



Elk River Watershed Alliance (ERA) Annual Report 2015



Prepared by:

Lee-Anne Walker, Executive Director;
Ayla Bennett, Education and Water Monitoring Program Manager;
Marsha Clarke, Restoration and Stewardship Program Coordinator;
Graham Preston & Chiara Cipriano, Community Outreach Educators

November 16th, 2015

Executive Director 2015 Year-end Summary

2015 was a year of contrasts. Our biggest project this year, and in the history of the ERA, is the Elk River Flood Solutions Strategy. We've been researching, analyzing, modeling and talking about too much water, ironically during the worst drought in years! We've also learned from experts that this could be the new norm. Predicted higher temperatures may lead to increased summer drought, likelihood of convective storm cells laden with precipitation and more rain on snow in winter. To plan for climatic events on a scale we have never seen before, requires us to work together to plan and be prepared for these extremes.

Fortunately Elk Valley residents are connected and do care for their water and watershed. If it is true we will conserve what we love, then people showed their love and care for the Elk River this summer. A dozen men on a Teck training workshop rallied to help ERA remove a weir on Coal Creek to open fish passage. Over a hundred volunteers (students, youth group members, corporate teams, club members and individuals) helped clean up garbage along the Elk River, including a massive bridge in Elkford. Businesses donated \$50,000 in-kind/cash and ERA fund raised \$250,000 that stimulated the local economy to pay contractors, professional services, supplies, materials and equipment.

ERA reached so many pivotal high points in 2015. Both of our summer week-long Elk River Watershed Discovery Camps were full with 34 youth learned about their watershed, gained skills for stewardship and discussed solutions for a water sustainable future. A watershed-wide community outreach education program reached over 1000 people from age 2 - 82 at events, library programs, and summer camps. ERA's cardboard boat even managed to race back and forth across Maiden Lake on Canada Day, arriving back safely and intact! ERA is getting closer to a Crown recreation permit to better steward Silver Springs, step one of moving the access gate accomplished, which likely contributing to less litter at the fall cleanup.

ERA continues to strengthen relationships with decision-makers through opportunities like presenting at municipal council and hosting technical workshops. For the second year, ERA worked with Teck during Mining Week to help 332, Grade 7-11 students from 16 classes throughout the watershed to better understand the importance and challenges of soil sustainability and management in every community in the watershed.


ERA is also dedicated to collaborating and sharing a 'watershed' perspective at land use planning processes, community engagement sessions, and with regional water networks. As founding members of the Elk Valley Cumulative Effects Management Framework and Teck's Community of Interest, these two initiatives support holistic watershed wide thinking.


An old African proverb sums up ERA's watershed perspective: "If you want to go quickly, go alone. If you want to go far, go together." ERA is heartened by the effort of Elk River residents uniting around water, to work together to solve watershed issues, while protecting watershed resilience and water quality. But we have a ways to go! In 2016, do one thing everyday to care for our water and pass it on – we all live downstream.


Lee-Anne Walker, Executive Director and Community Water Champion


ERA - Success by the numbers


 Raised \$260,000 in Grant funding

 In-kind donations - \$50,000

 Streamkeepers volunteered 122 hours to collect water quality information at 8 different sites

 34 youth participated in a week-long camp during July & August to discover the Elk River watershed

 25 tons – the largest piece of garbage cleaned out of the Elk River as part of the Great Canadian Shoreline Cleanup

 ERA representing community water perspective in several land use, environmental assessment and monitoring processes

200 Elk Valley residents filled out the Elk River Flood Solution survey:

- ✓ 53% are concerned about flooding in the future, with infrastructure damage and environmental impacts being their highest concern.
- ✓ The top two supported flood solutions: riparian enhancement and effective municipal zoning.
- ✓ 65% of residents want an updated floodplain map for the Elk Valley.



ERA 2015 Board of Directors

Thank you to the ERA Board of Directors for your wisdom, support and dedication to working on solutions for a healthy Elk River watershed.

Stella Swanson (Chair) Director - Science & Collaborative Decision Making

- PhD. Limnology, BSc. Honours Biology
- Registered Professional Biologist



Jim Miller (Vice Chair) Director - Municipal Water Infrastructure

- BSc in Applied Science
- Professional Engineer (retired)



Roxanne Esch (Secretary/Treasurer) Director - River Recreation

- BA Honours and B Ed.
- French Immersion Teacher Fernie Secondary School



Carla Fraser Director - Industry, Coal

- BSc Forest Resource Management
- Manager Environmental Performance at Teck Coal



Doug Marteinson Director - Community Engagement

- MSc Organizational Development, Masters in Environmental Design, BSc Honours Economics & Mathematics
- Consulting Facilitator of Strategic Forums and High Performance Teams



Mike Bennett Director - Liaison with Wildsight Elk Valley Branch

- Honours BSc Environmental Science
- Manager The Park Place Bar and Grill



John Poirier Director - Fishing

- Master fly fisher
- Builder of bamboo fly rods and shadow box mounted artistic flies.



Matt Huryn Director - Fish and Wildlife Association

- Account Manager with Joy Global in Sparwood
- Born and raised in the Elk Valley, Matt loves to hike, hunt, fish and ride horses all through the mountains.

Matt Noseworthy Director - Commercial Rafting

- College of the Rockies Mountain Adventure Skills Training (MAST 2001)
- Certified white water raft guide on the Elk River, Professional Ski Patrol - Canadian Avalanche Association Ski Operations and Red Seal Carpenter



Levi Strom Director - Youth

- Grade 11 student Sparwood Secondary School
- Youth counsellor with the Elk River Watershed Discovery Camp 2014 & 2015.



Tyler Carson Director - Commercial Fishing

- Whitewater raft guide (formerly) on the Elk River
- Professional fly-fishing guide with Elk River Guiding Company on the Elk River



Mike Tomney Director - Education

- BSc. BEd.
- Biology Teacher Fernie Secondary School (retired)



Elk River Facts

💧 The Elk River starts at Petain, Elk and Castelneau Glaciers in Elk Lakes Provincial Park and is joined by over a hundred tributaries and sub-tributaries during its 220 km journey to Lake Koocanusa.



💧 The total watershed area of the Elk River is 4450 km² – the same size as Waterton-Glacier International Peace Park (in Alberta/Montana).

💧 The Elk River is renowned for its blue-listed/threatened Westslope cutthroat and bull trout. It is considered one of the best places for fly-fishing in North America.



💧 First Nations (Ktunaxa) have harvested natural resources from the river for thousands of years.

💧 The Elk River was first labeled on a map by John Palliser during the Palliser Expedition in 1857. Fur-trader and explorer David Thompson called it the “Stag River” in 1811.



💧 Typically the discharge for the Elk River at Elko Dam is about 60 m³/second. During the 1995 flood, Water Survey Canada estimated a record of 818 m³/s! That’s like draining an Olympic size swimming pool every 3 seconds!



ERA's Vision

Promote a new era in watershed thinking where well-managed human activities result in healthy ecosystems and a robust economy.

ERA's Mission

Formed in September 2010, the Elk River Watershed Alliance (doing business as Elk River Alliance or ERA) is a community-based water group that aims to connect people to the Elk River ensuring it is drinkable, fishable and swimmable for future generations.

ERA's Guiding Principles

- 💧 Unite not divide.
- 💧 Bring together diverse points of view and offer a safe place to dialogue about the Elk River.
- 💧 Stimulate conversation, share information and facilitate community input to encourage sustainable water decision-making in the Elk Valley.
- 💧 Promote a new ERA in watershed thinking by coordinating a community voice to contribute to watershed planning and management activities, regulatory processes and other regional water initiatives.

Goal 1



Over 1000 people aged 2 - 82 learned about macro-invertebrates and discussed the Flood Solution Strategy last summer with ERA outreach coordinators, Graham and Chiara.



In July and August 35 youth participated in the Elk Watershed Discovery Camps and explored the Elk watershed.

Communication tools – website, Facebook, Instagram, newspaper articles



www.elkriveralliance.ca



www.facebook.com/elkriveralliance



@elkriveralliance
#myelkriver

Elk River Alliance partners with the Know Your Watershed program to teach Elk Valley grade 8 students about local water systems.

THE FREE PRESS The Elk River Current

Goal 1

Increase and ease public access to information about the Elk River watershed strengthening our collective watershed literacy.

Elk Watershed Discovery Camp (Dates: July 27 - 31, August 10 - 14)

Both of the week-long day camps offered in summer 2015 were full at 17 participants per camp. Activities included: mapping a marsh, canoeing, fishing (presentation from Elk River Guiding Co. fishing guide), floating safely in the Elk River, hiking (presentation from local geologist Bob Morris and with local naturalist Lee-Anne Walker), compass and map skill-building, rafting with Canyon Rafting, Elk River geocache and yoga with Heather Ivany. Some of the participants' favourite activities were: rafting, tubing and hiking. Some ideas of activities to add were: paddle boarding and more tubing, fishing and art. A key partnership of the camp is with the College of the Rockies who have 14 passenger vans, canoes and a marshaling room for the participants at the Fernie Campus.

Our River Rocks & Great Elk River Shoreline Cleanup (September 26 & 27)

The Saturday *Our River Rocks* event celebrated the Elk River and the many ways community are working on stewarding the river keeping it drinkable, fishable and swimmable for future generations. The event featured the images of river users at #MyElkRiver Instagram. Generous donations for the silent auction and corporate displays demonstrated love for the Elk River and broad community stewardship efforts. The first ever *Fly Fishing Skills* event resulted in a young generation of exceptional fishers claiming a handmade bamboo rod, shadow box of tied flies and gift certificate. Art on the Rocks inspired creative connections to the river. Interactive displays increased community water literacy and participation in the flood survey. On BC Rivers Day, residents from Elkford, Sparwood and Fernie pitched in to clean up the Elk River and tributary shorelines. Fernie Secondary students and Fernie Christian Youth group adopted to clean up sites.

Mining Week – Mining for Soil Sustainability (May 4 - 8)

In honour of the UN International Year of Soil, ERA co-presented with Teck *Mining and Soil Sustainability* which reached 322 students in grades 7 - 11 from 16 classes in Elkford Sparwood and Fernie. Students learned about the importance of soils; yet, we still treat it just like dirt! Teachers appreciate how ERA links Mining Week to the curriculum using hands-on, innovative activities. Teck benefits by talking to students about what they are doing to mitigate soil disturbance, the value of managing soil effectively for the speed and quality of reclamation, which supports biodiversity. ERA also made the connection of soil to flooding as it stores excess water and filters sediments that could affect gills of water bugs and fish.

Website, Social and Print media

ERA relies on our website served off of Nationbuilder to host watershed information, reports and links to residents wanting more watershed information. Survey Monkey was an on-line tool used to collect 200 responses for the Elk River Flood Solutions survey. ERA's Facebook was updated regularly and a growing community was using it for information and interacting on topic areas by the end of the summer. ERA contributed several articles to the Fernie Free Press called *The Elk River Current* which will be launched in 2016 as a bi-annual ERA Newsletter. #MyElkRiver used Instagram to engage watershed residents to share their images of experiences on the river this summer.



Clan of the Cave Bear –
winning photo of #MyElkRiver

Goal 2



In October, 35 stakeholders from community, municipalities, industry and environmental groups participated in the Flood Solutions Strategy Technical Review Workshop.

Flooding has been an issue in the Elk Valley for as long as there have been permanent communities along the Elk River. How can we protect people and infrastructure without compromising the ecological integrity of the Elk River?



The Elk River Alliance has been working to steward Silver Springs and has developed recommendations as part of the Silver Springs Solution Strategy. This has included coordinated clean-ups, community surveys as well as working with the land owners to better manage the site.



Goal 2 Use knowledge and community outreach to engage meaningful community participation in the decision-making process affecting the Elk River watershed.

Elk River Flood Solutions Strategy

The ERA Elk River Flood Solution Strategy is a coordinated, inclusive, watershed-wide approach to improve our understanding of flooding and examine the best choices to respond to floods that keep people safe, protect infrastructure, and use resources wisely, all while enhancing watershed function and protecting wildlife habitat.

This summer two outreach educators, Chiara Cipriano and Graham Preston, attended 21 community events, reaching 1000 residents from Elkford to Elko. As a result of their flood education activities 200 people filled out the flood survey and a dozen long-time residents were interviewed about their past flood experience. Marsha Clarke, ERA Program Coordinator completed a comprehensive flood chronology in the Elk Valley 1900 to present. Ryan MacDonald, Post Doctoral fellow from the University of Lethbridge, has completed an Elk River hydrology report and recommendations for flood mitigation and adaptation alternatives. PhD Candidate student, Celeste Barnes is preparing a hydrology model to provide a flood model and animation tool for decision makers to visualize the effects of changes to land use and climate for the benefit of proactive flood solutions. Sherri McPherson, RPBio from Lotic Environmental is working on flood effects on wildlife habitat. October 14th offered community an opportunity to provide further input at the Flood Technical Review Workshop. ERA is working closely with the RDEK to identify priority sites for flood mitigation and conducting additional hydraulic survey research and project scoping for infrastructure grant applications.

Elk River Watershed Planning

The ERA continues to participate with the following decision-making processes: Elk Valley Cumulative Effects Management Framework (CEMF) Working Group & Teck Community of Interest (COI) Steering Committee. In 2015 ERA has participated in meetings regarding a watershed perspective: Teck expansions (Baldy Ridge Expansion), CanAus mining proposal, Elk Valley Environmental Monitoring Committee, Lake Koocanusa Monitoring Program, Southern Rockies Wildlife Management Area, Recreational Water Quality Monitoring of Maiden Lake.

Silver Springs Stewardship Solutions

ERA has been working on a recreation permit with the BC Government to formally steward Silver Springs. This has proved more challenging than was first thought, due largely to navigating a large bureaucracy. BC Hydro worked with ERA to identify and move the access gate in June. Since people have to walk a little further, way less 'stuff' was hauled up, hence less garbage at the annual cleanup. Next step: interpretive signs highlighting the community management of the site and Silver Springs unique natural history.

Building ERA Capacity

ERA contractors attended training opportunities to increase their capacity to work on issues in the Elk River watershed. Lee-Anne Walker attended and presented at the Planning Institute of BC *Flood Hazard and Mitigation Conference*. Marsha Clarke attended the Canadian Rivers Institute workshop on *Stream Restoration: Design & Monitoring* and the BC Wildlife Federation week-long *Wetlands Institute*. As members of the Canadian Freshwater Alliance we've participated in several webinars on topics ranging from groundwater to the new BC Water Sustainability Act.

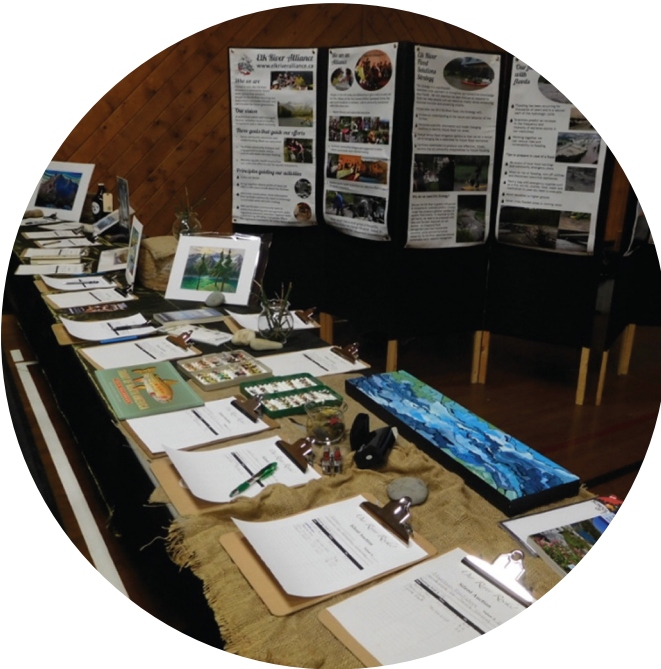
Goal 3



Shoreline clean-up heroes! Three members of the Elkford ATV club removed the largest piece of garbage in all of Canada from the Elk River.



The ERA conducted high and low flow community-based water quality monitoring as well as using Canadian Aquatic Biomonitoring Network protocols on both Lizard and Alexander Creek. Additionally, ERA began monthly monitoring at Alexander Creek through the CBWN's Water Quality Monitoring Project.



ERA held a silent auction as part of the Our River Rocks festival to raise funds for ongoing programs. A huge thanks to all of the local businesses and artists who donated auction items.



Once again, ERA partnered with the CBT Know Your Watershed program to get "Butts OUT! of the Elk River" by helping to mobilize 45 grade 8 students on a city-wide cleanup and community education. This Student Action Project was focused on removing cigarette butts from streets and green spaces. Also, students educated the public on the environmental hazards of cigarette butts as well as the fact that storm water drains directly into the Elk River.

Goal 3

Monitor to assess aquatic health and prioritize community involvement in activities that conserve, restore, enhance and steward aquatic ecosystems, wetlands and riparian areas.

Community-based water monitoring

Streamkeepers on Lizard and Alexander Creeks

High flow: May 29-31, 5 members volunteered 43 volunteer hours at 8 sites -4 on each creek **Low flow:** Oct 8-9 and Oct 15-16, 4 members volunteered 79 volunteer hours at 8 sites-4 on each creek. In past years during low flow monitoring, the benthic invertebrate module 4 at all sites on both creeks. This module requires taking an invertebrate sample, then counting and identifying all invertebrates present. It is extremely time consuming and difficult as some invertebrates are barely visible with the naked eye. We have decided that it is not necessary to repeat this module at all sites as we have not detected any major discrepancies between sites in recent years. Moving forward we will only complete module 4 at site 1 (closest to the mouth) on each creek. On Alexander Creek, we are considering moving site 4 upstream, due to: 1) difficult access (hike in) 2) potential danger due to riffle range, and 3) to spread out the sites more evenly along the stream.

CABIN (Canadian Aquatic Biomonitoring Network)

Lizard Creek: CABIN sampling was completed on Sept 24 at site 1 (as per usual)

Alexander Creek: CABIN sampling was completed on Sept 23 at site 3 to be consistent with the WQMP sampling (see below). Marsha Clarke took the on-line training and field certification course in Golden this summer to better support this initiative.

Columbia Basin Watershed Network (CBWN) Water Quality Monitoring Project (WQMP)

This year, ERA had the opportunity to participate in the CBWN WQMP. This project currently funds eight member groups to monitor water quality using the Canadian Aquatic Biomonitoring Network (CABIN) protocol. Using this protocol allows the groups to contribute to a national database with national-quality data, gathered according to national standards. Through our new relationship with the WQMP in 2015, ERA started monthly monitoring on Alexander Creek. Monthly monitoring uses simplified CABIN protocols, including water quality parameters (D.O., pH, temperature, conductance), stream profiling and calculating velocity and discharge. We also installed a HOBO data logger to record continuous temperature readings (every hour) between April-May and June-October. It was removed for May and June during spring freshet.

Coal Creek Weir Removal

Dozens of volunteers logged tens of hours removing fishing weirs from Coal Creek in June and July to ensure fish passage for spawning and migrating Westslope cutthroat and bull trout.

Wetlands In Our Watershed (WOW)

ERA partnered with BC Wildlife Federation (BCWF) Wetland Education Program to host this course during their AGM in Fernie April 26. Over a dozen folks learned technical and field skills for mapping smaller wetlands with GPS and how to upload data onto the Community Mapping Network. WOW will be expanding in 2016 to map small wetlands near urban areas throughout the Elk Valley, assess their productivity and health and how they function as flood control and water filtration systems.



Thank you to our funders, partners and supporters for 2015



**To learn more about community-based water governance and stewardship in the
Elk River watershed please contact:**

PO Box 537, Fernie, BC VoB 1M5 (250) 423-3322 lee-anne@elkriveralliance.ca
www.elkriveralliance.ca