General Membership Meeting with Doug Clark  
*The Glacial Development of Western Whatcom County*

Join Doug Clark as he presents early results of his newest research project on the glacial development of western Whatcom County. The story is a fascinating tale of glacier advance and retreat interspersed with dramatic sea level rise and fall, all during a short period at the end of the last major ice age. This exceptional event shaped most of the landscape of the Whatcom lowlands and exemplifies the relevance of geology in understanding the landscape in which we live.

Doug Clark is an Associate Professor of Geology at Western Washington University, and has been teaching at WWU for the past 15 years. His research interests include processes related to mountain landscapes, glaciation and climate change, landslides, and active tectonics. His research areas include the mountains of central Asia, Australia, New Zealand, and western North America.

*Always on the 4th Tuesday of the month:*
**November 25, 7pm at the Whatcom Museum**  
*(in the Rotunda Room of the Old City Hall building)*  
*free & open to the public!*

Don’t Miss Our Holiday Potluck on Tuesday, December 9  
**at the Lairmont Manor in Fairhaven**

Come join us for a delicious potluck with your fellow North Cascades Audubon members! Bring a dish to share, a plate, utensils, and a glass. There will be live music and singing, Doug Brown will be talking about a nesting pair of ospreys, and we will be playing a few rounds of bird trivia for prizes! More information will be coming soon to your mailbox and our website.

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**Upcoming Board meeting:**  
**November 3**

Please email the President if you would like to attend: president@northcascadesaudubon.org
Mission Statement
The purpose of this society is to promote the study and conservation of birds and other wildlife, their habitat, and the environment; to increase public appreciation of the values of wildlife, plants, and the natural environment; and to stimulate action to protect and preserve them for the future.

Avalanche Staff
Designer/editor: Kelley Palmer-McCarty
Writer/editor: Lynne Givler

If you are interested in contributing, the deadline for the January 2015 issue is...
December 15.
Send materials to Kelley Palmer-McCarty at:
content@northcascadesaudubon.org

NCAS Board Members

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Conservation Steve Irving  384-1618

Cherry Point Aquatic Reserve Forum
A Report to the Community
Saturday October 25; 9:30 AM to 3:00 PM
Bellingham Technical College
Building G, Room 102A/103B

Free and Open to the Public!

Coffee & tea provided
$5 pizza lunch is available, or bring a sack lunch
Driving and parking information at RE-Sources.org

This event hosted by the Cherry Point Aquatic Reserve Citizen Stewardship Committee provides a great opportunity to learn more about our special marine environment. Todd Hass of the Puget Sound Partnership, John Veentjer of the Puget Sound Harbor Safety Committee, and Scott Ferguson of the Washington Department of Ecology will present Vessel and Railway Risk Assessment. Roberta Davenport of the Washington Department of Natural Resources will present Cherry Point Aquatic Reserve: A Special Place. Kurt Stick of the Washington Department of Fish and Wildlife and Tessa Francis of the Puget Sound Institute at the University of Washington, Tacoma will present Forage Fish & Cherry Point Herring.

For more details visit Re-sources.org.
2014 San Juan Ferry Christmas Bird Count

Saturday, December 20

How about doing something different this Christmas? Consider participating in NCAS's one-of-a-kind CBC aboard the Washington State Ferry from Anacortes to Sydney B.C.and back. NCAS will cover the cost of the ferry passage for a limited number of counters. This challenging count has been conducted annually, whatever the weather, since the mid-1970s, according to a count protocol established by Terry Wahl. Clayton and Linda Snider, who have been leading this count for the past eight years are, as always, looking for volunteers to assist with some challenging birding.

If you are interested in participating in the San Juan Ferry CBC please contact Clayton Snider at 360-738-2232 or Paul Woodcock at vp@northcascadesaudubon.org, 360-380-3356.

2014 Whatcom County Christmas Bird Count

Sunday, December 14

Annually between December 14 and January 5, tens of thousands of volunteers throughout the world take part in an adventure that has become a holiday tradition. Families and students, birders and scientists, armed with binoculars, bird guides and checklists go out on an annual mission to count birds - often from dawn to dusk. For over one hundred years, the desire to both make a difference and to experience the beauty of our natural environment has driven dedicated people to get out in woods, fields and wetlands to celebrate the holidays.

The National Audubon Society’s Christmas Bird Count (CBC) is a citizen science effort, conducted by thousands of community members like you and me, whose purpose is to collect data on bird populations across the continent while celebrating the holidays and enjoying the wonders of nature. The CBC in Bellingham has been held annually since 1967.

This year our Bellingham/Whatcom County CBC will be held on Sunday, December 14, and participation is free! Results will be published by National Audubon in an online version of American Birds during the summer of 2015. You can find much more information on this event, as well as annual results and summaries, at birds.audubon.org/christmas-bird-count

If you are interested in participating in the Bellingham/Whatcom County CBC: please contact Paul Woodcock at vp@northcascadesaudubon.org, 360-380-3356.
November and December Field Trips  

Ken Salzman, Field Trip Chair

Late fall and winter in the Pacific Northwest can provide some of the best and most exciting birding of the year. Sharp-tailed sandpiper and Lapland longspur, king eider and Eurasian wigeon are just a few of the rarities that have shown up in the area in past years during November and December. So grab your binoculars and field guide and come along for some great birding.

All NCAS field trip are open to everyone whether or not they are members of NCAS. Our goal is to provide quality field trips that are enjoyable and educational. We encourage all levels of birders to join us, from beginners to experts. Our field trip leaders, and many of the participants, are enthusiastic about answering questions and providing a worthwhile experience for all participants. So join us for the fun!

Saturday, November 1, Semiahmoo Spit  

Time: 9 AM at Semiahmoo Park ~ 3 hours  
Trip Leaders: Paul Woodcock and Lynne Givler  
No registration required

These monthly trips are co-sponsored by NCAS and Whatcom County Parks & Recreation and are meant for birders of all skill levels. If you are not a birder but just curious, you are more than welcome to come along and share the experience. November is the start of increasing numbers of both sea birds and waterfowl making the birding experience very exciting.

Saturday, November 15, Lake Padden  

Time: 9 AM to Noon  
Trip Leaders: Ken Salzman and Jim Easton  
To register contact Ken Salzman, 756-0347 or kpsalzman@comcast.net

November is the month that waterfowl start showing up at Lake Padden and Eurasian wigeon has been a rarity that has shown up during the month of November in the past. This is an easy walk and a great trip for both beginners and experts.

Help Wanted

Field trip leaders are needed!

We are looking for those of you with:  
1. A love of and enthusiasm for birding  
2. A reasonable knowledge of and skill related to identification of birds in our area  
3. A willingness to share your knowledge and skill related to birding

If you would like to volunteer or have any questions about becoming a Trip Leader please contact Ken Salzman at: 756-0347 or kpsalzman@comcast.net.

Whatcom County’s Favorite Bookstore since 1980  

Every time you click through from Audubon's website to Village Books’ website and buy books, Audubon gets 5.5% of the purchase!
Thursday, November 20, Semiahmoo/Blaine  
**Time:** 9 AM to 1 PM  
**Trip Leader:** Lynne Givler  
**Trip Limit:** 14  
To register and arrange carpooling contact Lynne Givler: lynne.givler@gmail.com or 360-966-4909

This combined walking and driving field trip will start at the end of Semiahmoo Spit where we’ll scan the channel between Semiahmoo and White Rock, B.C. for loons, grebes, scoters, long-tailed ducks and a wide variety of other wintering water birds. We’ll then circle around the resort next to the shoreline and through the upland grassy area before driving back to the park buildings for a further look at Drayton Harbor and Semiahmoo Bay. Next we’ll carpool to Marine Park in Blaine and walk along the waterfront in search of other new or familiar species. Bring a spotting scope if you have one and snacks or a lunch. And come prepared for rain, wind, and/or sun!

Tuesday, December 2, Samish Flats  
**Time:** 8:00 AM to 1:30 PM; Meet at Alger Park & Ride  
**Trip Leader:** Steven Harper  
**Trip Limit:** 14  
To register contact: Steven Harper, 360-650-9065 or stevenharper2@msn.com

The raptors will be back and the focus of the trip will be on raptors and, hopefully, shorebirds and some waterfowl in Samish Flats.

Saturday, December 6, Semiahmoo Spit  
**Time:** 9 AM at Semiahmoo Park ~ 3 hours  
**Trip Leader:** Paul Woodcock  
No registration required

These monthly trips are co-sponsored by NCAS and Whatcom County Parks & Recreation and are meant for birders of all skill levels. If you are not a birder but just curious, you are more than welcome to come along and share the experience. Last month some early Lapland longspurs were the highlight of the trip, and they may still be around.

Thursday, December 18, Semiahmoo Spit  
**Time:** 9 AM at Semiahmoo Park ~ 3-4 hours  
**Trip Leader:** Steven Harper  
No registration required  
Contact Steven Harper, 360-650-9065 or stevenharper2@msn.com for more information

December should be an outstanding month for waterfowl, grebes, loons, scoters and other visitors to the spit. The trip will focus on Semiahmoo Spit and if we have time we may explore Drayton Harbor and Blaine.

Saturday, January 3, Semiahmoo Spit  
**Time:** 9 AM at Semiahmoo Park ~ 3 hours  
**Trip Leader:** Paul Woodcock  
No registration required

These monthly trips are co-sponsored by NCAS and Whatcom County Parks & Recreation and are meant for birders of all skill levels. If you are not a birder but just curious, you are more than welcome to come along and share the experience.
Does Vessel Noise in the Salish Sea Affect Harbor Seal Behavior?
Research by Kat Nikolich

This summer the North Cascades Audubon Society funded biological research examining the underwater vocal behavior of harbor seals. Kat Nikolich, a graduate student at Western Washington University, is interested in what the seals have to say, and how the sound of boat motors in the background might affect their ability to communicate with one another.

All marine mammals use underwater sound for a variety of purposes: to communicate with one another, find food, avoid predators, choose mates and keep track of their young. The ability to clearly hear the call of another individual is very important. As humans introduce loud noises in the ocean such as boat traffic, underwater construction and sonar, marine mammals experience a loss of communication space. Imagine you are trying to have a conversation over the sound of a blaring television. This is called acoustic masking, and marine mammals react the same way we would: they call louder, longer, and more often, and will even resort to non-verbal communication like slapping the surface of the water. This causes them to use much more energy than they normally need to communicate, which can affect their ability to find food, mates and safety from predators.

Harbor seals are the most common marine mammal in Washington State and British Columbia, and can be seen hauled out near shore during most of the year. They are normally very silent underwater, but they make an exception during the breeding season. Throughout July and August, males use underwater calls to establish territories in the water around where females haul out. To secure their territory, males will slap the surface of the water and make low, rumbling calls called ‘roars’. These raspy calls serve as signals, advertising each male’s age, size and fitness. The roar of a large, strong male discourages less fit males from invading his territory, and allows him better access to females.

These vocalizations and their associated mating behaviors have been well studied in Atlantic populations, but very little is known about breeding calls in Pacific populations. Georgia Strait, in the northern Salish Sea, has one of the highest concentrations of harbor seals worldwide; however very little is understood about this population’s vocal behavior. In addition, Georgia Strait is a highly industrialized waterway that is subject to heavy vessel traffic. The aim of Kat’s research is to catalogue the vocal range of the local population, and to examine the potential for vessel noise to disrupt the harbor seals’ breeding behavior.

A long-range hydrophone (underwater sound recording device) was deployed near Hornby Island, B.C. in June, and recorded sound continuously until mid-September, when it was retrieved by divers. In order to decode the sounds that the hydrophone recorded, Kat and her field team of three undergraduates observed the number and type of boats in the area and what they were doing at any given time. They also counted the number of seals in the water and on land, as well as noting any conspicuous behavior like splashing, displaying or fighting. All of these observations will be put together with the hydrophone recordings to determine what types of calls the seals made, what they were doing at the time, and whether an increase in boat noise made them change their vocal tactics.

Kat and her research team visited Hornby Island three times this summer for a total of six weeks to make visual observations. Kat would like to extend her thanks for the support given by the North Cascades Audubon Society and looks forward to sharing the results of her research in the coming year.
NCAS Program Chair Wanted

Our chapter’s meeting programs are a central part of our educational efforts. Choosing pertinent topics, finding qualified presenters, arranging for the venue and seeing to all the necessary details required to facilitate a successful meeting is no small task. Nevertheless, the chapter has been functioning without a Program Chair for over four years and these tasks are being performed by other board members. Finding an energetic volunteer to fill this role would greatly enhance the functioning of our board and allow NCAS to better serve our community. Currently NCAS presents educational programs at eight monthly meetings annually, September through May. Those meetings, plus the Holiday Potluck in December, are the extent of our programming efforts and the responsibilities of the Program Chair. This is the status quo and not a limitation if someone out there wants to do more. Your board members are enjoying themselves doing Audubon work. There is always more that could be done. If you are interested in joining the NCAS team as Program Chair or in another capacity please contact Pam Borso at:

president@northcascadesaudubon.org

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Place Value

This morning I will teach them arithmetic.  
I will have numbers  
and processes in my mind.  
It will seem simple  
but it will not be because  
today is the first rain  
after many dry days  
and we will all be outside,  
even in our seats.  
Reconstituting and relaxing notions  
of seasons going and coming  
will seep in around problems of numeration.  
The showers are tentative  
but the whole sky is again cool gray  
and we will revel in it all because  
this is where we live and who we are.  
Perhaps today we will learn much  
about place value.

Scott  
5.8.06
The Avalanche is the newsletter of the North Cascades Audubon Society, PO Box 5805, Bellingham, WA 98227. It is published 8 times a year; subscriptions start at $20 per year. The editors welcome articles, artwork, photographs, and letters. Opinions expressed in this newsletter are the opinions of the author and do not necessarily reflect those of this organization. Original material may be reprinted if appropriate credit is given. The North Cascades Audubon Society is a 501(c)(3) non-profit organization.

North Cascades Audubon Society Membership

We hope you will support North Cascades Audubon by joining the chapter locally. Your commitment to Audubon is important to us. We will continue to provide you with information regarding local chapter activities through our website and all activities will remain FREE and open to the public. If you are interested in receiving a paper copy of the newsletter, you can join the local chapter for one year at any of the levels to your right. The newsletter is published monthly between September and May, including a double issue for November/December. All issues are also available online. If you do not wish to receive a paper copy, email membership@northcascadesaudubon.org.

Please check your mailing labels for accuracy, including the expiration date. To make any necessary changes, please send an email to membership@northcascadesaudubon.org.

Join or Renew (circle one)

Please make checks payable to North Cascades Audubon.
Each membership applies to one household.

Does your company match donations? Let them know you donated to North Cascades Audubon Society.

___ $20 Kestrel
___ $35 Merlin
___ $50 Prairie Falcon
___ $75 Peregrine Falcon
___ $100 Gyrfalcon
___ I'd like to go paperless. (include email below)

Name:__________________________________________________________________________

Address:________________________________________________________________________

Email:__________________________________________________________________________