

Citizens for a Clean Columbia

Our mission: to advocate for a clean Columbia River ecosystem

NEWSLETTER JULY 2010

Who are we?

Citizens for a Clean Columbia (CCC) is a volunteer organization focused on advocating for the health of the Upper Columbia River and Lake Roosevelt. For details about us, see our January 2010 newsletter or visit us on our revised website at www.cleancolumbia.org.

2009-2010 Northport, WA Community Health Assessment: A Summary of Information from Northport Resident Health Questionnaires

Jamie Paparich, with the assistance of CCC and residents in the Northport community, began distributing health questionnaires to current and past residents of Northport, WA in 2009. The questionnaires were distributed because of concerns about health influences from heavy metal and other toxic discharges from the Teck smelter over time. Jamie continues to receive requests for questionnaires, as well as completed questionnaires, weekly and would be happy to hear from any of our readers who wish to contribute information or complete a questionnaire (paparichj@live.com). Below is her summary of the first 128 questionnaires received to date.

Explanation: The completed confidential questionnaires are from residents living in the area during the period 1925 to 2010. I summarized the information for 3 generations of residents likely

exposed to different amounts of chemicals as changes (e.g., spills, weather, and planned reductions) occurred in the discharge type and amount over time. I also had concerns about the possibility of genetic mutations occurring to second generation residents whose exposures have occurred since conception, despite living in the area for a shorter time than 1st generation residents. Finally, the high percentage of children born to at least one 2nd generation resident reporting early-onset thyroid disease and arthritis despite never living in or around the area encouraged me to follow the 3rd generation. The generations are defined as follows:

1st Generation: Born or living in Northport since 1925 – Current

2nd Generation: Born or living in Northport since 1942 - The majority of this generation (born in 1942-1958) lived in the area for about 18 to 20 years.

3rd Generation: Born or living in Northport since 1970.

3B Generation: Children born to at least one parent from the 2nd Generation; most were not born or ever lived in the area.

My observations and thoughts are indicated by two asterisks in the health issues sections. General population (GP) prevalence estimates for these illnesses are provided in brackets.

Northport Population: From 1925 - 2010, the population has remained stable at approximately 375 people. This includes the 5-7 mile radius

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surrounding the town.

Health Issues: Information on health concerns was requested using a checklist of specific categories of illness chosen because of personal reports to me, as well as research done on the potential influence of chronic exposure to heavy metal toxins (arsenic, cadmium, lead, copper, zinc, manganese, mercury) released by lead & zinc smelters. Participants could also list any additional health issues that were not covered by the listed choices. Health issues are listed here in order of frequency.

Thyroid/Endocrine Disorders: 89 respondents (70%)

[General Population (GP): ~6%]

Generations Impacted: All 3

- Most current and past residents were diagnosed with some form of thyroid disease (Hashimoto's disease, Graves' disease, goiters, and thyroid cancer). Most were diagnosed in their late 20's or early 30's.
- The majority of diagnosed cases are in the "3B Generation". Several respondents also reported pituitary gland and adrenal gland problems in addition to auto-immune related illnesses.

** Scientists involved in different studies that I read support a role of environmental toxins (specifically heavy metals including arsenic, cadmium, manganese, and lead as well as pesticides) in either initiating or triggering autoimmune disease.

Arthritis: 86 respondents (67%) [GP: Osteo, ages 45-

64 years, ~30%; Rheumatoid ~1%]

Generations Impacted: All 3

- The majority of current and past residents has been diagnosed with some form of arthritis or strongly suspects they have a form.
- Several children and young adults have been diagnosed with arthritis in the "3B Generation".

Cancer: 42 respondents (33%) (*colon, stomach, prostate, uterine, lung, skin, breast, kidney, and bladder*)

Generations Impacted: 1st & 2nd

- The residents in the 1st generation were diagnosed 50-60 years after first exposure with prostate, colon, lung, and bladder cancer.
- The majority of cancers diagnosed in 2nd generation residents (almost all of whom listed both parents as 1st Generation Northport residents) are stomach, colon, uterine, breast, kidney and bladder cancer.

Ulcerative Colitis (UC)/Crohn's Disease: 37 (29%)
(14 Crohn's and 23 UC) [GP: 7-11/100,000]

Generations Impacted: 2nd & 3rd

- Based on a cluster of cases of UC and Crohn's disease diagnosed in children raised on Mitchell Road between 1954 and 1979, it appears that the majority of impacted residents are in the 2nd generation.
- 3rd generation residents who were born or grew up in the area and lived there for as little as 8 months to 18 years have been diagnosed as well (the youngest is a 9-year-old boy diagnosed two years ago); most cases were diagnosed when residents were approximately 17-20 years of age.

**DOH and EPA (and Ecology) referred to this area

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as a "heavy fallout zone" because of elevated cadmium and arsenic levels found on testing (air, soil, garden, water tests) done since 1992.

Researchers, however, have been unable to pinpoint either the toxin(s) or route(s) of exposure that might trigger these health issues.

Brain Aneurisms/Tumors: 16 respondents (12.5%) Generations Impacted: 1st (tumors) & 2nd (aneurisms)

- The majority of reported aneurisms or tumors were in residents living within a 1.5-2 mile radius of the Columbia River near the Northport city park and the Waneta Road during 1940-1985.
- More than 70% moved to that particular area in or around 1970 and were diagnosed 20 years later around 1989-1990.
- Residents who were diagnosed with tumors but died, as reported in questionnaires completed by family members, lived in or near that same area since 1960 and were diagnosed, or died, approximately 30 years later (1989-1991).

Pulmonary Embolism: 6 respondents (4.7%) Generation Impacted: 2nd

All residents, (questionnaires completed by family members for deceased), were born in Northport around 1947-1950, or moved to Northport as infants during that time.

- These residents lived in the area for a minimum of 20 years, within a 4 mile radius of Mitchell Road (during childhood through high school).
- Residents who died from this cause did so unexpectedly when they were between the ages of 40 and 45 years; they were otherwise believed to be in relatively good health.

Parkinson's Disease/Multiple Scoliosis (MS): 5 respondents (3.9%) [GP: ~1%/<1%] Generations Impacted: 1st & 2nd

- The majority of diagnosed residents lived on or near Mitchell Rd. since 1954.
- Diagnosed residents have lived in this area since 1951 and were diagnosed 45 years later (both 1st and 2nd generation)

**Symptoms of Parkinson's disease and MS are similar to those of chronic manganese or mercury poisoning. One of the several mercury spills recorded by Teck was a spill of 6300 pounds of mercury directly into the Columbia River in 1980. The majority of residents diagnosed with Parkinson's and MS were diagnosed approximately 15-18 years after the 1980 spill.

Jamie Paparich

Technical Advisor Report: Study Plans for the Remedial Investigation/Feasibility Study

A significant portion of my time as CCC's Technical Advisor (since Fall 2009) has been spent reviewing drafts of the Baseline Ecological Risk Assessment (BERA) Work Plan issued by Teck. The BERA is the road map of past studies and future investigations that need to be performed to evaluate the environmental impact of the smelting operations in Trail, BC on the Upper Columbia River ecosystem. This is separate from the work plan for the Human Health Risk Assessment (HHRA), which is the BERA's

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counterpart to study the potential effects on human health. Both work plans are under the overall study focus of the Remedial Investigation and Feasibility Study (RI/FS). I work closely with members of CCC to review these drafts and provide input to EPA on CCC's concerns and questions about these plans.

Several versions and portions of the BERA have been reviewed resulting in three pages of comments on the text forwarded to EPA in November 2009, eight pages of comments on section 3 (review of historical study data) forwarded in March, 2010, and six pages of comments on the appendices submitted in April 2010.

A number of CCC's concerns were addressed in the most recent version of the BERA. The CCC board appreciates EPA's responsiveness to these concerns but still has additional significant concerns including:

- The use of "scientific management decision point" (SMDP) memoranda which effectively take important future study data evaluations and decision points away from the review process. While these SMDP's have to a large extent been eliminated, the potential for study decisions and data interpretation to occur without any review still exists.
- Lack of any study of the mechanisms by which toxic metals and compounds are transported in the Columbia River system. CCC will continue to press for a transport study.

- Incomplete understanding and inaccurate presentation of historical study data in the BERA. CCC continues to work with EPA to arrive at a consistent document format for the presentation of study plans and study data. This will facilitate the review process and promote a broader understanding of the relationship among the various study results.

In addition to the BERA, I reviewed two drafts of the Plankton Study Quality Assurance Project Plan (Plankton QAPP). Ten pages of comments on the July 2008 Plankton QAPP draft were provided to EPA in January 2010 and one page of comments was provided to EPA in June (May 2010 QAPP draft). The CCC board appreciates the incorporation of some of its concerns into the second draft but major concerns remaining include:

- Lack of any sample collection upriver from Marcus Flats
- Failure to define what constitutes an acceptable sample as far as contamination with algae, sediment and debris is concerned. CCC believes that the Plankton QAPP may be seriously compromised without a clear definition of what constitutes an acceptable sample prior to the start of the study.

With CCC members, I also reviewed the December 2009 draft of the Recreational Consumption and Resource Use Survey Sampling and Analysis Plan for the Upper Columbia River Site Human Health Risk Assessment and RI/FS (Use Survey) from the

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Department of the Interior and the National Park Service. CCC submitted four pages of comments on the Use Survey to EPA in January 2010. CCC's major concern was that the survey did not address local resident use of the Upper Columbia, but instead focused exclusively on visitors. The survey is still under development.

The review process of the Use Survey with EPA has been beneficial both to CCC and EPA. CCC believes that EPA now has a much clearer understanding of river use by residents, and CCC now has a better understanding of the problems associated with information transfer to EPA and the Washington State Department of Ecology. The interaction between CCC and EPA on reviewing the Use Survey resulted in the addition of a beach area just upriver from the Sheep Creek confluence to the 2011 beach sampling plan. EPA agreed that the Use Survey will yield very little information on local residents' risks from river use.

Finally, I reviewed the May 14, 2010 draft of the QAPP for "An evaluation of the acute or chronic toxicity of individual chemicals of interest to white sturgeon (*Acipenser transmontanus*) and rainbow trout (*Oncorhynchus mykiss*) in water-only exposures" resulting in six pages of comments submitted by CCC to EPA in June 2010. CCC's concerns included the use of unpublished data and "personal communications" rather than published literature references, the fact that no concentrations were listed for any of the test metals, the use of only

two males and two females for the genetic pool, and the use of tables rather than text for describing the study protocol. This study is scheduled to start in July so any additional opportunity to affect or review the study plan is unlikely.

Joe Wichmann, PhD; CCC Technical Advisor

Christina Lake Update

In our last newsletter, we wrote about Protect Christina Lake (*PCL*), a group of concerned citizens living in or around the Christina Lake community who opposed the development of Vancouver's Aquilini Investment Group's (AIG) proposed hazardous waste gasification plant. Following an 18 month fight, the proposal was defeated. Additional information at www.protectchristinalake.ca.

Mindy Smith, MD, MS

Want to be More Involved?

CCC welcomes new members; you can enroll on our website (www.cleancolumbia.org). You can also find meeting meetings and links to other organizations involved in protecting the environment.

Please join us at our booth at the Northeast WA Fair in Colville on August 25-28 ; our board members will be meeting on the 25th at the fair during set-up. We need volunteers to help us staff the booth so please contact Caroll Vrba (caroll.vrba@yahoo.com) if you can help.

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Our next General Member Meeting will be on October 25, 2010 at the Museum in Colville. We will post updated information on the website. This is an important meeting as we will elect officers at that meeting.

You can also write to our EPA project manager Helen Bottcher (Bottcher.Helen@epamail.epa.gov), the EPA region 10 administrator Dennis McLerran (EPA - Region 10 1200 6th Ave., Suite 900, Seattle, WA. 98101 or call: 206-553-1200), our contact in the Washington State Department of ecology John

Roland (jrol461@ecy.wa.gov) or your legislators about your concerns about the Columbia River.

Electronic comments can be submitted to Senator Maria Cantwell at: <http://cantwell.senate.gov/contact/> or to the Governor Christine Gregoire at www.governor.wa.gov.