AWCF NEWS

American Wildlife Conservation Foundation October 1, 2019

In the AWCF Newsletter

Wood Turtle Nesting Ecology in a Disturbed and Protected Site

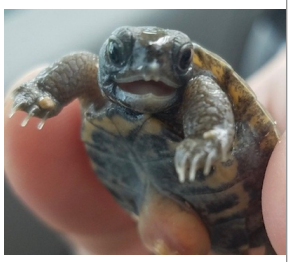
Wood Turtle. Photo by Alexandra Vlk

Alexandra Vlk, M.S. at State University of New York, Oneonta

AWCF research grant funded in 2017 - *Final Report*

Our goal was to examine and compare wood turtle microhabitat nesting characteristics in a disturbed and a protected site. At our disturbed site along Charlotte Creek, Delaware County, NY, we first observed signs of wood turtle nesting on May 2018. At the protected site, known nesting areas were checked daily from 19:00–21:00 beginning May 26th, 2018. Once nesting females were located, we watched from concealed positions at both locations to keep the females from abandoning their nests. At both sites, after a female was done nesting, microhabitat variables, which were divided into two subsets, were measured in a circle radius of 1 m around the nest. The variables included: (1) soil composition (large gravel (> 5 cm), small gravel (< 2 mm), sand, and clay), moisture content, and temperature; (2) slope, canopy cover, amount of nest cover, type of vegetation and distance to the nearest vegetation and to aquatic habitat.

Twelve nests were observed at the disturbed site. To estimate the probability of wood turtles using specific nesting microhabitat in the disturbed site, habitat was measured both at the nest location and at randomly selected nearby unused similar nest habitat at the same time, based on a random compass bearing and distance selected (from 1-50 feet). Using logistic regression for the first subset of variables, we found that wood turtle nesting habitat usage increased when there was a high amount of small gravel and sand with low amounts of large gravel and clay. The presence of slope was the most significant predictor variable of nesting habitat selection for the second subset of explanatory variables.



Baby Wood Turtle. Photo by Alexandra Vlk

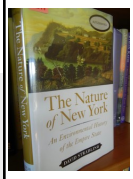
At the protected site, seven nests were found. To determine if nest site characteristics differed between the disturbed and protected sites, multiple t-tests were used to identify differences in the variables: temperature, slope, distance vegetation, distance water, soil composition, and moisture. Chi square tests were performed on the variables' vegetation, canopy, and nest cover to determine whether the frequency of various categories differed between disturbed and protected sites. In the overall comparison between the disturbed and protected nest sites, soil composition and moisture component variables were significantly different in microhabitat nest site selection of the turtles. Turtles were more likely to select sandy habitat with a higher amount of moisture and clay and no gravel compared to the disturbed site. At the disturbed site, the nests had more small gravel and less moisture and clay. The disturbed site also had a higher maximum temperature with an average of 35°C compared to the protected site with an average maximum temperature of 28°C.

Nesting in a disturbed site increases chances of nests being unsuccessful by being preyed upon, collecting, road crossing, walking, shading and/or rooting by invasive plant species. The nesting use of human-impacted areas, however, indicates

Conservation Book Report

by Daniel Leete, President

The Nature of New York, an Environmental History of New York State, by David Stradling, Cornell University Press, 2010.



The topic is large, the coverage is broad and not too deep, but the flow is good and the interest remains high as you read, year by year through this book. The time frame begins with woodland Native Americans and ends in 2010, when the book was published. Stradling manages to change perspectives from clearing, burning, digging, planting, building, destroying, and despoiling, to polluting and rallying. He covers big areas (leatherstocking country to Long Island), to small places (Nine Mile Swamp to the Palisades), big projects (Erie Canal) to small projects (Love Canal), big cities (New York) to small hamlets (North Creek and Earlville), big names (the two Roosevelts, Robert Moses), to small names (Abram Camp, a farmer near Utica).

What creates the flow in the book is what progressively happens to the environment. The way it is written you can see what is coming next. You can see the mistakes, particularly on the large scales, and most of the time you can see the lessons learned. Why read it? I'll bet you can find where your life has played a part in some of the stories told here. What roles have you been a part of in the ever-continuing evolution of the environment? What can you learn from these history lessons? How can you influence the next chapter being written right now?

that conservation measures may be helpful. This information regarding wood turtles' nesting habitat preferences in areas with low vs. high disturbance impact will help inform management decisions regarding the levels of protection necessary to maintain wood turtle populations. It may also help conserve wood turtle populations by allowing land managers to identify, protect, and manage nest site locations. In addition, artificial nesting mounds could be built that enhance nesting success. If actively managed, these mounds could potentially reduce exposure to many of the common threats nesting females face in disturbed areas.

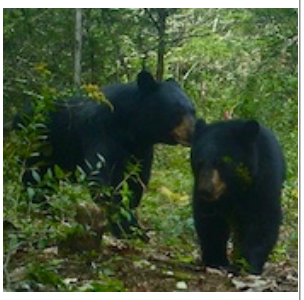
Alexandra Vlk received her B.S. from James Madison University and recently graduated with a Master's in Biology from SUNY Oneonta. She is now working at Randolph Macon College as an instructor teaching undergraduates ecology, evolution, and the scientific method. She has moved on from turtles to amphibians and is also trying to start some SPARCnet (Salamander Population and Adaption Research Collaboration Network) plots to get undergrads more involved in research.

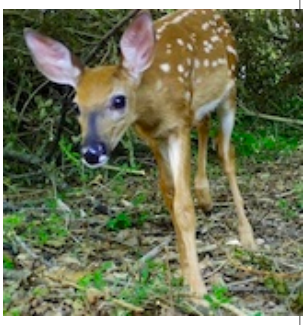
Impacts of Targeted Shrubland Management on Non-target species

2019 Status Report

Amanda Cheeseman, Post-doctoral scholar at State University of New York, College of Environmental Sciences & Forestry, Syracuse

AWCF research grant funded in 2018





Canid Camera Photos from Amanda Cheeseman

A large, collaborative regional effort to create and maintain shrublands to recover New England cottontail is underway, but current management

Fall Quarterly AWCF Board & Member Meeting

October 17th, 2019 9:30 a.m. - 3:00 p.m. Oneida County Cornell Cooperative Extension Office

121 2nd St., Oriskany, NY 315-736-3394

All AWCF members welcomed and encouraged to attend

To participate by conference call via internet connection www.zoom.us/ please let me (pdc1@cornell.edu) know if you wish to participate by Zoom. I will need your email address to send out a Zoom request. Zoom allows participation by phone or computer.

Agenda:

Coffee's on. Catch up

Welcome & introductions

Paul Curtis: Using citizen science to evaluate deer impacts to forest regeneration: the AVID protocol

Questions & Answers & Discussion

Board of Directors Reports:

President

Vice President

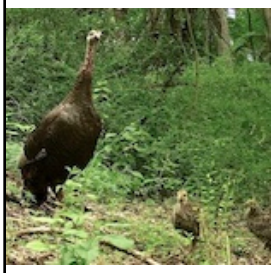
Secretary

Treasurer

Other Members

Working Sessions

guidelines do not consider the impacts of these strategies on the over 100 other mammal and bird species that use Northeastern shrublands. This project examines how management strategies influence the suitability of shrublands for mammals and game-birds, including bobcat, black bear, cottontail species, coyote, red fox, raccoon, opossum, striped skunk, gray and red squirrel, weasel species, white-tailed deer, pheasant, turkey, and woodcock.



We are using trail cameras to examine wildlife use of managed and unmanaged areas. We upload photos to the Canid Camera project on zooniverse.org and community scientists from around the world help us to identify wildlife in the photos; results are then fed into our analyses. We deployed trail cameras from June 2018 until May 2019. Cameras were set at 631 locations across 13 management units and 13 control units at 6 properties in the Lower Hudson Valley, New York. 46,486 photos sets were uploaded to zooniverse.org and to date, 6,563 community scientists have helped to make classifications on the project completing 18,597 wildlife subjects. Nine SUNY College of Environmental Sciences & Forestry undergraduate students have also volunteered on the project, learning about the use of trail cameras in wildlife management and in public outreach and citizen science.

Cottontails are certainly a member of these shrublands, but the focus of this AWCF-funded project was to examine if management actions tailored toward benefitting the imperiled New England cottontails are meeting the goals of restoring habitat for other shrubland species. Results will be used to directly inform land managers and land owners of the best management practices for shrublands to achieve desired wildlife use on both public lands and private property. Photos uploaded to zooniverse.org are being used to engage the public and raise awareness about shrublands and shrubland management. In April 2019, the project was featured in the New York Times, which can be viewed here: https://www.nytimes.com/2019/04/04/nyregion/canid-

Nature Sleuth

by Daniel Leete, President

OK, Let's see how good you are at identifying "things" found in the natural world.

The object is to identify what is in the photo above. It is only found in a few places on the entire planet and is many millions of years old. Do you know what it is? (And how specific can you be - down to genus and species?) The answer will be given in the next AWCF newsletter.

MEMBERSHIP REMINDER!

Each year the AWCF asks its' members to renew their membership in **January**. Why? Our membership dollars are a significant source for our grant funding efforts. So we like to get a good idea of how much money we have at the beginning of the year to determine how many grants we will fund each year. Your tax deductible contribution this year helped to fund some amazing grants! Please send a check or money order of $50.00 or more to: Dr. Paul Curtis, AWCF Secretary, 3692 Woodland Drive, Baldwinsville, NY, 13027.

camera-hidden-animals-forest.html.

Originally from Michigan, Amanda Cheeseman received a B.S. from Michigan State University before obtaining a M.S. from Fort Hays State University in Kansas. She finished her Ph.D. in August 2017 at SUNY ESF and continues there as a postdoctoral scholar studying the ecology of the declining New England cottontail, and its responses to the introduced eastern cottontail. When not working, she enjoys reading fiction and playing with her Australian cattle dog, Brisbane.

Guest Writer: Lower Snake River Dams, Endangered Chinook Salmon and Southern Resident Orcas: An Interconnected Life & Death Story

by Amy Stuart

One of the seasonal jobs in my early career as a fish biologist in the spring of 1982 was as a "barge rider" for the US Army Corps of Engineers. I lived on a tugboat for 2 months doing 4-day round trip circuits from Lewiston, Idaho and Lower Granite Dam on the Lower Snake River to below Bonneville Dam on the Columbia River in Oregon (Figure 1).

On our 2 days running down river on the tugboat and "fish barge" (Figure 2), we gathered outmigrating smolts of Chinook salmon, steelhead (the anadromous form of rainbow trout) and sockeye salmon from collection facilities at several Corps dams on the Lower Snake River and Columbia River, then traveled downstream through the locks of each dam with our load of juvenile fish. Below Bonneville Dam, usually in the middle of the night, I opened up the barge outlets and released the thousands of smolts we'd transported. Then we traveled back upstream to start the process all over again. The purpose

Your Help is Requested with Proposed AWCF Drone Conference

I am looking for assistance with planning and organizing AWCF's next public education conference. The board of directors have agreed the topic of "Use of drones (unmanned aerial vehicles or UAVs) in wildlife conservation" would serve AWCF's mission of public outreach well and likely draw a good attendance. Early spring may work well.

This relatively new technology is currently and promises to be of even more substantial value to wildlife research and natural resource conservation in general. AWCF can highlight and promote major advances in the application of this technology. See below internet sites for a sampling of literature on the topic.

https://www.wildlifemanagementpro.com/2013/07/19/wildlife-management-using-drones-unmanned-aerial-vehicles-uavs/

https://sciencing.com/how-drones-are-playing-a-role-in-wildlife-conservation-13710359.html

http://theconversation.com/a-guide-to-using-drones-to-study-wildlife-first-do-no-harm-57069

Figure 1. Map of the Columbia River Basin and tributaries. Source: US Army Corp of Engineers

of the fish barges was to expedite migrating anadromous salmon and steelhead from the Snake River and Mid-Columbia River downstream through up to eight dams, and improve their survival from turbine mortality, stagnant reservoirs, and predation mortality. Little did I know then, that almost 40 years later, I would be one of many scientists calling for the removal of the four Lower Snake River Dams, located in the state of Washington.

From the 1930s to the mid 1970s, the U.S. Army Corps of Engineers built 31 dams throughout the Columbia Basin and its tributaries, and several private entities also built large dams. The primary purpose was hydroelectric power with additional uses being transporting goods such as wood products and grains from Lewiston, the "seaport" of Idaho, and hauling water for irrigation on adjacent lands. Unfortunately, the dams and associated reservoirs created in the Columbia Basin have led to a long downward spiral in anadromous salmon and steelhead, and many are near the brink of extinction.

The Bonneville Power Administration (BPA) is the federal agency that markets the dams' power output, and the

Your Help is Requested with Proposed Drone Conference - Continued

http://theuavdigest.com/

Many options need to be considered at this point in the planning phase of the conference. Please get in touch with me by November if you have experience, contacts, and/or interest in helping plan and deliver this promising outreach endeavor! Thank you!

Gary Goff
AWCF Vice President
grg3@cornell.edu
518-837-5171

A drone carrying Petri dishes collects samples of a humpback whale's blow for hormone studies that can assess whale health. Photo Source: National Wildlife Federation.

Figure 2. Operation Fish Run was developed by the US Army Corps of Engineers to collect smolts at numerous dams, transport them downstream to below Bonneville Dam and release them for continued migration to the Pacific Ocean. source: public domain

intent was to turn cheap electricity into a cornerstone of the regional economy. However, as salmon stocks declined, BPA's mission was realigned in 1980 to both maintain the reliability of power production and bankroll the regional effort to recover wild salmon. Currently, a third of the main-stem Columbia dam infrastructure has exceeded its design life, and shutdowns have pushed the system's reliability below the hydroelectric industry average.

While much of the power is sold to public utilities under 20 year contracts, revenue to BPA has declined due to expanding wind, solar, and natural gas plants that have reduced energy prices in western markets. All the funds spent on restoring wild salmon, including building and maintaining large fish hatcheries (intended to provide harvest or support wild fish restoration), barging juvenile salmon and steelhead, spilling water to support downstream juvenile migrations, improving juvenile bypass systems, and other programs, have failed to salvage declining salmon and steelhead runs. Meanwhile, BPA's financial problems have increased as the agency has drawn from cash reserves and borrowed from private lenders and the U.S. Treasury, with debt reaching $15 billion dollars. BPA has spent most of its reserves and faces large debt for required but unfunded retrofits and replacements to the four Lower Snake River Dam turbines (Figure 3. Rising Maintenance costs).

So let's go back to rivers, fish, and dams. Dams impact

AWCF Grant Committee Report - Fall 2019

by Robert Gotie

The AWCF Grants Committee was busy in 2019. We reviewed a total of 32 excellent applications: 19 in the February cycle and 13 in the August cycle. Out of the total we issued grants to 3 in March and 2 in September. The two most recent grants were issued to graduate student Thea Kristensen of Amherst College and Brianne Soulen of the University of North Texas.

Ms. Thea Kristensen will be conducting a long-term study of black bear demography in Massachusetts. Her study will entail DNA sampling of black bear hair taken from sampling stations across the state. This sampling strategy will allow for density and abundance estimates in different habitat types across Massachusetts, as well as identification of black bear meta-population dynamics and patterns of relatedness, population structure, and dispersal. Citizen outreach to incorporate citizen sightings of black bears will also be utilized. She requested and received an AWCF Grant for $3,000.

Ms. Brianne Soulen will be analyzing the level of persistent organic pollutants in the tissues of northern fur seals. Little is known about contaminant accumulation of toxic chemicals in this species, like polybrominated diphenyl ethers

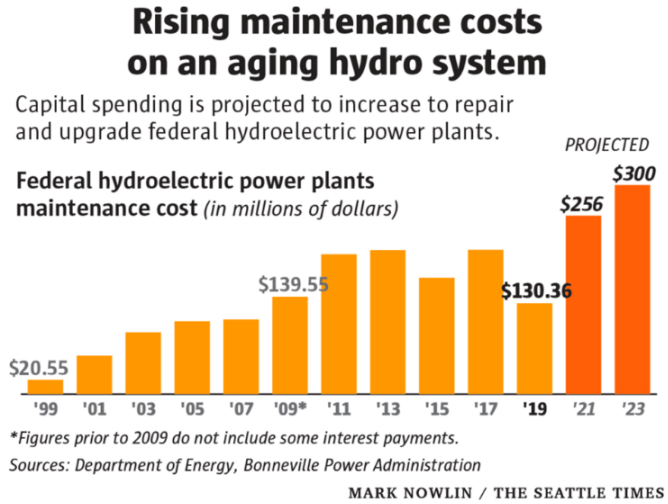


Figure 3. Rising maintenance costs of the US Army Corps of Engineers Dams in the Columbia River basin. Source: Bernton, Seattle Times Report, July 21, 2019

rivers, streams, and aquatic habitats by altering natural flows, water quality, and nutrients; trapping sediments, gravel, and woody material; and impeding or blocking fish passage and migrations. Dams also cause high temperatures in the pools behind dams, increase predation, inundate spawning and rearing habitat, and increase mortality from stress and disease. The Columbia and Snake Rivers (Figure 4) were changed from free-flowing rivers to a series of dams, with slow moving reservoirs that delay downstream juveniles, become too hot for migrating salmon and steelhead, and have

Figure 4. Lower Granite Dam, one of four Lower Snake River Dams. Source: public domain online photo

abundant predators such as northern pikeminnow and smallmouth bass. During years of low flows or excessive water withdrawal, smolts on the upper Snake River can now take up to 39 days to reach the ocean, compared with less than 3 days in the pre-dam environment (McCully, P. 2001).

AWCF Grant Committee Report Fall, 2019 continued

(a component of flame retardants) and a widely used surfactant containing perfluoroalkyl. Both compounds are persistent and ubiquitous in the environment. Both chemicals move easily into other organisms through diet. Northern fur seals are readily consumed by native Americans in the Aleut community of Alaska. The data gathered in this study will shed light on the risk of consumption of marine mammals and be shared with the Aleut community on St. Paul Island where the study will take place. She requested and received an AWCF Grant for $2,000.

Because we are receiving numerous grant applications for the limited amount of funds available each year, the Grants Committee is slowly evolving our review procedures to provide a more objective method. Applicants who pay particular attention to our mission and focus their objectives on: Species Conservation, Human-Wildlife Interaction, Habitat Conservation and Public Outreach, will have a better chance of receiving a grant. Deadline for the next grant cycle will be February 1, 2020.

Historic adult salmon and steelhead returns in the Columbia River basin, primarily Chinook salmon, were estimated at 10-16 million. Only 75,000 Chinook returned in 2017. Total salmon runs in the Columbia River basin, after all the mechanistic fixes, remain at less than 1% of their historical abundance. With steadily declining runs, Snake River salmon and steelhead runs were listed as threatened or endangered under the Endangered Species Act in the early 1990s (McCann et al. 2017, Nemeth and Kiefer 1999). Five consecutive federal salmon plans and billions of public money has yet to recover a single salmon or steelhead population. The US Army Corps of Engineers asserts that downstream migrating smolts survive at a per-dam rate of approximately 95 percent. Accumulated losses through all eight dams leaves only 66 percent survival and fails to account for losses in the dams' reservoirs. Further losses are due to "delayed mortality" which results from stress and harm that juveniles suffer as they pass through the eight-dam and reservoir complexes. Scientists use a measure called "smolt to adult returns" or "SARs" to evaluate survival of anadromous fish. A SAR of 2-6% is needed to assure the

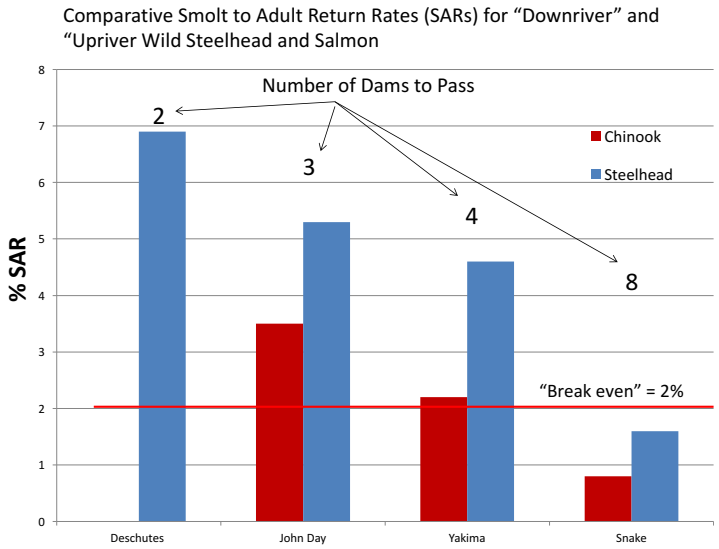


Figure 5. Comparative Smolt Survival. Source: McCann et al 2017.

survival of a species, but Snake River fish are typically less than 2%, hence the continued downward spiral (McCann et al. 2017) (Figure 5).

This story is not just about salmon and steelhead declining toward extinction. It's also about the Southern Resident Orca population in Puget Sound. Southern Resident Orcas are missing from some of their historic areas and their primary food supply, Chinook salmon, is dwindling steadily downward (Giles 2016). One of their main food sources was the Chinook from the Columbia and Snake Rivers, which upon arriving at the Pacific Ocean, turn right and spread north along Washington and British Columbia. As noted above, juvenile salmonids are subject to turbine mortality at dams and then further harmed or killed due to lethal reservoir temperatures and predation. Among other factors such as ship strikes and toxins, Southern Resident Orcas are starving to death from lack of their Chinook Salmon native prey. Some Southern Resident Orcas are visibly thin as evidenced by what is sometimes referred to as "peanut head", where an extreme loss of fat leaves deep sunken areas behind their eye patches. Southern Resident Orcas were listed as endangered in 2005. Now, 14 years later, there are only 73 Southern Resident Orcas left. In 2015, NOAA identified Southern Resident Orcas as one of eight species most likely to go extinct in the near future unless immediate action is taken (NOAA 2015, Orca Salmon Alliance 2015).

Southern resident orcas.
Photo Source: NOAA

Several advocates have proposed removal of the four Lower Snake River Dams. Why? First, the Lower Snake River dams provide only about 4 percent of the region's power. Second, with relatively cheap renewable wind and solar energy, and the low cost of abundant natural gas, energy produced by these four dams cost 30% more than current wholesale pricing. Third, energy production and shipping

Of Mice & Men… & Plants & Insects & Birds

compiled by Katherine Stuart

It's probably no coincidence that alarms on freefalls in populations and extinctions in plants, insects, and birds in North America have been published in separate articles in August, September, and October of this year. Rapid and significant declines in biodiversity and populations may shake the very foundation of our interdependent ecosystems.

In the October 2019 *National Geographic* issue, Michael Greshko writes of the plant biodiversity crisis: Since the 1750s, at least 571 species of plants have gone extinct and more than 8 plant species disappear on average every 3 years, a rate of extinction as much as 500 times plants' natural or background extinction rate.

In August, Howard Youth reported for the *American Bird Conservancy* that "insect diversity and abundance are plummeting in many places". According to the Xerces Society for Invertebrate Conservation, a study in Ohio found a 33% reduction in abundance of butterflies over 21 years and a 45-year study with transects across California noted declines at all sites and of all butterfly groups. Parallel studies in Germany noted a more than 75 percent decline in the flying insect biomass at 63 sites, suggesting it is not only "vulnerable species" but the flying insect community as a whole. Excepting seabirds, 96% of North American bird species feed insects to their young.

Of Mice & Men… & Plants and Insects and Birds Cont.

Habitat loss, climate change, intensive agriculture, and pesticides (especially the neurotoxin neonicotinoids) are major contributors to insect declines.

Articles in *Scientific American* and other popular media have now reported on the stark results published in the September *Science* journal about shocking declines in bird populations in the last 50 years. According to the authors, since 1970 "multiple, independent lines of evidence show a massive reduction in the abundance of birds", with the US and Canada losing nearly 3 billion birds, a decline of nearly 30%. The study noted that habitats have been so severely impacted by human activity, such as urbanization and agricultural intensification, that they no longer support robust wildlife populations. The results show losses across diverse groups of birds and habitats - from iconic songsters such as meadowlarks to long-distance migrants such as swallows and backyard birds and "pervasive losses among common birds across all habitats". Grassland birds were among the hardest hit with a 53% reduction in population.

On a positive note, some waterfowl species have rebounded as a result of human efforts with investments in conservation, in wetland protection and restoration. Raptors such as bald eagles rebounded after legislation banned DDT. It's a wake-up call and the next chapter is up to us.

have been in steep decline as the aging dams' infrastructure maintenance and operations costs have rapidly risen. These energy and transportation benefits can be efficiently replaced with reliable and cost-effective alternatives such as wind, solar, and rail transportation.

Comprehensive investigations into the plight of Snake River spring and summer Chinook salmon have concluded that restoring some level of pre-dam ecosystem function, rather than continuing to rely on failing mitigation actions, has a high probability of achieving recovery (Nemeth and Kiefer 1999). Data and analysis of salmon survival from the Fish Passage Center indicates breaching the four Lower Snake River dams could lead to a fourfold increase in Snake River salmon and steelhead runs (McCann et al. 2017). Over $16 billion dollars has been spent trying to restore salmon and steelhead in the Columbia River Basin. Despite this spending, these iconic fish and the dependent Southern Resident Orcas are spiraling toward extinction.

Chinook salmon. Photo by Steven Thiesfeld

Breaching the four federal dams on the lower Snake River is the major step needed to avert extinction of the lower Snake's salmon, and to restore access of salmon and steelhead to millions of acres of cooler, high-elevation watersheds. This would substantially increase spawning habitat for lower Snake River Chinook and greatly increase the availability of a critical food source for the endangered Southern Resident Orca. Major rivers such as the Clearwater and Salmon and their tributaries are historic spawning habitat and are in near-pristine condition, much of it protected as wilderness. These fish swim as far as 900 miles to natal headwater streams and climb some 7,000 vertical feet from the ocean to spawn in central Idaho. The clear cold waters will be increasingly important as the high

CALENDAR OF EVENTS FOR 2019

Oct 2-4: 10th Annual Student Conference on Conservation Science. New York, NY https://www.amnh.org/research/center-for-biodiversity-conservation/convening-and-connecting/student-conference-on-conservation-science-new-york-sccs-ny

Oct 8-10: 10th Annual Northwest Climate Conference. Working together to build a resilient Northwest. Portland, OR https://www.nwclimateconference.org/?fbclid=IwAR2__DYBJax5b1FNJ_saq9GDj0JD_YIB3zUZYL4BnrCx1Mi_9V1P32C_vkQ

Oct 7-12: 2019 World Whale Conference: Journeys that inspire change. Queensland, Australia. https://www.worldwhaleconference.com

October 12: 2019 Wildlife Conservation Fall Expo, San Francisco, CA https://wildnet.org/events/

Oct 15: Adirondack Research Consortium 2019 Fall Forestry Roundtable: Climate Change and the Climate Leadership and the Community Protection Act. Queensbury, NH http://www.adkresearch.org/conference/specialty/

Oct 15-20 & Dec 6-8: Wings over water wildlife festival: Programs in six national wildlife refuges, Cape Hatteras National Seashore, Jockey's Ridge State

elevation mountain snowpack in Idaho is more resistant to climate change, and the waters remain cold where other lower, more southernly rivers may grow too warm and dry for salmonids.

The idea of dam removal is not new or radical. In the past 100 years, over 1,600 dams have been removed around the United States, sometimes to restore fish passage, sometimes to remove a safety risk, sometimes to avoid reconstructing costly infrastructure (https://s3.amazonaws.com/american-rivers-website/wp-content/uploads/2019/02/20214411/DamList2018_narratives.pdf). At least 80 dams were breached in 2018 alone. Decades of removing old, obsolete dams and watching nature do the rest has restored native fish runs that have been lost or suppressed for centuries. Recent examples include the Penobscot (Figure 6) and Kennebec Rivers on the east coast in Maine and the Hood River, White Salmon River and Elwha River in the Pacific Northwest. In each case, there have been

Figure 6. Penobscot Dam Removal in Maine in 2012-2013, before and after. Source: Penobscot River Restoration Project

astonishing signs of native fish species returning in abundant numbers, such as shad and herring on the east coast.

Dam removals can be an effective means in the toolbox to restore fish and wildlife species, especially with added urgency in light of climate change. I look back on my 40 years of working in fish and wildlife management since the days of being a barge rider on the Columbia River and hope that your passion and dedication will continue to

CALENDAR OF EVENTS FOR 2019 Continued

Park and more, Manteo, NC https://nebula.wsimg.com/001ba907c132dc9254a3a7d3afa1e3fe?AccessKeyId=5F752382A837D2EB8C7E&disposition=0&alloworigin=1

Oct 17-18: NH Association of Conservation Districts 2019 Annual Meeting & Conference: Stream Restoration. Gilford, NH https://extension.unh.edu/events/monadnock-region-natural-history-conference

October 17-19: Rally 2019: The National Land Conservation Conference, Raleigh, NC http://alliancerally.org

Oct 17-27: Wildlife Conservation Film Festival. New York, NY https://www.wcff.org/nyc-festival-2019/

Oct 18-20: Northern Woodlands Conference: Hulbert Outdoor Center, Fairlee, VT https://northernwoodlands.org/conference

Oct 23-24: Our Ocean 2019. Oslo, Norway. https://ourocean2019.no

Oct 23-26: North American Society for Bat Research Annual Conference. Kalamazoo, MI https://www.nasbr.org/

Oct 27-30: 73rd Annual Conference of the Southeastern Association of Fish & Wildlife

make restoration of fish and wildlife species and their habitats a personal mission. As you pursue your efforts to study species and habitats, remember to connect the dots between research projects, the long term, and more global aspects of restoring ecosystems.

Sources for this story included Hal Berton from the Seattle Times (July 21, 2019 "Bonneville, the Northwest's biggest clean-power supplier, faces promise and perils in changing energy markets"), Lynda V. Mapes from the Seattle Times (July 24, 2019 "Mother orca Tahlequah and her dead calf, one year later. How did she change the conversation?"), Borg Hendrickson, a long time advocate for dam removal of the lower four dams on the Snake River, Advocates for the West, and the BPA funded Fish Passage Center.

Additional references:

Giles, D. 2016. Breaching the Snake River Dams to Support Southern Resident Killer Whale Recovery. Center for Whale Research. Friday Harbor, Washington. White Paper, updated 2/24/16. 4 pp.

McCann, J., B. Chockley, E. Cooper and B. Hsu. 2017. Comparative Survival Study of PIT-tagged Spring/Summer/Fall Chinook, Summer Steelhead, and Sockeye. Draft 2017 Annual Report. Comparative Survival Study Oversight Committee and Fish Passage Center. 418 pp.

McCully, P. 2001. Silenced Rivers: The ecology and politics of large dams (2nd ed). London: Zed Books.

National Oceanic and Atmospheric Administration (NOAA). 2015. Recovering Threatened and Endangered Species FY 2013-2014 Report to Congress.

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A very interesting interactive video of the loss of areas once accessible to salmon in the Columbia River basin from 1890 to 2011 is available on the Columbia River Inter-Tribal Fish Commission website and at the following link: https://www.critfc.org/fish-and-watersheds/columbia-river-fish-species/columbia-river-salmon/

A new program on the struggle to save the declining Southern Resident Orcas and the endangered Chinook salmon is the subject of the documentary *Dammed to Extinction*, which was produced and directed by Michael Peterson and writer Steven Hawley.

Amy Stuart received her B.S. from Cornell University and M.S. from Colorado State University in Wildlife Sciences and Management. She recently retired as a fish and wildlife biologist after 30 years of service

CALENDAR OF EVENTS FOR 2019 Continued

Agencies: Building on a Legacy. Hilton Head, SC http://www.seafwa.org/conference/overview/

October 27-31: International Conference on Aquatic Invasive Species, Montreal, Quebec https://www.icais.org/html/info_intro.html

Nov 2: 49th New Hampshire Association of Conservation Commissions Annual Meeting & Conference. Pembroke, NH https://www.nhacc.org

Nov 3-7: Coastal & Estuary Research 2019 25th Annual Conference. Mobile, AL https://www.cerf.science/conference-theme

Nov 4-8: 72nd Annual Conference of the Gulf & Caribbean Fisheries Institute. Punta Cana, Dominican Republic. https://www.gcfi.org/gcfi-72-conference/

Nov 11-12: 8th International Conference on Biodiversity and Ecosystem Management. Tokyo, Japan. https://biodiversity.conferenceseries.com/events-list/ecology-and-biodiversity-conservation

Nov 14-15: North Atlantic Right Whale Consortium. University of Southern Maine, Portland, ME https://www.narwc.org/annual-meeting.html

with the Oregon Department of Fish and Wildlife, with additional jobs with the Colorado Mine Land Reclamation Division, U.S. Forest Service, and U.S. Army Corps of Engineers. She is on the board of the nonprofit Central Oregon LandWatch and the leadership team for the local chapter of the Great Old Broads for Wilderness, spending way too much time writing comments on federal environmental documents.

Amy Stuart fly fishing with her Brittany, Summer Joy. Photo by Brian Jennings

President's Message

by Daniel Leete

Who doesn't love October? October is one of the most enjoyable months of the year for me. It is always satisfying for me to transition from summer to fall. The cool nights are a relief, the sights and sounds of this seasonal change are both familiar and comforting. I live near a college town, and each year the sight of the new freshman class makes me feel a little older and a little more aware of how much the world has changed since my own first year at college.

Daniel Leete and his solo canoe. Photo by Linda McLyman

My wife and I just returned from a great five day trip to the Adirondacks. Each day I woke up in this beautiful part of the United States feeling peaceful and somewhat nostalgic about the passing of seasons. Yesterday I was idly eyeing the new apple crop in my orchard and helping my wife, Linda, can the last of the garden vegetables. She altered my mood a bit by announcing something that served as both a sudden wake up and a shake up call for me. Linda wasn't thinking about October, she was thinking about December 31st. Linda's call out to me sounded something like this. "We are closing

CALENDAR OF EVENTS FOR 2019 Continued

Nov 15-17: Call of the Wild Conference, Waynesboro, VA https://www.wildlifecenter.org/call-wild-conference

Nov 16: 1st Monadnock Region Natural History Conference. Keene, NH https://extension.unh.edu/events/monadnock-region-natural-history-conference

Nov 19-20: 2019 Wildlife Habitat Council Conservation Conference. Baltimore, MD https://www.wildlifehc.org/knowledge-center/conservation-conference-2019/

Dec 2-6: Ocean Plastics Congress 2019: Turning the Tide. Melbourne, Australia. https://www.oceanplasticscongress.org

December 9-12: World Marine Mammal Science Conference, Barcelona, Spain https://www.marinemammalscience.org/conference/

2020

Jan 17-21, 2020: 12th Annual Everglades Birding Festival. Davie, FL. http://www.evergladesbirdingfestival.com/19-flyer.pdf

Jan 18, 2020: 2020 Indiana Wildlife Conference. Indianapolis, IN https://www.indianawildlife.org/2020conference

in on the last quarter, Daniel. Let's reach our stretch goals by October, 1st."

I am used to hearing Linda talk about the year in quarters rather than seasons. She worked as a business consultant in the Boston area for tech companies for several years and while working with some savvy executives she learned to think about the year as a series of quarterly segments. When the second and third quarters fail to bring in the right revenues, the need to realign the yearly goals and objectives for the fourth quarter becomes critical. Linda wasn't being negative, she was simply reminding me that we had one quarter left to accomplish the things we really wanted to do in 2019. When we ran our consulting business for 36 years, Linda was also fond of saying, "simply do the math." This type of thinking was critical to our success.

As President of the AWCF, it's my responsibility to make sure we are accomplishing our key responsibilities and objectives as a nationally recognized organization. That managerial role I take seriously, and I believe that we are fulfilling our mission. Another role is to make sure we continue to remain financially stable. The AWCF has a long-standing role providing honorable services to many of our communities. As 2020 approaches I believe it is critical that we pay attention to the challenge we have in front of us. That challenge is simple to articulate. We must continue to develop viable and attainable ways to increase - not maintain - the number of members in the AWCF. The board members have heard me advocating for a stronger recruitment drive. Updating our marketing and outreach materials has helped us reach a larger audience. Research clearly shows, however, that we are competing for new members in a world where people are bombarded by choices about how to spend their time and money. In my own household, we discuss these choices often, and there are times, when we simply want a break from all the choices. To have agency in our lives, however, we need to choose how we use our time, spend our resources, and enjoy our lives. Thank you for choosing to support AWCF.

CALENDAR OF EVENTS FOR 2020

Jan 26-29, 2020: 80th Midwest Fish and Wildlife Conference: Bringing Science Back to the Forefront of Resource Management. Springfield, IL http://www.midwestfw.org

Jan 30-31, 2020: International Conference on ecosystem health and sustainable development. New York, NY https://waset.org/conference/2020/01/new-york/ICEHSD

Jan 30-31, 2020: International Conference on Wildlife, Wildlife Management, and Biodiversity. Sydney, Australia https://waset.org/wildlife-wildlife-management-and-biodiversity-conference-in-january-2020-in-sydney

Jan 30-31, 2020: International Conference on Conservation Biology Management and Biological Magnification. New York, NY https://www.conferenceindex.org/event/international-conference-on-conservation-biology-management-and-biological-magnification-iccbmbm-2020-january-new-york-us

Feb 5-7, 2020: 2020 Annual Meeting of the Oregon Chapter of The Wildlife Society: Connecting Populations, People & Policy. Eugene, OR https://ortws.org/2019-annual-meeting/

As you read the articles and announcements in this letter, please join me in a simple, easy effort. I believe if we each take this 90-day opportunity seriously, we can bring in more new members to the organization between October 1st and December 31st, 2019. This means however, that our goals need to be in alignment with significant accountable, action steps. These steps are as simple as asking ourselves, who, when, why, where and how each of us can immediately invite people to become AWCF members. Thinking about extending that invite, albeit an important next step, doesn't increase membership. We have to take the "doing" step. Pick up the phone, write an e- mail, ask a person to join. You can even print out an application form right from the AWCF website (www.awcf1911.org). These are the doing steps we must commit to doing. I know this type of reaching out is uncomfortable for many people, but it is not that hard. (Besides, someone reached out to YOU!). And, you might be surprised to know that many people are very interested in our organization. I hope to be able to update the board members about a contact I received from an influential person two weeks ago. He found us, I didn't find him. The AWCF web site has had a very positive hit, and I will be explaining the results of the hit really soon.

So let's focus on recruitment of new members this last quarter of 2019. We can do this in a collaborative and exciting manner. What would happen if each of us recruited just one new member during the next 90 days? That would double our membership! Get out a blank sheet of paper, and jot down all the names of people you know who love something about the great outdoors. What are they passionate about? What do they like to do outside? Think of friends, neighbors, peers at work, your buddies at the coffee klatch. Show them the AWCF website. Show them this newsletter. Hand them an application form and a pen. Fifty bucks really isn't that much - you spend that much with a couple of friends at lunch these days. Get 'em to join: the process is really simple. And then they can help you make a significant difference. Enjoy your fall days. And, help the AWCF grow.