

NOTE: PLACE CHANGE

Program Meeting
NOME BIRDING
October 7th, 1:30pm
Events on Emerson
4th & Emerson in Hoquiam

September
October
2018



The Sandpiper



Momentum for 100% clean energy is not just for the birds

Last month, California joined Hawaii as the second state in the country to pass legislation calling for 100% carbon-free electricity by 2045. The news came only days after the Spokane City Council adopted a goal of obtaining 100% of its energy from renewables by 2030, joining Edmonds, Whatcom County and Bellingham in making similar commitments. Grassroots citizen task forces have been especially effective in putting pressure on elected officials to take action on clean energy in their communities. Please contact field organizer Ben Silesky if you are interested in getting involved in these local efforts.

As we see it, transitioning to 100% clean electricity is a necessity to protect birds and people from the growing threat of climate change. Backed by strong support in the electorate and new research from Climate Solutions that shows just how well-positioned the Northwest is to move to a clean grid, we continue to advocate for policy that would achieve this goal for our state. For over a century, the economy and energy systems in the United States have largely been reliant on polluting fossil fuels. Now, the public has shown a strong desire to shift towards cleaner sources of energy, the economy is leveling the playing field for renewable energy, and jurisdictions all across the United States are making climate commitments to transition away from fossil fuels. With a large renewable power base, abundant resource potential, and a tradition of clean energy

and technology leadership, the Pacific Northwest is well-positioned to be at the forefront of this transition. This study takes a deeper look at Washington State as a jurisdiction poised to consider policy options to make that transition within reach.

The University of Washington's Climate Impacts Group recommends that Washington revise its greenhouse gas limits in statute to 80% reductions below 1990 levels by 2050,¹ reflecting the global emissions reductions necessary to prevent catastrophic climate change. Without policy interventions, current business-as-usual trajectories suggest that Washington is on track to exceed these greenhouse gas emissions targets by nearly 50 million metric tons in 2050.

Climate Solutions' new research identifying pathways to phase out fossil fuels from the power sector in the Pacific Northwest. The analysis, conducted by Energy and Environmental Economics (E3), modeled several scenarios that each provide a different strategy for achieving 100% fossil-free electricity in the Pacific Northwest by 2050. The analysis finds that building on the Northwest's foundation of hydropower, transitioning away from fossil fuels, and investing in renewable energy, energy storage, and energy efficiency can be affordable and reliable. Renewable electricity generation using wind, solar, and renewable natural gas appears to provide the most cost-effective pathway to a fossil-free grid. This scenario results in an incremental cost of approximately a half cent per kilowatt-hour levelized across the region, prior to accounting for any other costs and risks of fossil fuels.

The analysis described here maps one path for deep pollution reduction in the Pacific Northwest's electricity sector. Follow-on research should evaluate additional strategies and market dynamics, such as higher levels of energy efficiency and demand response, improved accounting for out-of-region renewable resources, improved evaluation of storage use across days, additional zero-carbon resources like power-to-gas, and other factors that would likely reduce any challenges or costs associated with achieving a fossil-free grid. https://www.climatesolutions.org/sites/default/files/uploads/pdf/within_reach-climate_solutions_sept2018_0.pdf

The President's Perch



By Arnie Martin

Last time, I mentioned that the proposed Hoquiam potash receiving/shipping facility (BHP Billiton) was planning on issuing a revision to the plans they submitted in 2017. Those plans were reviewed by the City of Hoquiam's consultant and the Washington Department of Ecology. Their 154 pages of revisions were available on a link posted on the City of Hoquiam's website in August 2018. The plans are under Newsroom tab, Public Notices, and Proposed Grays Harbor Potash Export Facility. I did not receive any notice of the 2018 posting and found it while answering a question about the 2017 plans.

Changes made relate to the previously released 2107 version are in the Potash Storage Structure height, elimination of the wetland connection to the Grays Harbor NWR and an on-site mitigation pond, addition of an off-site wetland mitigation area on the Port of Grays Harbor IDD#1 site at the mouth of the Hoquiam River, and removal of the connection of Airport Road east of the Paulson Road.

In order, there were complaints regarding the 160 foot height of the Potash Storage "Building" related to the view from occupied homes in the hills northeast of the Hoquiam High School. These complaints were addressed by reducing the height to the minimum required by the internal conveyor systems without reducing the storage capacity, yielding the new height of 141-1/2 feet. The overall length remains the same at 1,550 feet. I believe it still will be the tallest structure in Hoquiam, and the consultants don't believe the Hoquiam High School athletic fields need a view.

The Department of Ecology apparently did not like having an on-site mitigation pond to compensate for the destruction of the existing wetlands on the northern edge of the property (just south of the existing rail tracks and connecting via a culvert to the eastern grasslands of the Grays Harbor NWR). The addition of an off-site mitigation area (the un-official dog-walking park at the end of Earley Industrial Way which branches off just south of the PSAP RR tracks just east of the Anderson-Middleton property) is designed to compensate for the wetland removal. This property is owned by the Port of Grays Harbor, and a site plan of the Conceptual Mitigation Plan is on Sheet 16 of 17 of the drawings (sheet 153 of 154 in the August 2108 PDF). This property shows to

be at an elevation of 11 feet on Google Earth, and is just southwest of the existing swing rail bridge at the mouth of the Hoquiam River. It should provide a good view of the passing potash trains, both full and empty.

The final change is a confirmation of the removal of the eastern portion of Airport Way, east of the Paulson Road junction. This portion of Airport Road allows access to Moon Island Road and the remainder of Airport Road which runs east to the Adams St junction and is just north of the existing Terminal 3 pier. There are no plans for maintaining this connection, as the four new unloading rail loops will cut off any access through the BHP site. Also, there is not room for a public road where the rail loops cross what is now the fill site on the easternmost sewage pond. As the potash site will displace the existing Willis Industries chipping plant, there will be less demand for the existing truck route.

The last item, tucked into a sentence, mentions that the existing osprey nest just east of Paulson Road on the Port's T-3 property will need to be relocated. There is no mention of coordinating the nest relocation with the Refuge or the Hoquiam Sewage Plant. The relocation will have to be done during the late fall and winter when the osprey are not present.

After seeing the showing of "This Living Salish Sea" which had a segment on the ships transiting the Port of Vancouver BC waterway, I can see why BHP Billiton is spending so much effort on building a potash shipping/receiving facility in Hoquiam. Their alternative site in Vancouver has a ship channel has many narrow turns, goes under several bridges, and requires entering the Port of Vancouver via the Strait of Juan de Fuca, Haro Strait, and the Strait of Georgia, all of which are already crossed many times each day by ferries, tanker ships and bulk carrier ships. The only advantage that I can see that the Port of Vancouver has is that it does not require routing the Potash trains into the United States, through Sand Point, Spokane, down the Columbia River, and across the suspect railbeds and bridges of the Puget Sound and Pacific Railroad.

Little mention is made of the sleep disruption of the Hoquiam residents who live near the tracks caused by the vibrations of the loaded trains, the noise of the empty trains, and the whistles of the trains at the grade crossings, both day and night. They expect that road and rail bridge modifications will be made in the vicinity of East Aberdeen's Gateway Mall to alleviate disruptions. There is little mention of how to pay for those modifications.



More than 4 billion birds stream overhead during fall migration

Using cloud computing and data from 143 weather radar stations across the continental United States, Cornell Lab of Ornithology researchers can now estimate how many birds migrate through the U.S. and the toll that winter and these nocturnal journeys take. Their findings are published in *Nature Ecology & Evolution*.

“We’ve discovered that each autumn, an average of 4 billion birds move south from Canada into the U.S. At the same time, another 4.7 billion birds leave the U.S. over the southern border, heading to the tropics,” notes lead author Adriaan Dokter, an Edward W. Rose postdoctoral fellow at the Cornell Lab. “In the spring, 3.5 billion birds cross back into the U.S. from points south, and 2.6 billion birds return to Canada across the northern U.S. border.”

In other words, fewer birds return to their breeding grounds after going through fall migration and spending months on their wintering grounds. But the researchers were surprised to find that the migrants arriving across the U.S. southern border had an average return rate of 76 percent during the 5 years of the study (2013 to 2017) and the birds wintering in the U.S. had only an average return rate of 64 percent.

“Contrary to popular thought, birds wintering in the tropics survive the winter better than birds wintering in the U.S.,” says Andrew Farnsworth, co-author of the study and leader of the Cornell Lab’s aeroecology program. “That’s despite the

fact that tropical wintering birds migrate three to four times farther than the birds staying in the U.S.”

To reach these numbers, the researchers developed complicated algorithms to measure differences in biomass picked up by weather radar—in this case, the total mass of organisms in a given area, minus insects and weather. Migrants crossing the northern border—such as many sparrows, American Robins, and Dark-eyed Juncos—have shorter migrations from breeding grounds in Canada to wintering grounds in the U.S.

Measurements from the southern border captured data on migrants that breed in the U.S. and spend their winters in places such as Central or South America, such as most warblers, orioles, and tanagers. One explanation for the higher mortality among birds wintering in the U.S. may be the number of hazards they face.

“All birds need suitable habitats with enough resources to get them through the winter,” notes Ken Rosenberg, co-author and conservation scientist at the Cornell Lab. “Birds wintering in the U.S. may have more habitat disturbances and more buildings to crash into, and they might not be adapted for that.”

Another reason for the disparity in migration return rates between short and long-distance migrants may have to do with breeding strategy. Birds wintering in the U.S. have high reproduction rates to offset higher mortality. Tropical wintering species have fewer offspring, but more adults survive through the winter and reproduce the following spring, despite their longer migrations. But it’s a strategy that may backfire without conservation efforts in the tropics.

“Longer distance migrants seem to be gambling on having high survival in the tropics, and they’re therefore more sensitive to what happens to their wintering grounds,” says Dokter. “Even a small decrease in survival due to changes in their tropical habitats might cause a precipitous decline.”



photo by Ted Schroeder



Program Meeting

Note Place Change 1:30 pm October 7th

Please note that our program meeting will be held at Events on Emerson in Hoquiam. This is located at 4th & Emerson. Refreshments, of course

Birding the Seward Peninsula



Dennis Plank will talk about birding on the Seward Peninsula of Alaska from headquarters in Nome. The talk will include a bit of the logistics of getting and staying there as well as photographs taken by himself and others of the birds (and some other critters) in the area. It will also cover some tips on where certain species might be found.

Dennis has been an active birder since he married his birder wife a dozen years ago and has been doing bird photography most of that time. Before that his photography was largely of wildflowers, but his wife convinced him that birds were easier. He retired from Boeing in 2012 and has been spending his time volunteering on the local prairies, traveling, photographing and working to enhance the bird population of their five acre prairie since then.

Coastal wetlands will survive rising seas, but only if we let them

by Virginia Institute of Marine Science

When Florence slogged ashore in North Carolina last week, coastal wetlands offered one of the best lines of defense against the hurricane's waves and surge.

A new study predicts such wetlands will survive rising seas to buffer the world's coastlines against future storms and provide their many other ecological and economic benefits, but only if humans preserve the room needed for the wetlands to migrate inland--what scientists call "*accommodation space*."

The study, published in *Nature* the day before Florence made landfall, addressed a major uncertainty in how saltmarshes and mangroves will respond to sea-level rise. It was authored by an international research team with members in the U.K., U.S., Belgium, Germany, and Australia. Dr. Matt Kirwan of William & Mary's Virginia Institute of Marine Science was the sole U.S.-based contributor.

The study's lead author, Dr. Mark Schuerch of the U.K.-based University of Lincoln, says "Rather than being an inevitable consequence of global rising sea levels, our findings indicate that large-scale coastal wetland loss might be avoidable if sufficient additional space can be created by increasing the number of innovative 'nature-based adaptation' solutions to coastal management."

Adds Kirwan, "Whether coastal wetlands get bigger or smaller in the future depends on how much dry land is lost to sea-level rise, and how fast wetlands move into that submerged land."

A novel modeling approach

The study was motivated by a history of conflicting predictions concerning the fate of coastal wetlands in a warming world.

Says Schuerch, "Recent global assessments have suggested that sea-level rise has already overwhelmed the ability of many marshes and mangroves to build up vertically, leading to widespread loss of coastal wetlands, while field measurements and localized models of salt-marsh accretion show that most large-scale assessments have overestimated wetland vulnerability."

Kirwan's previous work helps explain these discrepancies, and played a key role in motivating the current study. He says "Global predictions of marsh loss appear alarming, but they stem from simple models that don't simulate the dynamic feedbacks that allow marsh soils to build faster as marshes become more flooded." That dynam

continued on page 5



© Rukswaterstat /Joop Van Houdt

Wetland survival continued from page 4

ic, says Kirwan, “will allow marshes to adapt not only to present rates of sea-level rise but the accelerated rates predicted for coming decades.”

In their Nature study, the researchers integrated the previously independent approaches, using a novel modelling method that combined global simulations of sea-level rise, population growth, and other factors with localized measurements and simulations of saltmarsh accretion. The model was based on elevation profiles for 12,148 coastline segments worldwide.

Their results counter previous estimates of global coastal-wetland loss--up to 90% in some studies--instead predicting that wetland area could actually increase as sea level rises. Indeed, the researchers estimate gains of up to 60% in coastal wetland acreage, but with two important caveats--the capacity for marshes to migrate inland sans dikes or seawalls, and no decrease in sediment supply.

According to the authors, “Our simulations suggest that global wetland resilience is primarily driven by the availability of accommodation space, which is strongly influenced by the building of anthropogenic infrastructure in the coastal zone.”

A key threshold

The researchers used human population density to gauge the likelihood that a coastal area is protected by the kind of infrastructure that would block wetland migration, and found a key threshold at 20 people per square kilometer. Building coastal-protection measures in areas with lower population densities will lead to global marsh loss, while reserving coastal-protection measures for areas with higher densities will lead to marsh gain. The 20-person threshold applies under all tested scenarios of sea-level rise and population growth out to the year 2100.

Explains Kirwan, “If dikes are built to protect areas with lower population densities, say 5 people per square kilometer, then much of the coast will be diked and marshes will have nowhere to go.”

Under such a scenario, the Nature study shows a 30% loss of coastal wetlands as seas rise to the highest projected 2100 levels. The study’s most optimistic, 60% prediction of wetland gain occurs under a much greater, 300-person-km² threshold scenario, essentially allowing coastal wetlands to migrate inland unimpeded until they are lapping at urban shores. A simulation at the 20-person threshold predicts a global wetland gain of 37%.

In an interesting twist, the 20-person threshold happens to be the current global average population density above which coastal communities are protected by some kind of infrastructure. Thus, for coastal wetlands to expand in the face of projected increases in both sea-level rise and human population, accommodation space must be not only preserved but expanded.

A growing movement would expand accommodation space through the use of what scientists call “natural and nature-based features” for coastal resilience. Schuerch says replacing dikes and other traditional coastal flood defenses with these “NNBFs” would “enable coastal wetlands to migrate inland through.. nature reserve buffers in upland areas surrounding coastal wetlands. If these are strategically scaled up they could help coastal wetlands adapt to rising sea levels and protect rapidly increasing global coastal populations.”

Implications for the U.S.

Kirwan stresses that the Nature study reveals several important differences between coastal wetlands and their projected fates in different parts of the world.

“In China and many European countries,” he says, “many marshes are bordered by dikes, while in the U.S., they’re generally bordered by forests.” Thus Eurasian marshes already suffer from a lack of accommodation space, while Kirwan’s research team has seen ample local evidence of landward saltmarsh migration including the appearance of “ghost forests.”

“We’ve seen widespread conversion of forests to marshes here in the U.S. already,” says Kirwan, “and millions of acres of low elevation, rural land will convert to wetlands in the future in places like Chesapeake Bay and the Gulf Coast.”

“Our modeling suggests that many European saltmarshes will survive sea-level rise despite a lack of accommodation space for inland migration, because there is enough sediment to allow the marshes to grow vertically,” says Kirwan. “In the U.S., many rivers supply insufficient sediment for marshes to grow vertically, so those marshes will have to migrate inland to survive sea-level rise.”



Pacific Northwest Coast Ecoregion and Birding Sites

Birding Sites

101 Bottle Beach State Park

102 Bowerman Basin

103 Cape Disappointment State Park

104 Ocean Shores

105 Chehalis River Valley

106 Forks

107 Olympic National Park - Hurricane Ridge

108 Tokeland

As you may know, collisions with glass claim the lives of hundreds of millions of birds in the United States each year. In a matter of seconds, birds that have successfully flown thousands of miles during migration can die from a collision with even a small pane of glass. Incorporating bird-friendly design strategies and technology can make a difference now.

Federal Bird-Safe Buildings Act has been introduced in both the House and Senate — ***H.R. 2542 and S. 1920*** — and is gaining support. We need your voice now to protect birds by requiring federal buildings be bird-safe. Please urge your U.S. Senators and U.S. Representative to support and cosponsor this important legislation that would incorporate bird-safe building materials and design features into public buildings.

Visit http://birdweb.org/Birdweb/ecoregion/sites/pacific_northwest_coast/site for a most informative site about our front/backyard .

As the site says “This ecoregion includes most of the Olympic Peninsula (but not its northern and eastern coastal plain), the lowlands of the Chehalis River drainage and around Grays Harbor and Willapa Bay, the Willapa Hills, and coastal waters out to three miles offshore on the outer coast and out to the international boundary on the Strait of Juan de Fuca west of the mouth of the Twin Rivers. It is bordered on the east by the Puget Trough lowlands, and on the south by the Columbia River. The ecoregion itself extends north to Vancouver Island and south through much of the Coast Ranges of Oregon.”

You’ll learn about our physiography, climate, habitats, and human impact. The bird checklist is very extensive and details the incidence of appearance as common, fairly common, uncommon, rare and irregular.

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GHAS Mission

The mission of the Grays Harbor Audubon Society is to seek a sustainable balance between human activity and the needs of the environment, and to promote enjoyment of birds and the natural world

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Inside this Issue

Clean Energy	1
President's perch	2
Fall migration	3
Program meeting	4
Coastal wetlands	4
Wetlands continued	5
Bird-Safe Buildings Act	6
NW Coast Ecoregion	6
Board & Officers	7
Member Application	8

Program Meeting

Note the place change

Events on Emerson

Dennis Plank

Birding the Seward Peninsula

October 7th
1:30 pm - 3:00 pm

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