scott Johnnie, Lummi cultural administrative policy assistant, explains the significance of the Salish Sea to his people: "Our villages were along the migratory paths of the salmon. Lummi are the people of the reef net."

For economies heavily based around the natural values of an area, the impact would also be disastrous. For example, the San Juan Islands alone annually receive around 700,000 tourists, in an industry worth over \$158 million per year. Any major shipping accident could destroy this industry.

An oil spill would also impose a staggering toll on our region's wildlife species, including 37 different mammals, 172 birds, 300 fish, and 3,000 invertebrates. With 113 species already listed as endangered, threatened or of concern, there is no such thing as a small mistake when it comes to oil spills.

## Quick Facts about PSSAs:

**A PSSA designation** is a premier global tool a community can adopt to protect a uniquely important marine ecosystem from threats posed to it by international shipping.

**A PSSA is officially defined** as "an area in need of special protection through the IMO due to its ecological, social, cultural, and economic, or scientific significance and because of its vulnerability to damage by international shipping activities."

**There are 14 PSSAs in the world**, with two in the United States: one near Hawaii and the other in the Florida Keys.

**For more information about PSSAs:**  
<http://pssa.imo.org>

## What you can do to help make the Salish Sea the 15th PSSA:

**Invite FRIENDS** to present PSSA information at speaker's bureaus, lecture series, house parties, and other speaking engagements.

**Join FRIENDS** to receive the latest information and add your voice to the growing community support for a PSSA at [www.sanjuans.org/supportFRIENDS.htm](http://www.sanjuans.org/supportFRIENDS.htm)

**Call or send letters** to help inform your elected leaders about the need for PSSA protections.

**DONATE TO FRIENDS'** PSSA designation fund.

**"A major spill would have a significant impact on Washington State's maritime economy which is worth \$30 billion and supports 148,000 jobs."**

– US Senator Maria Cantwell,  
Press Release, 4/ 9/2014

# Bringing Back Living Shorelines

“Living shorelines”—intact coastal habitats that include beaches, bluffs, forests and wetlands—can successfully help adjust to the changes posed by sea level rise. Shoreline trees and shrubs stabilize banks and provide habitat for the insects that nourish young salmon. Bluffs continually “feed” the beaches with new sand as they erode naturally. Kelp and eelgrass meadows and salt marshes absorb wave energy and provide a nursery for dozens of animals. Living shorelines are a critical first line of defense against flooding and erosion.

Leading local efforts to restore living shorelines, FRIENDS works with landowners around the county to improve habitat conditions for today, while ensuring that our shorelines can adapt to rising sea levels. The two projects featured here will improve the landowner’s property for their family, fish, and the future. They will also strengthen the long term resiliency of our natural and human communities.

## Orcas Island Pocket Beach Restoration



On Orcas Island, forward-thinking landowners are relocating structures, removing a massive creosote, rock and concrete bulkhead, removing fill, re-sloping the bank, and replanting the area with native plants. With a grant from the Salmon Recovery Funding Board, FRIENDS helped to make the project even more fish-friendly.

The buffer is now wide, shallow, sloped, and plant-filled. It will absorb energy during storms and protect the home and other infrastructure from floods or erosion. Once finished, the unburied and newly shaded pocket beach will provide more resources for people and nature.

# Brown Island Beach and Bluff Restoration



This armor removal project, coordinated by FRIENDS, removed over 10 dump truck loads of unnecessary large rock, unburying the upper beach and restoring essential coastal processes and habitat. It not only increased the usable beach space for the property owners, but presents major benefits for wildlife like forage fish and juvenile salmon that depend on intact shoreline habitats.



"It all started a few years ago when I saw a newsletter from FRIENDS of the San Juans on armoring and how it can degrade the beach, which was a huge shock to me. That's when we decided to see what we could do to improve our beach."

Mariluz Villa,  
participating property  
owner.

Local contractor Rain Shadow Consulting removed the bulkhead and carefully retained existing trees and shrubs along the bank. Following bulkhead removal, the unburied upper beach was nourished with sand and small gravel. Native dune grass and shrubs, including Nootka rose, ocean spray, salal and snowberry were planted by volunteers and Naturescapes Landscaping to restore the exposed banks.



"In San Juan County, there are hundreds of unnecessary structures like the ones that were just removed, placed in areas with low natural erosion rates. Hard structures not only have direct habitat impacts but also interrupt or change the actual processes that are essential to maintaining our beaches over the long term."

Engineering Geologist Jim Johannessen of Coastal Geologic Services, restoration project designer.

# Shifting Shorelines

Coastal communities across the United States and around the globe are increasingly talking about climate change and sea level rise. Forward-thinking communities are taking steps to prepare for the flood and erosion events associated with rising seas. In San Juan County—a place defined by our extensive and diverse marine shorelines—coastal erosion and flooding are nothing new, but our responses to future impacts might need to be.

Informed and engaged citizens who understand and support the value of living shorelines will make it possible for our islands to adapt and even thrive under a changing climate. To help with local climate adaptation efforts, FRIENDS and Coastal Geologic Services recently completed a two-year Environmental Protection Agency-funded study that identified areas in the county that are most vulnerable to increasing erosion and flooding. It also identified significant opportunities to increase our county's ability to protect both property investments and natural systems. FRIENDS is exploring many of these opportunities with public and private landowners. Results will help develop innovative management solutions that protect both property investments and natural systems.

Reports are available at [sanjuans.org/NearshoreStudies.htm](http://sanjuans.org/NearshoreStudies.htm).

## Sea Level Rise Community Workshop

Thirty-nine Shaw residents recently participated in a workshop to learn more about the likely impacts of sea level rise on local shorelines, including flooding and erosion.



Anonymous surveys showed that a majority of participants are concerned that rising sea levels will threaten public infrastructure within 25-50 years. They also overwhelmingly supported relocation of infrastructure like roads away from hazard areas and preferred 'green' shoreline responses over hard engineered solutions like gravel berms and bulkheads. Most also believe it is important to protect habitat for wildlife and future generations. FRIENDS and our sea level rise project partners (Washington Sea Grant, Coastal Geologic Services and Resource Media) intend to share results of the sea level rise vulnerability assessment on San Juan, Orcas, and Lopez Islands and identify adaptation strategies with broad community support in 2016.





# Shoreline Master Program Update

Let's not roll back existing protections for salmon and beaches!

San Juan County first adopted its Shoreline Master Program (SMP) in 1976 and, after several years of review, scheduled a public hearing on an update for November 30, 2015. Historically, islanders have enjoyed an SMP that balanced thoughtful development with protections for fish and wildlife habitats and natural processes like slow shoreline erosion.

However, the proposed SMP would roll back some of these safeguards and fall short of using newer scientific information. For example, although our community has learned a lot about the San Juans' biologically rich shorelines since 1998, the update would not ensure that the following were zoned for protection:

**8 miles of the most important salmon habitat;**

**10 miles of forage fish spawning beaches; and**

**29.5 miles of feeder bluffs** (which are the only source of sand for many local beaches).

Notwithstanding the importance of shoreline vegetation for these areas, the update would authorize substantial shoreline cutting, like 20% of the foliage and 40% of the trees beyond 35 feet from the highest tides. Even if we thought it unnecessary to protect these areas for their own value, they warrant protection for their economic value—on the order of more than \$2 million per year in ecosystem services.

The update would also roll back specific existing protections, like:

a requirement that **new development avoids disturbing sensitive fish spawning beaches or migration routes;**

a preference for **less harmful mooring buoys rather than docks** in critical habitats like eelgrass and kelps;

a prohibition **against underwater oil pipelines** through our county; and

a limitation on **energy-intensive desalination plants** for new subdivisions.

We've learned a lot since 1976. Let our knowledge build on the protections our parents' generation cared enough to craft.

If you agree that our county should continue its SMP's historically high

standard for protecting marine fish and wildlife, we need your voice. Join our e-news and keep an eye out for emails from FRIENDS about the SMP update process. And contact your County Councilor and the WA State Dept. of Ecology. Even if the public comment period has passed, there will be opportunities to comment to the Department of Ecology during their review.

## County Councilor Contact Information:

**Jamie Stephens**  
(Lopez/Shaw/Decatur)  
378-2898 | [jamies@sanjuanco.com](mailto:jamies@sanjuanco.com)

**Bob Jarman**  
(San Juan & Stuart)  
378-2898 | [bobja@sanjuanco.com](mailto:bobja@sanjuanco.com)

**Rick Hughes**  
(Orcas/Waldron/Blakely) | 472-0253  
[rickh@sanjuanco.com](mailto:rickh@sanjuanco.com)

## WA State Dept. of Ecology:

**Bob Fritzen** | [bfri461@ecy.wa.gov](mailto:bfri461@ecy.wa.gov)

"People come from all over the world to visit or stay in San Juan County. They expect they'll be able to see orca whales, fish for salmon, and view seabirds. These experiences all depend on forage fish, which require living shorelines. Shoreline protections help ensure the long term health of our environment and economy. It takes all of us working together."

Stephanie Buffum,  
FRIENDS Executive Director

# Saving Spawn, Not Lawn

This past summer, FRIENDS successfully defended against two appeals looking to develop surf smelt spawning beaches with unnecessary rock walls. Decision makers had concluded that the ½ inch/year erosion rate did not warrant bulkheading (most of the San Juans' non-rock shorelines enjoy slow erosion at approximately 1-2 inches/year). The unnecessary bulkheads would have arrested that valuable erosion, which contributes essential sand and gravel to fish spawning and salmon habitats. In addition, local studies have found that bulkheads often result in the conversion of shoreline trees and shrubs to lawn. While we enjoy a good round of croquet as much as anyone, we'll happily move it inland a bit for those frisky smelt.

## New FRIENDS Staff

**Jennifer Boyden, Development and Operations Manager**, joins FRIENDS by way of Walla Walla, WA, where she worked with a nonprofit dedicated to finding grass-roots solutions to community



issues. A writer, Jennifer is the author of two award winning books of poetry recognized for their focus on environmental issues. A recent year in China was dedicated to adventurous eating and tracing the steps of classical Chinese nature poets. She is delighted to join the San Juan Island community with her family.

**Lauren Platman, Marine Policy Associate**, recently received her B.A. in Environmental Studies-Sociology from Whitman College in Walla Walla, WA. Before joining FRIENDS, Lauren interned for the Willowa Land Trust in Enterprise, OR and the Washington Water Trust in Seattle. She also spent four months in Nepal studying sustainable development and researching restoration projects on the Bagmati River. At FRIENDS, Lauren is working to help with the



designation of the Salish Sea as a Particularly Sensitive Sea Area. She is excited to explore, research, and protect the uniquely beautiful Salish Sea.

**Jess Beaulieu, Summer Legal Intern**, Jess helped FRIENDS as a legal intern this past summer. Jess is a graduate from the University of Florida with a degree in Wildlife Ecology and Conservation. She currently attends Stetson University College of Law in Florida, focusing



on environmental law. Upon graduating, she intends to work for a nonprofit environmental group on the west coast.



## New Board Members

**Doug Crosby** worked in an underground mine in Colorado mountains for 30 years. He retired in 2001, lived on the island of Chiloe, Chile and spent the last 15 summers exploring the Washington, British Columbia and Alaska coasts in his sailboat, IONA. When they are not on the water, Doug and Terri Cable share a small cabin on Shaw Island. Doug remains passionate about maintaining the quality of life we all



Doug Crosby, Paul King, Bruce Rylander, Susan Dehlendorf

enjoy in the San Juan Islands and supports FRIENDS in their effort to preserve and improve the Salish Sea.

**Paul King** grew up in Ireland and moved to the U.S. in 2000. Shortly after, he visited Orcas Island where he immediately felt at home. He has worked in many parts of the world (mostly on islands) as a technology executive in organizations ranging from startups to Fortune 500 corporations to non-profits. Previously the senior technology officer for the US Program at the Bill and Melinda Gates Foundation, Paul currently heads client technology at

the American Institutes for Research. Paul is particularly interested in understanding how best to mitigate the ecological impact of development on the San Juan Islands and the Salish Sea.

**Bruce Rylander** has been a longtime home owner and part-time resident of Orcas Island for more than 20 years. He moved to the island full time three years ago, and retired from various positions as a Finance Executive and Business Consultant. As a longtime member of FRIENDS, Bruce supports FRIENDS' organizational

goals and objectives to preserve the Salish Sea ecosystem and maintain the character and quality of island life.

**Susan Dehlendorf** and her husband, David, have lived on San Juan Island for the past 13 years. She is a retired City of Seattle bureaucrat whose early career was in journalism. She is active in the local League of Women Voters and previously served as a County Planning Commissioner. She holds two degrees from Stanford University. She and David are proud parents of two accomplished daughters and grandparents of three.

## Shell No!

Our hearty thanks to the many of you who attended scoping hearings in October to ask for a full environmental review of the impacts of Shell's proposal to expand rail shipments of oil to its refinery at March Point. You may not know that the hearings almost never happened. Last winter, we worked with several other organizations to successfully appeal Skagit County's determination that the project would not cause a significant environmental impact. In upholding our appeal, the Hearing Examiner noted the potential danger in shipping highly flammable, explosive crude oil through places like downtown Burlington and Mount Vernon. Let's keep up the pressure and make sure that any decision on the expansion takes a full accounting of the harm it would cause to our communities and the rails and waters that connect us all.

# Citizen Science: Want to See the Future?

**Do you have a digital camera or camera phone? If so, help local and regional researchers capture this year's king tide!**

Join FRIENDS and king tide volunteers from your community and across the globe to document the year's highest tides by taking photos of your favorite local shorelines. This year's highest tides are predicted for around 8:00 am the mornings of December 27th and 28th, 2015. Images with some recognizable feature such as a road, unique rock or tree, or building are the most effective.

A "king tide" is the highest predicted high tide of the year at a given coastal location. These highest tides occur naturally when the sun and the moon align, increasing the gravitational pull on the Earth's oceans. This only happens one to two times per year.

Tide levels are influenced by local weather, with low barometric pressure and high winds resulting in even higher water levels. This happened last year, when the king tides coincided with a storm and brought waves and logs up and over areas such as Crescent Beach Road on Orcas.

Send your pictures to [tina@sanjuans.org](mailto:tina@sanjuans.org) with information on when and where the picture was taken. By sharing your pictures you will help our community see the future. Visualizing sea level rise can help us understand how to reduce future impacts. FRIENDS will compile and share these pictures. The WA Dept. of Ecology and WA Sea Grant also maintain a website to share your photos: <https://www.flickr.com/groups/1611274@N22/pool>

Always remember—your safety is more important than an image, so use caution in high wave or high water events.



Crescent Beach after Public Works crews cleared the road of large wood. Photo by Janet Alderton.

## Save the Date!

**Explore, Restore, and Learn at Upcoming FRIENDS Events**

### How Birds Fly Presentation w/ Peter Cavanagh

Sat., Feb. 6, 7 p.m., Brickworks in Friday Harbor & Sun., Feb. 7, 4 p.m., Orcas Center in Eastsound

### Leave a Legacy Planned Giving Workshop

Tues., Feb. 11, 12:15-1:45 p.m., San Juan Island Library

### Wildflower Walk on Yellow Island

Fri., May 13, 9:30-2 p.m.

### Canoe Island Family Camp, June 11-12

Contact us for information or RSVP to [katie@sanjuans.org](mailto:katie@sanjuans.org) or 360-378-2319.

Stay tuned for many more, including boat trips to Sucia and Patos as well as hikes on Shaw and Lopez!



P.O. Box 1344, Friday Harbor, WA 98250  
360.378.2319 • [www.sanjuans.org](http://www.sanjuans.org)

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