David Suzuki Foundation

■ Vancouver (Head Office)
219-2211 West 4th Avenue
Vancouver BC, V6K 4S2
604 732 4228 tel
604 732 0752 fax

■ Toronto
421-215 Spadina Avenue
Toronto ON, M5T 2C7
416-644-1032 tel
416-644-0116 fax

■ Ottawa
606-251 Bank Street
Ottawa ON, K2P 1X3
613 594 5845 tel

April 29, 2011

Mr. Craig Laing, Aggregate Resources Officer
Ontario Ministry of Natural Resources
2284 Nursery Road,
Midhurst, ON L0L 1X0

The Highland Companies
P.O. Box 377
Shelburne, ON L0N 1S0

Re: The Highlands Companies' application to develop and operate the Melancthon Quarry in Dufferin County.

Mr. Laing and Agents for the Highland Companies:

The David Suzuki Foundation has had the opportunity to review the document "*The Highland Companies proposed Melancthon Quarry Level I and Level II Natural Environment Technical Report and Environmental Impact Study*" prepared by Stantec Consulting Limited and submitted as part of The Highlands Companies' aggregate resource application to develop a quarry under the Aggregate Resources Act and we have the following comments.

We feel that the technical report and the impact assessment are rudimentary at best and incomplete where it comes to assessment of fish habitat values in both the study area and the proposed license area and that these studies are also incomplete where it comes to the assessment of potential impacts on a Committee on the Status of Species at Risk in Ontario (CASSARO) listed species, the threatened Bobolink (*Dolichonyx oryzivorus*), that is known to reside in the study area and has been observed foraging in the proposed license area, and provincially (CASSARO) and federally (SARA – *Species at Risk Act*) listed species such as the Henslow's sparrow (*Ammodramus henslowii*) that is also known to occur in the study area.

Upon further review of this document we may have other concerns, but due to time constraints we will limit our comments to these aspects of the report.

The consultants assert that the proposed project will have no negative impacts on fish habitat and will allow for improvement in the diversity, connectivity and function of the natural heritage systems in the area including linkages between natural heritage features, surface water features and groundwater features and long term increase in the quality and diversity of wildlife habitat associated with the agricultural landscape (see Page 10.2 – Net Impacts).

We question how these conclusions can be reached.

Problems with Fish Habitat Assessment

The consultants indicate that "aquatic field studies" were conducted throughout the study area during the spring, summer and fall of 2008 and summer 2009. However it is unclear in the report exactly what kinds of studies were done when and where and to what level of detail they were carried out. In addition there are some contradictions in the presentation of the results that cause us to question some of the conclusions reached.

The kinds of aquatic studies purportedly conducted include: detailed fish habitat assessments (including riparian area assessment, stream morphology - percent pool/riffle/run/glide, benthic substrate composition, and habitat complexity), estimates of rates of flow, water quality (temperature, pH, dissolved oxygen, conductivity) and fish presence/absence. Hand-drawn site sketches of relevant fish habitat characteristics were apparently made and photographs taken at each site. However, there is absolutely no way for an independent observer or researcher to know what the site conditions were at any of the identified sampling locations because none of these data are presented in the report in a manner that would allow for independent review and assessment or comparison purposes.

The only actual hard data presented in the report are "fish community catch" data gathered sometime in 2008 and "benthic community results (including taxonomic analysis)" based on sampling done in the summer of 2009. No sampling dates are given nor is there any mention of repeat samplings (other than replicate samples taken at the benthic invertebrate sampling locations). Further, none of the numbers presented in any of the data tables (Appendix B – Aquatic Resources) represent mean values. From this one must assume these data represent the results of only one-time sampling events. Typical data like estimates of catch per unit effort estimates of abundance in terms of fish biomass per square metre are also not included. Only cursory references are made in the text and/or data tables as to actual site conditions at the time of sampling (e.g. "dry"). None of the data recorded on the "habitat assessment forms" are presented. Nor are any of the site specific field notes, diagrams or photographs.

This makes it impossible to verify or even ground-truth any of the assertions made or conclusions reached in the body of the report. Therefore, our observations can only be made on the basis of the available information and our understanding of the science around fish habitat assessment work.

Assessment of Fish Habitat in the Mainstem of the Pine River

Of greatest concern and with respect to the fish habitat assessment generally, is that the consultants conclude that an approximate 1500 m section of the upper reaches of the Pine River running through that portion of the proposed licence areas designated "NW" and "Central Operating Area" on Figure 1.1 and nominally described as reaches P-3 and P-4 and portion of the river called a "Landscape Feature" on Figure 3.1 should be classified as either "indirect fish habitat" or "not fish habitat" because these sections of the river contain only intermittent and/or seasonal flows.

We are at odds with these conclusions.

It is important to note that this section of the Pine River will be destroyed if the project is to proceed as planned and it is imperative that thorough and correct assessments of the fish habitat values in this section of the river be conducted before a decision is made. We feel this was not done.

We must point out at this point that standard fish habitat inventory procedures for the purposes of ruling out the absence of fish and/or determining the quality and extent of fish habitat dictate that such determinations must be based on data collected over a suitable period of time and one cannot not

simply rely on single site surveys and/or proxy measures (such as stream gradient or other physical features or one-time observations of site conditions) to make these decisions. In order to reach sound and valid conclusions, surveys should be done several times throughout the year at different flows and different times in the target species life history cycle.

The fact that a section of stream may be temporarily dry at certain times of the year does not rule that section of stream out as viable, productive fish habitat at other times of the year.

It would appear that section of the Pine River in question was only minimally surveyed by the consultants and it would appear that information presented concerning some of the reported site conditions at the time of these surveys is conflicting and may be at odds with the final conclusions reached.

Conflicting Information Regarding Site Conditions in the Pine River Mainstem at Time of Sampling

According to the Stantec report there was sufficient water in the channel throughout this section of the river during the summer of 2009 (when stream flows would be expected to be low) to conduct benthic invertebrate sampling at seven of ten sampling locations, three of which are directly relevant to the section of the Pine River in question (See Figures 3.1 and 5.1 - Surface water sampling sites SW5, SW12 and SW11on the Pine River).

To wit: the consultant reports (see Page 3.6 – Benthic Invertebrates) that for the purposes of conducting benthic invertebrate analysis:

> "*Ten benthic Monitoring stations were identified coinciding with Genivar's surface water stations (i.e. stations DB6, SW5, SW6, SW7, SW8, SW11, SW12, SW14, SW15, and SW19).* ***Based on the shallow, cobble-based habitats, a Surber sampler was utilized; the exception was at stations DB6, SW6 and SW15 where conditions were dry and were not amenable to sampling***." (Emphasis added)

This information suggests that the key relevant sampling sites SW5, SW12 and SW11, all situated in the most imperiled portion of the river were all wetted at the time benthic invertebrate sampling was conducted. However, in the benthic invertebrate data tables presented in the report (and elsewhere in the report – see Page 5.9 – description of reach P5) the consultant reports that site SW12 (situated on the section of the river running through the proposed licence area and described in the report as a "Landscape Feature"), was "dry" (see also Appendix B- Aquatic Resources).

Further, there is a notation in the report that a surface water monitoring station in the area situated immediately at the edge of the proposed licence boundary to the west northwest (Surface water sampling site SW5 on Figure 3.1) indicates the presence of water on a permanent basis at this location (see pages 5.4 – Hydrologic monitoring and 5.7 – Description of Reach P-4).

Also, in their description of the relevant stream reaches in this section of the river during the study the consultant refers to "observable flows" in reach P-3 and refers to "morphology and flow characteristics" in reach P-4 (see Page 5.7 of the report) within 250 metres downstream of 20th Sideroad. However, in the fish sampling data tables provided in Appendix B (Tables B-1 and B-2) the consultant reports these stream sections were "dry", suggesting there was no flow at all, and as a result there are no fish sampling done.

Unfortunately, there is there is no way of knowing when the observations were made by the fish habitat assessment field sampling crew because the relevant data are not presented. But taken together, these comments all strongly suggest that this section of the Pine River actually contained water at the times it was surveyed yet the ultimate conclusion reached is that these sections of the river are either not fish habitat, or provide only "indirect" fish habitat because they are either dry or only seasonally wetted.

In fact, on page 46 of Volume 2 of the proponent's Hydrolgeologic and Hydrologic Assessment Report (Genivar Inc., 2011) it states that:

> "*Observations for the agricultural drains upstream of station SW5 from September 2008 through July 2010 indicate either ponded or flowing water .... These observations support that* ***surface water flow at station SW5 was continuous during the monitoring period***." (Emphasis added)

[Surface water sampling site SW5 lies within reaches P-3 to P-4 see Figure 3.1]

If this was the case, why was this section of the river not sampled for fish?

On the basis of these direct contradictions we would argue that the situation warrants further investigation and we do not accept the consultant's conclusions regarding fish habitat in this section of the river.

Section of the Pine River Described as a "Landscape Feature"

There is virtually no information given at all in this study about that section of the Pine River that runs between reaches P-4 and P-5 (identified only as the "Landscape feature surveyed (Not Fish Habitat)" on Figure 3.1).

Based on the limited information presented, all that we can ascertain is that at some time during the study, a single site within this section of the river was sampled for benthic invertebrates and, according to the narrative provided in the report it may have been wetted at the time. Other than that, all that we know is the consultant has concluded that "*the watercourse in the proposed licence area does not support direct fish habitat*." (See paragraph 2 on Page 5.8)

This seems rather odd considering that this particular portion of the river is really the only watercourse that flows through the proposed licence area and would be directly affected by the project. If anything, for this reason alone, one would expect that this particular section of the river would be subject to the most thorough investigation to ascertain its fish habitat and wildlife habitat attributes. But, it has the least amount of information on these counts.

This part of the river is situated downslope of a rather large upstream wetland complex that is known to be fish habitat, flows through some of the least disturbed portions of the landscape remaining in this area, has defined channels that can be observed on satellite photos (egg on Google Earth) and includes lengthy stretches of with relatively intact riparian areas (see figures 5.4b and 5.4 c, particularly the latter of the two).

Considering the fact that this is actually a section of the mainstem arm of the Pine River that has been flowing through the area for centuries, one would expect to find at least some significant fish habitat features within this section of the river such as pools and log jams created by input of course woody debris from the adjacent riparian zones. It matters not that they were dry at the time. In addition, because the area downstream of the wetlands is at a lower elevation and is apparently fed by groundwater during low flow periods, one would reasonably expect to find scattered pools of groundwater in low lying areas within in this reach that could likely support and sustain fish populations during low flow periods. In fact, Genivar (2011 – volume 2) reports the presence of seeps and springs in this channel just downstream of surface water station (SW12) which is located in the middle of this section of the river.

However, it would seem that this area was not surveyed at all for fish and/or fish habitat because there are no data whatsoever presented for this section of the river. This, in our opinion, is a rather egregious oversight considering that impacts to natural features such as fish habitat may have some relevance in the decision making process for this project. It is impossible to make an informed decision in the absence of information.

Discrepancies in the assessment of the value of the Pine River Headwaters Wetland Complex

The portion of the Pine River that flows through the proposed licence area is fed, in part, by a large wetland complex situated upstream of 20th Sideroad and by additional inputs from runoff from snowmelt and precipitation on surrounding agricultural lands throughout the year (there are numerous swales and drainage ditches that may contribute water to this section of the river).

However, there appears to be conflicting information about the nature and value of the contribution of flows from the upstream wetland complex and the value of this area as fish habitat as posited by Stantec.

Stantec acknowledges in its report that Pine River Headwater Wetlands Complex, situated immediately upstream of the proposed licence area, is a relatively large wetland area with some representation of natural features and functions **including fish habitat** (emphasis mine – see page 5.6 of the Stantec report).

However, the consultant goes on to suggest that the wetland is characterized by intermittent flows and that background fish community data from the Nottawasaga Valley Conservation Authority's (NVCA) 2007 Pine River Subwatershed Report Card report card indicates that the Pine River Headwater wetland complex only supports warm water baitfish (see discussion on page 5.6 – Pine River Headwaters Wetland Complex). Stantec goes onto assert that water quality in the wetland is poor, that the quality of fish habitat is low to non-existent and that the benthic community is indicative of a stressed environment (see page 5.6).

All of this is based on very limited field work at two sampling locations (DB6 and SW5) and, apparently, discussions with the NCVA.

However, the NVCA report card does not even mention the terms "warm" or "baitfish". In fact, the report card actually says "groundwater discharge from other wetlands – such as the Pine River headwaters – **maintains cold stream flows that support trout** (emphasis added)." In addition the DRAFT NVCA Groundwater Management Plan Version 5 Dated: November 3, 2009 states: "These headwater areas [including the Pine Headwaters] generally support a significant groundwater

recharge/discharge cycle and **supports coldwater fisheries habitats supporting native brook trout**." No mention is made at all of warm waters or warm water baitfish.

Also, it should be pointed out that surface water temperatures at surface water monitoring station SW5 (just downstream of the wetland complex) seldom exceeded 15°C at any time throughout the year (Genivar 2011 Volume 4). This is hardly indicative of a stressed, warm water environment.

Despite these important pieces of information the consultant essentially characterizes the entire headwater wetland area upstream of the proposed project area as being of poor water quality and capable of only supporting coarse, warm water baitfish and the area is described in Figure 6.1 of the report only as an area that "supports fish habitat".

We question these assertions and suggest that further field work is necessary to accurately assess and determine the true value of these wetlands to the upper Pine River and their value as fish habitat generally.

That being said it is worthy to note that the NCVA, an organization that has the environment and the public interest at heart, recommends the following local actions are needed to improve conditions within the upper Pine River watershed:

- Protect and restore forest and wetland cover, stream banks and shorelines to maintain and enhance natural habitats and corridors;
- Restore forest and meadow cover next to wetlands and streams to improve wildlife habitat and stream/wetland health;
- Manage plantations with a goal of restoring native forest cover over time;
- Work with landowners to reduce impacts of on-stream ponds (Escarpment zone and Lisle Creek), and shoreline/stream bank erosion; and,
- Work with landowners and municipalities to manage municipal drains in headwaters to maximize natural function

The proposed project seems to be directly at odds with these recommendations.

Final Remarks Regarding the Fish Habitat Assessment and Impact Statement Prepared by Stantec

It would appear that based on historical information provided by the NVCA, and supported, in part, by some of the information provided by Stantec in this report, that there is an extensive area of fish habitat (quite possibly even supporting coldwater fish species like trout) in the area above the proposed licence area and below it but, according to the Stantec report, not through it.

In our opinion, this seems to be a rather unreasonable and illogical conclusion.

And the intimation in the report is that because there is no "direct" fish habitat in this area (between the Pine River headwater wetland complex and site P-5) there will essentially be no adverse impact to fish habitat as a result of development of this quarry (See Section 8.1 on page 8.1 and "Net Impacts" on Page 10.2).

This conclusion also appears rather difficult to support.

The Federal Fisheries Act, Definition of Fish Habitat and the Canadian Environmental Assessment Act

Under the federal *Fisheries Act*, fish habitat is protected (pursuant to Section 35) and defined as:

> "Spawning grounds and nursery, rearing, **food supply, and migration areas on which fish depend directly or indirectly** in order to carry out their life processes." (Emphasis added)

By their own admission Stantec argues that reaches P-3, P-4 and P-5 of the Pine River (sections of the river that flows through the proposed project area) are, at the very least, **indirect fish habitats** (emphasis added; See pages 5.7 – 5.9).

Stantec further argues that that the reach of the river defined as a "Landscape Feature" (that section of the river between reaches P-4 and P-5) is not fish habitat. However, there is absolutely no valid information or proof provided in this report to substantiate this claim.

We would argue that in the absence of any scientific information to the contrary, that section of the river between reaches P-4 and P-5 should be also be considered to be fish habitat (either direct or indirect).

The evidence shows that water does flow through this section of the river at certain times of the year, by virtue of the fact that even the consultant calls stream flows through this reach intermittent and/or seasonal (how often and how much is not clear) and, on that basis alone, this section of the river would provide allochthonous and autochthonous inputs of flows, nutrients, and food (in the form of benthic invertebrates and leaf litter etc…) to downstream areas. It may also provide an upstream or downstream migration corridor for fish at certain times of the year.

Therefore, it is our contention that the entire length of the Pine River flowing through the proposed licence area should be considered to be fish habitat and that development of this quarry in the manner proposed would result in the loss of approximately 1500 linear metres of fish habitat.

We believe that an impact of this magnitude would more than satisfy the definition of harmful alteration, disruption or destruction (HADD) of fish habitat as outlined in section 35(1) of the federal *Fisheries Act* (F.A.) and, as such, in order for this project to proceed, the proponent, Highlands Companies, would likely require a section 35(2) F.A. authorization.

Issuance of a section 35(2) authorization to create a HADD should trigger a federal Environmental Assessment pursuant to the *Canadian Environmental Assessment Act* (CEAA), and given the sheer scope of this project the ensuing EA would likely be a Comprehensive level assessment.

Threatened and Endangered Species

Another matter we would like to address is that Bobolink were observed in the study area and in the proposed licence area during breeding bird surveys carried out in the area in 2008.

At the time of the survey, Bobolink were not officially designated as threatened or endangered under provincial or federal legislation so the consultant did not even deign to assess the habitats in which these birds were observed for suitability (for either foraging, breeding or refuge – see comment on

this on Page 6.2 – paragraph 2). However, Bobolink were subsequently listed as "Threatened" under the Ontario Endangered Species Act in September 2010.

It is interesting to note that in the report the consultant asserts that (with respect numbers of Bobolink observed), "*These are relatively low numbers for Bobolink and reflect limited habitat in the Study area*" (see Page 5.16). However, since no real attempt was made at all to quantify Bobolink habitat, it is impossible to tell if the low numbers are a result of the fact that the bird's existence is threatened due to habitat loss in the area or that the low numbers are actually a result of limitations in the amount of habitat the might otherwise utilize or occupy.

Despite not having done any Bobolink habitat surveys in the area, the consultant now, almost 3 years later (the breeding bird surveys were done in June 2008), makes broad general statements in the report that Bobolink habitat is "**limited to non-existent inside the proposed licence area** (Emphasis added – see page 6.2)".

This is a difficult statement to support without having conducted the appropriate studies. We point out that in earlier on the report the consultant states: "They [Bobolinks] were observed throughout the study area **where appropriate habitat occurred"** (emphasis added – see page 5.18), so we can at least be certain that there is Bobolink habitat in the area. Just how much and where it is located remains to be determined.

As far as we know, neither the consultant nor the company have made any attempt as yet to re-survey the project area over the past 6 months (since Bobolink were listed by CASSARO) to categorically rule out the presence of Bobolink habitats (this could easily be done at the most basic level simply, interviewing local residents, by assessing local land use patterns and by examining existing landform features to see if they might even provide the basic needs for this bird). Further as far as we can tell, there is no plan of action in place to deal with this critical matter despite the fact that breeding season is rapidly approaching. If there was a plan of action, one would expect that this would be freely and publicly available and announced.

One of the recommendations made in the Stantec report is that the Highlands Companies conduct additional Bobolink breeding surveys in 2011, map the locations and provide detailed habitat descriptions for any areas where Bobolink are observed.

We agree that, at a minimum, this study should be undertaken before any permits or approvals for this project are issued.

Henslow's Sparrow is a bird that is listed both provincially (COSSARO) and federally (SARA) as an endangered species and is known to occur in the study area. In fact, the federal SARA Recovery Strategy for the Henslow's Sparrow identifies the Dufferin County area (in which the project is proposed) as one of the "most probable" known breeding locations for this bird in Canada. However, in order to determine whether this rare bird even existed within the study area, all the consultant did was to go into the field on two separate days in June of 2008 and broadcast a recorded song for at most 6 minutes at a few locations. Needless to say they did not find any of these birds during these brief surveys.

A 6-minute survey of this nature might be satisfactory if one is in an aviary containing the target species or in an area known to be rife with the target species but in an area where the target species is

likely to be rare (i.e. endangered), one would expect a greater level of effort. In British Columbia, field surveys to assess the presence of endangered species like the Spotted Owl are often carried out for weeks at a time, for several hours a day, and even then it is rare to encounter these birds.

Summary and Conclusions

The issues outlined in this letter represent only a fraction of the possible issues that can and should be raised about this quality of this environmental study and impact assessment.

There are clearly issues related to the assessment of fish and wildlife habitat values that need to be resolved before a decision is made as to whether this project should proceed as planned.

The consultants assert that a comprehensive field work program was developed, to wit:

> "*This study included extensive field sampling and monitoring of the study area to create a comprehensive characterization of the Study area with regards to natural features and functions*."

We argue otherwise. The evidence is in the report itself. Field programs were rudimentary at best and involved only limited amounts of time spent in the field.

Consider the level of effort expended to assess presence and/or absence of fish and wildlife species throughout the study area, including threatened and endangered species. In some cases, no attempts were made at all to sample for fish even though the areas were know to be fish habitat at some level. The level of effort expended to assess the presence of threatened and endangered birds amounted to only a few field visits where taped calls of birds were played for only 6 minutes at a time! Surveys for amphibians involved roadside stops and listening for only 3 minutes.

This does not represent comprehensive environmental assessment procedures by current standards or bet practices.

Finally, the consultants conclude that the proposed project will have no negative impacts on fish habitat and will allow for improvement in the diversity, connectivity and function of the natural heritage systems in the area including linkages between natural heritage features, surface water features and groundwater features and long term increase in the quality and diversity of wildlife habitat associated with the agricultural landscape.

We question this conclusion. How can one assume that a quarry of this magnitude will improve biodiversity, connectivity and function of the natural heritage system when it will result in the removal of key habitat features like swales, valleys, riparian areas, surface water features, and forested areas and interrupt critical groundwater flows that feed the ecosystem?

The study and the report provide no basis on which to base these claims nor is it readily apparent on which bases anyone can support such assertions.

This quarry will result in a uniform disturbed environment; a vast quarry floor of exposed dolomite containing no natural features, no groundwater infiltration, no soil, and no vegetation. On this basis

alone, it is not possible to even conceive how this kind of project will result in an increase in the quality and biodiversity of wildlife habitat in this area.

In the interests of the public and the environment, we urge the precautionary approach be undertaken in deciding on this matter. We further ask that the Ministry of Natural Resources also consider the value of natural capital in maintaining functional ecosystems and not rush to hasty decisions, in short, the David Suzuki Foundation objects to the licencing of this mine without allowing further studies, review and public debate.

To re-iterate, we believe that the technical report and the impact assessment are rudimentary at best and incomplete where it comes to assessment of fish habitat values in both the study area and the proposed license area and that these studies are also incomplete where it comes to the assessment of potential impacts on a Committee on the Status of Species at Risk in Ontario (CASSARO) listed species, the threatened Bobolink (*Dolichonyx oryzivorus*), that is known to reside in the study area and has been observed foraging in the proposed license area, and provincially (CASSARO) and federally (SARA – *Species at Risk Act*) listed species such as the Henslow's sparrow (*Ammodramus henslowii*) that is also known to occur in the study area.

We specifically request that this project not be approved unless and until a thorough, meaningful and comprehensive environmental assessment is undertaken to address these and other short comings.

We further request that this project be referred to the Canadian Environmental Assessment Agency, Fisheries and Oceans Canada and Environment Canada for their review and consideration under the federal *Fisheries Act*, the *Species at Risk Act*, the Migratory Birds Act and the *Canadian Environmental Assessment Act*, and any other pertinent federal legislation.

We would like to reserve the right to provide further comment on other aspects of this environmental assessment as time permits.

We also request a detailed response to our concerns as expressed in this letter and we respectfully request that the concerns of other individuals and organizations who have commented on this project are likewise given due consideration and are responded to.

Sincerely,

John H. Werring. M.Sc., R.P. Bio
Aquatic Habitat Specialist
Marine and Freshwater Conservation Program
David Suzuki Foundation

Cc: Fisheries and Oceans Canada, Fish Habitat Management Program – Ontario Great Lakes Area

Christine Loth, Director General, Ecosystem Programs Policy and Program Policy, Fisheries and Oceans Canada

Patrice LeBlanc, Director, Habitat Protection, Fisheries and Oceans Canada, Ottawa