



5019 – 52nd Street
Yellowknife, NT – X1A 1T5

May 25, 2016

VIA EMAIL

Mark Cliffe-Phillips
Executive Director
Mackenzie Valley Environmental Impact Review Board
PO Box 2130
Yellowknife, NT X1A 2P6

RE: Federal Comments on the draft Canadian Zinc All Season Road Technical Sessions Agenda

Dear Mr. Cliffe-Phillips,

The Canadian Northern Economic Development Agency's Northern Projects Management Office, on behalf of the Government of Canada, is pleased to respond to your request for comments on the proposed Technical Session agenda for the above noted environmental assessment ("EA").

The various federal departments involved in this EA have reviewed the proposed agenda. Through this review it has been noted that the following items should be included as agenda items in addition to what has been proposed by the Mackenzie Valley Environmental Impact Review Board as well as other parties:

- Cultural resources
- Construction camps and the Tetcela Transfer Facility
- Water withdrawals
- Construction of winter and all season alignments where the proposed all season alignment differs from the winter alignment
- Temporary water crossings
- Erosion and sediment control and;
- Road Design Considerations for:
 - Fish and Aquatic Habitat
 - Sundog Stream Realignment
 - Watercourse Crossings
 - Road Footprint (Encroachment below High Water Mark)
 - Blasting

As requested, a list of topics for discussion, a list of technical experts as well as CV's for technical experts have been included with this letter. Additional CV's will be provided in advance of the sessions. A federal contact list for this file is also provided.

I would like to take this opportunity to thank you for the opportunity to comment on the proposed agenda. The Government of Canada looks forward to continued participation in this EA.

Sincerely,

A handwritten signature in dark ink, appearing to read 'MS', with a long horizontal flourish extending to the right.

Matthew Spence
Director General
Northern Projects Management Office

Attachments: (1) Federal contact list
(2) Parks Canada Agency letter & experts lists
(3) Fisheries and Oceans Canada expert CV

cc. Sachi De Souza, Environmental Assessment Officer

**Contact list from Federal Departments for Canadian Zinc Corporation's
Prairie Creek All Season Access Road Project**

Northern Projects Management Office

Sarah Robertson
Project Manager
Telephone: (867) 669-2601
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Environment Canada

Loretta Ransom
Senior Environmental Assessment Coordinator
Telephone: (867) 669-4744
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Fisheries and Oceans Canada

Julie Marentette
Fisheries Protection Biologist
Telephone: (867) 669-4934
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Parks Canada

Allison Stoddart
Environmental Assessment Scientist
Telephone: (819) 420-9188
Email: Allison.Stoddart@pc.gc.ca

Natural Resources Canada

Rachelle Besner
Senior Environmental Assessment Officer
Telephone: (343) 292-6746
Email: Rachelle.Besner2@Canada.ca



Mackenzie Valley Land and Water Board
4910 50th Avenue, 2nd Floor
PO Box 2130
Yellowknife NT X1A 2P6

May 24th, 2016

**Re: Technical Session Agenda Canadian Zinc All Season Road
Environmental Assessment (File EA 1415-01)**

Dear Ms. De Souza:

The Parks Canada Agency has reviewed the proposed Technical Session Agenda for the Canadian Zinc All Season Road Environmental Assessment. Parks Canada agrees with the topics proposed for discussion during the Technical Session and would like to add the following to the agenda:

- Cultural resources
- Construction camps and the Tetcela Transfer Facility
- Water withdrawals
- Construction of winter and all season alignments where the proposed all season alignment differs from the winter alignment, and
- Temporary water crossings

In addition, Parks Canada will be speaking to the following topics that are currently on the agenda:

- Description of the project including scheduling and project phases
- Fish, fish habitat and water quality
- Vegetation
- Wildlife including Species at Risk
- Sundog Creek realignment



- Major watercourse crossings
- Borrow pits
- Road design and operations,
- Permafrost
- Slides and other geohazards

If you should have any questions please feel free to contact Allison Stoddart at (819) 827-3436 or Allison.stoddart@pc.gc.ca.

Sincerely,

Jonathan Tsetso
Superintendent, Nahanni National Park Reserve



Parks Canada Presenters

Jonathon Tsetso, Superintendent Nahanni National Park Reserve

Gilles Lussier, Acting Manager, Architectural, Engineering and Technical Services

Garry Scrimgeour, Aquatics Specialist

Douglas Tate, Ecologist Team Leader

Audrey Steedman, Ecologist Team Leader

Donalee Deck, Terrestrial Archaeologist (by phone)

Allison Stoddart, Environmental Assessment Specialist

Laura James, Environmental Assessment Specialist

Arktis Solutions

Jamie Van Gluck, Principal Arktis Solutions (by phone if required)

Julie Marentette, Ph.D.
Fisheries Protection Biologist
Fisheries Protection Program, Fisheries and Oceans Canada
Unit 301, 5204 50th Avenue, Yellowknife, NT, X1A 1E2
(867) 669-4934 Julie.Marentette@dfo-mpo.gc.ca

EDUCATION

Ph.D., Fish Behaviour and Ecotoxicology (McMaster University, 2011)

B.Sc., Biology (University of Windsor, 2006)

Graduate Certificate, Quantitative Fisheries Sciences (University of Florida, 2016)

WORK EXPERIENCE

Fisheries Protection Biologist, Fisheries and Oceans Canada (2014-present)

Yellowknife, NT

Regulatory Review Unit: Mining, Oil and Gas North

- Review *Fisheries Act* Applications and Requests for Review to determine if the issuance of a *Fisheries Act* Authorization is required
- Provide recommendations and advice regarding the protection of fish and fish habitat from impacts of various development proposals in the freshwater and marine environments in Nunavut and Northwest Territories
- Participate in Environmental Assessments in Nunavut and Northwest Territories by providing expert advice on the avoidance and mitigation of negative impacts on fish and fish habitat to Impact Review Boards
- Participate in the review of Water Licence Applications in Nunavut and Northwest Territories by providing expert advice regarding the avoidance and mitigation of negative impacts on fish and fish habitat to Land and Water Boards
- Conduct site visits and review post-construction compliance and biological monitoring of projects to assess predicted environmental impacts and ensure that conditions specified by Fisheries and Oceans Canada for fish and fish habitat protection are implemented

Visiting Fellow, Environment Canada (2011-2014)

Canada Centre for Inland Waters, Burlington, ON

Bioassays and Toxicological Assessments Section, Aquatic Contaminants Research Division

- Fish early-life stage toxicity testing and related field sample collection in Fort McMurray, AB
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PUBLICATIONS

- 19) McCallum, E.S., Marentette, J.R., Schiller, C., Jindal, S., Empringham, K., Marsh-Rollo, S., Pettitt-Wade, H., Koops, M.A., Fisk, A.T., Balshine, S. The diet and foraging behaviour of Round Goby (*Neogobius melanostomus*) from a contaminated Harbour. (Aquatic Ecosystem Health and Management, in press)
- 18) Marentette, J.R., Frank, R.A., Hewitt, M.L., Gillis, P.L., Bartlett, A.J., Brunswick, P., Shang, D., Parrott, J.L. 2015. Sensitivity of Walleye (*Sander vitreus*) and Fathead Minnow (*Pimephales promelas*) early-life stages to naphthenic acid fraction components extracted from fresh oil sands process-affected waters. *Environmental Pollution* 207:59-67.
- 17) Marentette, J.R., Frank, R.A., Bartlett, A.J., Gillis, P.L., Hewitt, L.M., Peru, K., Headley, J.V., Brunswick, P., Shang, D., Parrott, J.L. 2015. Toxicity of naphthenic acid fraction components extracted from fresh and aged oil sands process-affected waters, and commercial naphthenic acid mixtures, to fathead minnow (*Pimephales promelas*) embryos. *Aquatic Toxicology* 164:108-117.
- 16) Marentette, J.R., Sullivan, C.A., Lavalley, C., Shires, K., Parrott, J.L. 2015. Effects of multi-well plate incubation on embryo-larval development in the fathead minnow (*Pimephales promelas*). *Comparative Biochemistry and Physiology C* 167:173-182.
- 15) Cogliati, K., Mistikidis, A., Marentette, J.R., Lau, A., Neff, B., Balshine, S. 2014. Comparing population level sexual selection in a species with alternative reproductive tactics. *Behavioural Ecology* 25(6):1524-1533.
- 14) McCallum, E., Charney, R.E., Marentette, J.R., Young, J.A.M., Koops, M.A., Earn, D.J.D., Bolker, B.M., Balshine, S. 2014. Persistence of an invasive fish in a contaminated ecosystem. *Biological Invasions* 16(11):2449-2461.
- 13) Leonard, E.M., Marentette, J.R., Balshine, S., Wood, C.M. 2014. Critical body residues, Michaelis-Menten analysis of bioaccumulation, lethality and behaviour as endpoints of waterborne Ni toxicity in two teleosts. *Ecotoxicology* 23(2):147-162.
- 12) Marentette, J.R., Chiorean, S., Lavalley, C., Sullivan, C., Parrott, J. L. 2014. Selecting optimal eggs and embryonic developmental stages of fathead minnow (*Pimephales promelas*) for early-life stage toxicity tests. *Archives of Environmental Contamination and Toxicology* 66(2):227-236.
- 11) Marentette, J.R., Tong, S., Balshine, S. 2013. The cortisol stress response in male round goby (*Neogobius melanostomus*): effects of living in polluted environments? *Environmental Biology of Fishes* 96(6):723-733.

- 10) Groen, M., Sopinka, N.M., Marentette, J.R., Reddon, A.R., Brownscombe, J.W., Fox, M.G., Marsh-Rollo, S.E., Balshine, S. 2012. A role for aggression in round goby invasion fronts? *Behaviour* 149(7):685-703.
- 9) Marentette, J.R., Balshine, S. 2012. Altered prey responses in round goby from contaminated sites. *Ethology* 118 (9):812-820.
- 8) Marentette, J.R., Tong, S., Wang, G., Sopinka, N.M., Taves, M.D., Koops, M.A., Balshine, S. 2012. Behaviour as biomarker? Laboratory versus field movement in round goby (*Neogobius melanostomus*) from highly contaminated habitats. *Ecotoxicology* 21(4):1003-1012.
- 7) Marentette, J.R., Tong, S., Wang, G., Sopinka, N.M., Taves, M.D., Koops, M.A., Balshine, S. 2011. Laboratory and field evidence of sex-biased movement in the invasive round goby In *Behavioural Ecology and Sociobiology* 65(12):2239-2249.
- 6) Bowley, L., Alam, F., Marentette, J.R., Balshine, S., Wilson, J.W. 2010. Characterization of vitellogenin gene expression in round goby *Neogobius melanostomus* using a quantitative PCR assay. *Environmental Toxicology and Chemistry* 29(12):2751-2760.
- 5) Sopinka, N.M., Marentette, J.R., Balshine, S. 2010. Impact of contaminant exposure on resource contests in an invasive fish. *Behavioural Ecology and Sociobiology* 64(12):1947-1958.
- 4) Marentette, J.R., Gooderham, K.L., McMaster, M.E., Ng, T., Parrott, J.L., Wilson, J.Y., Wood, C.M., and Balshine, S. 2010. Signatures of contamination in invasive round gobies (*Neogobius melanostomus*): A double strike for ecosystem health? *Ecotoxicology and Environmental Safety* 73(7):1755-1764.
- 3) Young, J.A.M., Marentette, J.R., Gross, C., McDonald, J.I., Verma, A., Marsh-Rollo, S.E., Macdonald, P.D.M., Earn, D.J., Balshine, S. 2010. Demography and substrate affinity of the round goby (*Neogobius melanostomus*) in Hamilton Harbour. *Journal of Great Lakes Research* 36:115-122.
- 2) Marentette, J.R., Fitzpatrick, J.L., Berger, R.G., and S. Balshine. 2009. Multiple male reproductive morphs in the invasive round goby (*Apollonia melanostoma*). *Journal of Great Lakes Research* 35(2):302-308.
- 1) Marentette, J.R. and L.D. Corkum. 2008. Does the reproductive status of male round gobies (*Neogobius melanostomus*) influence their response to conspecific odours? *Environmental Biology of Fishes* 81(4):447-455.