



## ALASKA HERPETOLOGICAL SOCIETY



**Rough-skinned Newt:** Photo taken in early June of 2013 next to a beaver dam on Paradise Slough, a tributary of the Stikine River in southeast Alaska. It is a gravid adult female on a skunk cabbage leaf. Observers were Joshua Ream and Seth Perry.

### Upcoming Events

- ❖ **HerpNerds!!** Join us for drinks, laughter, and fun!
- ❖ **Mother's Day Frog Walk (May 11, 2014)** – Creamer's Field, Fairbanks
- ❖ **Denali State Park Herping/ Camping Adventure (Summer 2014)**
- ❖ **AHS Conference (October 2014)**

## MISSION STATEMENT

The Alaska Herpetological Society is a nonprofit organization dedicated to advancing the field of Herpetology in the State of Alaska. Our mission is to promote sound research and management of amphibians and reptiles in the North, to foster responsible pet ownership and to provide opportunities in outreach, education, and citizen science for individuals who are interested in these species.

# From the Desks of the AHS Staff:

## President's Corner



Though spring has not yet sprung, it is right around the corner. We are rapidly gaining daylight and the anticipation of the coming warmth is palpable, at least among Anchorage residents. We were lucky (depending on your perspective) to have unseasonably warm temperatures in January, but this may have had drastic consequences for local amphibians. As you

will read in this newsletter, some folks have already witnessed frog thawing in Anchorage!

With true spring will come a true amphibian emergence and the onset of chorusing. This is an exciting time for us “herpers” as it marks a time that our wild critters become available for our visual and auditory entertainment. I highly encourage our members to partake in herpetological outings this spring, and to document their observations as citizen scientists. Who will be the first to hear a native frog and/or see the breeding migration of salamanders? This is going to be an incredible year for AHS. Our partnerships are growing,

our citizen science initiatives are coming to fruition, and the Stikine Long-term Amphibian Monitoring Program (SLAMP) has been formally established. I hope that everyone reading this will get involved with our amazing organization. Whether it is organizing a herp outing, participating in Save the Frogs Day, attending our Denali State Park Camping Trip, or joining us for our big conference this fall, we look forward to meeting you and to working together toward our common goals.

Keep on Herpin!

Joshua Ream  
President – Alaska  
Herpetological Society

## \*\*\*UPDATES\*\*\*

This spring we will be conducting our third year of systematic sampling at long-term sites (May 17-May 25). We are also excited to announce a partnership between AHS, the U.S. Forest Service, and the Girl Scouts of America that will permit an amphibian bioblitz (comprehensive inventory) at the Twin Lakes site. Participants will have the opportunity to learn about amphibians and field sampling techniques, while simultaneously contributing valuable scientific data! More on the AmphibianBlitz later in the newsletter!



# AHS / NPS : Statewide Partnership For Citizen Science and Education

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The Alaska Herpetological Society (AHS) has partnered with the National Park Service (NPS) to offer amphibian-oriented citizen science and educational programs across the state of Alaska. We are in the process of jointly designing and implementing these programs for communities in proximity to the state's national parks. The communities tentatively scheduled for inclusion are McCarthy, Slana, Nebesna, Copper Center, Glennallen, Kobuk, Ambler, Shungnak, Kobuk, Eagle, Circle, Minchumina, and Healy!

Partner communities will be receiving "kits" that will be checked out by AHS on a semi-permanent basis, so long as the communities continue to participate. These kits will include educational materials (models, books, movies, field guides) and field supplies (GPS Units, Nets, Scales, Rulers, Disinfecting Supplies, Notebooks, Gloves, etc).

AHS staff will travel alongside of NPS staff to offer herpetological lectures in the partner communities, followed by an "amphibian bioblitz" at a nearby wetland. Residents will learn about the state's amphibians, proper field methods, and the ways in which they can contribute valuable scientific data to researchers and managers. All data collected will be submitted to AHS, which in turn will upload the information to the University of Alaska Museum's Arctos Database. AHS will also seek to publish the data in peer-reviewed journals. Each partner community will adopt both a wetland and an associated data logger provided by NPS. They will periodically monitor these sites, and NPS staff will assist in providing organized learning / herping opportunities for years to come! This is sure to be a lasting, beneficial, and truly rewarding partnership for all involved.



➤ The AHS / National Park Service (NPS) citizen science partnership is coming together nicely. We are happy to announce that NPS has secured funding to support our efforts!



# AHS Second Biennial Conference

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**The Alaska Herpetological Society** will hold its second biennial conference on Sunday October 5th from 10AM to 5PM. The main meeting location will be in Anchorage (exact location to be announced), but we are hoping to be able to video-conference with the UAF and UAS campuses in Fairbanks and Juneau. Registration and abstract submission is now available on our website: <http://www.akherpsociety.org/2014conference.htm>.

The conference will include a keynote speaker, poster and oral presentations, a photography / art contest, t-shirt/calendar/holiday card sales, door prizes, a silent auction and much more. Please register today, and consider making item donations for our auction. Your contributions are much appreciated!

## **MARI REEVES – keynote speaker for AHS 2014 Conference**

AHS is very excited to announce that the keynote speaker for the 2014 conference will be Mari Reeves. Mari has worked extensively on wood frogs in Alaska and has a wealth of knowledge to share.

Mari Reeves, is an Ecologist with the US Fish and Wildlife Service based in Anchorage. She earned her Bachelor of Arts in English Literature from UC Berkeley, a Master's of Science in Natural

Resources from Cornell, and a PhD in Ecology from the University of California at Davis. Since 1996, Mari has studied the effects of pollution on the environment, and has worked with the coolest animal around, the Alaska Wood Frog since 2002. Her work in the field and lab has focused on the effects of multiple interacting stressors on amphibians and their populations, both in Alaska and the rest of North America. When not capturing small creatures in dip nets, Mari likes to hang out with her family, and ski, run, bike, and play roller derby in Anchorage, AK.



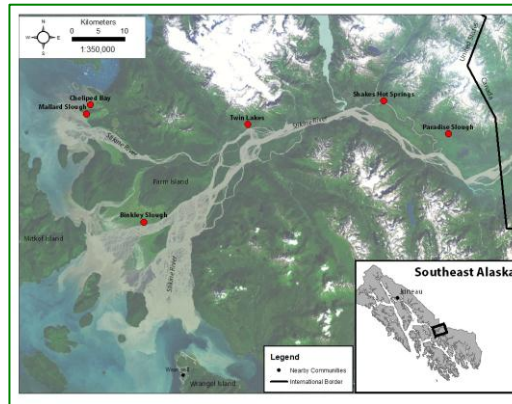
# Stikine Long-term Amphibian Monitoring Program (SLAMP):

AHS has endorsed the establishment of a Stikine Long-term Amphibian Monitoring Program (SLAMP) in the Stikine Region of Alaska. The proposed initiative is a continuation of the work undertaken by member Joshua Ream as part of his doctoral studies at UAF. His data and those of previous researchers have established a relatively extensive baseline for amphibian populations in the region. We hope that AHS can continue this research momentum well into the future.

Based on these sampling data, AHS has identified 6 primary sites on the river that will serve as long-term monitoring sites based on amphibian species diversity, breeding habitat, and accessibility. The sites include Cheliped Bay / Mallard Slough, Binkley Slough (Farm Island), Twin Lakes, Shakes Hot Springs and Barnes Lake (Figure 1).



**Figure 1** Joshua Ream processing a Columbia Spotted Frog at the edge of a pond on June of 2013. The pond is located near Red Slough, the Canada border, and the Stikine River. Photograph taken by Seth Perry



**Figure 2** A Wood Frog, Columbia Spotted Frog, and Boreal Toad collected at Shakes Hot Springs in June of 2013.

AHS will utilize several methods to obtain long-term data in the Stikine Region, including but not limited to:

1. Annual systematic inventories of monitoring sites when resources allow
2. Opportunistic sampling by members travelling in the region
3. Citizen science programs and Service-Learning Projects with local residents



**Figure 3** A Long-toed Salamander collected near a beaver dam along Paradise Slough in June of 2013.



**Figure 4** A group of Rough-skinned Newts captured in a minnow trap within a warm spring adjacent to Twin Lakes in June of 2013.



**Figure 5** Joshua Ream processing a Boreal (Western) Toad on Sergief Island in June of 2013. Photograph taken by Seth Perry.



## Service-Learning Programs (SLP):

The Alaska Herpetological Society (AHS) is excited to announce the birth of YET ANOTHER successful partnership, this time with the Petersburg High School Life Science Class! In conjunction with teacher Joni Johnson, AHS was awarded an Alaska Forum for the Environment grant under the Environmental Protection Agency's (EPA) Community Environmental Education Stewardship through Youth Involvement (CEESYI) program. As part of this award, AHS will be developing an educational kit and materials for the high school classroom, and we will be helping Ms. Johnson to establish a long-term monitoring site for her students at a nearby wetland. The students will also be participating in an Amphibian Bioblitz, similar to that which is planned with the Girl Scouts in Wrangell. The students will participate in this 2-3 day event later this summer at SLAMP's Binkley Slough field site. Given the wide array of funding opportunities that we have currently secured, we are always looking for additional help in making these programs a success. Please contact an officer if you would like to offer your time and skills! We look forward to reporting on the beginning phases of this program in the next newsletter

## 2014 Year of the Salamander!



Image borrowed from: <http://www.parcplace.org/news-a-events/2014-year-of-the-salamander.html>

**Conservation groups in partnership with PARC have designated 2014 as the Year of the Salamander**

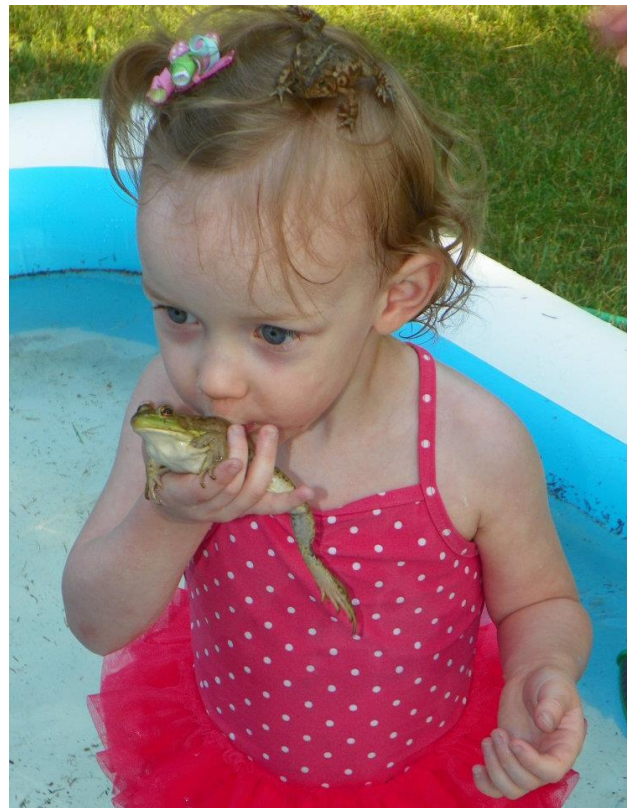


# TRAVELER'S CORNER

Joseph and Allyssa Gabriel traveled to the Philippines in 2011 and had the chance to walk through a forest with Monitor Lizards. The photo is of Joe Morris on the island of Palawan, Philippines (photo on right).



Ashlee Erny with a Garter Snake collected near Butler, Pennsylvania in August of 2013.



Willow Johnson (Amanda Gibson's daughter), in Wisconsin, June 2012. That is a Green Frog (*Lithobates clamitans*) that she's kissing, and a American Toad (*Anaxyrus americanus*) on her head!





# 2014 Twin Lakes AmphiBlitz!

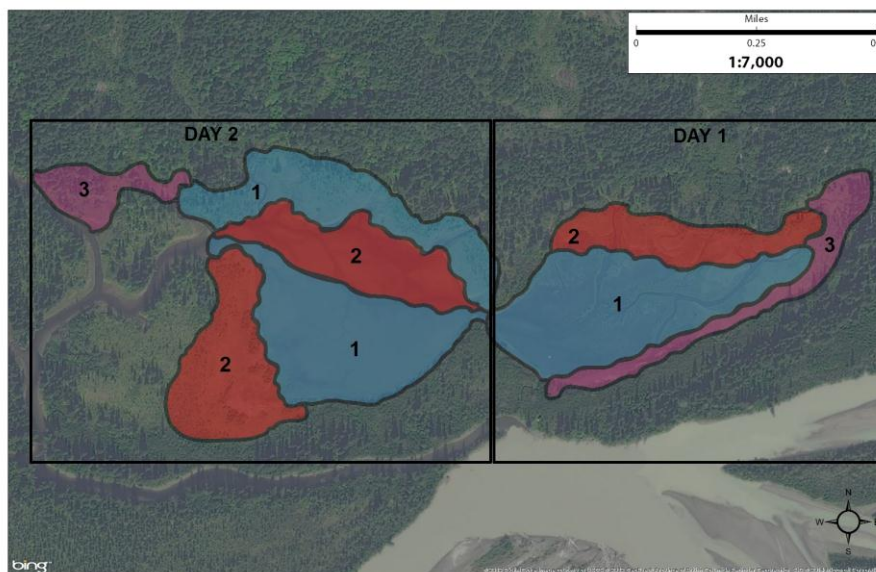


AHS is proud to be partnering with the U.S. Forest Service and the Girl Scouts of America to engage Alaska's youth in an AmphiBlitz - an educational / citizen science component of the Stikine Long-term Amphibian Monitoring Program (SLAMP). The Blitz will take place in early June at the Twin Lakes long-term monitoring site, a remote wetland in the Stikine LeConte Wilderness known for its amphibian diversity and productivity.

AHS staff, USFS biologists and scout leaders will accompany Wrangell Girl Scout Troop 4156 on a 2-3 day camping adventure where the girls will learn to identify and document Alaska's native amphibian species, while contributing valuable scientific data. In fact, all observations will be submitted to SLAMP, and to the University of Alaska Museum's Arctos database. The goal is to intensively and comprehensively sample the entirety of the Twin Lakes site.

The Blitz participants will be fully trained in amphibian sampling techniques and methods. They will be provided educational materials to aid in the identification of species. They will also be provided with sampling tools including nets, GPS units, cameras, scales, rulers, thermometers and other gear. They will be trained on proper animal handling and gear disinfection to prevent the spread of disease.

The Blitz program is being set up as a competition between three teams, each with at least one adult leader. The teams will be assigned site transects (Figure below). Note that team "4" is actually a combination of all teams, and these transects indicate those used for training purposes. Each evening team leaders will report their total number of complete records, total number of species, and total number of life stages identified. Students will share their experiences and stories each evening with the other teams. Our preliminary team assignments attempt to expose each team to a variety of habitat types on each day. Basecamp will be located at the Twin Lakes Public Use Cabin.



The AHS Executive Board believes that this program is going to be a great success, and we are hoping that future grant awards will allow us to offer this type of program to other groups in the Stikine Region soon.

Keep on Herpin!



# Alaska's Frogs Blink in January

By Lili Naves

Several days into a remarkable mid-winter warm spell, I took my dog Chai for a walk in an unnamed Anchorage trail, which I call "the bog." At around 4:00 pm, when the sun was casting long shadows on a mosaic of snow, mud, and standing water, we hit higher ground in a wood patch. The receding snow opened halos around tree trunks revealing mosses, matted-down leaves, and remains of last year's mushrooms. Despite the spring-like conditions, I felt familiar with the scenery until I balked at the sight of a frog by the trail, sitting on corn snow. It was 24 January, 2014. With the legs tucked in, the frog was about 2.5 inches long. Its brown eyes had golden speckles. The skin was smooth, mostly tan with delicate light-brown markings. It was alive but rather lethargic and would only move slightly if poked. I felt embarrassed because after a decade in Alaska, with only one frog species in most of the state, I could not say for certain whether this was a Wood Frog. Could it be another species? A released pet frog? If so, would it be alive outside in the cold?

Although Chai had ignored the frog, other dogs could come by and get interested on it. Worried about the outcome of such a potential encounter, I set the frog on a broad leaf in a tree's snow-free halo hoping to make it less noticeable.

Back home, my mental picture did not allow a clear species identification. I returned to the bog the next day; I found the right tree among many others, the broad leaf at its base, and no frog. Now we are back to winter conditions, but I know how to identify Wood Frogs and I will be looking for them when the mud puddles show up again.



# HERPNERDS!!



..Drinks!

.....Laughter!

.....Fun!!!

**JOIN US!!**

## HERPNERDS!

A social gathering of AHS  
members in South-Central Alaska

**Check our Facebook page for more information!**

<https://www.facebook.com/akherpsociety>

The first meeting was held on February 28th at SubZero Lounge. It was a blast to interact with fellow herp enthusiasts over beers and cocktails (some drank water and still had fun)!!

Please consider joining us for the next HerpNerds gathering!

## Support the Frogs 2014!

AHS supports the efforts of Save The Frogs. This year's Save the Frogs Day will be held on Thursday, April 24<sup>th</sup>. To celebrate, our t-shirts will be half off for one week only (while supplies last)! Please visit our website, become a paid member, register for our conference, make a donation or simply educate those around you on Alaska's amphibians. All of these items help to support our cause!



**Check out our T-Shirts!!**

[www.akherpsociety.org/apps/webstore](http://www.akherpsociety.org/apps/webstore)



# Herpetological Field Notes from My Alaskan Travels, Part I: Mitkof Island, 1991-1992.

By Bradford R. Norman



In Spring 1991 I was living in Tacoma, Washington, attending the University of Puget Sound, and in April I accepted a summer job at a cannery in Petersburg, Southeast Alaska.

From May through July 1991 I was working at as a Fresh Frozen Production Manager at Chatham Fisheries in Petersburg, a town on the northern end of Mitkof Island, in the Alexander Archipelago, situated off the Southeastern Mainland Panhandle of SE Alaska.

Many of the workers on my crew were of Mexican descent. One day we had off in July I rented a Mexican worker's station wagon for \$20 and set out down the Mitkof Highway South to the vicinity of Blind Slough, at the Southern and middle portions of the Island. I stopped at the northeastern edge of Blind Slough as it came into view and observed some stickleback, juvenile trout and some toad tadpoles in a small pond next to the gravel "highway".

These were some of the first of many observations I made of Mitkof Island amphibians. I confirmed that toad breeding had occurred here again in 1992 during another all

Herpetology-oriented trip, which was financed by the Humboldt University Foundation and the U S Forest Service and the US Fish & Wildlife Service in concert. John Lindell, my boss and then an Environmental Scientist with the Juneau Office of Ecological Services, had dubbed the project name: "The Alaskan Amphibian Complex Investigation" in 1992 after it had been in effect for over a year; my Alaskan Herpetology Complex Investigation had already been in effect from before 1976 when I received Hodge's field guide.

By August 1991, I had taken a volunteer position with the local Forest Service Office, Petersburg Ranger District, and was happily receiving a \$66/per day (per diem) and free barracks housing and transportation by boat, skiff and/or trucks, to nearby herpetological survey spots. Little did I know at that time that Mr. Nick L. Waters were also doing herpetological surveys in the Wrangell Ranger District and in the Stikine-LeConte Wilderness area, nearby and to the south during that same year. We later were introduced and proceeded to collaborate on some articles and summary reports regarding our herpetological field work in Southeast Alaska. And little did I know that in 1992

(May through September), I would be receiving a wage of \$10 per hour, full time, a \$1,000 food allowance, minimal housing cost out of my check, and trips by also helicopter and plane, as well as by boat and truck, to more areas for field surveys, and basically doing an extension of the same field work I and Waters had started doing in 1991.

A dream job it was for me!

I had a copy of Robert Parker Hodge's classic field guide of Alaskan herpetofauna: *The Amphibians and Reptiles of Alaska, the Yukon and the Northwest Territories*. (Hodge, 1976) and had reviewed much of the literature re: AK herpetology. In 1992, I requested and received many print-outs of the holdings of Alaskan specimens in many museum collections across North America so I had some idea of where previous records were extant, and what was new for which islands.

I found new localities for *Bufo boreas* (now *Anaranyx* (Check spelling! *boreas*) practically at every new place in SE Alaska that I encountered them, with Hodge's book in hand. On Mitkof Island, I believe I found new toad records at: Blind Slough, Thom's Creek Road, and new newt records at Thom's Creek US Forest Service Campground, Off and on Haugen Drive in Petersburg, in a borrow Pit-quarry pond system above Fish Creek, Fish Ladder, etc. I looked in vain for long-toed salamanders on Mitkof Island's southern end around Blanquet Point and along the southern lobes of the island, in alder-dominated ditches, quarry pool, barrow-pit ponds, and even deploying baited funneled minnow traps. But to no avail; I have never found *Ambystoma* of any species on Mitkof Island. That is the present goal for species verification there. It occurs on Sokolof Island, Farm Island, and at Cheliped Bay and Mallard Slough nearby. I can't recall right now the Sergief records of Stebbins (1949-51, or 1956, 1966, or Hodge 1973).

No spotted frogs were ever found on Mitkof Island in 1991 and 1992 except on the northern lobe of the island, in the vicinity of Petersburg and its airport and reservoir. No breeding toads were found on the northern lobe of the island only spotted frogs and newts, even sympatrically.

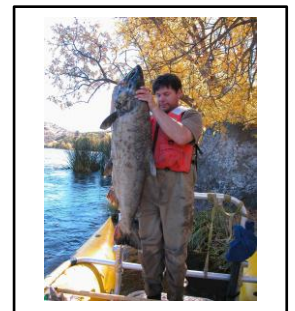
But newts were found at almost every place I searched on Mitkof Island, They are common and cover the whole island.

There is an old Wood Frog record for Petersburg, in Hodge (1976, Appendix 1) , but I looked at each specimen listed by him in the Tongass Historical Museum and I re-identified that wood frog as a very young juvenile spotted frog, previously mis-identified as a wood frog. Therefore, no records of WOOD FROGS exist on MITKOF ISLAND yet either.

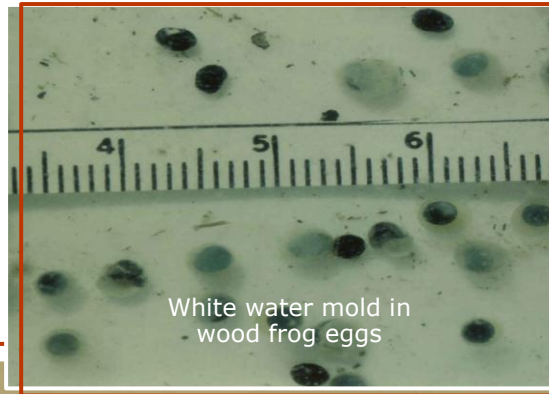
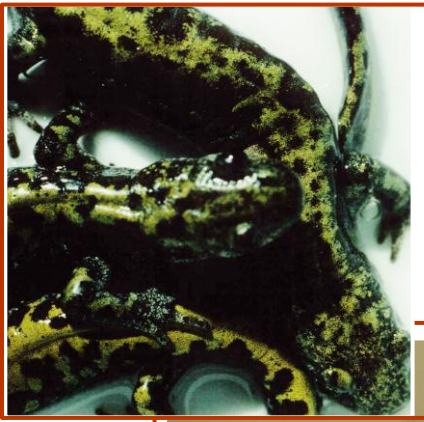
That collection (HODGE, TONGASS HIST. SOCIETY COLLECTION) has since been moved, along with the NOAA fish Collection Alaskan herpetological holdings to the Aquatic Collection at the University of Alaska, at Fairbaks, AK. I wish I had the money to send my 1992 collection to U of A. My 1991 AK Herps are already at the James R. Slater Natural History preserved herpetological collection at the University of Puget Sound, Tacoma, WA. I worked there from ca. 1986-1991 also. I am still sitting on and working on a nice collection of amphibians from my 1992 field work and have published on some of the *Ambystoma macrodactylum* material (Norman 1999, 2004, 2006). More to come . . . ?

Sincerely,

Bradford R. Norman



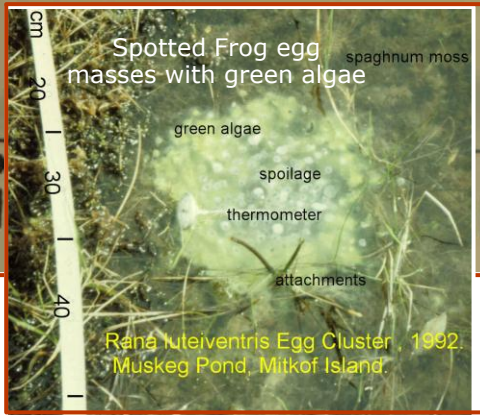




White water mold in wood frog eggs



Ambystoma



Ambystoma larvae

Photos courtesy of Bradford R. Norman

## Member contest for spring chorusing!!

The first person in Alaska to submit a recording of Wood Frog chorusing this spring will have their 2014 conference costs waived! Please be sure to listen carefully (they often sound like ducks) and to record the place, weather, date, and time of your observations! All contributions will be published in our next newsletter, and audio files / photographs of these spring encounters will be showcased on our website.

# A Frog's Immune System

By Mike Porzio

The environmental conditions you experience early in life can have profound future impacts. A stressful developing environment can have lasting physical, mental, and behavioral effects into adulthood. The amphibian adult immune system develops and matures after tadpoles metamorphose into frogs, so we were interested in investigating how the water quality of ponds that tadpoles were raised in could affect their immune system function as frogs. We characterized water quality in three different regions of southcentral Alaska (Kenai, Anchorage, and Talkeetna) which represented low, intermediate, and high water quality, respectively, based on their content of contaminants like metals, pesticides, and other chemicals. Tadpoles were collected from each region and transported to our facilities in Washington.

After metamorphosis, we looked for differences in the frog's ability to secrete specialized proteins on the surface of their skin, which are an important aspect of their immune system. These proteins are an amphibian's main line of defense against disease and infection since they can kill infectious bacteria, viruses, and fungi before they enter their body. We found that lower water quality was linked to decreased protein production, and therefore impaired immune function. The ability of amphibians to fight and resist certain diseases can depend on the amount and quality of these proteins they're able to produce, so a healthy immune system is imperative for survival. The results of this study show that having cleaner, higher quality water to grow and develop in could help ensure that.





# Dip-Netting in Yukon and northwestern British Columbia

**Brian Slough**  
**January 9, 2014**

My interest in wildlife and amphibians in particular, can be traced back to a childhood growing up in the rainforest of southern British Columbia, where Pacific Treefrogs and Rough-skinned Newts were ideal study subjects for a future biologist. The occasional Western Red-backed Salamander found under a maple leaf was a treasure.

After university, and a Masters on Beaver ecology, I moved to Whitehorse, Yukon in 1981 to take the job of Furbearer Management Biologist with Environment Yukon. I was in the "Small Game Section" along with an ornithologist, who also ran a "Non-game" program. We formed the nucleus of what has since evolved to the Biodiversity and Wildlife Viewing sections, taking an interest in more than the usual "game" species. Government biologists in those days spent more time in the field than in meetings. With an interest in small mammals, including bats, and amphibians, I recorded observations and asked others about theirs.

After leaving the government in 1996, I began consulting and research on amphibians and the lesser known mammals. It has not been lucrative by any means, but gathering support from various agencies such as the BC Ministry of Environment, Parks Canada, Environment Canada, Environment Yukon (including NatureServe Yukon) and the Northern Research Institute at Yukon College, has allowed me and others to survey new areas, to monitor some breeding sites, to sample for diseases, and to collect genetic samples. We now have a much better understanding of amphibian diversity and distribution in Yukon and northwestern BC than we did 20 years ago. The known species here include the Wood Frog, Columbia Spotted Frog, Boreal Chorus Frog, Western Toad and Long-toed Salamander. We have no introduced populations; but have records of a few suspected hitchhikers, including salamanders in greenhouses. The major issues facing amphibians here appear to be climate change and emerging diseases. Habitat alteration and deformities are not known issues here, as they are reported to be in Alaska. Government resources to carry out management objectives are sadly deficient in the face of higher priorities.

Populations of all our amphibian species, except Boreal Chorus Frog, are connected along river corridors, to Alaskan populations. All of these (except Long-toed Salamander) may also have connections over some of the Coast Mountain passes, such as the White Pass and Chilkoot Pass near Skagway. Western Toads are also known from the Chilkat Pass in BC, and are suspected to be connected with populations in the Haines area.

Over the years I have travelled extensively to Southeast Alaska and have made many observations of Western Toads in the Skagway and Haines areas. I am aware of unconfirmed reports of salamanders on the US side of the Chilkoot Trail, including one observation by a long-time and reliable Canadian Park Warden. There have also been rare reports of garter snakes on the Canadian side of the Taku and Stikine rivers, also unverified.

Perhaps the strangest site on this side of the border is the winter-breeding Western Toad population at the Atlin Warm Springs, BC, just across the mountains from Juneau. I have observed breeding in early March, when it is still very much winter and temperatures could typically be below -20C. Only one other winter breeding population has been reported for the species (late March in Utah). Unfortunately, breeding has been inconsistent lately, and Bd is the suspected cause of a population decline there.

Travellers from Skagway will be interested in a large Columbia Spotted Frog population near the Klondike Highway near Log Cabin, BC. There is a pull-off at a small lake about 1 km north of the WPYR railway crossing. Walk around the lakeshore and you should see dozens of frogs leaping into the water. They breed in a communal frenzy on a warm day in late May. There are also Spotted Frogs and Western Toads on the Canadian side of the Chilkoot Trail, with major toad breeding sites on Lindeman and Bennett Lakes.

# Turtles in Alaska



In the last edition of the Northern Herp Chronicles, an interesting observation of a Leatherback Sea Turtle (*Dermochelys coriacea*) in Alaska was reported. As promised, AHS would like to follow-up on this report by providing additional information on the state's marine turtles, the only documented naturally occurring reptiles in the state. There are actually four species of marine turtles that sometimes venture into Alaska's marine waters including the Loggerhead Sea Turtle (*Caretta caretta*), the Green Sea Turtle (*Chelonia mydas*) the Olive Ridley Sea Turtle (*Lepidochelys olivacea*) and the aforementioned Leatherback Sea Turtle (*D. coriacea*). Each of these species is listed as federally threatened or endangered under the Endangered Species Act (ESA), but they occur in Alaska as non-breeding individuals.

Bruce Wing, a curator for the Juneau Auke Bay Laboratory of the National Oceanic and Atmospheric Administration (NOAA), maintained a database of Alaska sea turtle observations for several decades. This database consisted of contributed field notes, correspondences, newspaper articles, and other sources. After 47 years of federal service, Wing retired in 2011. Consequently, database updates have ceased and in August of 2013, all specimen collections of the laboratory were transferred to the University of Alaska Museum (UAM) in Fairbanks. The records compiled by Wing as of 1998 were however published in 2000 with coauthor Robert Hodge in the Herpetological Review. Wing's records were combined with those obtained by Hodge, the latter of which were derived from museum records, interviews and "questionnaires distributed to fishermen, biologists and school teachers in Alaska coastal communities." These authors also described the "Alaska Turtle Season" as occurring between July and October, with 75% of known reports occurring during this period. Prior to 1993, most of Alaska's marine turtle sightings were of live Leatherback Sea Turtles, but since then, most observations have been of Green Sea Turtle carcasses.

Given the vast expanse of marine waters off of the state's coast, including over 54,246 km of largely uninhabited coastline, the Hodge and Wing data likely captured only a small percentage of turtles that actually occurred – those that were found dead on shore or observed by fishermen at sea. They suggested that "most cold-killed, grounded turtles are probably destroyed by wave action (pounding on rocks), and scavengers before anyone finds the evidence," adding that "all reported Alaska marine turtle occurrences are in clusters near centers of human population."

The North Pacific Drift may be partially to blame for turtles arriving in Alaska since this warm current moves east from the west-Pacific, and eventually splits at the latitude of Vancouver Island, B.C., heading both north and south from there. Consequently, it is likely that turtles arriving in Alaska often make a wrong turn, or they get caught in a current that they cannot easily get out of. Wing suggested that most turtles arrive in the state in late summer and fall, and are then caught in the eastern portion of the Gulf of Alaska gyre. Unfortunately, many of the sea turtles that end up in Alaska waters eventually die due to the cold water temperatures. Many of these turtles eventually become hypothermic and are not able to return to the warmer southerly waters. Among the four species known to occur in Alaska though, the Leatherback is considered large enough to be able to maintain higher body temperatures that permit survival and a return to warmer waters.



Figure 6 A Green Sea Turtle found in November of 2001 near Chapin Bay, Admiralty Island. Photograph taken by Richard Lowell in front of Coastal Cold Storage in Petersburg, AK.



Figure 7 A Green Sea Turtle found in November of 2001 near Chapin Bay, Admiralty Island. Photograph taken by Richard Lowell in front of Coastal Cold Storage in Petersburg, AK.



There is no question that Sea Turtles occur in Alaska, albeit usually to their detriment. It is not known how migratory patterns will shift with climate change and whether the rate of occurrence will change in light of this. It is also unknown what the true occurrence rate is, corrected for those that go unobserved. Given that these species are threatened and endangered, it will be important to monitor their occurrence in Alaska if we are to determine the impact that cold-water mortality is having on the populations. To this end, a centralized long-term database should be established, maintained, and publicized to continue to build on this knowledge. It may also be beneficial to establish protocols for the capture, relocation and rehabilitation of hypothermic individuals encountered live in the state.

Here is some information specific to each of the turtle species in Alaska:

## **LEATHERBACK SEA TURTLES**



© MATTHEW GODFREY  
Figure 8 <http://www.seaturtles911.org/turtle/leatherback.htm>

Leatherback Sea Turtles, listed as critically endangered under the ESA, were the most frequently reported Sea Turtles in Alaska prior to 1993, with at least 19 records occurring between 1960 and 1998 from Southeast Alaska to the Alaska Peninsula. They have also been reported at Cape Navarin, Russia, 450km northwest of Saint Mathew Island in the Bering Sea. This species is primarily pelagic and seldom approaches land except for nesting. They forage in temperate waters and nest on beaches at tropical and subtropical latitudes. They feed primarily on jellyfish, which are abundant in the Gulf of Alaska during late summer and fall. They are considered uncommon in Alaska, but peak numbers have been reported in August in the 1970s and 1980s.

## **GREEN SEA TURTLES**



Figure 9 Remains of a Green sea turtle, *Chelonia mydas*, discovered on Gravina Island near Ketchikan by resident Mary Hert on 2 December 2007. (Photo taken by NOAA Enforcement)

The second most commonly reported Sea Turtle in Alaska at the time of S.O. MacDonald's 2003 publication titled "The amphibians and reptiles of Alaska: a field handbook" was the Green Sea Turtle, which has been reported at least nine times between 1960 and 1998 (MacDonald 2003). This may no longer be the case however, as it may have surpassed the Leatherback with 20 sightings as of 2011, including five live turtle observations. It was the only species to be reported between 1994 and 1998. Beached carcasses and sightings of live individuals have occurred from the Alexander Archipelago north and west to near Cordova, and near Seldovia and Homer in Kachemak Bay. Eight of the nine sightings prior to 1998 occurred from September through November.

Green Sea Turtles are listed as endangered under the ESA, they typically range throughout tropical portions of the Atlantic, Pacific, and Indian oceans, and they are commonly found in shallow waters with an abundance of sea grass and algae (preferred foods) except when migrating. Sexual maturity takes 20 to 30 years.

The species can withstand water temperatures as low as 46°F (but prefer temperatures above 60°F) and usually become stressed and die in colder waters. Wing offered that, "When it starts getting down to about 50 degrees Fahrenheit, they're in trouble, and anything below 50 degrees is usually lethal to them."

The only turtle that Wing knew to have been alive when found in Alaska was a male member of this species located by deer hunters Jerry and Pat O'Brien on Montague Island in Prince William Sound on 9 October 1996. This turtle was subsequently reported to biologists and weighed in at 170 pounds. The hunters originally thought the turtle was dead but after hauling it into their boat's fish hold, it began to show signs of life. It apparently had not eaten in months, was 130 pounds underweight, and was within two weeks of death, according to Scott Eckert, a research biologist at the Hubbs SeaWorld Research Institute in San Diego. This specimen was brought back to Cordova where volunteers at the fire department, with the assistance of biologist Kathy Hough of the Prince William Sound Science Center, helped to revive the animal by warming it very slowly to prevent a heart attack. The recovering animal was then shipped to San Diego for rehabilitation, released with a satellite tracking device, and later known to be 600 miles off the coast of northern California before the device battery failed.

On 2 December 2007 Mary Hert, a resident of Gravina Island near Ketchikan, contacted the NOAA Office for Enforcement to report a green sea turtle on the beach near her residence. Special Agent Drew Mathews recovered the dead turtle and later shipped it to Hawaii for a necropsy. Apparently, this is the third dead sea turtle identified near Ketchikan since 1997.

Another specimen of *C. midas* was identified dead at Kelp Bay on the east side of Baranof Island near Sitka by Chris and Chuck McGraw in December of 2000. The carcass was of a female, about 30 inches long and weighing 130 pounds. These two turtles did not make the deadline to be included in the Hodge and Wing (2000) paper.

More recently, another resident of Ketchikan, Dennis Diamond, located a dead Green Sea Turtle 10 miles northwest of the community of Bond Bay while fishing for winter king salmon on 3 December 2010. A squawking Steller's Jay alerted him to the turtle's location. Though dead, it was completely intact and so heavy that Diamond could barely pull it above the tideline. The water temperature was between 41-42°F.

After returning to Ketchikan and calling the Alaska Department of Fish and Game (ADF&G), Diamond went back to the site to collect the individual. He noted that "there were a couple of eagles sitting there. The eyes had been pecked out, and the scavengers had begun pecking into the body cavity, but it was still in very good condition." A necropsy determined that the cause of death was bronchial obstruction and lung collapse. There were two types of plastic bags and a wad of microfilament fishing line in the stomach. The digestive tract had become infected and inflamed, but the animal was also likely freezing to death. The ADF&G Veterinarian who performed the necropsy in Fairbanks, Kimberly Beckman, noted that "It was a lot of plastic, the irritation was considerable in the stomach, and partial obstruction likely affected the turtle's foraging behavior and ability to properly digest." The turtle was determined to be a female weighing 171 pounds and spanning approximately three feet in length.

## **OLIVE-RIDLEY SEA TURTLES**



Figure 10 <http://casaeloro.com/tours-surfing/olive-ridley-sea-turtle-tour/casa-oro-san-juan-del-sur-sea-turtle-tour-2/>

Olive-Ridley Sea Turtles, listed as threatened under the ESA, are the most abundant marine turtle in the world in terms of absolute numbers, they are found primarily in the warmer regions of the Pacific and Indian Oceans, and less frequently in the Atlantic Ocean. Pacific populations nest from Mexico south to at least Columbia, but non-breeding individuals can be found in slightly cooler waters at higher latitudes. Non-breeding individuals can be found well out to sea, but they typically seek shallow water in bays and lagoons to breed and forage.

This species has been documented in southeastern Alaska three times, including a carcass found near Yakutat in January 1986 and another south of Ketchikan in June 1991. The possibility exists that these turtles died elsewhere or were injured and carried out of their normal range before being observed in the north.

## **LOGGERHEAD SEA TURTLE**



Figure 11 <http://nmlc.org/2011/07/sea-turtles-part-3-leatherbacks-loggerheads-and-greens/>

Loggerhead Sea Turtle, listed as threatened under the ESA, has only been reported in Alaska twice. A carcass was found on Shuyak Island north of Kodiak in 1991, and another individual was sighted near Cape Georgena on Kruszof Island northwest of Sitka in July of 1993. They typically inhabit warmer regions in the Pacific, Atlantic and Indian Oceans as well as the Mediterranean and Caribbean seas. They sometimes move into temperate zones in the summer and their diet consists of crabs, mollusks, sponges, jellyfish, fish, eelgrass and seaweed. They can take up to 30 years to reach sexual maturity.

The Shuyak specimen was found at the water's edge in a deep inlet on the north end of the island (58°33.9'N 152°32.2'W) on 31 December 1991. The 37.8kg juvenile female was towed to a residence on the island and later transported to Kodiak by plane where it was transferred to the National Marine Fisheries Service and later to Kodiak College.

*Keep on Herpin!!*







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## Recent Publications from the Region

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