

*some things are
worth protecting...*



FRIENDS

• *of the San Juans* •

Summer 2006

Executive Directors Report

What is your favorite outdoor activity in the San Juan Islands? Gardening, boating, viewing our majestic wildlife? Fishing for salmon, lingcod or Dungeness crab? Walking on a beach? Each of these activities can provide us with a strong sense of place in the San Juans.

As an island community, there are many ways to define our sense of place... by the animals that frequent our islands, by the food we harvest, by our outdoor pursuits, and by our stories, music and art.

For 100 years the San Juan County community has been coming together to showcase and celebrate our island heritage at the annual county fair. From canned preserves to 4-H exhibits, the fair is a showplace for San Juan County products and agriculture.

As islanders, we love being part of this chain of sustenance and bounty. We love this culinary communion with generations of islanders. And we love that some part of the stewardship of these treasures lies, for the moment, in our hands.

On the cover of this newsletter are Sara and Ellery Jones of the Jones Family Farms. Nick and Sara feed our bodies with island-raised beef, pork, shellfish and specialty smoked meats and salmon. Nick and Sara embody the revival of agriculture and land ethic in the islands.

Like Nick and Sara, FRIENDS is looking for innovative ways to preserve our island character, natural resources, and sense of place while harnessing growth and development in the islands.

Our four goals represent our commitment to this place: preserve the character of the islands, conserve natural resources, promote ecological stewardship, and promote environmental protection.

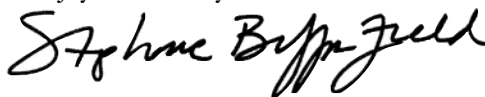
For over 25 years, FRIENDS of the San Juans has been working to protect the land, water, sea and livability of the San Juan Islands through science, law, policy and education.

Your ongoing support to FRIENDS will ensure that we have the resources to answer calls for help, provide expert assistance to those who need it and work proactively to protect the islands' special places.

Whether you're in your garden, boat, or on the beach, I think you will agree that some things are worth protecting.

In closing, I would like to thank our guest authors: Shann Weston, Nick and Sara Jones, Don Rothaus and Martin Raphael, who have provided valuable insight into our sense of place.

Enjoy the bounty of the season!



Stephanie Buffum Field



FRIENDS

· of the San Juans ·

OUR MISSION

To protect the land, water, sea and livability of the San Juan Islands through science, education, law and citizen action.

BOARD OF DIRECTORS

Ralph Hahn - San Juan
Lynn Bahrych - Shaw
Jon Christoffersen - Shaw
Roger Collier - Orcas
Irmgard Conley - Orcas
Tom Owens - Orcas
Fred Ellis - Shaw
John Marx - San Juan
Patti Pirnack-Hamilton - Orcas
David Sarver - Orcas
Farouk Seif - Orcas
San Olson - Lopez
Mark Gardner - San Juan Island

FRIENDS Newsletter is published four times per year.

STAFF

Executive Director

Stephanie Buffum Field
(stephanie@sanjuans.org)

Science Director

Tina Whitman (tina@sanjuans.org)

Development Director

Shannon Davis
(shannon@sanjuans.org)

Office Manager

Jana Marks (jana@sanjuans.org)

Legal Director

Amy Trainer (amy@sanjuans.org)

P.O. Box 1344
Friday Harbor, WA 98250
360-378-2319
www.sanjuans.org

Cover photo by Nick Jones

Backpage photo by
Mark Gardner

Newsletter design
by Tif & Gif Creative

Printed on 100% recycled paper

“For thousands of years, people relied on their environment – their place – for everything they needed: food, water, security and sources of inspiration for cultural life... then people started moving into cities, importing food, getting water from taps, and building houses from materials shipped from somewhere else. Old stories of place became lost. We forgot where water and air come from. We forgot names of plants we gathered to eat, or how to build houses out of local materials. We broke the old connections between ourselves and the natural world. As a result, much of our natural world is now at risk.”

- Holly Arntzen, *The Salish Sea, A Handbook for Educators*

A Sense of Place: Good for You, Good for the Earth

By Shann Weston



A sense of place, is it real? Compare it to one of the most recognized senses of all - the sense of humor - invisible, but still completely discernible. And we sure know when it is missing! Humor is foundational to the human spirit. A sense of place is less well known but equally essential to people for the grounding balance it

provides in a fast-moving world. A sense of place creates a feeling of belonging to the place we walk upon. It makes our home intimate, personal and full of heart. It is also a healthy hobby, drawing people into contact with nature, and inspiring a never ending series of questions to stimulate the mind.

How could a sense of place be good for the earth? Consider this: our isolation is a myth. The allure of this island archipelago - spread like an emerald necklace across Canadian and American waters in the very center of an extraordinary ecosystem called the Salish Sea - attracts new residents in ever increasing numbers. Fed by fast cold rivers from four mountain ranges, mixed and turned by powerful tides, currents, and wind, this bountiful inland sea is not only beautiful, it is also extremely productive. Now the very charisma of this setting threatens its ability to stay whole. Many rapidly growing cities encircle the Salish Sea: from Olympia to Bellingham, Vancouver to Victoria. In 1998, the 1000 Friends of Washington concluded that the San Juans were one of the most endangered places in the state. San Juan County is the fastest growing county in Washington. These burgeoning numbers are changing the face of island life day by day.

Many new residents come here with no knowledge of its history or of its environment. The good news is that a sense of place can develop rapidly in “chosen places”, where dramatic landscapes and intense experiences lead quickly to attachment. The bad news is that the islands stand to lose many families and long-time residents as the cost of living soars. The critical question for those of us who love this place is how to create a continuity of knowledge, values and practices to protect what is critically at stake here.

How do we accomplish this important task? Islanders - new and old - must take every opportunity to teach ourselves and those newly arrived to protect our special and sacred spaces using story, song, celebration and education. When we truly inhabit our home we more clearly understand the implications of our actions on it; we learn to expand our love of orcas or eagles to the whole bioregion. We can be playful. Write directions to your house without referring to any streets, buildings, or other human artifacts! Celebrate the seasons! Interview someone who lived in your neighborhood 50 years ago.

Developing a sense of place is urgent but also fun. It's more important now than ever that we all commit to creating positive change because change, positive or negative, will inevitably happen.

Shann has a life long passion for whales and marine life. She has a Masters of Science in Natural Resources from the University of Alaska. In her ten years on the islands, she has worked for the Whale Museum, the University of Washington Sea Grant, San Juan Nature Institute, Elderhostel and FRIENDS of San Juans. She teaches environmental science at the high school and community college level and works as a naturalist on the Western Prince.



Photo by Mark Gardner

A conversation with Lopez Island Members Nick, Sara and Ellery Jones

Maintaining a Sense of Place Through Fishing

In an era of rapid changes to the county, and in the midst of what often seems to be the unraveling of the very fabric of the islands, Nick and Sara Jones are doing their part to hold down this corner of the world.

Lopez Islanders Nick and Sara Jones, own and operate three food production operations: Jones Family Farms, the Barlow Bay Fish Company, and Sweetwater Shellfish Farm. They raise grass-fed cattle and natural, free-range pork on 240 acres of leased land on Lopez Island; grow shellfish on seven acres of submerged lands on Shoal Bay, Lopez Island, and seasonally harvest healthy local fish stocks with a 32' wooden commercial gillnet boat, the F/V Revival.



Nick came to Lopez in the early nineties to attend high school. He lived with the Buzzards, a long time logging and fishing family. *“Many of our legendary old timers were still alive and active fifteen years ago, and I got a taste of how they had built their lives on the island’s natural endowments with their own labor and integrity. I saw what the island and the island community meant to those who truly depended on both for their well-being. That was the island culture I landed in, and I liked it.”*

From this springboard, Nick launched his own fishing career. After a stint in Alaska, Nick returned to Lopez. *“I tried to quit fishing, but Dan Shipley gave me an old boat, and Dick and Jean Plummer leased me a permit. A college friend and I managed to wrangle enough salmon to make a little money selling our catch on the island.”*

Sara grew up on her family’s dairy farm in western New York, next door to her uncle’s farm and a quarter of a mile from her grandparent’s farm. After college Sara came home to help her mother on the farm. *“I wasn’t sure what I wanted to do, so I came home to help mom with the dairy. Commodities dairy farming is a tough way to make a living, even in the best of times.”* So Sara went looking for a job and new adventures at Camp Orkila on Orcas Island. From there she gravitated back to her farming roots with a job at Horsedrawn Produce on Lopez Island. *“I have always dreamt of the sort of farm my grandmother has with a couple of cows, some chickens, some pigs, a few steers and a big garden. Then Nick and I met and we began our own farming ventures.”*

Fishing was their first enterprise, but fishing is seasonal, and very unstable. Instead of taking side jobs to make ends



“We glory in the fact that every spring the phytoplankton blooms and sparks an explosion of life that culminates in clams, herring, salmon, whales, and, ultimately us.” – Nick Jones

ng, Farming and Community Relationships

meet, Nick and Sara decided to add complementary food production operations. First, they bought a handful of steers from Dennis Hare to raise up and sell on the island. Then, recognizing the amount of unused land on Lopez and the opportunities provided by the Island Grown Farmers Coop mobile slaughtering unit, they decided to go into the business of raising grass-fed beef cattle and pork. Assistance was provided by the Buffum Brothers. To round out their operations, they recently bought a clam farm and began harvesting this past year. Now, six years into their experiment, *“We have found work that engages us, challenges us, serves our community, involves our family and friends, and makes us proud.”*

Much to their surprise, they have also become part of a local natural food production revival. *“This was the missing element to make island food production viable again. Now people are starting to realize how much better local foods are and are increasingly willing to pay extra for local products. Local foods taste better, are healthier, have far less impact on the environment, consume vastly less energy, help maintain our landscapes and bind the consumer to the ongoing legacy of production here.”*

“We have come to appreciate and revel in the strength and richness of our island and its seaways. On the water all life depends on the annual phytoplankton boom. Early spring at the clam farm we see the plankton spark an explosion of life. On land the same lengthening days fill our fields and fatten our cattle. These are potent, eternal forces, and we are all ultimately dependant on them. We love that our fish and shellfish are the exact same foods that first lured people here thousands of years ago. We love being part of this chain of sustenance and bounty. We love this culinary communion with generations of islanders. And we love that some part of the stewardship of these treasures lies, for the moment, in our hands.”

Nick and Sara strongly believe that San Juan County has a unique opportunity to foster a broad-based, year-round food production culture and economy. *“Right now there are tremendous opportunities here to expand food production. We want to see a future for San Juan County where protection of productive resources becomes a matter of economic development. We want the average county resident to treasure these resources as the valued source of their sustenance. We do not accept the notion that the county must sacrifice our rural integrity and biological function to maintain social and economic diversity. To the contrary, we feel that maintaining and maximizing our ability to provide for ourselves creates far more opportunity than surrendering to a full-blown service economy. This is why we are members of the FRIENDS of the San Juans. We may not always agree with everything they say*



“Ellery is only 14 months old and I feel extremely lucky to give him the opportunities that I had growing up — a farming life in a small community.” – Sara Jones

or do, but they are the only group focused on building a coherent, positive vision for the county. They are the only full time advocates for the values we treasure and the resources we depend on. We are proud to support the FRIENDS of the San Juans, and proud to participate in their initiatives.”

Nick and Sara love showing people how the origins of their food will impact the flavor and their health and well-being. They love demonstrating to their customers how a steak from a cow finished on flush spring grasses will differ from one finished in the fall, or how either outshines feedlot alternatives.

You can find Nick and Sara Jones selling their meats and seafood weekly at both the Lopez and Orcas Island farmers markets. Food products from Jones Family Farms, the Barlow Bay Fish Company, and Sweetwater Shellfish Farm are available in almost 20 restaurants and stores throughout the islands. Nick and Sara Jones can be reached at Barlowbay@rockisland.com or 468-0533.

Support community agriculture, shop at your local Farmers Market and request locally produced items in restaurants and stores.

Shoreline Research Identifie

Declining salmon populations have drawn attention to the importance of preserving intact beach habitats for spawning surf smelt and sand lance. These forage fish are a critical food source for salmon, seabirds, rockfish and marine mammals.

San Juan County's shorelines are recognized regionally for their extensive nearshore marine habitat and the role they play in supporting marine food webs. With the overall goal of improving conditions for forage fish, salmon, seabirds and orca, FRIENDS of the San Juans recently completed two county-wide projects to identify and prioritize beach restoration projects.

County Nearshore Impact Assessment

In San Juan County, our public infrastructure is heavily concentrated along shorelines that have high biological value. FRIENDS recently layered digital maps of County-owned infrastructure and properties (roads, boat ramps, docks, stormwater outfalls, culverts and hardened shorelines) with natural resource data (eelgrass, forage fish spawning habitat, wetlands and streams). Project results indicate that shallow, semi-enclosed bays are at the most risk. A summary of results is provided to the right...

Shoreline Armoring: The addition of rock, wood or concrete structures along the shoreline to decrease the impact of waves and prevent bank erosion is a major cause of shoreline habitat destruction. San Juan County owns 7 shoreline parcels with bulkheads; 5 of the 7 are impacting documented surf smelt spawning beaches.

Roads Along the Shoreline: Road installation, long-term presence, and maintenance activities damage beach habitat through shoreline armoring, increased sedimentation and stormwater runoff. More than 10 miles of County roads are located along shorelines with the majority of the impact concentrated in four locations: West Sound, Blind Bay, Fisherman Bay and Barlow Bay/Mackaye Harbor. All of these sites support spawning forage fish (Pacific herring, surf smelt, and/or Pacific sand lance) and eelgrass communities.

Stormwater Outfalls: Stormwater outfalls can threaten habitat by increasing erosion and concentrating sediment and other pollutants. All but one of San Juan County's 82 shoreline stormwater outfalls drain onto beaches with eelgrass. 50 stormwater outfalls directly impact documented forage fish spawning sites.

Salmon and orca recovery planning efforts have focused public awareness and resources onto critical nearshore habitats. While individual private property owners play a large role in managing shoreline habitats, results of the *County Nearshore Impact Assessment* clearly show that significant opportunities exist for the entire community to contribute to species recovery efforts through improved management of county waterfront property and infrastructure such as roads and stormwater outfall pipes.



Impacts to this surf smelt spawning beach at West Sound, Orcas Island, include shoreline armoring, stormwater outflow, docks and a road along the backshore.

s Stewardship Opportunities

Soft Shore Restoration Blueprint

Over the past year, FRIENDS of the San Juans teamed up with experts from Coastal Geologic Services in Bellingham to develop a *Soft Shore Restoration Blueprint* for San Juan County. Soft shore restoration and protection techniques protect shoreline property but also incorporate maintenance of marine habitat conditions into their design. The goal of the *Soft Shore Restoration Blueprint* was to combine physical, biological and social data to create a scientifically-based prioritization of soft shore restoration sites for San Juan County. Over 100 properties with bulkheads and more than ten miles of shoreline roads that threaten forage fish spawning habitat were included in the blueprint project. Forage fish, eelgrass, geologic and physical beach data and results of landowner willingness surveys were used to rank habitat values and evaluate the feasibility of restoration projects. Funding for the Blueprint project was provided by The Russell Family Foundation and the U.S. Fish and Wildlife Service.

Over 240 landowners on beaches with shoreline armoring were surveyed to determine individual beach conditions and potential interest in soft shore restoration. 113 landowners provided valuable feedback that was applied to the scientific analysis. Survey results documented high interest, by both public and private shoreline landowners, in exploring soft shore restoration alternatives.

After initial scientific analysis and ranking, 36 priority beaches were visited by the research team. Information collected in the field assessments was used to determine the projects with highest likelihood to provide significant habitat improvements. Specific restoration actions such as beach nourishment,



Engineering geologist Jim Johannessen inspects a potential soft shore restoration site in Deer Harbor.

bulkhead removal and road relocation were identified for the highest ranked projects.

Like the *San Juan County Nearshore Impact Assessment* described on page 5, the *Soft Shore Restoration Blueprint* identifies significant beach restoration opportunities on San Juan County owned shoreline properties and infrastructure. Seven of the top ten sites ranked by the *Soft Shore Restoration Blueprint* identified beach nourishment projects along county roads or removal of structures from county shoreline property.

Results of both nearshore habitat projects demonstrate the connection all San Juan County residents have to the stewardship of our shorelines and the recovery of salmon and orca whales. The *County Nearshore Impact Assessment* and the *Soft Shore Restoration Blueprint* can be found online at... www.sanjuans.org/shorelinerestoration.htm

Are you concerned about beach erosion? Wondering how to protect that favorite Madrona tree on the bluff? Curious about what marine resources might inhabit your beach? FRIENDS of the San Juans may be able to provide you with expert assistance.

Over the past few years, FRIENDS of the San Juans has conducted extensive nearshore marine surveys and provided basic information to hundreds of shoreline landowners on the location of critical habitats including eelgrass and forage fish spawning sites. At FRIENDS, we recognize that detailed technical assistance for shoreline landowners is hard to find in San Juan County. We also understand that guidance from one-on-one expert site visits is critical to improve management of water, vegetation and shoreline erosion. In response, FRIENDS has secured a small amount of grant funding from the Puget Sound Action Team to bring regional shoreline management experts Elliott Menashe (shoreline ecologist, forester) and Jim Johannessen (coastal engineering geologist) to San Juan County to provide site consultations with interested landowners in priority locations. Space in this program is very limited. If interested, contact Tina Whitman, at 360-378-2319.

Eyes on Eelgrass in the

Why worry about eelgrass?

Eelgrass (*Zostera marina*) is a productive shallow water habitat that plays a critical role in nearshore food webs. Eelgrass provides essential habitat for juvenile salmon, Pacific herring and Dungeness crabs. Dramatic eelgrass loss was documented in Westcott Bay between 2000 and 2003, motivating public and private partners to join together to develop a restoration plan for the bay.

Since then, detailed analysis of eelgrass distribution has documented declines in multiple San Juan County bays, not just Westcott. The causes for these habitat declines are unknown. Project partners agreed that more information was needed before moving forward with restoration efforts.

Eelgrass is sensitive to environmental changes. Upland activities can damage eelgrass by impacting the water, sediments and nutrients entering eelgrass habitats. Other factors known to affect eelgrass include elevated temperatures, disease, direct impacts from anchoring and buoys and shading from overwater structures such as docks and marinas.

Efforts to restore eelgrass in Westcott Bay led to more questions, and collaborative research projects, to better understand eelgrass declines in the San Juan Archipelago. Research partners include the University of Washington, FRIENDS of the San Juans, Washington Department of Natural Resources, United States Geological Survey and the Washington Department of Ecology. Researchers are investigating eelgrass distribution, water quality and sediment and eelgrass plant conditions to help determine the causes of local eelgrass declines.

Collaborative Research in Progress



Eelgrass Distribution

Methods: The Department of Natural Resources has been monitoring trends in Puget Sound eelgrass distribution using underwater video methodology at select sites since 2001. To provide more information on local areas of concern, FRIENDS is using the same methods to map eelgrass distribution in Westcott, Blind and Fisherman Bays this summer.

Preliminary Results: Underwater video monitoring results indicate a pattern of sharp eelgrass declines in several shallow embayments in San Juan County.

left: *Underwater video collected along transect lines in eelgrass beds are used to determine changes in eelgrass distribution over time. Photo by Chris Teren*

Water Quality

Methods: Water quality profiles are monitored at 10 San Juan County locations each season. In addition, continuous temperature monitoring stations were established at multiple intertidal sites with eelgrass. Remote sensors record temperature data every 30 minutes, year round, providing a detailed look at the environmental variations eelgrass plants are subjected to on a daily, seasonal and annual basis.

Preliminary results: While water quality results have not yet been analyzed, a temperature range of over 30 degrees Celsius was recorded by remote sensors set among intertidal eelgrass plants from June 2005 through June 2006.

right: *A water-quality profiler collects data on temperature, salinity, chlorophyll concentration, dissolved oxygen and light penetration at deep and shallow water sites.*



San Juan Archipelago



Eelgrass Plant Conditions

Methods: Changes in eelgrass plant density, flowering occurrence and growth rates are being monitored by University of Washington researchers to help assess the suitability of sites to support eelgrass. Leaf samples were also collected to determine whether disease is present.

Preliminary Results: Initial eelgrass plant studies found higher shoot densities and rhizome growth rates at open beach sites compared to shallow water bays. A disease-causing slime mold (*Labyrinthula*) was present in many plant samples. More investigation is needed to determine if widespread infection played a role in the observed losses.

left: *Lead researcher Dr. Sandy Wyllie-Echeverria (UW) and students document eelgrass plant conditions at Beach Haven, Orcas Island.*

Sediment Conditions

Methods: Information on sedimentation rates, grain size, sediment oxygen levels and sedimentary contaminants was collected at multiple priority bays in the summer of 2005 by the United States Geological Survey.

Preliminary Results: Westcott Bay sediment sampling indicates that low oxygen and high levels of the heavy metal cadmium may have made eelgrass more susceptible to die-off. Initial studies of sediment cores show that many bays are characterized by recent deposits of fine sediment that may directly bury new eelgrass shoots, carry nutrients or contaminants, and/or reduce light availability. In 1997, a significant spike in fine sediment accumulation was recorded at the Department of Ecology's long term sediment monitoring station north of Patos Island, indicating that regional scale impacts from the Fraser River may be a factor in localized eelgrass declines.

right: *USGS researcher Eric Grossman prepares a sediment core sample for lab analysis.*



Project Funders: Washington State Salmon Recovery Funding Board, The Russell Family Foundation, the San Juan County Marine Resources Committee and WA Sea Grant.

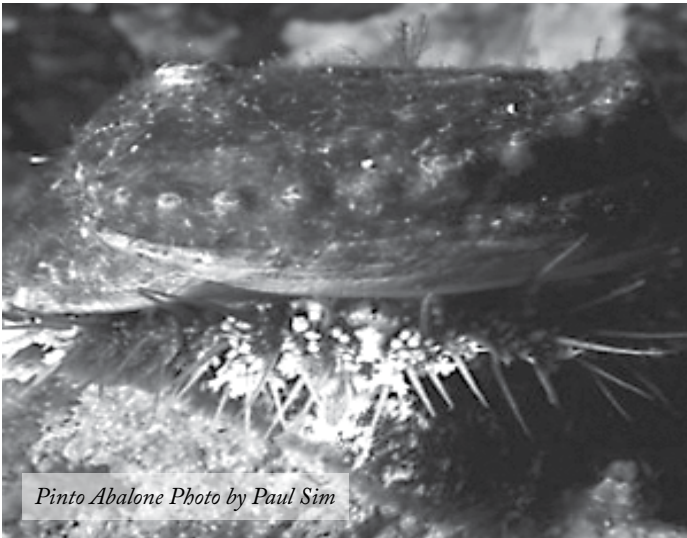
In Kind Supporters: Friday Harbor Marine Labs, Wyllie-Echeverria Associates, Scientists Jan Newton (UW) and Anne Boettcher (University of South Alabama) and Boat Skippers Jim Slocomb and Skip Bold.

Next Steps

Research results will be analyzed to develop a more complete picture of the conditions affecting eelgrass in the San Juan Archipelago. Findings from other Puget Sound locations, such as Hood Canal (which is also experiencing eelgrass declines) will also be reviewed. Project results will identify additional information gaps, inform restoration planning efforts and determine if improved eelgrass protection policies are needed.

The Vanishing Pinto Abalone

By Don Rothaus, Washington Department of Fish and Wildlife - Central Shellfish Dive Team



Pinto Abalone Photo by Paul Sim

The pinto abalone (*Haliotis kamtschatkana*) has been designated by Washington Department of Fish and Wildlife (WDFW) as a “Sensitive Species” and was listed in 1996 as a “State Candidate Species”. In 1999 the Canadian government listed the pinto abalone in British Columbia as a “Threatened Species”. In 2004 the United States Department of Commerce/NOAA Fisheries federally listed the pinto abalone as a “Species of Concern”.

Diving surveys conducted by WDFW from 1979 through 2006 show a large-scale decline in pinto abalone abundance in Washington State. Sport fishing for abalone has been closed since 1994, yet surveys through 2006 show continued declines.

The reasons for the decline are not fully understood. It may be that catch rates were too high during the years when sport fishing was allowed. Evidence suggests that commercial sea urchin and sea cucumber divers continue to poach significant numbers of abalone. Changing environmental conditions such as temperature, salinity, siltation, pollution and reduction in available habitat may be partially to blame. Most likely some combination of all of these stressors has played a role in the declines in Washington abalone populations.

Currently, pinto abalone may be at density levels that may make natural recovery of this species impossible. Abalone are “broadcast spawners”. The males and females eject their gametes (sperm and eggs) into the water column and rely on release timing, large quantities of gametes, favorable ocean conditions and random chance to facilitate fertilization. When abalone are too distant from one another the chance

of successful reproduction is dramatically reduced. The lack of reproductive success results in fewer juveniles to replace the older abalone that die. This process creates a continued decline in the population even when there is no fishing pressure.

Pinto abalone are found in nearshore, rocky habitat at depths from the shallow subtidal to 35 + feet. They tend to be found in dynamic areas exposed to heavy weather and current. They are associated with kelp beds, which is the primary adult food source. Pinto abalone are cryptic, often occupying spaces that may hide individuals from casual observers. Cracks in rocks, spaces under and between boulders and small ledges in rocky walls are common microhabitats used by these marine mollusks. They also occur on open rocky surfaces, but their shells may be encrusted with filamentous algae, bryozoans, and crustose coralline algae, enabling them to blend into the surrounding environment. Abalone are also associated with red and green sea urchins. These three animals are important herbivores in nearshore habitats and keep rocky substrate clear for settlement of other invertebrate species.

WDFW, in collaboration with researchers from the University of Washington, will continue to monitor and study this sensitive species. Through this collaboration it is hoped that viable enhancement strategies can be developed and implemented to restore pinto abalone populations to stable levels.

What you can do? Report Poaching to the WDFW Poaching Hotline [1 (800) 477-6224]. Divers can also report abalone observations like spawning behavior or areas with large numbers of abalone (for example: 10 to 20 individuals within 30 feet of each other) to Don Rothaus at rothadpr@dfw.wa.gov. Please note the date, time, depth, specific location (GPS data if available), and shell lengths (if possible).



WDFW Abalone Research Team

Unraveling the Mysteries of the Marbled Murrelet

By Martin G. Raphael - U.S.D.A. Forest Service, Pacific Northwest Research Station



The Marbled Murrelet is a seabird in the family Alcide that nests on limbs of large coniferous trees along the west coast of North America. Listed as threatened, murrelet populations have declined with the loss, mostly from logging, of their nesting habitat. Because the murrelet's behavior is very secretive, the Marbled Murrelet remains one of our most poorly known birds. However, researchers are slowly gaining knowledge about its movements, nesting habits, and population trends.

Over the past 10 years, research groups have been conducting at-sea surveys for the bird throughout the San Juan Islands and Puget Sound. Population size has been fairly consistent over this time, averaging about 10,000 birds each year in Washington waters. Reproductive rates are very low and only about 6 young have been observed for every 100 adults. Reproduction suffers from loss of eggs or chicks due to predators, and from periodic shortages in prey that inhibit breeding. Locally, surveys indicate that the number of birds in the San Juans increase dramatically from May to August but the reasons are not clear. Researchers think this increase reflects better feeding conditions around the San Juans and may also result from birds that visit this area before dispersing further south.

Over the past three years scientists have captured nearly 100 murrelets and fitted them with tiny radio transmitters. They locate the birds each day by searching

for their radio signals from a small aircraft outfitted with antennas and a receiver. This work has shown that murrelets cover a very large area and are able to fly long distances. For example, one of the birds was captured on June 8 near La Push. Observers found that bird along the outer coast until June 26, when they found it about 100 yards off the beach near Kalaloch. The next day they found it just north of Shaw Island, a straight line distance of over 100 miles. Two birds that we captured near Port Angeles nested on Vancouver Island and regularly flew round trips of 120 miles each day to attend the nest.

Murrelets nest on the mossy limbs of large old trees, most often in large intact patches of forest. Over the past 10 years, researchers have developed a much better understanding of the bird's habitat requirements and have produced maps showing the amount and location of suitable nesting habitat throughout the bird's range in Washington, Oregon, and California. Managers are using this map to estimate changes in habitat over time on both federal and nonfederal lands and to relate these conditions to murrelet population counts from at-sea surveys. They have found that the amount of potential nesting habitat is the primary driver of at-sea population size, so that conservation and restoration of suitable habitat remain our primary means to recover this fascinating bird.



Marbled Murrelet photo by Gus Van Vliet/ USFWS

news

Proposed Critical Habitat for Orca

Federal officials have proposed nearly all of Puget Sound, the waters of the San Juan Islands and the U.S. half of the Strait of Juan de Fuca be designated critical habitat for endangered Southern Resident Orca Whales. A public hearing on this proposal was held in Friday Harbor on July 13.

FRIENDS commented that the critical habitat designation was a step in the right direction but that the proposal should also include shoreline waters shallower than 20 feet and outer-coast habitat where the orcas spend 50% of their time. FRIENDS also suggested that the plan include incentives for cleaning up toxins in the marine environment and address potential impacts from global warming.

Establishing a critical habitat for an endangered species is the next step after listing the orca. After the critical habitat is approved, the next step is to establish a recovery plan. NOAA/Fisheries intends to issue its final recommendation for critical-habitat designation by November.



Orca Listing Challenged

The Washington Farm Bureau and Building Industry Association of Washington (BIAW), represented by Pacific Legal Foundation, filed a lawsuit this spring challenging the Endangered Species Act (ESA) listing of Southern Resident Orcas. FRIENDS of the San Juans has joined a coalition, led by Earth Justice, to intervene in the lawsuit to uphold the Southern Resident ESA listing. The Farm Bureau asserts that the listing will result in “needless water and land use restrictions on Washington farms” to protect salmon. BIAW claims its members will be harmed by restrictions on coastal development, water pollution discharges, land clearing and grading, and water use.

Fresh Water Resources Update

The San Juan County Water Resources Management Committee has been working with hydrogeologist Doug Kelly on two major policy issues, seawater intrusion and well testing parameters for new subdivisions. The Committee is studying at-risk groundwater areas by testing wells to obtain information about sustainable capacity, sea water intrusion and potential nitrate contamination. Priority areas include Lopez Island, Eastsound, and Deer Harbor. Recent Hearings Examiner decisions in Deer Harbor and on San Juan Island have prompted policy discussions on well testing parameters for new subdivisions. The draft policies may require developers to perform additional well testing to prove that new developments will not impair existing wells, water rights and water quality.

Critical Areas Ordinance Update

San Juan County is in the process of updating their Critical Areas Ordinance. To preserve the natural environment and protect the public’s health and safety, Washington State designated five types of environmentally significant critical areas: geologically hazardous areas, frequently flooded areas, critical aquifer recharge areas, wetlands, and fish and wildlife habitat conservation areas. Critical areas fall into two overlapping categories: those that are ecologically valuable for the life-sustaining benefits they provide and those that are hazardous to human safety. The state requires that critical areas be delineated and development regulated.

To achieve meaningful revision to the Critical Areas Ordinance, involvement by local citizens is crucial. Active participation will improve your understanding of the science behind the policies and lead to improved regulatory and voluntary compliance. Contact the San Juan County Community Development and Planning at 378-2354 for more information. The following advisory committees will also be involved with the update:

San Juan County Planning Commission
contact Lynda Guernsey at 370-7579
lyndag@co.san-juan.wa.us

San Juan County Water Resource Committee
contact Vicki Heater at vickih@co.san-juan.wa.us.

San Juan County Marine Resource Committee
contact Jody Kennedy at 378-1095
www.sjcmrc.org

San Juan County Agricultural Resources Committee
contact Susan Robins at smr@pelindaba.com,
www.sanjuancountywaarc.net

news

County-wide implications for shoreline and subdivision developments

Recent San Juan County Hearing Examiner decisions may have county-wide implications.

Dock Permit on Pearl Island

A dock proposed for an undeveloped lot on the west end of Pearl Island was denied, in part because the applicant failed to show any necessity or urgency for a dock. The dock would have been sited over eelgrass and thus was found to be contrary to state and local regulations requiring “no net loss” of eelgrass, a critical marine habitat.

Trendwest Development in Deer Harbor, Orcas Island

The Hearing Examiner found Trendwest’s proposal to demolish numerous buildings, construct 44% more bedrooms, and increase the square footage of the resort by over 9,000 square feet to be an increase in the scale of facilities, which triggers discretionary review by the Planning Department. The Hearing Examiner held that there is a 5,000 square foot limit on parcel construction, which precludes Trendwest from constructing any “new” additional square footage on three parcels that currently have over 5,000 square feet of buildings. The Hearing Examiner is also requiring Trendwest to study the impacts of the resort’s well on neighboring property owners’ water quantity and quality. The application was sent back to the Planning Department. The decision is expected to be appealed.

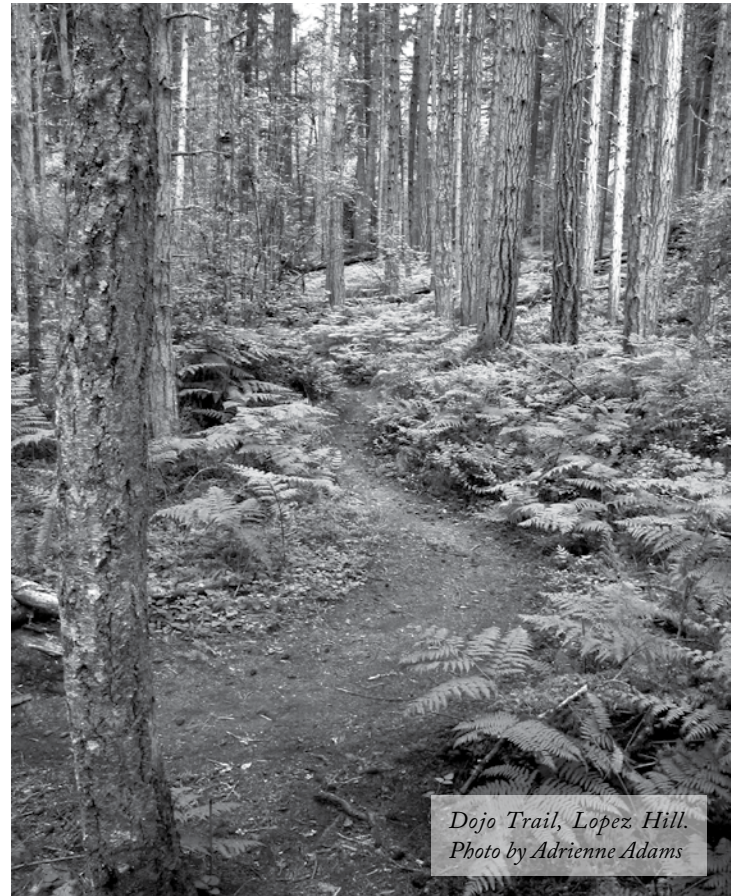
Pear Point Subdivision on San Juan Island

The Hearing Examiner held that developer Pear Point, LLC, did not present reasonably sufficient information about the long-term quantitative adequacy of the water supply or likelihood for seawater intrusion for a proposed 14-lot subdivision. The Hearing Examiner also found that the proposed subdivision layout, which sited 10 homes in the pastoral landscape overlooking Griffin Bay, failed to meet the Conservation Design Requirements (CDRs). The proposed plat failed because the location of the houses would not minimize intrusion on the most sensitive open space features of the site and the attempt to satisfy the CDRs came after the layout was created. The developer has filed a Land Use Petition Act appeal in Superior Court.

Protecting Mitchell & Lopez Hills

On June 16, the Commissioner of Public Lands, Doug Sutherland, agreed to give San Juan County 3 to 4 more years to develop a local solution for retaining public ownership of Lopez and Mitchell Hills. Thanks to hundreds of letters from concerned citizens and the work of many dedicated people, a potential land trade with a private developer is off the table.

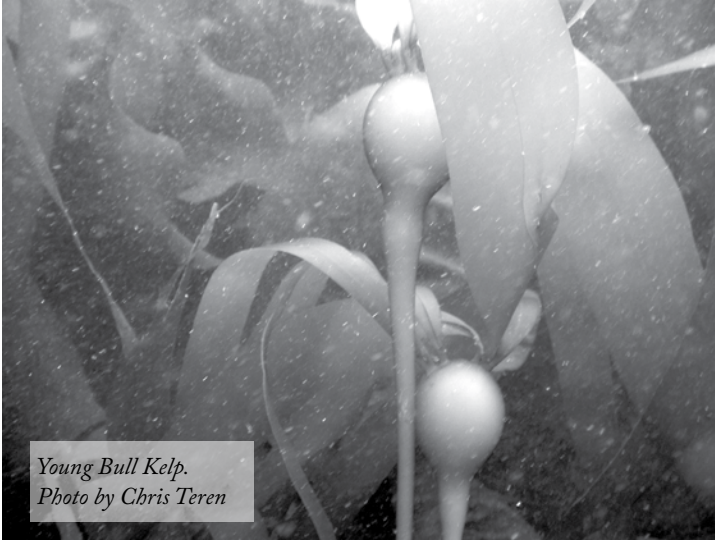
In April, the Washington State Department of Natural Resources (DNR) informed San Juan County staff that DNR’s remaining School Trust lands might be included in a trade with a private developer. Two large multi-recreational public properties, Lopez Hill (Lopez Island) and Mitchell Hill (San Juan Island) were included in this potential trade. Both Hills are widely used by county residents for hiking, biking and horseback riding. Citizen groups have formed to help formulate solutions for long-term public ownership. Long-term solutions will require a lot of work and community support. To get involved visit www.lopezhill.org and www.mitchellhill.org. For more information contact Shannon Davis, FRIENDS Development Director, who is working with both citizen groups, at (360) 378-2319.



*Dojo Trail, Lopez Hill.
Photo by Adrienne Adams*

news

FRIENDS Secures Funds to Expand Resource Protection Programs



*Young Bull Kelp.
Photo by Chris Teren*

Kelp Habitat Mapping

Approximately one-third of the all floating kelp habitat in Puget Sound/Straits occurs in San Juan County. FRIENDS is partnering with the Washington Department of Natural Resources to map San Juan County's floating kelp habitat. Bull kelp provides food, shelter and migratory corridors for a wide range of marine species. Funding for the kelp mapping and protection project has been provided by the Salmon Recovery Funding Board.

Salmon Habitat Protection Blueprint

Protecting the San Juan Archipelago's healthy nearshore habitat is the most important salmon recovery strategy for our county. The Salmon Habitat Protection Blueprint will identify priority nearshore sites for protection based on results from the FRIENDS forage fish and eelgrass surveys, best available science and results from landowner outreach. FRIENDS is partnering on this project with the Land Bank and the San Juan Preservation Trust to establish long term protection strategies such as conservation easements and tax incentive programs. Funding has been provided by the Charlotte Martin Foundation and the Salmon Recovery Funding Board.

Marine and Freshwater Resource Protection

FRIENDS is providing scientific information to the county as it updates its critical area, stormwater, septic and fresh water regulations. FRIENDS of the San Juan's active participation on San Juan County's water, marine, stormwater and septic advisory committees will benefit threatened species

and habitats such as salmon, orca, wetlands, and shorelines. Our goal is to ensure clean and abundant water for all our island inhabitants. FRIENDS will use newsletter articles, presentations and mailings to help San Juan County residents be more knowledgeable and involved in these important public processes. Funding to improve understanding and protection of marine and freshwater resources has been provided by the Harder Foundation, the Horizons Foundation, the Bullitt Foundation, Northwest Fund for the Environment and the Russell Family Foundation.

San Juan Anti-Litter Initiative

In response to strong community concern, FRIENDS has joined in a collaborative effort to reduce litter on San Juan Island. Over 40 organizations and businesses have expressed support for the San Juan Island Anti-Litter Initiative. The program compliments FRIENDS' existing marine refuse program and annual beach cleanups by expanding debris removal projects inland.

All of us can help limit litter. Talk about the litter problem with friends, neighbors, and co-workers and if you see people littering, gently point out to them that they have dropped something. Always secure your load on the way to the dump. You can also adopt a roadside or beach area to clean regularly. Patt Martin of County Public Works (378-7850) will provide bags, gloves, and safety vests, and will pick up any bags of litter that you collect. For beach cleanups you can print a survey form from the FRIENDS website www.sanjuans.org/beachcleanups.htm and your efforts will be included in the beach debris database. For more information or to get involved in the initiative, contact Stephanie@sanjuans.org or (360) 378-2319.



*The initiators of the
Anti-Litter Initiative
- The Trash Masters of
Roche Harbor Road.
Photo by Patt Martin*

news

Amy Trainer Sworn into Washington State Bar

On June 6, FRIENDS Legal Director, Amy Trainer, was sworn into the Washington State Bar by Superior Court Judge Vicki Churchill. Amy Trainer is the first staff attorney for FRIENDS of the San Juans.

Amy joined FRIENDS staff last summer after a lengthy nationwide search for someone with her combination of skills. Amy's experience in public and private sector land use law and planning, coupled with her dedication to public interest issues has already

proved to be a great asset to this community. Amy currently serves on the Water Resources Management Committee, the Roche Harbor Highlands Advisory Committee and has recently been elected as the President of the San Juan County League of Women Voters. Congratulations Amy!



FRIENDS Legal Intern Phil Brady

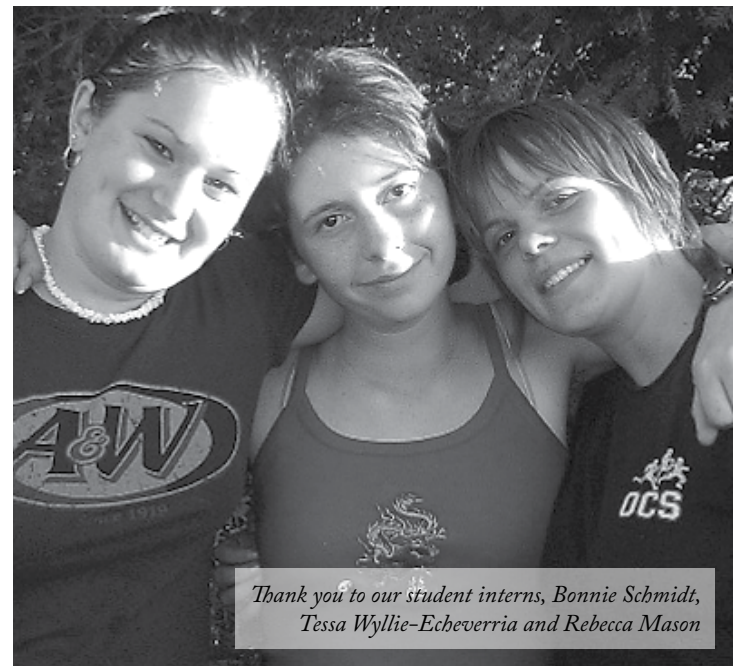
Phil Brady was selected as this year's legal intern. When Phil was younger, he spent a week in the islands and he's been searching for a way to come back ever since. In the fall, Phil will return to the University of Oregon for his third year of a four-year dual J.D./Masters of Appropriate Dispute Resolution degree. He hopes to someday practice dispute resolution and environmental law in the Northwest. "As a law student, working for FRIENDS is the best way to contribute something to these island's unique community," stated Phil.



Student Interns

FRIENDS wishes to thank our dedicated and helpful high school interns, Shaw Islanders: Bonnie Schmidt, Rebecca Mason and Tessa Wyllie-Echeverria.

FRIENDS is taking applications for fall student interns. Please call Jana Marks (360) 378-2319 for more information.

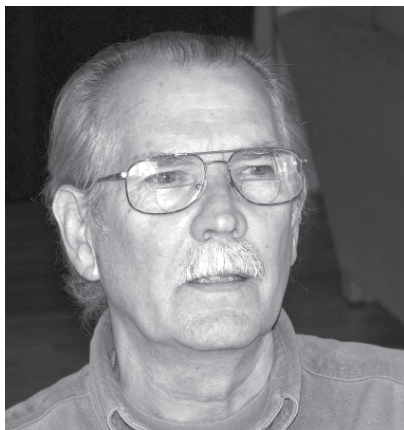


Thank you to our student interns, Bonnie Schmidt, Tessa Wyllie-Echeverria and Rebecca Mason

New Board Member from Lopez

San Olson joined FRIENDS board in April. San's interest is in maintaining both the quality of rural life in the San Juans and protecting our magnificent maritime environment. San

has been a dairy farmer, a naval officer, and practiced small animal medicine in Boston and Seattle for 33 years. He was an actively involve in the Friends of Barlow Bay's efforts to oppose a large marina. He is currently vice president of the Catherine Washburn Memorial Association (owner of the Lopez Medical Clinic).



Save the Date: FRIENDS of the San Juans Annual Meeting Saturday September 16, at the Ellis Biological Preserve on Shaw Island.

Guest speaker, Dr. Peter Ross will share his research on...

Toxics in Mammals of the Salish Sea

Orcas and seals in Puget Sound are among the most contaminated marine mammals in the world. In addition, flame retardants and other toxic chemicals are showing up in the breast milk of women in the Pacific Northwest. Dr. Peter S. Ross, marine mammal toxicologist at the Institute of Ocean Sciences (Fisheries

and Oceans Canada) and his team have found relatively high levels of PCBs and flame retardant chemicals (PBDEs) in orcas and harbor seals in the transboundary Puget Sound - Georgia Basin ecosystem. Dr. Ross will present an overview of his research and highlight the risk of adverse health effects in marine mammals.

photo by Mark Gardner



P.O. Box 1344
Friday Harbor, WA 98250
360.378.2319
www.sanjuans.org

NON PROFIT ORG.
US POSTAGE PAID
FRIDAY HARBOR
WA 98250
PERMIT NO. 38

ECRWSS
POSTAL CUSTOMER

*Support the FRIENDS in our second 25 years.
Make an investment in preserving and protecting the San Juan Islands.*