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News From the Earth

Fall/Winter 2014

Sand Point Restoration Site Receives Binational Stewardship Award

The KBNRD received a binational award for their multi-year project restoring wildlife habitat at Sand Point. A panel of U.S. and Canadian judges with the Binational Forum selected the stamp sands restoration project as a recipient of its 11th Annual Environmental Stewardship Award in the U.S. Tribal category. The judges were very impressed with the ambitious goals of the project and the use of native plants, many grown in the KBNRD greenhouse, to restore the natural landscape and enhance wildlife habitat and human recreation opportunities.

Funded through competitive grants in partnership with federal agencies, regional organizations, and local businesses, the KBNRD spread a topsoil cap to cover the toxic stamp sands. The cap was then planted with thousands of native grasses, flowers, trees and shrubs to filter the contaminants and stabilize an eroding shoreline. Walking trails were established at Sand Point complete with exercise stations and informative signage for visitors. As of the summer of 2014 there is now a 3.3 mile trail loop in the Sand Point area.



Left to right: KBNRD Director Lori Sherman, Council member Elizabeth "Chiz" Matthews, US Binational Program Coordinator Lissa Radke and KBNRD Wildlife Biologist Pamela Nankervis

Walking Trail



Construction was completed this past summer on a bridge linking Sand Point to the Ojibwa Campground/Light House. The bridge completes approximately 3 miles of walking trail that goes through the Pow Wow grounds, campground, Sand Point restoration site and The Pines gas station parking lot.

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Wildlife Stewardship Plan

With funding from the Association for Native Americans the KBNRD, with the help of ecologist Mary Hindelang, has developed a Wildlife Stewardship Plan (WSP) for the Tribe. The document is truly tribal in that it incorporates Anishinaabe knowledge, beliefs, and values obtained through Traditional Ecological Knowledge focus groups and other local knowledge and publications. In addition to extensive cultural input, the document also includes the most up to date, accurate scientific information about each of the species and its associated habitats with significant contributions from a Scientific Advisory Group. Information from KBNRD wildlife inventories over the past several years and responses from wildlife and hunter community surveys also guided the development of this document.

This is a unique document in that it considers the ecology of wildlife and seeks mutual human and wildlife benefits rather than seeking only maximum human benefits. The WSP is intended to be used by the KBNRD as a long term guiding document that identifies priorities and desired actions to be completed as funds become available. The WSP is a living document that will be modified as additional cultural and scientific information become available. The current version of the WSP can be found at <http://nrd.kbic-nsn.gov/publications.html> under *Wildlife*.



Moose caught on KBNRD remote camera

Late Summer Storm Leaves Beaches a Mess



Needle found during beach clean up in September



Pile of trash and debris ready for disposal

A late summer storm on Lake Superior produced waves large enough to wash up onto the roads also left the beaches around Baraga County covered with debris. Upon closer inspection, it was clear that the debris contained more than driftwood; a large amount of human-made debris and trash had also washed up. There was trash everywhere and most pieces were too small to be visible to passing vehicles. On September 24th, KBNRD employees took to cleaning up the debris-shrouded beaches as part of the Adopt-A-Beach program.

Several weeks before the storm the KBNRD was contacted by the Alliance for the Great Lakes to participate in a Great Lakes wide beach clean-up in the month of September. The Department agreed to clean several beaches in Baraga and L'Anse in honor of the Adopt-A-Beach program. During the cleanup, KBNRD employees were disturbed by the amount of Styrofoam, plastic, pieces of fireworks and other man-made materials littering the beaches. The most upsetting find was a hypodermic needle not far from where children had been building a sand castle (see picture). **A total of 560 pounds of trash** was collected during the beach clean-up.

We are very lucky and privileged to live along the shores of the greatest of the Great Lakes. It is our responsibility to keep the Great Lakes clean and healthy; *our* health and the health of the ecosystem depend upon it. Next summer when you're at the beach picking up pretty rocks or neat pieces of driftwood, also pick up the pop bottle, beer can, chunk of Styrofoam or piece of plastic and throw it away. No matter where the debris came from, you have a chance to protect Lake Superior's beaches.

Household Hazardous & Electronic Waste Collections

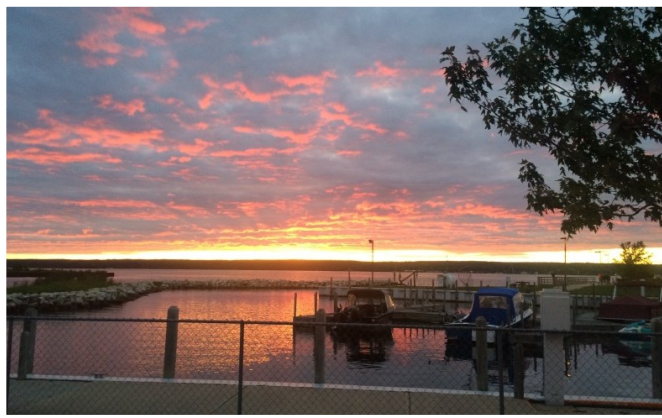
KBNRD hosted a free household hazardous and electronic waste collection event in June. The collection event was open to tribal members and all non-tribal residents of Baraga County. The June event brought in **33,551 pounds** of household hazardous and electronic waste and a **record 227 households** participated. Wastes collected included used oil, old gasoline, pesticides, mercury, oil filters, car batteries, and other hazardous materials. The collection event was considered a big success by all involved considering that Baraga County only has about 8,860 residents. A spring milk run added an additional 9,546 pounds of waste. Since 2011 a **total of 240,467 pounds of waste has been collected**.

All waste collected was recycled or disposed of depending upon material type. Proper handling and disposal of hazardous waste materials is a critical part of preventing potential contaminant release to the Lake Superior ecosystem which helps protect this precious resource. With the help of U.S. EPA Great Lakes Restoration Initiative funding we will be able to establish a regular collection program, leading to increased protections for our wonderful Lake Superior.



Sorting waste at the collection event

Air Quality Survey a Success!



Thank you to all that completed our online Air Quality Survey. We received well over 100 responses including some wonderful comments on concerns that you have regarding our air quality. Respondents that left contact information were given the choice of one of three incentive gifts and they were included in the raffle for a \$50 Pines gift card. Three winners were chosen and they were: Kathleen Mayo, Heather Maki, and Chimene Puska. If you have not yet received your incentive gift, please contact Stephanie Kozich at (906) 524-5757 ext. 28.

Indoor Air Quality Assessments

Did you know that some health ailments can be related to poor indoor air quality (IAQ)? Ailments such as nausea, headaches, itching or burning eyes can be caused by poor air in our home. KBIC has recently acquired equipment to begin IAQ assessments. The IAQ assessment will look for possible air quality pollutants as well as identifying possible air leaks. We have tools to measure for mold spores, pollen, and fibers such as: asbestos and fiberglass. Be on the lookout in the near future for an IAQ Assessment Request Form on the KBNRD website.



Boat Washer Deployed to Prevent Spread of Aquatic Invasive Species

In May 2014, the KBNRD initiated an Aquatic Invasive Species (AIS) program. The purpose of this program is to conduct public education and help prevent the spread of AIS. Funds were provided by the Great Lakes Restoration Initiative, through the U.S. Forest Service, to purchase a pressure washer and hire an AIS educator and boat wash operator. The KBNRD hired Jacob Haapapuro to fill this position, and the pressure washer was delivered in July. Jacob traveled to boat launches and fishing tournaments throughout Baraga, Houghton and Keweenaw counties offering free boat washes and AIS educational materials.

Several aquatic invasive species are already known to have invaded inland lakes. Ian Shackelford, invasive species coordinator for the Ottawa National Forest, reported, "Besides invasive species in Lake Superior, such as sea lamprey, several inland lakes have been invaded by Eurasian watermilfoil and spiny waterflea. Eurasian watermilfoil can form thick mats that out compete native aquatic plants and become a nuisance to boaters. We currently are aware of infestations in Prickett Lake, Keewaydin Lake, Keweenaw Bay, and the Keweenaw Waterway, including Torch Lake, Dollar Bay, and Pike Bay. Spiny waterflea can accumulate on fishing equipment and interfere with natural food webs, and have been found in Lake Medora, Lac La Belle, Gratiot Lake, the Keweenaw Waterway, as well as Lake Superior. Fortunately our area appears to remain free of zebra mussel, although new sites are establishing not far away to the south."



AIS educator/boat wash operator, Jacob Haapapuro with the new pressure washer



Jacob washing a boat after a youth fishing tournament in Chassell

Most of the lakes in our area remain natural and free of aquatic invasive species. However, throughout the Midwest, we've seen that lakes can become infested when people unknowingly pick up the species in one lake and then move them to another on their boat or trailer. These species be spread in live wells or can live for a few days out of the water, attached to a boat or trailer, and then rehydrating and resuming growth when they land in new water.

To prevent the spread of aquatic invasive species, we're asking boaters to inspect, drain, and clear their boats before moving from one lake to another. Inspect your boat, trailer, and equipment. Remove all aquatic plants and other debris. Drain all water from the motor, bilge, and live well. Dispose of leftover bait in the trash, not on the ground or in the water. If our boat washer or a car wash is available, consider washing with hot water, although a thorough hand cleaning can be just as effective. Ideally, if you plan to move from one lake to another, allow your boat to dry in the sun for at least five days.

The KBNRD boater education program complements Michigan's "Clean Boats Clean Waters" program and the national "Stop Aquatic Hitchhikers!" program led by Wildlife Forever. The State of Michigan also prohibits launching a boat with an aquatic plant attached. Violators may be subject to a \$100 fine.

By the end of the summer Jacob had visited boat launches in Keweenaw, Houghton and Baraga counties, made contact with over 160 people and washed 40 boats. When asked about the experience Jacob responded that the boaters were very receptive to his presence commenting that "even if they were not interested in the AIS information, they liked the idea of a free boat wash."

The People's Garden

The first season of the plot based People's Garden came to a close in mid-October. Twenty plots were established within the fenced area and maintained by community members throughout the summer. Plot holders were successful in growing potatoes, onion, broccoli, cabbage, tomatoes, zucchini, squash, and a variety of herbs and flowers. Weeds were an issue in the garden this year and the NRD will take measures this fall and again in the spring to address the issue.

Outside of the fence, construction began on a 26 by 14 by 36 hoop house. Several rows of strawberries were established and the Youth Conservation Crew planted over 100 Three Sisters plots (corn, beans, and squash). Unfortunately the deer took advantage of all the free tasty treats and ate just about everything that was not inside the fence. There are plans to fence in this larger tilled area this fall.

We will follow the plot system again for the 2015 growing season. There will be 20 plots available. Plants and seeds will be available again through the KBNRD next season. If you're interested in having a plot in the People's Garden, please contact Erin Johnston at (906) 524-5757 ext. 24. Planning will begin in late winter/early spring so reserve your plot now!



People's Garden early in the growing season



Cabbage from a private People's Garden plot

Falls River Stream Gage

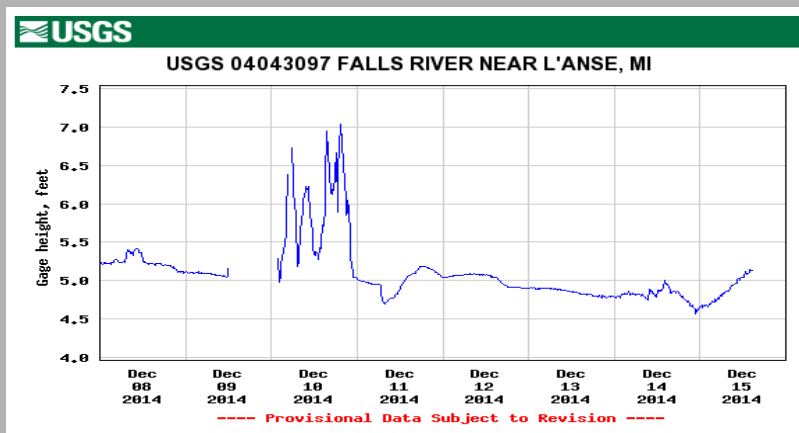
The Falls River Watershed is one of the main tributaries to the waters of the Keweenaw Bay in Lake Superior. To better understand the local hydrology of this watershed, the Keweenaw Bay Indian Community (KBIC) has collaborated with the United States Geological Survey (USGS), to install a solar powered stream gage in the Falls River.

The Falls River gage is located off of Power Dam Road in L'Anse, Michigan. It was installed and has been collecting data since July 2014. It continuously monitors the water height, temperature, and specific conductance of this location. Collection of this data is fundamental to tracking trends pertaining to climate change and water quality. The data will assist in developing future management plans within the watershed.

The gage is maintained and operated by the USGS Escanaba Field Office and will continue operation through September 2017. Data from this gage can be accessed by KBIC and the general public at the following internet address: http://waterdata.usgs.gov/mi/nwis/uv/?site_no=04043097&PARAMeter_cd=00065,00060



New Falls River stream gage



Snapshot of USGS Falls River stream gage data available online

12th Annual KBIC Kid's Fishing Derby

This year marked the 12th annual KBIC Kid's Fishing Derby at Sand Point near the Lighthouse Pond in Baraga. A total of 384 kids were registered for the day, but attendance throughout the day was over 800 people. Over 100 people volunteered during the Derby including local sportsman's club members, state, federal and tribal agency employees, community members, 4-H, KBIC summer youth programs, and many more.

Activities include the pond fishing contest, inner tube casting, Velcro fishing, big trout tank fishing, moon walks, and other small games. Food and beverages are free for everyone in attendance. The Lighthouse Pond is stocked with bluegill, rock bass, small mouth bass, pumpkinseed sunfish, and yellow perch. Prizes were given away for the most fish, biggest fish, and catching a tagged fish. No kid left the Derby empty handed. Each registered fisher kid received a fishing pole or a trip to a special prize tent if they brought their own pole from home.

This year the Derby was held in honor of Oscar Denomie and in memory of Gary Kirkish, Jim Corbett and William Kolehmainen. Valoree Gagnon, a PhD candidate at Michigan Technological University was the recipient of the *Todd Warner Legacy Award*, which was established in 2013.



A day of fun on the waterfront



Successful fisher kid showing off her new bike

Youth Conservation Crew



YCC members checking the Silver River sea lamprey trap



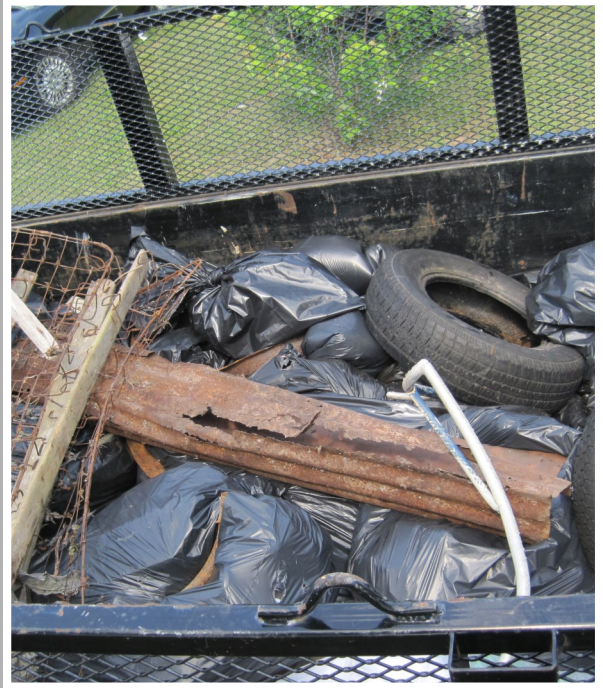
YCC member Shay Ekdahl helps build a bridge to connect Sand Point to the Light House and campground

KBIC and the Superior Watershed Partnership (SWP) teamed up for the sixth year in a row to offer a Youth Conservation Corps (YCC) for tribal youth. This year's crew was supervised by Tonya Swenor, Natasha Koss, and Nathan Simpson from SWP. YCC activities included beach clean-ups, invasive species control, native plantings at Sand Point, lamprey monitoring, a visit to Eagle Mine, and fishing derby set-up and take-down. We hope to be able to offer this program every year to provide opportunities for tribal youth to get outdoors and learn about natural resources and natural resource stewardship.

Lake Superior Day Beach Clean-up

The Keweenaw Bay Indian Community (KBIC), whose Reservation lands border Keweenaw Bay of Lake Superior, organized a beach cleanup on July 18th in celebration of Lake Superior Day. About 40 people including KBIC Natural Resources Department staff and tribal youth crews cleaned approximately 7 miles of Lake Superior beaches from just north of Assinins/Sand Point all the way around the Bay to Pequaming/Second Sands Beach. The day started with an opening ceremony performed by KBIC member Pauline Spruce. The cleanup was followed by a luncheon at the Sand Point Light House day use area. After lunch participants enjoyed a presentation that included live birds from the Chocolay Raptor Center.

The crews filled a large trailer with bags of trash, tires and rusty metal. Event organizer Erin Johnston remarked that “it was nice to take a day to give back to a lake that gives us so much.” Lake Superior Day, which was created in the early 1990’s by the Binational Forum, is officially the third Sunday in July. The Binational Forum, a group of volunteers from the United States and Canada working together to protect Lake Superior, states that Lake Superior Day is a “special day held around the lake to highlight the importance of the world’s largest freshwater lake to the basin’s environment and economy.” KBIC will continue to hold annual events in honor of Lake Superior Day, but we encourage the community to treat every day as Lake Superior Day and take actions to restore and protect our beautiful Lake. Remember to take your trash with you as the beaches are a shared resource for everyone to enjoy.



Trash/debris collected during the July Lake Superior Day beach clean-up

Non-motorized Trail Between L’Anse and Baraga



Head of Keweenaw Bay where the non-motorized trail is proposed to be constructed

The KBIC was awarded a \$160,000 grant from the Michigan Economic Development Corporation (MEDC) for the preliminary stages necessary for the construction of a non-motorized trail between the L’Anse and Baraga Districts on the L’Anse Indian Reservation. Multiple groups have been meeting about developing a trail in Baraga County, with the hopes of constructing a non-motorized trail between the L’Anse and Baraga Communities. These groups include Baraga County Convention & Visitor’s Bureau, Baraga County Trails in Motion, Michigan Department of Transportation (MDOT), Baraga State Park, Village of Baraga Downtown Development Association, and the KBIC. Also, a recent study completed in June 2014 by the Baraga County Chamber of Commerce showed that the third highest reason for visiting Baraga County was that it was “Easily accessible and unique outdoor activities (36.5%)”. On September 6, 2014, the Tribal Council approved signing the agreement with the MEDC for the \$160,000. The Western Upper Peninsula Planning & Development Region has stated that connecting L’Anse and Baraga through a non-motorized route has been a topic of discussion many times, but it appears a difficult task due to the land ownership and wetland areas.

Eagle Mine & Humboldt Mill

About 500 KBIC Tribal Members united in Lansing on June 3rd at the Michigan Hall of Justice for an Oral Arguments Hearing before the Michigan Court of Appeals regarding a seven year ongoing legal challenge to Eagle Mine permits. In August, a 3-judge panel affirmed the permits. KBIC and its partners have appealed the Eagle Mine case to the Michigan Supreme Court seeking a more favorable precedent for how sulfide mining will be regulated in Michigan moving forward.

Extensive construction activity occurred along the AAA road in Marquette County over the spring and summer months to provide for Eagle Mine ore transportation. KBNRD, the Great Lakes Indian Fish & Wildlife Commission and Yellow Dog Watershed Preserve monitored and reported to state and federal regulatory agencies on impacts observed during construction. These impacts of concern included multiple ruptures to freshwater springs and substantial sediment runoff into the Salmon Trout River.

In December, an Eagle Mine ore truck overturned on CR550 in Marquette County. The accident caused a trailer tarp to tear open and a small amount of metallic sulfide ore to spill out. It took all day for heavy equipment to get the truck upright. KBNRD is concerned that the Eagle Mine lacks hard cover trailer tops and never conducted assessment of environmental impacts associated with transportation and transportation infrastructure as is required under Michigan's nonferrous metallic mineral mining regulations.



Aerial photograph of Humboldt Mill pit lake

Lundin Mining Corporation officially started production at Eagle Mine in September. Nickel and copper ore extracted from the underground mine are transported in about 45 truckloads per day to the Humboldt Mill for processing into metal concentrates. From there, nickel and copper concentrates are loaded onto covered rail cars and shipped to Canadian facilities for further processing.

After processing nickel and copper, a toxic waste byproduct remains known as sulfide tailings. About 2.5 million tons of these tailings are permitted to be permanently disposed, in a slurry form, onto the bottom of a pit lake at Humboldt. The pit lake, which was formed by historic open-pit iron ore mining, has no protective liner. The Eagle Mine tailings will be placed on top of already existing sulfide tailings (about 1.8 million tons) from the former Ropes Gold Mine.

KBIC is concerned about historical, ongoing and additional impacts to water and treaty reserved resources associated with the Humboldt Mill pit lake and tailings. There is a significant long-term water management concern due to higher than expected water levels in the pit lake attributed to a new northern slurry wall dam along with groundwater movement into the pit lake from the south.



Eagle Mine haul truck

In October, staff from the KBNRD, US Environmental Protection Agency and Michigan Department of Environmental Quality participated in a site visit to the Humboldt Mill tailings pit lake and water treatment facility. The site visit was a great opportunity to ask important technical, environmental and regulatory questions of the company and regulators. At the same time, the site visit helped to increase recognition of KBIC's role as a governmental stakeholder with a desired seat at the table for how mining is regulated throughout ceded territory.

At this time, Lundin is required to seek reissuance of a state wastewater discharge permit at the Humboldt Mill water treatment facility. A draft permit includes increased discharge volume limits into wetlands of the Middle Branch of the Escanaba River, including a new pipeline that has been constructed without public comment in preparation for a second discharge location near the river. **The MDEQ will be holding a Public Hearing on this permit on January 13th at 6pm at the Westwood High School in Ishpeming.**

On Reservation Mineral Rights

In October, the KBIC Tribal Council adopted Resolution KB-060-2014 authorizing a mineral rights donation from Rio Tinto. The donation included all Rio Tinto mineral rights and interests within the boundaries of the L'Anse Reservation, including some surface land the company owned at the former BIC exploration site near Herman and Laughs Lake.

The intent of KBIC authorizing this donation is to increase the tribe's ability to protect the reservation environment and health and welfare of tribal members from the detrimental impacts of hardrock mining. Acquiring mineral rights claimed by foreign entities, combined with a Mining Moratorium Resolution KB-1944-2013 adopted by the KBIC Tribal Council in July of 2013, are important steps in exercising sovereignty and self-determination for long-term stewardship of our permanent reservation

Stamp Sands Removal Proposed in the Keweenaw



Stamp sands along the shore near Gay, MI. Photo credit : MTU



Stamp sands pile near Gay, MI. Photo credit: MTU

The KBNRD Spring 2014 Newsletter provided an introduction to stamp sands in the Keweenaw Peninsula. Stamp sands are a waste byproduct that was left behind after historic copper mining in the area. About 500 million tons of stamp sands were deposited into lakes, streams and Lake Superior.

On October 21st, KBNRD met with MDEQ and US Army Corps of Engineers (USACE) staff to discuss projects and permit applications to remove and re-use stamp sands from Lake Superior off-shore of the Village of Gay in Keweenaw County, MI. This heavily impacted stamp sands area is of particular concern to KBIC as encroaching stamp sands threaten the survival of Buffalo Reef, an important Lake Superior whitefish and lake trout spawning area.

There are currently two stamp sand removal projects proposed at Gay that require state and federal permits under the Clean Water Act and Rivers and Harbors Act. The first proposal was submitted by Torch Lake Industries and would include dredging of 2.15 million cubic yards of stamp sands. The second proposal is by Greensands, Inc. and would include dredging and processing of 1.45 million cubic yards of stamp sands. The proposed project locations overlap slightly with Greensand's proposal extending north near the Village of Gay, and Torch Lake Industries proposal extending further south to the Traverse River.

Torch Lake Industries proposes to barge stamp sands directly to Chicago for unspecified use. KBNRD submitted written comments to the USACE generally supportive of the Torch Lake Industries proposal, with recommendations, recognizing that removal of the stamp sands is a necessary step to restore the area to natural conditions and reduce encroachment of stamp sands to Buffalo Reef.

The Greensand's proposal, however, raised critical questions and concerns associated with on-site processing, undetermined transportation plans (trucks or barge), and a lack of any mitigation measures to reduce additional impacts to Buffalo Reef from suspended stamp sands during dredging and removal. KBNRD has objected to the Greensand's proposal until additional information is developed.

2014 Fish Surveys & Stocking Numbers

WALLEYE: KBNRD worked with THPO staff to temporarily hire creel clerks to assist with Walleye Spear Harvest, population monitoring, stocking and rearing ponds management this spring. With late ice, cold conditions, and muddy water throughout Portage Lake and other areas, spear harvest was hit or miss, and creel crews were kept busy performing a wide variety of fisheries tasks, from recording harvest data to Public Outreach efforts. Walleye spear harvest and capture rates were low during 2013 and again in 2014. However it was encouraging to capture young, sub-adult walleye in the region. Some of these young walleye have been retained for analysis to determine if they were stocked by KBNRD. If the fin ray and otolith samples collected from these fish, when placed under a UV light and scope apparatus, show an iridescent coloration, it is indicative of a stocked walleye. With cooperation from the Chippewa Ottawa Resources Authority in eastern Upper Michigan, over 3 million walleye fry were stocked in local waters.

LAKE SUPERIOR FISHERY ASSESSMENTS: Various standardized survey efforts were conducted by KBNRD in 2014. Foul weather, lingering ice flows, and various other challenges made sampling difficult, but staff surveyed lake trout, juvenile and adult lake sturgeon, and various other species in 2013, collecting data on fish health, growth, hatchery fish presence and contribution to the fishery (as evidenced by fin-clip or tag observations), and rates of sea lamprey attack. These data are collected from a diversity of species, and ultimately assist managers holistically managing the Lake Superior Fishery. In addition, the KBNRD tagged and released several potential prize winning fish, as part of the Annual Baraga County Lake Trout Festival activities.



Burbot with A1 sea lamprey attack wound



Creel clerks during walleye assessment work

Walleye	
Location	Number Stocked
Huron Bay	2,000,000 (fry)
Keweenaw Bay	1,300,000 (fry)
TOTAL	3,300,000

Brook and Lake Trout		
Location	Number Stocked	Type (size)
Falls River system	5,500	Fry & yearling brook trout
Silver River	4,169	Surplus brood & yearling brook trout
Menge Creek	1,500	Yearling brook trout
Slate River	2,500	Fry/sub-fingerling brook trout
Ravine River	2,500	Fry/sub-fingerling brook trout
Kelsey Creek	15,000	Fry/sub-fingerling brook trout
Little Silver	15,000	Fry/sub-fingerling brook trout
Point Abbaye	2,330	Extended growth brook trout
TOTAL Brook Trout		87,323
South Portage Entry	5,506	Yearling lake trout
Pequaming Point	5,491	Yearling lake trout
Keweenaw Bay	2,258	Yearling lake trout
TOTAL Lake Trout		13,255

Invasive Species Workshop

By Jan Schultz, U.S. Forest Service

This past spring the KBIC hosted a nonnative invasive plant (NNIP) workshop. Members of several Upper Peninsula tribes attended, as were students from the Keweenaw Bay Ojibwa College. Sponsored by the Zaagki Wings and Seeds Project, the class totaled approximately 25 participants and was conducted at the Keweenaw Bay Ojibwa Community College.

The workshop focused on the increasing number of non-native invasive plants of Northern Michigan and Northwest Wisconsin that are now radically transforming the region's ecosystems. Strategies were explored for controlling and limiting their impact. The information conveyed included key identifying characteristics; control options; ecological issues; life history; etc. US Forest Service plant specimens from the Hiawatha National Forest herbarium collection were available at the workshop.



Participants in the NNIP workshop

Crop Wild Relatives Workshop

By Jan Schultz, U.S. Forest Service



Group photo after a fun day in the field looking for cranberries

The KBIC hosted a first ever Cranberry Crop Wild Relative (CWR) Workshop for CWR partnering efforts between KBIC, the Forest Service Eastern Region, the USDA Agricultural Research Service (ARS), Cedar Tree Institute, Zaagkii Wings and Seeds Project, and the Chicago Botanic Garden. The ultimate goal of the group cranberry project is to conserve the range of genetic variation in wild cranberry, starting with populations on National Forests and potentially tribal lands also. The partnership focuses on the strengths of each partnering group in behest of our essential CWRs. These plants are the wild species from which our domesticated plant species (food, fiber, oils, etc.) originated and now are grown and inextricably linked to people the world over. The conservation of CWRs represents an emerging and essential challenge throughout the world and climate change and the resulting food security issues now exacerbate the challenge considerably. The ARS has developed a list of important CWRs for the United States. Both agencies now work together to conserve CWRs via *in situ* and *ex situ* techniques.

Pollinator Workshop

During the 2014 field season, KBNRD hosted a pollinator workshop which was conducted by a representative of the U.S. Forest Service. Monarch butterflies are important pollinators and are in decline; threatened by habitat loss, predation, natural diseases, adverse weather and decline in their main food source, milkweed.

During the workshop, participants received pollinator survey guides and a list of butterflies and their host plants. The surveys included information on direct observation, survey transect design, when to survey, site selection and photographing specimens. Part of the workshop involved a visit out to Sand Point restoration location to observe pollinators and practice collection and identification techniques. In addition to butterflies, participants also worked on identification of native bees.

In an effort to continue to share knowledge and information about pollinators, Karen Andersen of the KBNRD coordinated a monarch butterfly release with the KBIC summer youth camp. Age of children participants ranged from 5-13 and the program coordinator remarked that both the staff and the kids LOVED it! Approximately 500 adult monarch butterflies were released.



Monarch release with KBIC summer youth camp

Bumble Bee Watch



Several bumble bee species enjoying some milkweed



Bumble bee on non-native speedwell species

In the summer of 2014 KBNRD signed up to participate in the North American Bumble Bee Watch program (BBW). According to their website, “Bumble Bee Watch is a collaborative effort to track and conserve North America’s bumble bees.” It’s a citizen based monitoring project that allows individuals to get involved with bumble bee conservation. You’re probably wondering why anyone would want to walk around capturing bees all summer and identifying them based on size and color patterns. Well, bumble bees are generalist, meaning they don’t depend on any one flower type, and are very important for pollination of wild flowers and crops. If we didn’t have bees we wouldn’t have broccoli, pumpkins, blueberries, almonds, apples or cherries (just to name a few). We would have to spend billions of dollars to pollinate crops that bees and other pollinators (butterflies, bats, hummingbirds, beetles, ants, moths) do for free!

Recognizing the importance of these species and the current threats leading to declines in abundance, the KBNRD decided to do something about it locally. KBNRD technicians, KBOCC students, interns and summer youth program participants spent countless hours throughout the summer locating, capturing/observing, and photographing bees for submission to the BBW program. The KBNRD intends to continue efforts to monitor bees and other important pollinators in the future.

For more information about the BBW or about bees in general, check out the links below!

<http://bumblebeewatch.org/contents/about/>

<http://www.xerces.org/bumblebees/>