P.O. BOX 1560, CORDOVA, ALASKA 99574 *tel* 907.424.3334 *email* INFO@COPPERRIVER.ORG *web* COPPERRIVER.ORG

COPPER RIVER WATERSHED PROJECT

COPPER RIVER Runner

SPRING 2017

HOW DO SALMON CROSS ROADS?

Culverts, the Fish-Critical Infrastructure Beneath Our Roads

BY KRISTIN CARPENTER, EXECUTIVE DIRECTOR

Salmon and people are living side by side throughout Alaska communities, and properly-designed culverts are key pieces of the infrastructure that make "salmon in the city" possible. Older culverts are often too small to allow the free passage of adult and juvenile salmon. Replacing these old culverts, many of which are past their service life anyway, with "fish-friendly culverts" is a great way to improve our fisheries and our highways.

The Copper River Watershed Project's most recent effort to update a fish-blocking culvert culminated in December 2016, when an old, tired, and undersized pipe near milepost 20 on the Copper River Highway was replaced with a fish-friendly "stream simulation" design. Juvenile coho salmon and cutthroat trout will now have easier access to 3.5 miles of upstream spawning and rearing habitat, increasing their productivity and supporting subsistence, sport, and commercial fishing harvests.

In the Copper River watershed, we have one culvert for every two miles of road. That ratio is probably even smaller for the Kenai Peninsula and the Matanuska-Susitna Valley. The size of a culvert and how it is placed can affect the movement of water, sediment, and fish. A culvert that is too small can cause sediment to build up on the upstream end of the pipe, while a culvert that is "perched", or raised above the level of the stream, can block juvenile and even adult salmon from successfully swimming upstream. Miles of upstream spawning and rearing habitat, critical to salmon early life stages, can be blocked by a single failed culvert. Replacing these culverts is important for maintaining valuable fisheries in southcentral Alaska. The best replacement culverts are large enough to allow for a natural streambed and streambanks within the pipe so that the culvert acts like a bridge at most water flow levels.

"Salmon move between fresh and saltwater to begin and complete their life cycle, and our coastal communities are built right on top of this transition zone," explains Jack Sinclair, Executive Director of the Kenai Watershed Forum. Culverts are so important to salmon reproduction and salmon population productivity that both the Kenai Peninsula and Matanuska-Susitna Boroughs now have their own ordinances specifying construction standards for design and installation of culverts to provide for adequate fish passage.

Replacing a culvert doesn't always involve a municipality directly, but it does "take a village" to do the job. When we took on our first culvert replacement, I thought, "It's a pipe in the ground, how hard can it be?"

continued on page 11

CRWP MISSION

The Copper River Watershed Project promotes a salmon-rich, intact watershed and culturally diverse communities by forming partnerships for watershed-scale planning and projects.

LETTER FROM OUR

EXECUTIVE DIRECTOR

We had a lightbulb moment here at the office in January. Yes, we got new lights! Twenty-four new LED tubes were installed to replace 36 fluorescent tubes. The light quality is better, and our first electric bill since then came in $25 lower than for the same month a year ago. At that rate of savings, our payback period will be 3.5 years. *(I'm giving myself away here — this letter confirms my husband's suspicion that I have a lightbulb obsession.)*

Energy efficiency adds up in rural Alaska, where the cost of one kilowatt of power ranges from $0.15 in Anchorage to $0.40 in Bethel. In the Copper Basin, the cost averages $0.15/kwh, in Cordova it's about $.0.26/kwh. Most rural communities in Alaska rely primarily on diesel electric generators for power.

What's the connection between salmon, which we talk about a lot, and lightbulbs? You can see that energy is a big part of the cost of living in rural Alaska, and it's considered one of the biggest barriers to economic development here. How we use energy in our homes, schools, hospitals, and industrial and office buildings affects our country's energy security, as well as air pollution and global climate change.

If our goals are to reduce the cost of energy and/or its consumption, and reduce the use of fossil fuel, the options seem to be: create new, renewable sources of energy, energy conservation, and energy efficiency *(or some mix of the three).*

After having a commercial building energy audit done for our office, I see why energy efficiency rises to the top of the list. Not only

Biking across the Copper River on the "Million Dollar Bridge" (constructed 1909 – 1910).

are we saving money after following *(some of)* the recommendations made by the audit contractor, we contracted with electricians to do the work, and we purchased materials, paid for shipping and labor. In other instances, increasing energy efficiency of commercial and residential buildings could mean adding attic insulation or installing new windows. Improving energy efficiency has good economic development benefits. In addition, energy efficiency doesn't compromise the end user's activities.

Energy efficiency "remains critically underutilized in the nation's energy portfolio. In some states, well-designed energy efficiency programs are saving energy at an average cost of about one-half of the typical cost of new power sources and about one-third of the cost of natural gas supply" *(U.S. DOE and EPA, 2006).*

This is one small step in our commercial office building, but it shows how thinking about energy efficiency on a community scale could make a difference.

Here's to spring,
Kristin Carpenter

CLASSROOM CURRENTS

STUDENTS AND SALMON CYCLE THROUGH ONE SCHOOL YEAR AND ONE GENERATION TOGETHER AT MT. ECCLES ELEMENTARY

BY SHAE BOWMAN, OPERATIONS MANAGER

DURING FALL 2016, 6TH GRADE students at Mt. Eccles Elementary took a field trip to the Copper River Delta to observe how the final stage of one generation of salmon prepares for the next. Specifically, the students were going to watch a live egg take.

Prior to the field trip, Lauren Bien, Science Education Coordinator from the Prince William Sound Science Center, and I set up a fish tank custom-built to incubate and raise salmon from eggs to juvenile "fry" at Mt. Eccles. The eggs collected from live salmon were placed in the tank so that the next generation of Mt. Eccles students could study the developmental life-stages of salmon.

When the students arrived at the creek, they observed Fish Biologists Tommy Sheridan from the Prince William Sound Aquaculture Corporation, Stormy Haught from Alaska Department of Fish and Game, and Ken Hodges, a retired U.S. Forest Service Biologist, catching salmon using a seine net. Once a female and male fish were caught, Sheridan explained that the eggs of the female needed to be "ripe" before they would be ready for fertilization and then demonstrated how to collect the eggs and milt (salmon sperm).

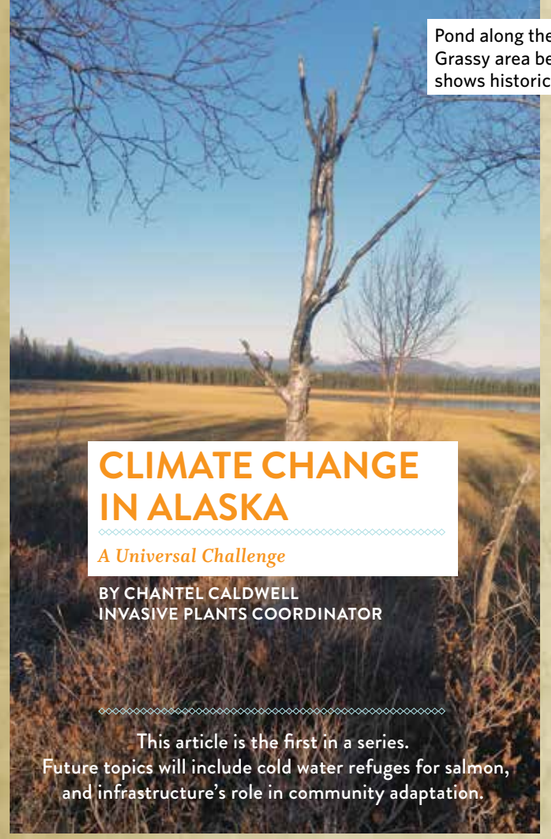
The field trip provided a valuable experience in which the students learned how to identify males verses females, assess the readiness of a female to spawn, and see the reproduction cycle in progress as we watched the salmon in the pond. Sheridan also shared insights about the role of hatcheries in Prince William Sound and the methods they use. A little-known fact is that all the hatchery fish bred in Alaska come from wild stock eggs.

Once the fish biologists harvested the gametes at the creek, they took them to the school and Sheridan demonstrated artificial fertilization of the eggs with the milt, and placed the fertilized eggs in the tank.

The students anxiously waited three months for the eggs to hatch. Once salmon eggs hatch they are called alevin, and once the alevin have eaten the remaining egg sack on their bellies they are called fry. Now that the fry have emerged from the gravel the students measure a sample of the fry each week.

Throughout the project the 4th, 5th, and 6th grade students record the temperature of the tank which is maintained at 3 - 5 degrees centigrade. They also calculate the accumulated thermal units (ATUs). At the end of the project the students will be able to graph the relationship between ATUs and the growth rate of the fish.

The last time I visited the salmon tank in the elementary school I marveled at all the newly-hatched, wiggling alevin swimming along the gravel in the salmon tank. It has been so exciting for the students and I to watch the tiny red salmon develop into fry and we are looking forward to releasing the salmon at Fleming Creek at the end of the school year.



Pond along the Mankomen Lake Trail, Copper River basin. Grassy area between current pond shoreline and tree line shows historical extent of pond surface area.

CLIMATE CHANGE IN ALASKA

A Universal Challenge

BY CHANTEL CALDWELL
INVASIVE PLANTS COORDINATOR

This article is the first in a series.
Future topics will include cold water refuges for salmon, and infrastructure's role in community adaptation.

Photo by Wilson Justin.

A SIMPLE GOOGLE SEARCH on climate change brings back sources from the EPA, NASA, NOAA, and this definition: "a change in global or regional climate patterns, in particular a change apparent from the mid to late 20th century onwards and attributed largely to the increased levels of atmospheric carbon dioxide produced by the use of fossil fuels". For now, let's focus on "…a change in global or regional climate patterns…": this means that climate change will not affect every region the same, or equally.

What, then, does climate change mean for Alaska?

The average temperature in Alaska has increased about 3°F over the past 60 years and is projected to increase an additional 2 to 4°F by the middle of the century *(U.S. Global Change Research Program, 2014)*. Increasing temperatures are predicted to increase surface water temperatures dramatically, lengthen growing seasons, shorten the duration of ice cover, and increase melting permafrost. These environmental changes caused by climate change will affect Alaska's fisheries, subsistence species, infrastructure, and more.

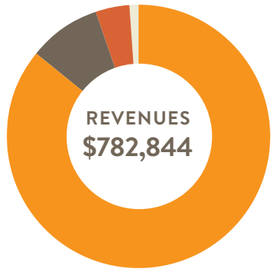
With changes in habitat and growing seasons there are associated shifts in species, in their abundance and moving into new, more northern ranges. In Alaska, biologists and residents have noted an increase in invasive species, increases in some terrestrial animals, and decreases in some marine animals. Due to increases in food resources and decreases in winterkill, populations of bears, beavers, caribou, and moose have increased in abundance. This sounds great for the subsistence hunters of Alaska. But as populations expand their ranges, this may lead to competition between animals that did not previously exist in the region.

In addition to mammals, researchers have noted changes in distribution and abundance of fish, birds, and plants on which many Alaskans rely. Fisheries are especially important to many people across the state, and on coastal Alaska concerns weigh heavily on anadromous fish such as salmon. Changes occurring in both marine and freshwater habitats could affect the distribution and abundance of salmon. Ocean acidification, caused by saltwater absorbing increased levels of atmospheric carbon dioxide, could lead to decreases in animals that form a protective shell. One of these animals includes plankton, the base of the marine food web. Decreases in plankton will lead to decreases in populations higher on the food web, including salmon.

Changes in temperature, in both marine and freshwater habitats, will also influence the distribution and abundance of salmon. Each species has an optimal temperature range, and the population will decrease if temperature exceeds or falls below the range. Research being conducted on the Copper River delta by the U.S.F.S. Cordova Ranger District and Oregon State University found high fluctuations in stream temperature and seasonality of runoff across the Delta. Similar to data being collected across coastal Alaska, these findings indicate that habitat variability is common, even in close geographic areas. This means that different runs of salmon will not be affected by climate change equally across the coast. Therefore, maintaining habitat quality and ensuring connectivity *(e.g. fish friendly culverts)* is our best line of defense for protecting fish populations in the future.

The Alaska Sea Grant website supplies several Fact Sheets covering the impacts of climate change on several topics important to Alaska and its residents. www.seagrant.uaf.edu/map/climate/

2016 ANNUAL REPORT

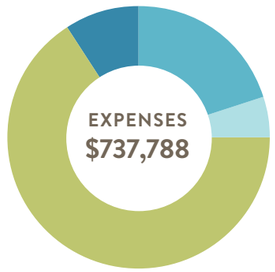


$668,765 / 85%
GRANT INCOME

$72,370 / 9%
CONTRIBUTIONS

$30,536 / 4%
SPECIAL EVENTS

$11,173 / 1%
OTHER



$168,609 / 23%
PROGRAM STAFF

$42,152 / 6%
ADMIN. & FUNDRAISING

$450,557 / 61%
PROGRAM SPECIFIC EXPENSES

$76,469 / 10%
SHARED OPERATING EXPENSES

ASSETS	
Current Assets	
Checking/Savings	35,848.53
Accounts Receivable	343,664.47
Other Current Assets	11,286.00
Total Current Assets	390,799.00
Fixed Assets	7,648.32
Investment Reserve	45,164.46
Total Other Assets	52,812.78
TOTAL ASSETS	**$ 443,611.78**
LIABILITIES & EQUITY	
Liabilities	
Current Liabilities	
Accounts Payable	268,849. 51
Credit Card	863. 91
Deferred Revenue	20,721.46
Payroll Liabilities	955.98
Sales Tax Payable	34.09
Total Liabilities	291,424.95
Equity	
Retained Earnings	75,614.74
TR Net Assets Contributions	31,515.76
Net Income	45,056.33
Total Equity	152,186.83
TOTAL LIABILITIES & EQUITY	**$ 443,611.78**

2016 FUNDERS

- Alaska Conservation Foundation
- Alaska Department of Environmental Conservation
- Alaska Department of Transportation & Public Facilities *(in kind)*
- Alaska Sustainable Salmon Fund
- Antioch International, Inc. *(in kind)*
- Bureau of Land Management, partnership agreement
- Larry Lewis, Engineer *(in kind)*
- National Fish & Wildlife Foundation
- National Forest Foundation
- North Pacific Research Board
- U.S.D.A. Forest Service, SRS Title II projects and partnership agreements
- U.S. Fish & Wildlife Service
- Wrangell-St. Elias National Park & Preserve

We'd like to recognize to the following business who generously supported CRWP events and educational programs with significant gifts in 2016. Please support these businesses that support sustainable economic development in the Copper River region.

WATERSHED STEWARDS, $500+

Alyeska pipeline · AMERICAN SEAFOODS COMPANY · COPPER RIVER · CDFU · CURRANT RIDGE CABINS · Drifters Fish · NORTHERN FISH ALASKA · RIVERSIDE INN & AIRBOAT TOURS · Trident SEAFOODS · WELLS FARGO · WILSON CONSTRUCTION

TRIBUTARIES, $250 – 499

Copper Valley Telecom · KLAM/KCDV · LAURA'S LIQUORS · NAPA · PERKINS AUTO REPAIR · specialty imports

PLANES, TRAINS AND AUTOMOBILES . . .

Or, for working on the scale of a watershed,

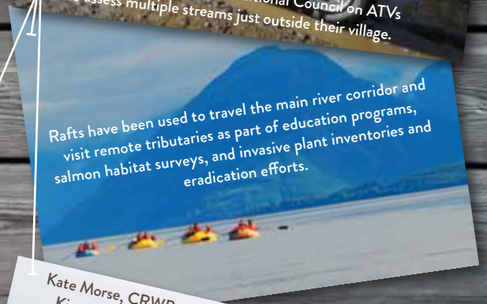
4-WHEELERS, RAFTS, AND JET BOATS

Copper River Watershed Project staff use all kinds of vehicles, and their feet, to reach the far corners of the watershed.

When I asked our staff what came to mind about our work in 2016, Danielle Verna, *(former)* Invasive Plants Coordinator, recalled:

What comes to mind for me is how much traveling we did, or supported. I made several trips upriver [to the Copper Basin] for field work, to San Juan Bay for field work, to Valdez for the fly-in, to Anchorage for training, plus we paid for speakers to come to Cordova for the elodea meeting. I'm sure the same can be said for other [CRWP] programs. It could be neat to highlight how much effort is made to get around the watershed and to bring people from outside to share their knowledge.

CRWP joined Mentasta Traditional Council on ATVs to assess multiple streams just outside their village.

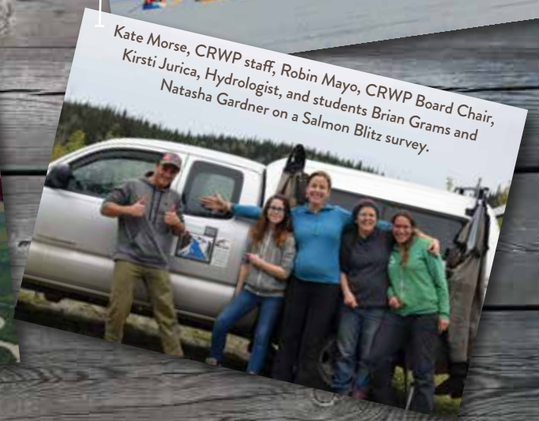


Rafts have been used to travel the main river corridor and visit remote tributaries as part of education programs, salmon habitat surveys, and invasive plant inventories and eradication efforts.

Kirsti Jurica, CRWP staff, and Corey Schwanke, Alaska Dept. of Fish & Game (ADF&G) Fishery Biologist, prepare to take program partner ADF&G's skiff up the Klawasi River for a Salmon Blitz survey.

Hydrologist Kirsti Jurica, Steve "Hoots" Witsoe, and Matt Piche, Fish Biologist, Native Village of Eyak Tribal Council, helping with Salmon Blitz stream survey in Goodwin Glacier Creek.

From a flight across the Copper River delta with partners from the USFS, on the way to Bering Lake to survey for possible elodea infestation



Kate Morse, CRWP staff, Robin Mayo, CRWP Board Chair, Kirsti Jurica, Hydrologist, and students Brian Grams and Natasha Gardner on a Salmon Blitz survey.

2016 IN REVIEW

SALMON BLITZ

100 VOLUNTEERS

27 STREAMS SURVEYED

12 PARTNERS INVOLVED

13 HABITAT NOMINATIONS for Anadromous Waters Catalog

CULVERT PRIORITIZATION

	CULVERT SURVEYS COMPLETED:	HABITAT SURVEYS COMPLETED:
RICHARDSON HIGHWAY	3	3
GLENN HIGHWAY	5	12
COPPER CENTER LOOP ROAD	3	5
DENALI HIGHWAY	2	4
GLENNALLEN SIDE ROADS	3	3

GOOSE MEADOW CULVERT REPLACEMENT

5.3' x 4.7' diameter culvert → REPLACED WITH → 15.4' x 10' pipe arch with invert bottom

INVASIVE PLANTS

	COPPER BASIN	CORDOVA
AREA SURVEYED	194 ACRES	27.2 ACRES
AREA TREATED	13.8 ACRES	13.4 ACRES

COPPER BASIN WEED PULL

570 POUNDS

20 VOLUNTEERS of white sweetclover removed in Copper Basin

VOLUNTEER PROJECTS

EYAK LAKE CLEAN-UP

15 VOLUNTEERS

40 YARDS of DEBRIS COLLECTED

ECCLES CREEK BANK RE-VEGETATION

18 VOLUNTEERS

25 SALMONBERRY PLANTS

50 FEET OF STREAM BANK RESTORED

PARTNER MEETINGS HOSTED

REGIONAL CULVERT WORKGROUP, spring and fall, AK DOT/PF and state and federal habitat permitting agencies

COPPER BASIN COOPERATIVE WEED MANAGEMENT AREA, quarterly meetings, first in-person meeting in 2016. State and federal agency landowners.

COPPER RIVER SALMON JAM FESTIVAL, coordinate year-round planning with nine partners

STEWARDSHIP EDUCATION

41 PROGRAMS CONDUCTED for OVER **300** STUDENTS IN THE WATERSHED.

INVASIVE ELODEA:

Easy to spread, expensive to treat, so an ounce of prevention really is worth a pound of cure!

BY CHANTEL CALDWELL,
INVASIVE PLANTS COORDINATOR

ELODEA IS ALASKA'S FIRST invasive freshwater submersed aquatic plant. *Elodea* reproduces primarily through stem fragmentation. This means that broken plant fragments, potentially carried by humans, pets, boats, and floatplanes, can root and establish new populations in previously uninfected waterbodies. Outside of its native range *Elodea* has been known to impede navigability of waterbodies, decrease dissolved oxygen, increase sedimentation, displace native aquatic plants, and degrade fish habitat. Impacts of this invasive aquatic plant have not been well studied in Alaska, and the extent of impact to Alaska waterbodies is currently unclear.

In Cordova, the USFS Cordova Ranger District initiated an assessment of the invasive aquatic plant, *Elodea Canadensis*, and its interaction with the native aquatic ecosystem of the Copper River delta. The research focuses on aquatic plant community structure and abundance, water nutrients, aquatic insect communities, and juvenile fish growth. Starting in 2016, select test sites on the Copper River delta were treated with the aquatic herbicide fluridone to eradicate *Elodea*. The desired treatment outcomes are to decrease the amount of, and ultimately eradicate, *Elodea* while minimizing the impact on the native aquatic plant community. Conducting research before, during, and after treatment will provide important data to analyze the impacts of *Elodea* presence and treatment on the CRD.

Fluridone is systematic herbicide, meaning it is absorbed through roots and shoots of plants, and inhibits photosynthesis. Extensive lab and field tests have already been conducted on the aquatic herbicide fluridone, and it is reported to be selective at low concentrations. Fluridone naturally degrades in the water column over time, but a sustained concentration of 5 parts per billion (ppb) for 2-3 years is recommended for *Elodea* eradication.

What is a ppb? A ppb is equivalent to 1 second in 33 years or 1 5/8" along the 24,901.55 miles of the equator. Five ppb, then, is a very low dose. At these concentrations there are no post-treatment water use restrictions. Water is safe for skin contact, drinking, and fishing. When it comes to animals and fluridone, current studies have found no apparent short-term or long-term effects on fish or birds at sustained concentrations of this aquatic herbicide.

Efforts to stop the spread of *Elodea* and eradicate established populations are being made throughout the state of Alaska. Treatment can be time consuming and expensive, so the best line of defense is prevention! You can decrease the spread of *Elodea* by inspecting and cleaning float planes, boats, trailers, and gear if you have been in infested waters. For more information about *Elodea* visit our website at copperriver.org.

RIDGELINES: AROUND THE WATERSHED

ENERGY PROJECTS IN THE COPPER BASIN

Private businesses, tribal councils, and public land managers have each been moving forward with efforts to reduce the cost of energy in the Copper Basin, long considered a significant barrier to economic development in the region. The Copper Valley Development Association produced a comprehensive Regional Energy Plan that summarizes the potential for new energy sources and energy cost savings by community. A 25 kW solar photo-voltaic system was installed at The Hub of Alaska gas station and gift shop in Glennallen. The solar panel array supplies 100% of the store and gas station's power demand in the summer, and can also support winter demand if there is full sunlight. The Copper Valley Development Association connected the store's owners with the U.S.D.A. for grant assistance, and the payback period is expected to be 12 years.

Dataloggers monitored by Wolf Solar Electric in Tok show that the eastern and interior parts of the state have the highest average solar radiation levels in Alaska (Copper River Regional Energy Plan, 2015). Priorities for reducing energy costs in the region include energy efficiency audits and retrofits for commercial buildings, oil and gas development by Ahtna Corporation, biomass facilities for two additional Native villages, and interties connecting the Chitina Electric, Inc. and the Tok-area grid (which serves the northern Tok Cut-off communities in the watershed) to the Copper Valley Electric Association grid. *Contact: Jason Hoke, Copper Valley Development Association, (907)822-5001.*

CHUGACH ALASKA CORPORATION SWAPS DEVELOPMENT FOR CARBON OFFSETS

In a precedent-setting deal for Native corporations in the State of Alaska, the Chugach Alaska Corporation entered into an agreement with New Forests, a private equity firm in the carbon credit market, to manage 115,000 acres of Chugach forest on the Copper River delta for growth for 100 years. In exchange, Chugach Alaska Corp. will receive revenue from the sale of carbon credits "purchased by California polluters through the state's 'cap and trade' program to reduce greenhouse gas emissions." California Air Resources Board spokesman Dave Clergen notes that similar agreements have been set up in Michigan, South Carolina, New Hampshire, Virginia, Wisconsin and Arizona feeding into the program (as reported in AK Journal of Commerce, 1/27/2017).

GULKANA VILLAGE COUNCIL BEGINS BIOMASS FUEL PRODUCTION

Starting with a small pellet mill eight years ago, the Gulkana Village Council has built up its expertise and manufacturing equipment for producing wood fiber briquettes on a commercial scale. The Village's pellet mill can generate one ton per hour, and its briquette press turns out one ton per hour. Pellets must be burned in a pellet stove, but the 3" x 15" briquettes can burn in a wood stove like an ordinary log. The tribal village hopes to begin selling its products this coming October. Wood fiber is harvested from several sources, including maintaining a fire line around the village, a military clean up site that required some clear-cutting, and harvesting of biomass from Ahtna Corporation lands. *Contact: Gulkana Village Council, (907)822-3746.*

watershed
(wa'ter-shed)
the region or area drained by a river or stream: all the land that carries rain to the same river system

THANK YOU, MEMBERS

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WRANGELL PEAKS CIRCLE, $100-249

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Bill & Mary Earl Rogers
Hugh Rose
David Rosenthal
David & Darcy Saiget
Beth & Rich Schluter
Suzette Scialfa
Clair & Steffan Scribner
Monica Shah & Gregg Shomaker
Cathy & Dixon Sherman
Silver Fox Jewelry
Eileen & Andy Simons
Dawn & Jeff Smallwood
Jennifer Sutton & Todd Smith
Wayne & Diann Smith
Roy & Dede Srb
Sandra & Rich Staples
Brad & Denise Stern
Jim Stratton
Karen & Paul Swartzbart
Cherri Thomas
Tom Douglas Restaurants
Gonzalo Villalon
Shelly Wade
Seth Walker & Emerald Bogue
Ken Hill & Page Brumbley
David Hartley & Helen Weagraff
Katrina Hoffman & Mike Webber
Jim & Maria Wessel
Violet & Joe Whaley
Bob & Dotty Widmann
John & Kate Williams

RAVEN'S CLAN, $50-99

Kris Anderson
Thomasina Andersen
Lee Rolfe & Tony Angell
Arne Erickson
Michael Ausman
Tom & Barb Bailer
Alan & Diann Bailey
Baja Taco
Dave & Laura Beam
Karl Becker & Nancy Bird
Teresa & Andy Benson
Dan Bilderback & Christine Sager
John & Patty Bodner
Paul Boos & Janelle Eklund
Jim Bovard
Mimi & Tim Briggs
Brian Brockel
Donna & Larry Brown
Bruce & Karen Butters
Dr. Rob Campbell
Barbara Cellarius
Bill & Diane Cobb
Susanna Colloredo-Mansfeld
Joe & Belen Cook
Erin Cooper & Sean Meade
Copper River Fleece
Cordova Drug
Pere Davison
Julie de Boer & Robert Carr
Micah Ess & Michelle Dockins
Gregory Evershed
Michael Ferraro
Fireweed Grill
First National Bank Alaska/Cordova
First National Bank Alaska/Glennallen
Mark & Cindy Frohnapfel
Helen Howarth
Haley Gill
Shawn Gilman
Toni Godes
Kurt Goetzinger
Dick & Kay Groff
Blair Hensen
Phil & Audrey Huffman
Dave & Annette Janka
Meg Jensen & Mike McQueen
Julie Jessen
Tim Joyce
Jim Kassis
Adam Kenyon
Alyssa Kleissler & Curtis Herschleb
Rodger & Gerri Koechling
R.J. & Barclay Kopchak
Ben & Kaitlin Kramer
Tom McGann & Sue Laird
Ray Landgraf
Cory & LeAnn Larson
Les & Joan Larson
Liz & Bill Larzelere
LFS Marine Supplies
Sue Kesti & Dan Logan
Cathy Long & Micah Renfeldt
Chris and Heather Maxcy
Kevin and Suzanne McCarthy
Molly McCormick
Caitlin McKinstry
Kate McLaughlin
Kim Menster
Richard Mercer
Elizabeth Moohe
Eric Manzer & Molly Mulvaney
NAPA Auto Parts/Glennallen
Michelle Hahn O'Leary & Andrew Smallwood
Pam Ore
Pete's Treats
Rich & Laura Pribyl
Frank Ramsey
Monika Reghetti
Diana & Raymond Schaney
Seaman's Hardware Store
Judy Shaw
Dustin Solberg & Ann Harding
Carla & Mark Somerville
John Stack & Barbara Solomon
Jeff & Liz Stonehill
Thea Thomas
Kirsten Valentine
Kenneth Van Gilder
Danielle Verna
Charlotte & Lance Westing
Whiskey Ridge Trading Co.
Yang Wren Art
Dave & Tanya Zastrow

KINGFISHERS, $25-49

Ron Andersen
Thomasina Andersen
Mike Babic
Jeff Bailey & Helen Howarth
Mark & Janet Bloch
Katy Boehm
Shae Bowman & Joe Hamm
Ezekiel Brown
Gabrielle Brown
Angela Butler
Craig Campomizzi
Brian Charlton
John Cholish III
Yoke-sim Choong
Erica & Dan Clark
Kara Clegg
Michael Clutter
Peyton Coyner
Judy & John Day
Robert & Kathryn DeLuccia
Adriane Honerlaw
Sarah Ecolano & Rick Ballas
John Egger
Forget Me Not Fabric
Signe & Jim Fritsch
Glennallen Chiropractic Center
Stephanie Golden
Kristin Gorman
Chris & Leah Grey
David & Judy Heller
Sarah Hoepfner
Teresa & Jim Holley
Kara Johnson
Kinsey Justa
Viktoria Kirillova
Robin Mayo
Julia McMahon
Corinne Mcvee
Terry & Carol Merritt
Belle Mickelson
Mike Anderson Pottery
Marleen Moffitt
Linden O'Toole
Joy Persall
Pet Projects
Joe Plotino
Beth Poole
Shauna Potocky
Lynn & Carol Potter
Redden Marine
Frederic Reid
Julie & Brad Reynolds
Randy & Darlene Robertson
Sarah Robinson & Chris Arp
Alex & Tamara Russin
Brian & Vera Rutzer
Shags Hair Salon
Heidi Sheldon
Dick & Sue Shellhorn
Melissa Sikes
Trey Simmons
Robert & Chrissy Skorkowsky
Matt Sloat
Jed Smith
Dana & Anita Smyke
Jessica Speed
Kathryn Stoltzfus
Dotty Widmann
Tolsona Lake Resort
Doyle and Norma Traw
Mark Vail
David & Chris VanCleve
Mae Vansant
Gay & David Wellman
Amanda & James Wiese
John Page Williams

SUBSISTENCE LIVING, $10-24

Dave & Sarah Abbott
Elizabeth Collins
Nick Docken & Lisa Kennedy
Rachel Ertz
Melissa & Jason Gabrielson
Heidi Hatcher
Kathleen & Chris Jones
Jared & Vivian Kennedy
Mikie McHone
Larey & Lisa Miyatake
Andrew Morin
John Myers
Ruby & Cody Oatman
Jim & Charleen Pitta
Pete Rand
Robert Scribner
Matt & Sherry Shaw
Tim Skiba
Theresa Tanner

Chef Tim LaBant preparing appetizer plates of frisee salad, egg, and salmon caviar at the fall, 2015 Wild Harvest Feast in Cordova.

Gina Anderson, Copper River salmon enthusiast, showing off the Minneapolis Oceanaire Seafood Room's special salmon entrée.

EAT HERE

TO SUPPORT THE COPPER RIVER WATERSHED PROJECT

IN 2016, *with assistance from the Copper River/Prince William Sound Marketing Association, the CRWP collaborated with three restaurants to offer special Copper River salmon and seafood dining. These restaurants made contributions to the Copper River Watershed Project for its programs, and we hope you'll make a point of supporting them in return!*

THE BIRCHWOOD CAFÉ
MINNEAPOLIS

The Birchwood Café works hard to raise awareness of food and farm issues, and supports the organizations that focus on them. This zen meal prayer greets its diners: *Innumerable measures bring us this food. We should know how it comes to us.*

birchwoodcafe.com

OCEANAIRE SEAFOOD ROOM
MINNEAPOLIS

In their elegant dining rooms, Oceanaire restaurants offer fresh seafood from around the country.

theoceanaire.com

THE SCHOOLHOUSE AT CANNONDALE
WILTON, CONNECTICUT

Tim and Julie LaBant turned a tiny schoolhouse into a dining experience. Tim and Julie visited Cordova, Alaska in 2015 to learn about the Copper River salmon fishery and serve as a guest chef for the CRWP's fall Wild Harvest Feast, and returned the favor by hosting us at their restaurant in June, 2016.

schoolhouseatcannondale.com

HOW DO SALMON CROSS ROADS? *continued from page 1*

We've replaced four culverts since then, and now I know: each culvert project requires a broad team of partners. Adjacent land owners, utilities, Alaska Departments of Transportation & Public Facilities and Fish & Game are some of the partners we've worked with over the past decade on restoring fish passage. We now know the digging is the "easy" part!

In a way, it's fitting that these projects require a community effort, because we all benefit.

A 2015 McDowell Group report for the Alaska Salmon Alliance found that southcentral Alaska "regional fisheries accounted for 13 percent of total statewide ex-vessel value in 2013 . . . The region featured 20 communities with total gross resident fishing earnings greater than $1 million". Southcentral streams and rivers also produce salmon harvested for subsistence and personal use fishing, the fish in our home freezers.

Our most recent Copper River Highway culvert replacement was made possible thanks to funding from the Alaska Sustainable Salmon Fund, the Alaska Department of Transportation & Public Facilities *(for hydrology and engineering services)*, the Alaska Department of Fish & Game, and the Chugach National Forest.

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web COPPERRIVER.ORG

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COPPER RIVER WATERSHED PROJECT

Newsletter SPRING 2017

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TO

Ken Hodges receiving the 2015 Watershed Hero award from Molly Mulvaney, Board Member.

WHY I SUPPORT CRWP

KEN HODGES

(RETIRED) FISH BIOLOGIST,
CHUGACH NATIONAL FOREST

MOST OF YOU READING this are already aware of the projects the Copper River Watershed Project has done to protect and restore the watershed and its resources: replacing culverts that block passage to fish habitat, revegetating damaged streambanks to reduce erosion, removing invasive plants, cleaning up Eyak Lake, and many more.

However, none of this would happen without someone providing the leadership to get things done. The CRWP works with the local communities, Native groups, government agencies, businesses, resource user groups, and many individuals to identify problems and come up with practical solutions. Having worked for 27 years with the US Forest Service in Cordova, I know about all of the consultation, planning, permitting, etc. it takes for even simple projects. The CRWP provides the leadership and has the perseverance to take projects from start to finish.

The CRWP also provides a way for community members to get involved in meaningful work to improve the watershed. This year there will be a need for volunteers to revegetate the banks around the newly installed culvert at Mile 20. In the fall, "citizen scientists" can conduct stream surveys to identify important salmon habitat. I'm sure there will be other projects as well, where you can volunteer and show your support for the watershed. I hope to see you out there.