

This is Exhibit 4 referred to in the Affidavit of
Peter Walkers made before
me this 31 day of July, 2013.

Peggy
A Commissioner for taking Affidavits
for British Columbia



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MEMORANDUM

To: Ktunaxa Nation Council & British Columbia By: email
Subject: **Review of Information Adequacy re Ktunaxa Issues Arising from
Proposed Jumbo Project**
Date: July 21, 2006

Please find attached a table which summarizes the issues arising from the EA review and the draft Master Plan for the Jumbo Glacier resort which will require discussion with either BC and/or JGR to address.

As per the terms of reference for this work, I have noted where information concerning the potential impact is readily available or where additional information may be required to properly inform the substance of the consultation to be undertaken. Those issues which I believe to be the subject of discussion between Ktunaxa and British Columbia are shaded in grey—the unshaded issues should be the subject of talks with the proponent as part of the IMBA negotiations.

The purpose of the table is to identify those topics which need to be discussed in the government-to-government discussions, and to identify for possible further investigation those topics where information necessary to complete proper consultation is deficient. The table should therefore be reviewed by the Parties prior to finalizing the Consultation Agreement to ensure that the issues are properly identified and to provide a means for completing the information where required as part of the consultation process.

To summarize, further information in the following areas may be required to properly inform the consultation:

- contemporary land and resource use by Ktunaxa of the Jumbo valley (has significance for a number of impacts identified under 'land use' and 'wildlife')
- the effectiveness of proposed mitigation measures to reduce disturbance, displacement and mortality impacts to key wildlife populations from road traffic on access road;
- project-induced socio-economic effects to regional economy, land use, cost of living, etc which may affect Ktunaxa well-being.

T. D. SENSE

Information Status Report re Ktunaxa Issues – Jumbo Glacier Resort Project

Theme	Ktunaxa Issue	Adequacy of Information about the Impact	Proposed Means of Addressing the Issue		Comments
			Proponent Measures	Crown Measures	
Land Use Impacts	<ul style="list-style-type: none"> Jumbo Valley is area of cultural significance has sacred values 	<ul style="list-style-type: none"> cultural impacts remain unassessed 	<ul style="list-style-type: none"> none 	<ul style="list-style-type: none"> none 	<ul style="list-style-type: none"> traditional land use study does not provide adequate info to assess effect
	<ul style="list-style-type: none"> Increased use of Jumbo valley & valley resources by non-Ktunaxa 	<ul style="list-style-type: none"> impacts remain unassessed 	<ul style="list-style-type: none"> CRA to control unauthorized use of portions of upper valley 	<ul style="list-style-type: none"> none 	<ul style="list-style-type: none"> traditional land use study does not provide adequate info to assess effect
	<ul style="list-style-type: none"> displacement of subsistence activities (hunting, plant gathering, etc) within and around CRA (and other resort tenures) and adjacent to road (hunting limitations) 	<ul style="list-style-type: none"> Not properly assessed (TLU study not adequate) 	<ul style="list-style-type: none"> request BC to establish a 1/2 km firearm closure buffer around CRA CRA footprint reduction by >50% 	<ul style="list-style-type: none"> none 	<ul style="list-style-type: none"> proposed mitigation measures by IGR do not effectively address KNC displacement impacts; need discussion on further mitigation/compensation with BC
	<ul style="list-style-type: none"> Increased use of Jumbo Pass 	<ul style="list-style-type: none"> Information adequate to understand impact 	<ul style="list-style-type: none"> reduce public access by discouraging employee & visitor use of Jumbo Pass 	<ul style="list-style-type: none"> none 	<ul style="list-style-type: none"> needs discussion to determine significance to KNC; possibly additional measures needed to control public use of Jumbo Pass
	<ul style="list-style-type: none"> visual impact of project on Ktunaxa users of Jumbo Pass 	<ul style="list-style-type: none"> Information adequate to understand impact 	<ul style="list-style-type: none"> visual impact measures proposed for project design; proponent's modeling indicates no visual impact of project on Jumbo 	<ul style="list-style-type: none"> none 	
	<ul style="list-style-type: none"> CRA footprint too large 		<ul style="list-style-type: none"> CRA has been reduced 40%; 	<ul style="list-style-type: none"> none 	<ul style="list-style-type: none"> Marty Osberg to supply history of project size reductions since original proposal

Theme	Ktunaxa Issue	Adequacy of Information about the Impact	Proposed Means of Addressing the Issue		Comments
			Proponent Measures	Crown Measures	
	• prejudices treaty land selection process	• Impact is 104 ha transferred in Fee simple from Crown to JGR; 5900 ha transferred by lease	• none proposed	• none	• Needs discussion with Crown
	• trail development (particularly Toby Ck & Earl Ck trail)	• JGR proposes only one trail (to Glacier Dome from resort)	• <i>Trail Mgt Plan</i> for location, construction, & use	• none	• may need additional measures to protect against incremental new trail development (IMBA?); options should also be discussed with BC
	• wildfire risk	• information available	• <i>Fire Prevention Plan</i> • connect avalanche chutes at bottom for clearing	• none	• needs review by KNC (IMBA)
Water Quality	• degradation of downstream water quality	• Sufficient information exists to document potential effect	• <i>Environmental Mgt Plans</i> to protect surface water quality include <ul style="list-style-type: none"> ◦ <i>Water Mgt</i> ◦ <i>Liquid Waste</i> ◦ <i>Non-Point source Waste Discharge Control</i> ◦ <i>Stormwater</i> ◦ <i>Sediment & Erosion Control</i> ◦ <i>Spill Contingency</i> • EIS to be done for municipal waste effluent regulation	• none	• <i>EMPs</i> need reviewing with proponent to ensure effectiveness, reporting of results, prescribed management action where required, etc. (IMBA)

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Water Supply	<ul style="list-style-type: none"> • water quantity and potential effects of groundwater extraction on Jumbo & Poby Ck stream flows and fish habitat 	<ul style="list-style-type: none"> • insufficient information exists to document potential effect 	<ul style="list-style-type: none"> • proponent contends no impact • additional baseline investigations of water supply 	<ul style="list-style-type: none"> • Proponent to conduct groundwater studies to prove water supply prior to construction • Groundwater r to be supplied via Water Utility 	<ul style="list-style-type: none"> • status of baseline studies & groundwater investigations to be reviewed with proponent & remaining issues to be resolved in IMBA • TOR for additional studies & monitoring program (fish) to be reviewed by KNC (via JGR or BC)
Archaeological Resources	<ul style="list-style-type: none"> • parts of the access road above Loby confluence have not been surveyed • Jumbo valley not comprehensively surveyed 	<ul style="list-style-type: none"> • Sufficient information exists to document potential effect 	<ul style="list-style-type: none"> • provisions of <i>Heritage Conservation Act</i> to apply • archaeological monitoring in areas of mod-high potential • independent expert to monitor road construction 	<ul style="list-style-type: none"> • <i>Heritage Conservation Act</i> protection 	<ul style="list-style-type: none"> • KNC need to have say in selecting archaeological consultant; involvement in conduct of the work; stop-work authority • can address issue through IMBA • discuss application & enforcement issues with BC

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Wildlife	<ul style="list-style-type: none"> Grizzly bear habitat fragmentation & effectiveness 	<ul style="list-style-type: none"> Information adequate to confirm that no net impact is not possible Proctor states that central location of project poses a long-term risk to the north-south connectivity and this has not been addressed; Removal of west side lifts is insufficient to mitigate the effect 	<ul style="list-style-type: none"> removal of lifts on west side of valley GB Management Committee to be established Grizzly Bear Management Plan by proponent Bear Smart Community Programs monitoring program 	<ul style="list-style-type: none"> Not clear what action BC will take, if any 	<ul style="list-style-type: none"> KNC has proposed review of all outstanding wildlife issues by panel of jointly-appointed experts; separate panel for grizzly specifically road closures & reduction in hunting quotas identified as potential mitigation but would be unpopular and difficult to implement so are not being proposed monitoring programs not really effective (Proctor) cannot rely on adaptive management for habitat fragmentation effects KNC also proposes joint BC-KNC development of Adaptive Management plan, to incorporate Ktunaxa knowledge as well as western science (Compass Resource Management undertaking phase 1 through Ktunaxa Fish and Wildlife Committee)

Theme	Ktunaxa Issue	Adequacy of Information about the Impact	Proposed Means of Addressing the Issue		Comments
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	<ul style="list-style-type: none"> • mountain goat displacement from winter habitat 	<ul style="list-style-type: none"> • Information adequate to understand impact 	<ul style="list-style-type: none"> • No mitigation proposed; JGR concludes impact insignificant 	<ul style="list-style-type: none"> • none 	<ul style="list-style-type: none"> • Tierra concludes goats will be displaced from winter habitat in J. Valley • impact is 'significant' • some mitigation possible • needs discussion with BC
	<ul style="list-style-type: none"> • displacement of wildlife from increased traffic 	<ul style="list-style-type: none"> • Information adequate to understand impact 	<ul style="list-style-type: none"> • No mitigation proposed (impact predicted to be minimal) 	<ul style="list-style-type: none"> • none 	<ul style="list-style-type: none"> • Monitoring program required; needs additional baseline work to support; plus mitigation measures (for IMBA?)
	<ul style="list-style-type: none"> • direct & indirect mortality from road use for moose, elk, whitetail and mule deer 	<ul style="list-style-type: none"> • extent of impact not adequately assessed; • no information on mitigation effectiveness 	<ul style="list-style-type: none"> • Snow-free crossing areas to be created during winter • discouraging visitors from stopping to view wildlife 	<ul style="list-style-type: none"> • MoTH will establish speed limits on road 	<ul style="list-style-type: none"> • Tierra concludes 100% mitigation not possible; additional mitigation needs to be explored with BC • may need more info re mitigation effectiveness

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	<ul style="list-style-type: none"> increased helicopter disturbance to wildlife 	<ul style="list-style-type: none"> extent of impact not adequately assessed 	<ul style="list-style-type: none"> proponent intends to limit or place restrictions on helicopter activity originating in core area 	<ul style="list-style-type: none"> none 	<ul style="list-style-type: none"> Proponent ability to restrict helicopter activity very limited; helicopter access to adjacent undisturbed areas might increase due to project; issues needs to be discussed
	<ul style="list-style-type: none"> displacement of ungulates from habitat along road corridor, esp mountain caribou 	<ul style="list-style-type: none"> extent of impact not adequately assessed 	<ul style="list-style-type: none"> No mitigation proposed 	<ul style="list-style-type: none"> none 	<ul style="list-style-type: none"> Possible mitigation needs to be explored with BC any further isolation of threatened caribou populations in Columbia mountains cannot be mitigated need to discuss with BC
	<ul style="list-style-type: none"> displacement of wolverine from denning habitat or movement corridors 	<ul style="list-style-type: none"> extent of impact not adequately assessed 	<ul style="list-style-type: none"> Avoid activity around an active den 	<ul style="list-style-type: none"> none 	<ul style="list-style-type: none"> Tierra states potential impact underestimated & that proposed mitigation not relevant; mitigation not possible; wolverines will be displaced from valley resulting in reduction & fragmentation of population need to discuss with BC
	<ul style="list-style-type: none"> species at risk (least chipmunk, western toad, peregrine falcon, Swainson's Hawk) 	<ul style="list-style-type: none"> extent of impact not adequately assessed 	<ul style="list-style-type: none"> Further studies for Least chipmunk after approval Western toad impacts not predicted; no mitigation proposed 	<ul style="list-style-type: none"> none 	<ul style="list-style-type: none"> Tierra states that status of Least chipmunk populations needs to be known; cannot determine if impacts will be mitigable issue of species at risk & mitigating impacts needs to

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	<ul style="list-style-type: none"> • loss of connectivity to adjacent habitats 	<ul style="list-style-type: none"> • information about connective habitat and potential movement corridors appears adequate; impacts not adequately understood 	<ul style="list-style-type: none"> • Removal of ski lifts from immediate area below Jumbo Pass to mitigate impacts 	<ul style="list-style-type: none"> • none 	<ul style="list-style-type: none"> • Tierra states that both east-west & north-south connectivity will be impaired, and that mitigation will only be superficial • needs to be discussed with BC
	<ul style="list-style-type: none"> • birds (raptors, nesting birds, cavity nesters, specialist birds) would lose habitat or be disturbed resulting in displacement • increase in undesirable species (e.g. raven) 	<ul style="list-style-type: none"> • extent of impact not adequately assessed • survey methodology questionable 	<ul style="list-style-type: none"> • 150m buffers proposed around raptor nests • effective waste management in resort area to control pest species 	<ul style="list-style-type: none"> • none 	<ul style="list-style-type: none"> • Tierra states surveys inadequate; proposed mitigation inadequate; human disturbance impacts not mitigable for Swainson's Hawk and Peregrine • impacts to ptarmigan not assessed • need to review with BC
Fish	<ul style="list-style-type: none"> • Westslope cutthroat & bull trout habitat loss 	<ul style="list-style-type: none"> • information not complete to determine impact 	<ul style="list-style-type: none"> • Provide fish passage on all road stream crossings <20% • adopt regulatory requirements for stream crossings • riparian buffers • elimination of bridges 	<ul style="list-style-type: none"> • none 	<ul style="list-style-type: none"> • KNC states that additional baseline inventory required prior to final design & construction; then should be part of legal agreement (IMBA?) • relocation of present road grade may be required as identified by new baseline work

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Vegetation	<ul style="list-style-type: none"> invasion of weed species to Jumbo Valley 	<ul style="list-style-type: none"> information not available to quantify effect 	<ul style="list-style-type: none"> Vegetation Mgt Plan outlines a number of measures to be taken to mitigate impact 	<ul style="list-style-type: none"> none 	<ul style="list-style-type: none"> Need to review measures with the proponent (KKTC July 2004 report identifies measures that need to be considered)
	<ul style="list-style-type: none"> use of pesticides on private lots 	<ul style="list-style-type: none"> information available 	<ul style="list-style-type: none"> ban on pesticides 	<ul style="list-style-type: none"> none 	<ul style="list-style-type: none"> discuss with BC the legal status of pesticide bans on private land; are other options needed?
Greenhouse Gas Emissions	<ul style="list-style-type: none"> increased contributions to greenhouse gases 	<ul style="list-style-type: none"> information available 	<ul style="list-style-type: none"> none proposed, JGR contends minimal contributions 	<ul style="list-style-type: none"> none 	<ul style="list-style-type: none"> options could be discussed with BC?

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Socio-economic	<ul style="list-style-type: none"> No clear economic benefits to KNC members or communities 	<ul style="list-style-type: none"> Information adequate to understand issue 	<ul style="list-style-type: none"> Employee Equity Program with 5% aboriginal employment as goal education/training support programs in proportion to each phase of project reasonable efforts toward First Nation sub-contracts communication to other third parties re FN employment objectives provision of services agreements with FNs FN interpretive centre & env monitoring station land & assistance to FN for interpretive centre and condotel prepared to negotiate econ benefits package proportionate to each phase of project 	<ul style="list-style-type: none"> none 	<ul style="list-style-type: none"> For discussion with proponent (IMBA) revenue-sharing with BC
	<ul style="list-style-type: none"> Social & cultural impacts to KNC community interests 	<ul style="list-style-type: none"> Qualitative evaluation (Anielski) has been done; no quantitative analysis 	<ul style="list-style-type: none"> Dealt with through IMBA 	<ul style="list-style-type: none"> none 	<ul style="list-style-type: none"> For discussion with proponent (IMBA)

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	<ul style="list-style-type: none"> Induced Growth Effects On cost of living, income disparity & quality of life effects on housing, infrastructure density, traffic increase in Columbia Valley 	<ul style="list-style-type: none"> No analysis for induced growth effects on land use & socio-economic factors traffic study shows 'insignificant' impacts to region 	<ul style="list-style-type: none"> No mitigation proposed as JGR contends negligible impacts since project is small compared to regional economy 	<ul style="list-style-type: none"> none 	<ul style="list-style-type: none"> Significance of this issue is not identified; needs some independent assessment to determine if there will be significant adverse effects or not.
	<ul style="list-style-type: none"> Increased demand for land & resource tenures in Columbia Valley & adverse effects to KNC interests 	<ul style="list-style-type: none"> EA did not provide information, effect unknown 	<ul style="list-style-type: none"> No mitigation proposed as JGR contends negligible impacts since project is small compared to regional economy 	<ul style="list-style-type: none"> none 	<ul style="list-style-type: none"> Significance of this issue is not identified; needs some initial assessment to determine if there will be significant adverse effects or not.
Monitoring & Reporting	<ul style="list-style-type: none"> No involvement of KNC in design or operation of environmental monitoring programs no socio-economic monitoring program 	<ul style="list-style-type: none"> no information re socio-economic monitoring though is a commitment in <i>Project Report</i> 	<ul style="list-style-type: none"> KNC input on Environmental monitoring programs presumably done as part of <i>Master Plan</i> consultation 	<ul style="list-style-type: none"> none 	<ul style="list-style-type: none"> Need to review proposed monitoring programs & reporting procedures; & develop a role for KNC in conduct of the programs if desired need to be involved in designing and conducting socio-economic monitoring program; discuss with BC
Master Plan Development	<ul style="list-style-type: none"> No involvement of KNC in preparation of <i>Master Plan</i> 	<ul style="list-style-type: none"> Available information is adequate, except for KNC component 	<ul style="list-style-type: none"> Ktunaxa to be involved in <i>Master Plan</i> review to ensure interests are protected 	<ul style="list-style-type: none"> BC has required KNC participation as condition of <i>Certificate</i> 	<ul style="list-style-type: none"> Need to discuss how KNC can be involved in <i>Master Plan</i> development

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On-Going Governance	<ul style="list-style-type: none"> No acknowledged role for KNC in on-going management & development of the area. 	<ul style="list-style-type: none"> Issue not raised in EA or Master Plan; no information 	<ul style="list-style-type: none"> JGR proposes the creation of a Mountain Resort Municipality governed by a Board of Governors. The MRM would develop an Official Community Plan & establish a Comprehensive Development Zone for the future development of the project. 	<ul style="list-style-type: none"> none 	<ul style="list-style-type: none"> KNC's involvement in this governance structure should be an item for discussion with BC (& JGR)
Cumulative Effects Management	<ul style="list-style-type: none"> no mechanism for KNC involvement in management of cumulative effects (New land & resource tenures, & development in Jumbo Valley) 	<ul style="list-style-type: none"> information sufficient to understand impact 	<ul style="list-style-type: none"> none 	<ul style="list-style-type: none"> none 	<ul style="list-style-type: none"> KNC needs to negotiate 'cumulative impacts management agreement' with BC for any future development in Jumbo Valley;

First Nations Socio-Economic Assessment: Jumbo Glacier Resort Project *A Genuine Wealth Analysis*

Prepared for:

The

B.C. Environmental Assessment Office

Prepared by:

Mark Anielski, President
Heather Johannesen, Associate
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Final Report

December 16, 2003



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December 16, 2003

Alan Calder
Project Assessment Manager
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Dear Mr. Calder:

Final Report: First Nations Socio-Economic Assessment: Jumbo Glacier Resort Project

The purpose of our study was to conduct a First Nations socio-economic-cultural assessment to measure the socio-economic, ecological, archeological and traditional use (TUS) impacts (positive and negative) on contemporary and traditional First Nation uses and interests that may result from the proposed Jumbo Glacier Resort (JGR). This study is concerned specifically with the Columbia Lake Indian Band (CLIB) and the Shuswap Indian Band (SIB), who are member bands of the Ktunaxa/Kinbasket First Nations. The Ktunaxa/Kinbasket Tribal Council (KKTC) is the governing council that represents the interest of all five bands that make up the Ktunaxa Nation.

This study was conducted by Mark Anielski (President/CEO of Anielski Management Inc. and associates Heather Johannesen (ecological economist) and Shelagh Huston (ecological economist). Mark Anielski is an expert in performance measurement, quality of life assessments and socio-economic impact analysis having conducted numerous studies for both government, communities and business. Heather and Shelagh are both experts in ecological economic analysis.

Our study used the Genuine Wealth Accounting (GWA) model developed by Mark Anielski to identify and measure the socio-cultural-economic-ecological impacts of the proposed JGR on the values and well-being of the Ktunaxa Nation (specifically the Shuswap and Columbia Lake Indian bands which make up the Ktunaxa Nation). The GWA is a value-based integrated economic-social-environmental assessment tool for examining the current and future conditions of well-being (i.e. "wealth") or quality of life as a result of potential changes in economic, social and environmental pressures. The GWA helps communities, businesses and other organizations identify and align their core values and operating principles with the physical and monetary conditions of their key assets (human, social, natural, manufactured and financial assets). The GWA model is more comprehensive than conventional socio-economic assessment methods since it encompasses a broader array of well-being attributes that constitute the overall quality of life of a community.

The Genuine Wealth model was used to: 1) determine the values, operating principles, and well-being goals of the Columbia Lake, Shuswap and the other three bands that make up the Ktunaxa Nation and as they exist prior to any proposed development and 2) to determine how these values and well-being conditions (economic, social, and environmental) are expected to be impacted (both positively and negatively) by the proposed JGR from the perspective of the people of the Ktunaxa Nation. These impacts would include impacts on traditional use, archeological assets, general socio-economic well being, as well as on First Nation community well being (stresses, social cohesion, resilience and capacity).

Using socio-economic-environmental information contained in the JGR project description, the Pheidias Project Management Corp.'s (PPMC) preliminary Socio-economic and Market Analysis, socio-economic-cultural information provided by KKTC on traditional use, and qualitative impact analysis conducted through interviews with First Nation residents, we were able to complete a comprehensive "genuine wealth" (well-being) impact assessment of the proposed Resort.

We conducted a "genuine wealth" qualitative assessment of the range of First Nation values, with respect to the Jumbo Creek area and specifically the proposed Jumbo Glacier Resort. We received input from roughly 33 First Nation individuals including 21 phone/in-person interviews from a representative cross-section of the Ktunaxa Nation population (a sample size of roughly 2.9% of the Ktunaxa Nation population of 1,137 persons). Our sample size included band chiefs, band councillors, band members, elders, and youth from all five bands; the majority from the SIB and CLIBs. Interviews were conducted over the period September 15 to December 2, 2003.

In our interviews we asked two key questions: 1) What is most important to you and your community about the Jumbo Creek/Glacier area; and 2) How do you feel the proposed Jumbo Glacier Resort development will benefit or detract from your well-being or quality of life and that of your community? In addition to the First Nation interviews, we had lengthy discussions with Mr. Oberti and his team about the project specifications and expected impacts to First Nations and other stakeholders. This qualitative assessment provided our analysis with important subjective opinions and feelings towards the Jumbo area and about the positive and negative impacts of the development to their well-being.

We combined the qualitative impact analysis with available quantitative economic, social and environmental data on potential quantitative impacts of the proposed resort on First Nation well being, to form a "genuine wealth" impact analysis. Lack of concrete estimates of economic, social and environmental impacts limited our quantitative analysis. Moreover, existing socio-economic and environmental well being data was not as robust as we had hoped. Nevertheless, the combination of qualitative and quantitative impact analysis was, in our opinion, sufficient to complete our "genuine wealth" impact assessment for the First Nation community.

Using the Genuine Wealth process, the key values and issues of importance to First Nation people were identified. These guided us in identifying meaningful socio-cultural-economic indicators to measure the potential qualitative and quantitative impacts on First Nations well being.

As part of our values inventory, we examined the records of individual band (CLIB and SIB) and the Ktunaxa/Kinbasket Tribal Council (KKTC) debates and resolutions that were passed with respect to the proposed Jumbo Resort. We inquired with the KKTC the basis of their 1995 Tribal Council resolution opposing the proposed JGR and their sustained opposition. We then went further to survey the opinions of individual band members from both the Shuswap, Columbia Lake and other KKTC member bands to test the degree of opposition and support for the JGR, by explicitly inventorying the perceived potential impacts the project would have to their individual and community/tribal well-being. This provided us with the information necessary to complete our Genuine Wealth Accounting assessment of the potential the socio-cultural-economic-ecological impacts of the proposed JGR to First Nations.

Our analysis revealed a diversity of values and goals for socio-economic-cultural development amongst the five bands that make up the Ktunaxa Nation (represented by the KKTC). However, on the issue of the proposed JGR Positions there are clear positions. The Columbia Lake Indian Band (CLIB) stands firmly opposed to the JGR proposal, as does the KKTC (which speaks on behalf of all five member bands of the Ktunaxa Nation). The Shuswap Indian Band (SIB) appears to support the proposed development (at least the Shuswap Kinbasket Development Corp., which speaks on behalf of economic development for the Shuswap Band).

In 1995, in a strongly worded resolution, the KKTC (Tribal Council) rejected a proposed ski resort development in the Jumbo Valley as proposed by the proponent. That position, to the best of our knowledge, has not changed. Indeed, some of the key leaders in the Ktunaxa Nation, including their most important leaders, Chief's Sophie Pierre (St. Mary's Band) and Chief Mary Jimmy (Columbia Lake Band), remain opposed to any large scale development of the Jumbo Valley backcountry and *de facto* wilderness area. The values underlying these sentiments relate to the Ktunaxa Nation's sense of the sacredness of the land from a permanent development as the JGR represents. We have every reason to believe that the KKTC, acting as a government body on behalf of the 1,137 member Ktunaxa Nation, has made its decisions based on a critical and values-based assessment of the project's proponents must current proposal/offer. Our own Genuine Wealth Accounting (GWA) assessment simply confirms the strength of the opposition to the proposed development by providing an inventory of the First Nations values and potential well-being impacts through individual consultations.

In our interviews with a representative sample size of the Ktunaxa Nation, we found 17 out of 19 interviewees (or 90% of the sample) were strongly opposed to the proposed JGR and "unwilling to accept" any monetary or "economic" benefit for the right to develop the Jumbo area. The two exceptions were from the Shuswap Band, one the head of the Shuswap Kinbasket Development Corp. who has already entered into bilateral negotiations with the project proponent. In addition to the 19 interviewees, an additional 14 persons provided verbal input at the September 25, 2003 Ktunaxa Nation community meeting to discuss the potential impacts of the proposed development. All 14 were opposed to the project. This suggests that a total of 31 persons out of 33 who provided input (or 94%) were opposed to the proposed development.

Combining our own values/impact assessment from oral input and the KKTC resolution position the proposed development, suggest that regardless of the potential benefits outlined by the proponent, there is no "willingness to accept" any offer of development. From an economic analysis perspective, we have a situation where there no "price" at which a trade or transaction can be made between the proponent and the First Nations (notwithstanding the Shuswap Indian Band who appeal willing to negotiate). This is a highly unusual situation making conventional economic cost-benefit analysis inadequate as a tool for trade-off analysis.

Our findings are supported by the conclusions of the December 12, 2003 report *Traditional Use and Archaeological Overview of the Proposed Glacier Alpine Resort* by KKTC which concluded that "The proposed development is very intrusive and will thus severely degrade the context of these values [i.e. archaeological values]....[and] if allowed to proceed, is likely to damage many of the ecological values that the region's people cherish."

We find the strength of opposition to the project rather surprising given that the Ktunaxa Nation and the KKTC, as the governing body, have a history supporting progressive economic development in their community (e.g. St. Eugene Mission Resort). Moreover, they are not opposed to "front country" recreational and tourism development within their traditional territory (e.g. the KKTC did not oppose the expansion of Kimberly nor Fernie skill hills nor did it oppose the Kicking Horse Ski Resort development near Golden).

What the KKTC opposes is the permanent development (i.e. an alpine ski resort) in this particularly backcountry area of their traditional territory. The main reasons for this opposition

vary but can be summarized about perceived potential well-being impacts including, listed in no particular order:

- 1) Sacred/cultural values of the Jumbo Creek/Valley area, particularly the archaeological ethnic significance of the Jumbo Creek area to their ancestry;
- 2) Traditional use impacts including impacts on hunting, berry picking and other country food;
- 3) Wildlife impacts, particularly on grizzly bears, caribou, deer, furbearers, eagles, and other wildlife;
- 4) Limited economic benefits (employment, income, taxes) to First Nations people and
- 5) Inequitable distribution of socio-economic benefits both within the Nation (causing the erosion of social cohesion) and between the First Nation communities and other project beneficiaries who do not live in the community.

We found that many of these potential risks to their well-being issues could only be measured and evaluated through dialogue and oral input (interviews) in the absence of a solid statistical base-line to conduct more rigorous socio-economic profiling and analysis. We recognize that the absence of solid statistical data is a limitation to any socio-economic analysis, however, under the circumstances the Genuine Wealth Accounting model is an appropriate tool and process for determining well-being impacts of the project. Using dialogue as a process of soliciting values and conducting impact assessments is very much consistent with how First Nations (we used a similar process to development well-being indicators for the Inuit of Nunavut in 2002) make decisions as a community, so our process was an effective tool for conducting the impact assessment. The expression of subjective values in qualitative terms, must be honoured as much as statistical “objective” data. They reveal what economists call “intrinsic” or “non-market values” which can be expressed in non-monetary or monetary-equivalent (e.g. willingness to pay or willingness to accept) terms. These intrinsic values include such things as amenity, heritage, spiritual and existence values that generally do not reveal a commensurate monetary expression.

We believe we have provided an honest, transparent, fair and balanced “accounting” of the potential quality of life and well-being impacts of the Shuswap Indian Band and Columbia Lake Indian Band and the Ktunaxa Nation, overall that may result from the proposed JGR development. We acknowledge the shortcomings of our study and the limits of inadequate quantitative data to conduct a full Genuine Wealth Accounting of socio-economic and ecological well-being impact analysis. However, we are confident that our Genuine Wealth Accounting model was successful in soliciting at least expected well-being impacts directly from the First Nations people most likely impacted by the proposed JGR.

We conclude our report with a set of key observations and recommendations.

We welcome your review and comment on this our final report.

Sincerely



Mark Anielski
President and CEO
Anielski Management Inc. (AMI)

Cc: AMI Associates: Heather Johannesen & Shelagh Huston

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List of Abbreviations

CLIB	- Columbia Lake Indian Band
GRL	- Glacier Resorts Ltd.
GW	- Genuine Wealth
GWA	- Genuine Wealth Accounting
JGR	- Jumbo Glacier Resort
KKTC	- Ktunaxa/Kinbasket Tribal Council
MELP	- BC Ministry of Environment, Lands and Parks
PPMC	- Pheidias Project Management Corporation.
SIB	- Shuswap Indian Band

SKDC - Shuswap Kinbasket Development Corporation
TUIIA - Traditional Use Inventory and Impact Assessment
TUS - Traditional Use Site
WTA - Willingness to Accept
WTP - Willingness to Pay

1. Project Purpose

The purpose of this study is to conduct a First Nations socio-economic-cultural assessment to measure the socio-economic, ecological, archeological and traditional use (TUS) impacts, both positive and negative, on contemporary and traditional First Nation uses and interests that may result from the proposed Jumbo Glacier Resort (JGR). This study is concerned specifically with the Columbia Lake Indian Band (CLIB) and the Shuswap Indian Band (SIB).

While this study is concerned primarily with those First Nations which live closest to the proposed JGR, namely the Columbia Lake and Shuswap Indian Bands, we were notified early in the project by the Ktunaxa/Kinbasket Tribal Council (KKTC) that the area proposed for development is of common interest and territory of the entire Ktunaxa (*'tunaha'*) Nation: the SIB, the CLIB, the St. Mary's Indian Band, the Lower Kootenay Band and the Tobacco Plains Band. All five bands comprise a single and united Nation which is governed by the KKTC. The KKTC speaks for the people of all five bands of the Ktunaxa Nation with respects to issues of territory, treaty negotiations and land use development, which include the proposed Jumbo Glacier development.

The desired outcome of this study is to inform the project proponent's socio-economic impact assessment to be prepared for the British Columbia Environmental Assessment Office (EAO) about First Nations socio-economic, cultural, and environmental issues and potential impacts, both positive and negative, to community well being. These include traditional uses, assets of archaeological and culture significance, and other environmental and socio-economic assets. The study also concerns the potential distributional impacts of the proposed project in terms of who would benefit from employment, income and other benefits within the Ktunaxa Nation.

This First Nations socio-economic impact assessment was conducted in consultation with the KKTC, individual members of the five KKTC bands, and Mr. Oberto Oberti (President of Pheidias Project Management Corporation) and his team. The expectation is that First Nations socio-economic impact information will inform the overall project decision-making process. The First Nations socio-economic assessment documents clear linkages to archaeological, traditional use and general socioeconomic study information, as well as how this information has been considered and incorporated in the study.

The current status and progress of the proposed JGR is as follows. Pheidias Project Management Corporation (PPMC), the *Prime Consultant* to the JGR project's proponent Glacier Resorts Ltd. (GRL: the *Proponent*), proposes a four-season 6,250-bed-unit resort in the headwaters of the Jumbo Creek valley, located in the Purcell Mountains, approximately 55 km west of Invermere. The JGR Proponent filed an application for environmental assessment certification ("the Application") under the former Environmental Assessment Act, RSBC 1996, c.119, in June 1995. Public, First Nations and agency review of the application identified outstanding issues that need to be addressed in a Project Report. Issues which were determined to have been adequately addressed in the Application or to be beyond the scope of the EA review process were also identified. Since May 1998, when the Final Project Report Specifications were issued, the proponent has been working on preparing the outstanding information.

On December 30, 2002, the Jumbo Glacier Resort Project was transitioned for review under the new Environmental Assessment Act, SBC 2002, c.43. Additional information required under the former Act remains outstanding and is required to continue the review. The additional information must be provided to the EAO by December 31, 2003. The EAO's role is to ensure that key issues which are relevant to whether or not projects should proceed are identified and addressed, and ultimately, that a full report on these issues is provided to Ministers for their certification decision. It is our understanding that the Project Report, which will be submitted by the Jumbo Glacier Resort proponent, will consider this First Nations socio-economic impact assessment information, and will be subjected to a full and thorough review by the B.C. Environmental Assessment Office. During that review, the First Nations, and others, will have the opportunity to comment on the

Project Report and be invited to participate in the review process. At that time, First Nations may use the information to make their own determinations about the acceptability of the project to their interests. After that review, the Project Assessment Director will submit an assessment report to ministers to inform their decision regarding the issuance of an environmental assessment certificate.

We acknowledge that the Mr. Oberto Oberti, acting on behalf of the JGR proponent, has made every effort to engage KKTC in considering the merits and benefits to First Nations (presumably the entire Ktunaxa Nation) people living in the area, casting the opportunity as “different and unique” and a precedent in First Nations joint ventures. He has made several presentations to the KKTC over the past 12 years in promoting the potential benefits to First Nations. In “A Discussion Paper Leading to a Proposal for the First Nations Regarding the Jumbo Glacier Resort Project”, his most recent submission of March 3, 2003 to Chief Sophie Pierre (St. Mary’s Indian Band and a leading member of the KKTC), Mr. Oberti presented a proposal for a partnership between Glacier Resorts Ltd., the proponent of the Jumbo Glacier Resort project, and First Nations (presumably the KKTC).

On September 25, 2003 a community dialogue was held at the Columbia Lake Indian Band town-hall for citizens of the Ktunaxa Nation to discuss the proposed JGR project in the Jumbo Creek/Valley. The purpose of the community meeting was to have an open dialogue about the pros and cons of the proposed JGR development after hearing from both the proponents representative, Mr. Oberto Oberti and his team and from those opposed to the development, namely the Jumbo Creek Conservation Society (JCCS). The meeting was facilitated by Ray Ward of the KKTC and a respected facilitator of dialogue in a very respectful and open environment of active listening to all sides of the debate. Being present throughout the session we believe the session was an open, honest and fair debate about what is clearly a controversial subject for the Ktunaxa Nation.

Mr. Oberto Oberti and his team from PPMC and Jacqueline Pinsonneault of the JCCS were invited to make presentations at this meeting. Mr. Mark Anielski, President of Anielski Management Inc., was also invited to observe and record this community dialogue as part of his inventory of the values and issues of well-being of importance to the Ktunaxa Nation. Jacqueline Pinsonneault presented the JCCS followed by a presentation of the JGR proposed development by Mr. Grant Costello representing PPMC and GRL. Following these two presentations to the community, both Ms. Pinsonneault and Mr. Oberti of PPMC fielded questions about the project and its potential positive and negative impacts to the Ktunaxa Nation. There was general opposition to the proposed JGR by those First Nations people present at the community meeting, with some strongly opposed to the proposed development. Following the question period, both the JCCS and the PPMC representatives were asked to leave and the session went into a in-camera dialogue with only the community members and Mr. Mark Anielski in attendance, as observer and recorder.

In the March 3, 2003 letter to Chief Sophie Pierre from Mr. Oberti representing the proponent, GRL, promoted the potential partnership proposal for First Nations (presumably KKTC) to partner with Glacier Resorts L.P. as follows:

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Mr. Oberti's most recent letter represents a sustained effort over the past 12 years to consult and gain the support of the Ktunaxa Nation in general for the benefits of the JGR development. However, it is significant to note that both this most recent effort and previous efforts over 12 years to seek a potential partnership between the GRL and the KKTC have been rejected in spite of changes to the scope of the project over the years. The opposition to the JGR expressed by the community at the September 25, 2003 town-hall meeting was a clear example of the nature of the opposition. Our goal was to examine more closely the nature of this opposition from the perspective of what the JGR development would mean to future well-being of the Ktunaxa Nation, as a whole.

The KKTC has been opposed to the proposed JGR since 1995 after repeated attempts by the proponent to cultivate the support and friendship of the KKTC. The PPMC (on behalf of the GRL) has, however, been successful at courting a relationship with Shuswap Kinbasket Development Corporation (SKDC), who represents the economic development interests of the SIB council. These discussions have led to identifying potential joint venture opportunities. The SKDC has been generally supportive of the JGR since 1995 and has been in ongoing dialogue with PPMC. Unfortunately this dialogue represents a bilateral negotiation with only one party (the SKDC) in the five-band member Ktunaxa Nation. This poses a challenge to the governance structure of the KKTC in representing the interests of the Ktunaxa/Kinbasket people. The SKDC support for the project suggests that at least one member of the five-band KKTC is willing to consider the potential socio-economic benefits of the JGR even as Tribal Council (the KKTC), representing the Ktunaxa Nation interests, has apparently rejected any benefits of the proposed development. This complexity adds a significant complication to our analysis of well-being impacts to the Nation as a whole. Our goal is to explore the nature of these value differences within the Nation and to better understand how these differences would manifest themselves in future socio-economic and ecological well-being impacts to not only the SIB and CLIB but to all five-member bands of the KKTC and Ktunaxa Nation.

2. Project Scope

The scope of the project as defined by its Terms of Reference includes the following:

1. Collect information identified in Jumbo Glacier Resort Project: Final Project Report as it relates to the Columbia Lake and Shuswap Indian Bands (as well as the other three bands which make up the KKTC).
2. Identify socio-economic indicators that could be used to measure impacts of the project on local First Nation communities [including such things as opportunities for backcountry pursuits such as wildlife viewing, hiking, hunting, fishing, ski touring, snowmobiling, trail riding, etc.].
3. Identify information being collected in the archaeological and traditional use study¹ being conducted by the KKTC such as:

¹ According to the *Jumbo Glacier Resort Project Review: Final Project Report Specifications: Appendix A- Background to Reporting Requirements* (May 20, 1998: p. 198), the KKTC developed draft terms of reference to complete a Traditional Use Inventory and Impact Assessment (TUIIA) for the proposed Jumbo Glacier Alpine Resort Area. These terms of reference have been developed through a series of consultation meetings with representatives of KKTC member bands, and also in consultation with the EA Office and the proponent. The proposed TUIIA will benefit from the comprehensive Traditional Use Site (TUS) inventory study being undertaken by the KKTC for its entire traditional territory, and in particular will utilise infrastructure and capacity developed for the comprehensive study.

The objectives of the proposed TUIIA study are:

- to identify the areas of cultural heritage and/or traditional use value, including reference to ceremonial and sustenance activities;
- to provide a baseline inventory of cultural and heritage resources in the study area;
- to assess potential impacts of the proposed project on Ktunaxa and Kinbasket traditional uses;
- to recommend means of avoiding or mitigating potential impacts of the proposed project on Ktunaxa and Kinbasket traditional uses which would be acceptable to the Ktunaxa Nation and Kinbasket peoples; and

- Current use of fish and wildlife harvesting and other resources uses (*i.e.*, rates of participation, level of consumption of country food and general diets);
- Current status of fisheries and other forms of harvesting and factors affecting them;
- First Nation community characteristics which could be changed substantially as a result of the project (*e.g.*, urban/rural character, extent and types of development); and
- First Nation community characteristics which may shed light on the extent of the community's resilience and capacity to accommodate any stresses associated with the project.

4. Identify, through discussions with the Jumbo Glacier Resort Project prime consultant (PPMC), information being collected in the general socio-economic information report and potential measures to address socio-economic impacts on First Nations interests (*i.e.*, employment and contracting opportunities, proposed training opportunities).

5. Using the information collected above, prepare a preliminary assessment of the socio-economic impacts on the Columbia Lake and Shuswap Indian Bands, and the Ktunaxa Nation (as represented by the KKTC)² as a whole. Document clear linkages to archaeological, traditional use and general socio-economic study information, as well as how this information has been considered and incorporated.

The original Work Plan for the project is contained in Appendix A of this report.

3. Genuine Wealth Accounting and Assessment Model

Our study uses the Genuine Wealth Accounting (GWA) and assessment model, developed by Mark Anielski. The GWA is a value-based, comprehensive and integrated economic-social-environmental assessment tool for examining the sustainability of current and future conditions of well being. The word “wealth”, from the Old English, meaning “the condition of well-being”. The word “genuine” means “true to one’s values.”

The GWA is ideal for assessing the socio-economic-cultural-environmental impacts of potential economic development opportunities. The GWA is ideally suited for the First Nations impact analysis and specific to assessing the future well-being impacts of the proposed JGR project. Indeed, Mark Anielski who designed the GWA model, first applied it in Nunavut as a indicator system of accounting for the well-being of the Inuit in accordance with their core life values.

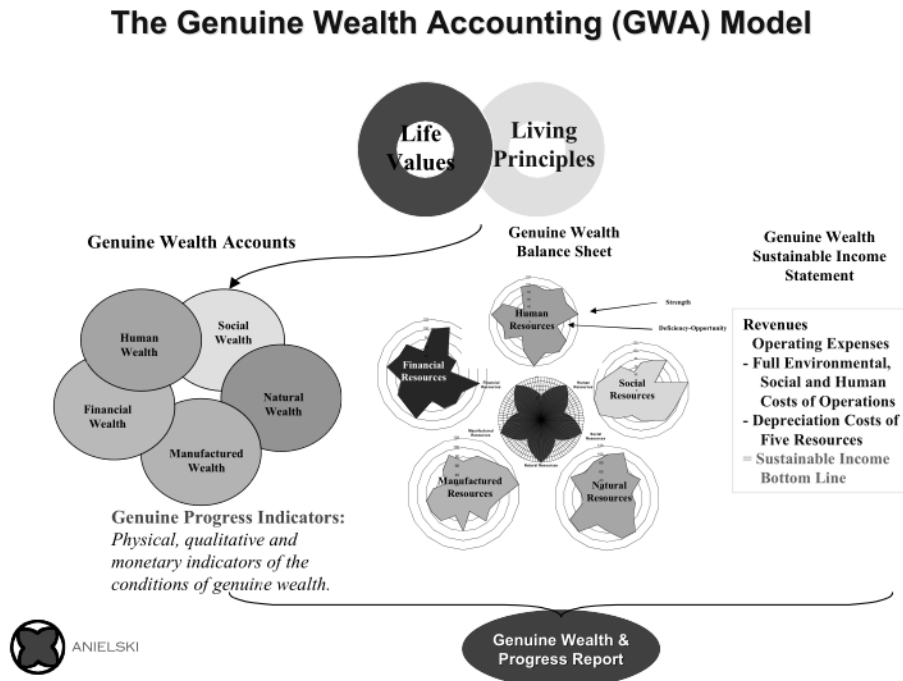
-
- to establish procedures for ongoing consultation and the management of cultural heritage resources in the project area, should the project proceed.

Products of the proposed TUIA would include:

- a database containing information regarding historic and current land use;
- overview maps outlining areas of high, medium and low significance;
- an overview report; and
- a draft agreement with respect to ongoing reporting and consultation on the management of cultural heritage resources.

² While the original Request for Proposal for the First Nations impact analysis specified the analysis be focused on the Columbia Lake Indian Band and the Shuswap Indian Band, it became apparent at the outset in discussions with the KKTC that the impact analysis must consider the well-being of the entire Ktunaxa Nation which includes the Shuswap and Columbia Lake Indian Bands in addition to three other bands. Five bands constitute the Ktunaxa Nation whose interests are represented by the KKTC; the Tribal Council, represented by five band member chiefs and supported by a bureaucracy, acts as a form of “government” representing the collective community interests of all the 1,137 Ktunaxa people of the five member bands. The KKTC, like any government, have policy analysts and staff who have considered the pros and cons of each iteration of the proposed JGR. Thus, in our opinion, the expression of values and any impact analysis conducted by the KKTC on behalf of the Ktunaxa Nation should be honoured and considered as valid input to our analysis.

Figure 1: Genuine Wealth Accounting (GWA) Model (© 2003 Anielski Management Inc.)



The GWA is both an well-being accounting and management system for measuring the financial, social, human and environmental well-being of a community, business or other organization. The GWA is also a strategic-business planning process that allows an organization to identify its core values and principles and align its policies, activities, performance indicators, and budgets with these “genuine wealth” attributes.

The GWA uses a process of dialogue with stakeholders to identify their values, virtues and principles about “that which makes life worthwhile” for their community or organization. Because each community and organization has its own unique set of values and operating principles, the GWA is ideal because it results in a values-based performance and quality of life accounting and management system. The strength of the GWA is that is validated by citizens of a community through a process of dialogue and consultation with results in a collective voicing and understanding their quality of life values. The process continues with citizens identifying indicators of well-being that align with their core quality of life values in order that future measurement and reporting of those indicators to track progress will resonate with citizens³. These values are determined by asking simple questions such as “what makes life worthwhile for you and your family?” or “how do you define your quality of life?” This process leads to the identification of key economic/financial, social, personal (e.g. health, spiritual), and environmental attributes of well-being that are unique to the community or organization and which align with their values. Some

One of the key challenges in developing a GWA system is that it each system is custom designed in accordance with a community’s held values. These values can change over time. Moreover, there is no standard set of values that can be universally applied as a standard framework

³ In our experience as performance measurement system designers in the Alberta Government and with many community and business clients, one of the key weaknesses of performance indicator and quality of life measurement systems is that they generally fail to capture the attention of citizens or firm employees because they have failed to validate the indicators according to the most important quality of life values of the community or organization.

(although we have worked with communities (e.g. Tampa, Florida) to develop well-being indicators along the lines of a set of principles (e.g. the Earth Charter principles) or hierarchy of needs and wants). We are learning that a common set of well-being indicators might be emerging through international efforts such as the UN's Human Development Index, the World Bank's Total Wealth Accounting system, and the Federation of Canadian Municipalities Quality of Life Reporting System.

Another challenge of the GWA is determining a ranking of the most important values and well-being indicators. Ordinal ranking of these values and indicators is possible within the GWA and we have had some experience in applying a weighting process through citizen dialogue (e.g. the Canadian Policy Research Networks Quality of Life Indicators of Canadians). Citizens are asked to score the values and indicators most important to them in terms of defining their quality of life. The result is the capacity to create an ordinal listing of well-being attributes and indicators to help decision makers in making trade off decisions. Such a system can also be used by economists in a more robust benefit-cost analysis system to measure impacts more comprehensively (a proposed well-being impact system was developed by Wynne and Anielski (2001) to assess the full financial, social and environmental impacts of problem gambling). The values validation and ordinal ranking process provides the basis of balancing the values of the community and helping decision makers prioritize various policy and program options.

Using a form of an integrated five-capitals accounting model, the GWA organizes five categories of "wealth": human, social, natural, manufactured and financial into an holistic well-being accounting system. These genuine wealth accounts contain information (inventory) physical, qualitative and monetary conditions of the conditions of well-being. The GWA process asks individuals involved in the GWA process are asked to identify Genuine Wealth Indicators (GWI including: objective/quantifiable, subjective/qualitative and monetary) which would resonate with them in order to assess well-being and track improvements in well-being over time. Information from each of the genuine wealth accounts (ledgers) are used to derive the GWI. Data sources can vary from conventional statistical agencies (e.g. Statistics Canada), opinion surveys or customized surveys to solicit citizen input.

The Genuine Wealth Accounts include a physical (quantitative), qualitative (subjective) and monetary baseline account of the key well-being attributes of importance to the community. The physical accounts measure the physical and quality attributes of each of the wealth categories (e.g. stocks, flows, capacities) which can be inventoried and thus quantified. Quantitative data is generally drawn from conventional statistical data sources, such as Statistics Canada or provincial statistical data bases, or in many cases must be collected through custom surveys (e.g. custom household surveys as those conducted for the Inuit of Nunavut).

The qualitative or subjective accounts include opinions, feelings and other attitudinal information about people's sense of well-being. These cannot be measured in monetary terms but can often be measured using opinion surveys. In the Genuine Wealth accounting model, qualitative information is given as much importance as quantitative information (e.g. people's perceptions of personal safety is compared to crime rate statistics thereby comparing attitudes with statistical reality).

From the GWA quantitative and qualitative well-being accounts, GWI are derived and organized and reported in an integrated Genuine Wealth Balance Sheet and Genuine Progress Income Statement. The unique GW Balance Sheet reveals the conditions of well-being either as assets, liabilities or equity (distribution of "wealth").

The GWA also contains an option of creating a Genuine Progress Income Statement which accounts for the full monetary cost accounting of the true costs (human, social, environmental and financial) of managing a community, business or organization. A so-called triple-bottom line can be generated showing revenues (or Gross Domestic Product in the case of a province or municipality) net of social, human and environmental depreciation costs. An example of an

Genuine Progress Income Statement is that developed by Anielski (2000) for the U.S. (The US Genuine Progress Indicator) and by Anielski et.al. (2001) for Alberta (the Alberta GPI Sustainable Well-being Accounting System). Full cost accounting can be a complicated process since it often requires value judgments as to what is considered a “regrettable” cost of economic growth or financial performance that should be netted out of gross revenues. The use of full cost accounting in the GWA is at its earliest stage of development in community and business applications, though it has been successfully tested at the national (e.g. US and Canada) and regional (e.g. Alberta) scales by Mark Anielski and others.

Finally, the GWA system can be used to generate a regular Genuine Wealth and Progress Report on the current and historical state of well-being of a community or organization. Such a report contains the results of Genuine Wealth analysis including a critical examination of the trends in well-being and quality of life issues requiring most immediate policy and budget attention.

The Genuine Wealth Accounting system is one of the most comprehensive systems of well-being accounting and reporting that can be used by governments, communities and businesses. It provides the ideal tools managing for sustainability in organizations or communities committed to managing their full range of financial, human, social and environmental assets in an integrated measurement and management framework. Mark Anielski has developed the GWA for Suncor Energy and EPCOR (public utility) and for several communities including the Capital Region (Edmonton), the City of Santa Monica, Nunavut, Alberta, Yukon and Tampa, Florida. Most of these stakeholders are interested in developing quality of life and sustainability accounting systems that go beyond the conventional financial bottom line.

The GWA can also be used to guide the strategic-business planning process of organizations engaging employees or citizens in an open dialogue about: 1) the values they consider are most important in defining their quality of life or well-being and 2) identifying indicators or performance measures that matter most to improving quality of life that align with their values. The results is a system for tracking performance that is values-based. The Genuine Well-being Indicators (GWI) become a powerful basis of engaging citizens and firm employees in guiding corporate or public policy towards improved performance and improving quality of life. With a base-line of these GWI “what if” impact and policy analysis can be conducted by an organization or government to assess the potential positive or negative impacts of proposed economic development opportunities.

3.1 Ecological Economic Valuation Framework

This study was completed by three ecological economists. Our work is guided by principles and practices of ecological economics; a relatively new discipline of transdisciplinary research combining the strengths of ecology and economics to help guide societies towards a more sustainable future. Ecological economics is an interdisciplinary collaboration in the fields of economics, ecology and other social and natural sciences, aimed at developing a sustainable world. Ecological economists are synthesizers taking a holistic, systems approach to all impact assessment. Ecological economists recognize the importance of a balanced relationship between the economic, social, health and ecological attributes that define genuine sustainable human development.

The GWA is an example of tool to measure and manage for the sustained well-being of communities and organizations. The GWA is grounded in the principles of ecological economics. Indeed, the GWA was born out of ecological economics research into the development alternative measures of well-being (i.e. the Genuine Progress Indicator and its predecessor, the Index for Sustainable Economic Welfare) that goes beyond the more narrow economic measure of progress, the Gross Domestic Product (see Anielski and Rowe, 1999 and Anielski et.al. 2001).

Ecological economics is founded on the redefinition of two complementary words: the word “economics” which means “household stewardship” from the Greek *oikos* (household) *nomia*

(management or rules of stewardship), and; “ecology” which means “household knowledge” from similar Greek roots meaning *oikos* (household) *logia* (knowledge or logic).

Ecological economics is mainly about three issues (Daly, 2003):

1. Allocation of resources: A good allocation of resources is efficient (Pareto optimal);
2. Distribution of income: A good distribution of income or wealth is just (a limited range of acceptable inequality); and
3. Scale of the economy relative to the ecosystem: A good scale does not generate “bads” faster than goods, and is also ecologically sustainable (it could last a long time, although nothing is forever).

Standard measures of economic growth, namely the GDP or gross domestic product, are focused on quantitative expansion of the economy as measured by monetary benefits of increasing production and trade of goods and services. Converting human and natural capital into manufactured forms of capital creates these goods and services. More growth measured by increasing quantitative and monetary amounts of GDP are assumed to be “good” in terms of improving the well being of all in society. Thus economic development is primarily focused on increasing the size of the GDP at various scales of development with the assumption that a rising tide of GDP (more growth) will raise the standard of living for all boats in a community.

However, the GDP is inadequate as a measure of the overall well being of a society or economy, which most economists acknowledge. GDP fails to measure the value of social capital or social cohesion and the value of intangible assets like the sacred value of a place, a culture or traditions. GDP also fails to measure the value of unpaid work such as child care, elder care, volunteerism and other forms of gifted time. GDP is simply concerned with measuring more money changing hands for more goods and services traded in a market economy. The more goods and services exchanged for cash in the market place, the more the GDP rises. Paradoxically expenditures on regrettable events such as auto crashes, crime, and pollution clean up actually count as additions to GDP rather than social or environmental depreciation costs. Thus, the GDP makes no distinction between expenditures that contribute to genuine well-being and those that many might view as regrettable costs associated with environmental or social degradation. Nor does GDP account for the impacts of income or financial wealth inequality that affects social cohesion. The GDP and the UN System of National Accounts in fact violate basic financial accounting principles by treating the liquidation of assets, such as oil and gas, coal and timber, as income rather than as a reduction in the inventory of natural capital.

The GPI or Genuine Progress Indicators, first developed by economists in the United States (see www.rprogres.org) were meant to address the shortcomings of GDP as a measure of well being by identifying regrettable social and environmental depreciation costs, as well as the value of unpaid labour and the costs of income inequality, and adjusting the GDP accordingly. The original GPI framework was adopted and expanded by Anielski et.al. (2001) for Alberta as a tool for measuring and accounting for the overall well being and sustainability of the province of Alberta. The Alberta GPI accounting system was the basis of the Genuine Wealth accounting and assessment model since developed by economist, Mark Anielski (see references in this document). The Genuine Wealth accounting model is applicable to any scale of accounting (business, community, regional, or national) to measure the sustainable well being of five capital assets: human, social, natural, produced and financial capital. It thus provides a more comprehensive and holistic tool for assessing the well being of an organization or community and the well being impacts of potential economic development opportunities.

The same shortcoming of national income accounting and GDP as the primary measure of economic prosperity are also common to standard economic analysis of projects, particularly standard benefit-cost analysis. Like national income accounting, benefit-cost analysis (BCA) is

concerned primarily with monetary economic growth attributes of development, expressed in terms of monetary benefits and costs associated with a development. BCA is not effective at dealing with analyzing welfare impacts or issues of distribution of benefits and costs.

In ecological economics, as expressed most clearly in the Genuine Wealth accounting and assessment model, we are concerned with measuring the physical, qualitative and full or “true” cost- benefit impacts of alternative financial, social and environmental development options. We are also concerned with measuring the physical sustainability of human development by considering the carrying capacity of the ecosystem to sustain a physical supply of ecological goods and services in relationship to humanity’s demands on nature. Ultimately, ecological economists are concerned with evaluating the sustainability of “economic” communities that are dependent on ecosystems for life capital. Ecological economics views the economy as a wholly-owned subsidiary of the ecosystem, fully dependent on ecosystem “goods and services.” Indeed, the ecosystem is seen as a model for the human-built economic system.

As ecological economists, we advocate the development of an optimal scale or sustainability threshold as a way of providing a safety margin for economic activities that challenge life-supporting ecosystem functions. Ecological economist Herman Daly argues that we will likely reach a sociopolitical boundary before we reach the biophysical limits of ecosystems. We also advocate an accounting of human and social (community) capital or assets, recognizing that high levels of social cohesion (social capital) is fundamental to a sustainable community.

Because conflicting perspectives in economics and ecology have led to economic and environmental policies that are mutually destructive, rather than reinforcing and sustainable, ecological economists believe in a cross-disciplinary, synthesizing approach to socio-economic decision making, which is similar to the functioning of complex ecosystems. We use various tools including: modeling; equity analysis; sustainability measurement and indicators; full-cost valuation; and policy analysis.

We are also concerned, in ecological economics, with the issue of fair and equitable distribution of “wealth” in its many forms – economic/financial, social, natural and manufactured assets or capital. This includes consideration given to intergenerational equity and well being impacts. We ask the questions: 1) who will benefit most from a given economic development?; 2) how equitably will the benefits be distributed?; 3) what costs to social cohesion of a community might result from inequitable distribution of financial and economic benefits?

3.1.1. Ecological Economic Assessment

In the case of the analysis of the First Nation values and genuine wealth impacts to the Ktunaxa Nation, we are concerned with understanding the value/assets at risk (both positive and negative impacts) due to the proposed development, at the Nation and Traditional Territory scale (i.e. systems scale of analysis). This requires some inventory of the current state of genuine wealth (economic, social, environmental assets) and their “value” both in monetary terms and in terms of significance or importance to the Ktunaxa people.

The principles and measurement practices of ecological economics can be used to guide our assessment of the impact to First Nation values of the proposed Jumbo Resort development, with respect to the following issues.

Property Rights: Our first argument concerns the issue of property rights to the proposed development area. Economic theory suggests the following perspective:

1. An exchange occurs only if a willing seller and a willing buyer agree on a price.

2. Price is determined by the willingness-to-accept (WTA) of the seller and the willingness-to-pay (WTP) of the buyer, which must coincide for a transaction to take place.⁴

3. Since the Jumbo Creek area is in the claimed territory of the Ktunaxa Nation⁵, according to economic theory, they are the rightful "sellers" who are in a position to accept or reject (WTA) a proponents benefit proposition or development price (WTA).⁶

4. The KKTC, the democratic voice of the Ktunaxa Nation, is on record (1995 KKTC Chief's Council resolution) stating that under no circumstances would they agree to development of any kind of the Jumbo area: "...the Jumbo Creek area should never be considered for any development." According to the KKTC they have repeated and sustained the Nation's opposition to the JGR since 1995, in spite of changes to the scope of the proposed development.

5. This sustained opposition suggests that there is no price they would accept to permit development of the Jumbo Creek area. This is the economic equivalent of saying that their $WTA = \infty$ (infinity).

6. Therefore no possible trade-offs can occur which would make it possible to support the project.

7. If the above points 3-6 are true, any GWA impact analysis which attempts to account for the genuine value of the *Qatmu* (Jumbo Creek area) to the Ktunaxa Nation would reveal an infinite monetary value of the *Qatmu* area to the Ktunaxa making any further socio-economic analysis mute overwhelming all other revealed values and economic benefits/costs. If the *Qatmu* is viewed by the Ktunaxa Nations as one of their most cherished natural wealth then the asset could be said to be "priceless." In other words there would be no monetary price or other forms of economic compensation which would reveal a mutually satisfactory trade between the development proponent and the stewards of the natural wealth. This creates a challenge for standard cost-benefit analysis since in essence no trade or exchange in monetary terms is possible. This does

⁴ In some cases a seller may be unwilling to accept any price or monetary compensation for the "opportunity cost" or impacts of the buyer's offer. In such a case there is no price which would make a transaction or trade possible. In this case the seller is effectively stating that the good or asset is "priceless" or has infinite value for which no compensation (monetary or otherwise) would be acceptable. This, in fact, is what we have observed in the case of the Columbia Lake Indian Band and its position on the JGR proposal, a point we will explore later.

⁵ The KKTC's TUS study notes that "Recent case law states that First Nations must be consulted and accommodated regarding all development in their respective traditional territories" (Keefer et.al. 2003: 1) and furthermore "The Ktunaxa have occupied and used their traditional territory since time immemorial and continue to occupy and use the lands and resources within that territory today. They have always governed themselves and used the lands in accordance with their cultural practices, customs, traditions, values and teachings. The Ktunaxa have never relinquished or surrendered the lands and resources within their traditional territory and, as such, assert their existing title and rights within that territory. There have been significant legal developments over the past two decades that make it clear that the Crown and third parties each have a duty to consult with First Nations in a meaningful way with the genuine intent of substantially addressing First Nations' concerns regarding activities that are impacting or will impact on First Nations' rights and interests. The courts in the recent Haida and Taku cases made it clear that the Crown cannot continue to alienate First Nation lands and resources without engaging in consultation on the basis that it has no duty to consult until the right or title has actually been proven in court. It is believed that if the Jumbo Alpine Resort were to proceed, it would be a major infringement on Ktunaxa Rights and Title." (Keefer et.al. 2003: 33)

⁶ In reality, the capacity of the Ktunaxa to exercise a right to "accept" benefits or an acceptable price for compensation of welfare losses as a result of development of the Jumbo Creek area is limited by the fact that the area in question is Crown Land. However, the area is also considered part of the greater Ktunaxa Nation territory. According to personal conversation (September 23, 2003) with Kathryn Tuneese, Treaty Negotiator for the KKTC the proposed JGR project is considered within the Ktunaxa Nation Territory so it may be considered as a property right issue until the final phases of treaty negotiation with the B.C. Government have been completed and an agreement reached. At this stage in the treaty negotiation process, according to Tuneese, no agreement has been arrived at for the model for land stewardship/management for the territory and specifically for the Jumbo Creek area. Important to the assessment of the JGR proposal is that the KKTC takes a territory approach and looks at respective relationships and impacts over the entire territory and ecosystem. This is consistent with the ecosystem assessment approach of ecological economics.

not make the GWA analysis irrelevant; indeed the GWA is an ideal tool for revealing the deeper revealed preferences and values of the Ktunaxa Nation's with respect to the *Quatmu* area.

Critical Natural Capital (CNC) is commonly defined as that part of the natural environment that performs important and irreplaceable functions. Ecological, health and heritage functions are the most important services nature generates to human societies. Though some of these functions are essentially immaterial, they fulfill crucial human needs and contribute to the sustainable development of human societies. It is therefore, crucial to identify and assess their values so that they can be better accounted for in environmental and nature management policies. Copyright

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Groot et.al. 2003:202).

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Functions, goods and services of natural capital include:

1. Regulation functions: the capacity of natural and semi-natural ecosystems to regulate essential ecological processes and life support systems;
2. Habitat functions: providing refugia to wild plants and animals (and native people) in order to maintain biological and genetic diversity, and;
3. Production functions: resources provided by natural and semi-natural ecosystems
4. Information functions: providing opportunities for reflection, spiritual enrichment and cognitive development. This includes, among others: spiritual and historic information, based on ethical considerations and heritage values." (De Groot et.al., 2003:191).

The Social Criteria to measure criticality of natural capital. Natural Capital is important to human physical and mental health: the provision of medicines, clean air, water and soil, space for recreation and outdoor sports, and general therapeutic effects of nature on people's mental and physical well being.

There are a number of relevant ranges of values associated with natural capital.

- **Amenity value:** the importance of nature for cognitive development, mental relaxation, artistic inspiration, aesthetic enjoyment and recreational benefits.
- **Heritage value:** the importance of nature as reference to personal or collective history and cultural identity.
- **Spiritual value:** the importance of nature in symbols and elements with religious and sacred significance.
- **Existence value:** the importance people attach to nature for ethical reasons (intrinsic value) and inter-generational equity (bequest value). (De Groot et.al., 2003, p. 194).

These values are typically difficult to quantify in monetary terms, a challenge of commensurability central to economic analysis. Because many environmental resources such as clean air, wilderness, the existence of wildlife and scenic vistas are not exchanged in markets they are unpriced. Nonetheless, these non-market resources have monetary value as long as people are

willing to trade some of their income and wealth for them. In this way monetary values do not depend upon whether people actually trade money for the benefits received. Some researchers have developed methods that ask people how much money (e.g. income, taxes) they would be willing to forgo to ensure the existence of wilderness or wildlife. But these methods break down if there is no commensurable monetary value that would be deemed acceptable as compensation in a trade. This may, indeed, be the case in First Nations cultures, or indeed in other cultures, regarding spiritual values.

Importance of Natural Areas

Along with being a crucial source of economic development and material wealth, natural systems are also a crucial source of non-material well being and thus, indispensable for a sustainable society. Natural areas are thus often cherished for recreational, aesthetic and spiritual reasons, in ways that impose strong limits on their substitutability by manufactured goods and services. (De Groot et.al. 2003: 195)

Spiritual Values

Natural systems are an important source of spiritual enrichment to many people. Indigenous and tribal people in particular have strong spiritual ties to their natural environment. Communities defined by locality or by ethnic or cultural appearance may identify features of their habitats as 'critical' natural capitals in view of their symbolic or functional significance in defining group identity. (De Groot et.al. 2003: 187-204)

These principles of ecological economics help inform and shape the Genuine Wealth Accounting model we are using in assessing the potential First Nation impacts of the proposed Jumbo Resort.

4. GWA Methodology and Process for the Proposed Jumbo Glacier Resort

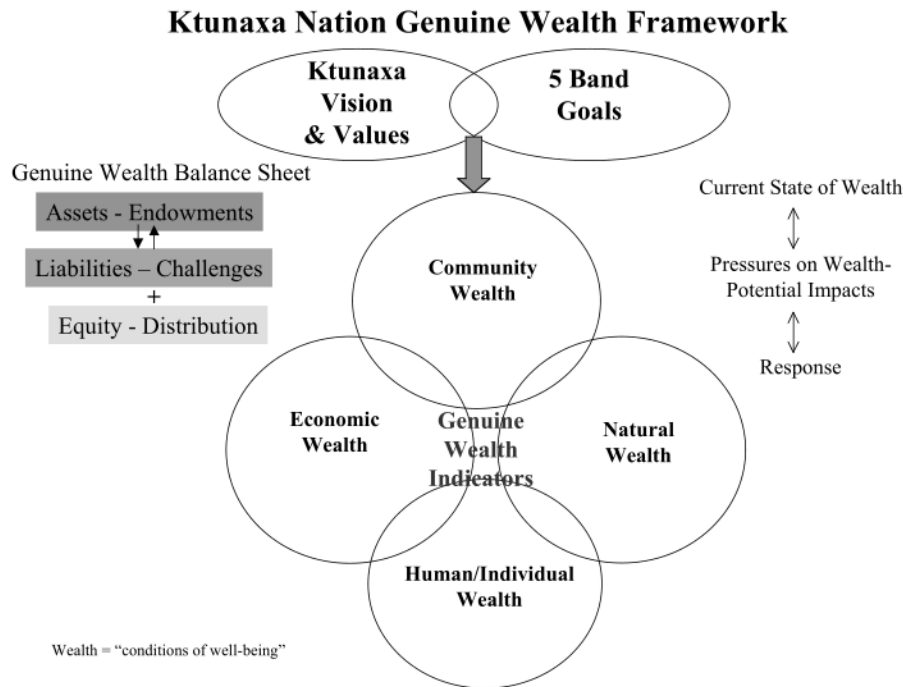
Working collaboratively and in consultation with KKTC, our team collected (both quantitative and qualitative data), assessed and assembled the relevant socio-economic, archaeological, traditional use and oral information resulting from First Nation community consultations and interviews by KKTC, in order to conduct a comprehensive **Genuine Wealth Assessment (GWA)** from a set of Genuine Wealth Accounts for conducting the “what if” First Nation impact assessment for the Ktunaxa Nation.

Our GWA for the JGR impact assessment was based on Mark Anielski's prototype the Inuit Genuine Well-being Indicator (Anielski and Pollock, 2002) and reporting system developed for the Inuit of Nunavut. The GWA model is ideal measuring the quality of life conditions of a community, both current and potential future well-being resulted from proposed development options. The GWA attempts to use both quantitative and qualitative (subjective) indicators that are based on the values and principles of each individual community.

The GWA provides a holistic accounting of economic/financial, social and environmental well-being. It is also a good model for assessing the distribution of impacts (i.e. who benefits most; who bears the greatest “cost” burden?) of development.

The GWA process begins with an inventory of the core values and principles of the community. Figure 2 shows the framework for evaluating the Ktunaxa Nation values.

Figure 2: Ktunaxa Nation Genuine Wealth Framework



In assessing the impacts to First Nations in the case of JGR, we developed a customized GWA (Figure 2) as a tool for assessing the current and potential impacts on the First Nations “wealth” (i.e. the “conditions of well-being”). The GWA combines:

1. Both a quantitative (statistical) inventory and qualitative inventory (e.g. oral input, opinions, and attitudes using interviews and community dialogue) are conducted to determine the “genuine wealth” attributes of the Ktunaxa Nation. This would provide a base-line of the current state of the real wealth of the Nation. This wealth can be expressed as an asset (strength) or liability (weakness) or as in issue of equity or distribution.
2. An assessment of the potential impacts of the project to First Nation “genuine wealth”. The assessment includes the use of community consultations and interviews, and factors in the proponent’s project information, particularly measures to address First Nation socio-economic impacts, and;
3. Identification, through community consultation, of alternative approaches or responses to the proposed project development that would mitigate anticipated regrettable impacts to the community’s genuine wealth.

The Genuine Wealth Accounts framework constitutes a “baseline well-being inventory” or account of the current real wealth of the community.

We drew on all available information (including inventory or oral history, part of which is currently being completed by the KKTC) of traditional use, archaeological assets, and “place significance” - the intrinsic value of the “place” called Jumbo - to inform the Genuine Wealth Accounts.

In the case of the First Nations impact assessment of the JGR, our primary tool for assessment was the process of engaging stakeholders in soliciting their core values and opinions that dealt

specifically with the proposed JGR and with the Jumbo Creek environs, in general. Through this process we were able to identify key well-being value attributes, many of which were common across the First Nation citizens we interviewed. We also engaged in a broader on-site community “circle dialogue” to discuss their individual and shared values and their perceived impacts of the proposed JGR. These interviews and community dialogue resulted in identifying well-being indicators. In addition, we were able to assess the qualitative impacts that community members perceived as likely outcomes of the proposed JGR in the Jumbo Creek area.

We realized early on in the study that quantitative base-line data on the existing environmental and socio-economic conditions of well being were not sufficient enough to complete a comprehensive set of Genuine Wealth quantitative accounts. For example, while some socio-economic data was available (e.g. population statistics, education), data on traditional use or environmental quality was either not readily available or was in the process of being studied (e.g. the traditional use study and archaeological resource survey was being conducted by the KKTC with Wayne Choquette in parallel with our study). Ideally, with time permitting, we would have liked to have conducted a household survey of the First Nations that make up the KKTC and Ktunaxa Nation to solicit the kinds of economic, social and environmental information that would populate the Genuine Wealth accounts.⁷ However, given the limited time and resources available to conduct our assessment, this was not possible. We therefore had to rely on the limited socio-demographic data that existed for the five bands of the Ktunaxa Nation, as well as rely heavily on the oral input received in our qualitative dialogue process of impact assessment.

Our experience with First Nations work of a similar nature suggests that soliciting input in this fashion is valid given the oral tradition of First Nations people.⁸ Indeed, our experience with the JGR assessment confirmed that the oral, qualitative assessment methodological approach to assessing values at risk and potential positive/negative impacts was at least as valid as, and possibly more important than, what might have been provided by quantitative socio-economic impact analysis based on conventional socio-economic data. There may be some who feel that oral input and qualitative impact analysis of this nature is not as robust as conventional quantitative socio-economic or cost-benefit analysis. However, standard “objective” socio-economic analysis is frequently unable to characterize the “subjective” values which are most significant to those affected. Our experience showed that, in fact, the quality of the oral input we received provided us with very detailed and value-based input that accurately described the impacts (both positive and negative) of the proposed development. Using the Genuine Wealth model and process we were able to get to the heart of the issue; the values that support both negative and positive attitudes towards the JGR development and the values that underscore the KKTC opposition to the JGR. This helped us analyze whether project is expected to contribute to the well-being of Ktunaxa Nation or detract from well-being both now and for future generations.

We identified the core values, vision, well being goals and desired future of the Ktunaxa Nation as a whole and of each of the five bands which comprise the Ktunaxa Nation represented by the KKTC (their “government”). We examined the common and unique characteristics of the Ktunaxa Nation values and operating principles. The key purpose was to ground our analysis in the values held by each individual band but more importantly by the Ktunaxa Nation as a whole. Using a process of community dialogue and individual dialogue is a valid process for soliciting information from First Nations people who have a strong oral tradition of decision making. The input from these dialogues provided the qualitative evidence of possible well-being impacts which the quantitative data could not reveal, in its absence. These expressions of values point to the well-being impact issues of greatest importance to the Ktunaxa Nation. The dialogue process allowed us to gain greater clarity about the potential positive and negative impacts of the proposed JGR.

⁷ In my work with the Inuit on the Inuit Genuine Well Being indicators we had the benefit of a new Inuit-value-based household survey which provided our project with a robust data base to populate the genuine wealth accounting model we had posited (Anielski, Mark and David Pollock. 2002)

⁸ In my work with the Inuit in developing a set of Genuine Well Being Indicators for Nunavut, oral input was as critical to constructing a set of economic, social and environmental well being indicators as the statistical data being collected through household surveys.

We began our assessment by examining evidence of previous KKTC statements and analysis concerning the proposed JGR. Evidence included the details of the 1995 KKTC resolution of the Chief's Council which strongly opposed the proposed development at that time. We hoped to gain a greater understanding of the value basis for this strong opposition. We were also seeking clarification as to why the resolution had not been signed by the Chief Paul Sam, then Chief of the Shuswap Indian Band. And more importantly, whether the absence of the SIB signature would diminish the weight of four other chiefs signing the resolution. Clarification on the governance model used by the KKTC helped us understand that while the KKTC speaks for the Nation's interests there is respect for the individual band expressions of values, even if they are in opposition to a majority position. We furthermore sought input from each of the Chiefs who were signatories to the 1995 resolution as to the values-basis of their decision in 1995 and whether or not their position had changed since 1995. We were able to consult with three of the five Chiefs.

We then examined public documents from each of the five member KKTC bands about their band values, goals and positions on economic development. Each of the bands has produced a vision statement, goals and some statements expressing their well-being aspirations. This inventory provided a basis for cross examination of common goals or differences with respect to economic development issues.

We also examined the limited amount of socio-economic profile data available from the Department of Indian and Northern Affairs (DIAND) website (from Census 1996 data); this data was limited to band population and educational attainment information. It was inadequate to develop a more comprehensive portrait of the socio-economic conditions of either each of the five member bands of the KKTC or the Ktunaxa Nation as a whole. We had hoped to gather some information on employment and income statistics from the human resources staff at the KKTC office but this too was unsatisfactory.

We had also expected to receive natural wealth data from the KKTC's traditional use study and the archaeological survey by Wayne Choquette for the KKTC. However, this data was also wanting in terms of constructing either a base-line natural wealth account or for examining "what if" potential impacts to natural wealth of the proposed development. Much of the evidence presented in the Keefer et.al. (2003) report is not of solid inventory quality. However, the archaeological survey did provide concrete evidence of the importance of the Quatmu/Jumbo area to the ancestors of the Ktunaxa Nation.

Taking all of the potential quantitative data sources into consideration, our team attempted to discern the strengths of the information in constructing a base-line quantitative set of wealth accounts and indicators. Unfortunately this was not possible given the serious data constraints we faced. At best we were able to simply create a written inventory of the wealth attributes of most importance to the Ktunaxa from the various threads of evidence from the above noted sources, augmented with oral input received through the community and individual dialogues (interviews) with the Ktunaxa people.

Because we had to resort almost exclusively on oral input to complete our analysis, we were careful in the process we used to solicit input ensuring that there was equal representation from the key bands: the SIB and the CLIB. While also allowing for input from other Ktunaxa Nation members, chiefs, councillors, elders, youth and other key decision makers some of whom work for the KKTC.

Our qualitative GWA impact gathered information about the key values and perceived potential impacts from the perspective of a fair representation of the Ktunax Nation including equal representation from the SIB and CLIB. A total of 33 First Nations people provided oral input of their core values and main concerns about the positive and negative impacts of the proposed JGR. Mark Anielski inventoried/recorded the oral input received at the September 25, 2003 community dialogue in which at least 14 persons expressed their values and impacts of concern

at the community town-hall meeting at the Columbia Lake Indian Band community hall.⁹ In addition, Mark Anielski interviewed an additional 19 individuals from the Ktunaxa Nation who were not in attendance at the September 25 meeting. These individuals were also asked about their core quality of life values and their attitudes towards the possible impacts of the proposed JGR. Most were very familiar with the JGR proposal given their generally senior positions in their community. The majority of interviews were directly or indirectly involved in assessing the proposed JGR issue either through their band administration or through the Ktunaxa Nation's administration of the KKTC. We felt confident that the interviews had sufficient knowledge about the scope of the JGR proposal to provide valid input to our questions.

This sample size of 33 persons represents a sample size of roughly 2.9% of the Ktunaxa Nation population of 1,137. Of the 33 who provided input 20 were women and 13 were men ranging in age from 35 to 70. We believe the size and distribution of our sample size amongst the KKTC, SIB and CLIB represents an adequate and reasonable qualitative sample size for the purposes of our analysis.¹⁰ Moreover, we are confident that the range of interviews we conducted provides a good range of expressed values and expectations of well being impacts, with a greater weighting on SIB and CLIB.

The breakdown by band of the number of First Nation individuals who provided input either through interviews or at the September 25, 2003 town hall meeting were as follows:

- **Columbia Lake Indian Band:** 17 members provided input; 7 were interviewed; 10 attended the town hall meeting.
- **Shuswap Indian Band:** 9 members provided input; 7 were interviewed; 3 attended the town hall meeting.
- **St. Mary's Band:** 5 members; 3 were interviewed; 2 attended the town hall meeting.
- **Tobacco Plains Band:** 2 members provided input; 2 were interviewed; none attended the town hall meeting.
- **Lower Kootenay Band:** No members provided input or attended the town hall meeting.

We feel confident that our qualitative sample of First Nation stakeholders encompass the range and diversity of values and opinions in the target population. The number of interviewees were perfectly balanced between the CLIB and the SIB at 7 members each. If anything, the SIB was oversampled relative to the CLIB given that the SIB has a population of 219 (with only 62 living on reserve) compared with the CLIB population of 250 (with 135 living on reserve). St. Mary's Indian Band interviewees totaled 3 while 2 from the Tobacco Plains Band were interviewed.

We interviewed a cross section of members of the SIB, the Shuswap Kinbasket Development Corporation, and the CLIB, including chiefs, councillors, elders and band members from various age/sex cohorts. Of the 19 individual interviews none of them were in attendance at the September 25 community meeting thus could not have been negatively influenced by the

⁹ As previously noted, both representatives of the proponent from PPMC and the JCCS were invited to make presentations to the Ktunaxa Nation community dialogue on September 25, 2003. Each were provided equal time to present their positions and were then asked to field any questions and points of clarification from the community.

¹⁰ "Through the medium of in-depth interviews and group discussions, qualitative research seeks to provide explanations of attitudes and behaviour rather than quantify their extent in the population. This major difference between qualitative and quantitative research - in terms of intent and output - necessitates a specific methodology for sample design in qualitative research. It is neither necessary nor desirable for qualitative samples to be as large as survey samples or to be statistically representative. Instead, in order to provide robust explanations from which wider inferences can be drawn and to generate conceptual frameworks applicable to the broader population, it is essential that qualitative samples are selected purposively to encompass the range and diversity present in the target population. The purpose of qualitative research is to form a map of the relevant characteristics of the population rather than a mirror of the numbers of people with those characteristics." See: Research Techniques & Approach.

http://www.natcen.ac.uk/units/gru/qru_techniques.htm

presentations of either PPMC or the JCCS; however, these individuals were familiar with the JGR proposed development.

The 19 individual interviews took place over the period September 15-November 30, 2003. Some interviews were conducted on September 24, the day prior to the September 25 town-hall meeting to discuss JGR, namely our dialogue with the SIB and CLIB councillors. Of the 19 interviewed 12 were women and 7 men. All were adults between 35-70 years of age. Of the Ktunaxa Nation members interviewed, none of them were in attendance at the September 25 meeting at the CLIB hall. The results of the interviews, which averaged 10 minutes in length, were recorded (in writing) by Mark Anielski. For reasons of privacy and confidentiality we cannot reveal the contents of those interviews but have referenced some of the results in our analysis. We believe our sample size and those individuals (most in senior decision making positions and familiar with the proposed JGR) we interviewed provided methodologically valid results. We took great lengths to ensure our sample was a fair representation of both the SIB and CLIB as well as drawing from the opinions of other key leaders in the Ktunaxa Nation. After 19 indepth interviews we are of the professional opinion, in accordance with methodological guidelines that additional interviews would cease to add additional insights into the diversity of opinions and values with respect to the JGR.

All First Nation interviewees were asked the following open-ended questions to solicit their values and identify well-being attributes of most importance to them:

- What is most important to you about the Jumbo Creek/Glacier area?
- How do you feel the proposed Jumbo Glacier Resort development will benefit or detract from your well being and that of your community?

The interviews, which were free-flowing and unstructured, provided sufficient flexibility to allow for a full expression of individual values and expected well-being impacts from the project. The information gathered forms the GWA qualitative impact analysis. The responses to these questions along with input received from the community dialogue on September 25, 2003, formed the basis of our understanding of the values of the First Nations people with respect to the expected impacts (positive and negative) of the JGR proposal.

We also interviewed a number of non-First Nation people who were familiar with either the technical details about the JGR, were experts or were familiar with the project. These included:

- The Proponent's prime consultant, Mr. Oberto Oberti, President of PPMC and members of his PPMC team;
- Consultants to PPMC and GRL (Brian Wills, Dave Milne, Grant Costello);
- Local trappers of the Jumbo area;
- Wildlife biologists (Michael Porter, Brian Horejsi, Trevor Kinley);
- Ski resort operators (Panorama, Kicking Horse); and
- Members of the Jumbo Creek Conservation Society (Bob Campsall and Jacqueline Pinsonneault).

Their input was not included in our report other than that received from Mr. Oberti, Grant Costello, Brian Wills and Dave Milne with regards to the project specifications.

Genuine Wealth Accounts

With the qualitative input received and with knowledge of some quantitative data, we could now construct a "genuine wealth" accounting framework that represented the most important well being attributes to the Ktunaxa Nation along four core genuine wealth asset categories: economic, human/individual, community and nature (ecological) assets. Much of the information necessary to populate the framework was gathered through interviews.

We then constructed a comprehensive, integrated Genuine Wealth Accounting system from which we could assess the potential well being impacts (positive and negative) to the Ktunaxa

Nation from the proposed JGR. The majority of the impacts were identified by the interviewees. The key GW accounts identified include: economic, archaeological asset accounts, traditional use accounts (including inventory information of traditional land/country food assets), cultural assets, wildlife/natural assets and other assets considered significant and valuable to the Nation.

For the purposes of this study, we created a GWA structure along four broad well-being (wealth) categories: 1) human wealth, 2) community wealth, 3) natural wealth and 4) economic/financial wealth. The Genuine Wealth shared attributes of importance to the Ktunaxa Nation, identified through interviews and consultations, are identified in Table 1, column 1. The second column of the table denotes those well-being attributes for which we believe quantitative¹¹ and/or qualitative data exists to examine the potential well being impacts of the proposed JGR. Unfortunately, in many cases quantitative data was not available either from conventional statistical sources such as Statistics Canada or from the KKTC. Some information has been revealed in the Traditional Use study conducted by the KKTC with respect to the JGR. The third column identifies those well-being issues that were also identified and/or addressed in the *Jumbo Glacier Resort Project Review: Final Project Report Specifications: Appendix A - Background to Reporting Requirements* (May 20, 1998).¹²

Table 1 Genuine Wealth attributes of the Ktunaxa Nation

Genuine Wealth attributes of importance to the Ktunaxa Nation		Information exists to examine potential well-being impacts (* quantitative ** qualitative; TUS ¹³)	Issue identified in the <i>Jumbo Glacier Resort Project Review</i> document (section referenced)
Community Wealth (social and cultural capital)			
1)	Archaeological and heritage assets	√ * (TUS)	G.1 (3)
2)	Community quality of life and community character (livability and affordability)	√ ** (TUS)	G.1 (3)
3)	Social cohesion: reciprocity, sharing, gifting	√ **	
4)	Traditions (art, music, food, celebrations)	√ ** (TUS)	G.1
5)	Equity (distribution of income and wealth)	√ **	
6)	Language		
7)	Governance	√ *	
8)	Justice		

¹¹ Due to lack of solid base-line household socio-economic and environmental/natural resource data for the Ktunaxa Nation and their territory much of the quantitative information we had hoped to draw from was not available from conventional statistical resources such as Statistics Canada nor is such information gathered by the KKTC. We had originally hoped to draw on existing First Nations traditional use data from either household surveys (similar to those now being used in Nunavut to gather traditional use information from Inuit and Non-Inuit households) conducted by Statistics Canada or from studies conducted by the KKTC. However, it was immediately apparent that such base-line data was not available, for the most part outside of population and educational attainment data. In the absence of such quantitative socio-economic base-line data makes it impossible to rigorously quantify the "what if" future impacts to well-being of these First Nations people. For these reasons we resorted to gathering potential impact information through oral interviews provided us some basis for determining the potential qualitative impacts to well-being that a sample size of the First Nations people themselves revealed. This form of "narrative accounting" provided us with a subjective base-line of information to conduct our Genuine Wealth Accounting assessment. We have no reason to believe that this form of well-being accounting is any less meaningful than conventional cost-benefit analysis using quantitative, statistical data from conventional statistical sources. In future studies of this kind, we recommend that a base-line household traditional use/cultural asset survey be completed from which the "what if" impact scenario of proposed economic development opportunities can be objectively measured.

¹² This information was compiled by the BC Environmental Assessment Office specifically to identify additional information required to address outstanding information needed to complete the EA review of the proposed JGR. This report also reported on issues that were determined to have either been adequately addressed in the Application for development or were deemed beyond the scope of the EA review. With respect to issues identified in the Final Report Specifications as requiring additional information to complete the review, no one will be in a position to state whether these issues have been adequately addressed until this new information is provided.

¹³ See Keefer, Choquette, McCoy and Williams. (2003)

Human/Individual Wealth		
9)	People: Population (age-sex breakdown)	√ *
10)	Education, skills, and capabilities (traditional and conventional)	√ *
11)	Interpersonal/socialization skills	
12)	Leadership and decision making skills	
13)	Healing and life transition skills	
14)	Transpersonal/transcendent spiritual skills	
15)	Traditional food provisioning	√ ** (TUS)
16)	Traditional shelter (built space) provisioning	√ ** (TUS)
17)	Nature, land and weather awareness	
18)	Social competencies	
19)	Vision/dreams	
20)	Health	√ **
21)	Time-use (distribution of individual/household time to paid work, unpaid work, traditional use activity, child care, elder care, recreation, etc.)	
Natural wealth (natural resources and ecosystem services):		Sections D.1 (B) to D.3 (H)
22)	Wildlife impacts	√ ** (TUS)
23)	Fisheries	√ ** (TUS)
24)	Tradition use of use wildlife, fish, and plants ➤ current use of fish and wildlife harvesting and other resources uses (i.e., rates of participation, level of consumption of country food and general diets); ➤ current status of fisheries and other forms of harvesting and factors affecting them.	√ ** (TUS)
25)	Wilderness character impacts	√ ** (TUS)
26)	Water supply (quality and quantity)	√ **
27)	Wastewater and storm water	√ **
28)	Waste disposal	√ **
29)	Geology (avalanche risk, safety and control issues)	√ **
30)	Forests	√ **
31)	Carbon cycle and climate change impacts	
32)	Ecosystem integrity	
Economic Wealth (socio-economic well being):		Sections E, (E.1 through E.4, E.5 (B) and (F), and E.10 and E.12
33)	Economic benefits (employment, income, rents)	√ *
34)	Traditional economy vs. wage economy	√ *
35)	Local recreation (displacement)	√ **
36)	Wildlife viewing	
37)	Hiking	√ **
38)	Hunting and fishing	√ **
39)	Trapping	√ **
40)	Ski touring	
41)	Snowmobiling	
42)	Trail riding	
43)	Housing (livability and affordability)	√ **
44)	Infrastructure (road development ¹⁴)	√ *
45)	Mineral rights or potential	

Only some of these genuine wealth attributes are assessed in any detail in terms of potential impacts due to the time, budget and data limits of this project. The framework we have developed represents the ideal well being impact accounting framework that would be relevant for First Nations impact assessment.

In our analysis we have attempted to cross reference these genuine wealth attributes to the issues addressed in the *May 1998 Final Project Report Specifications (Appendix A: Background to Reporting Requirements)*; many of these issues were addressed in this report. While these issues may have been addressed in the 1998 report, these issues remain of importance in the minds of those First Nations we interviewed. We have attempted, in our Genuine Wealth Analysis (section 6) to explicitly reference the status of these issues in the environmental assessment (EA) review process, including which ones need further review, were resolved, or are the beyond scope of the EA review in general and our First Nations impact assessment.

We have also now referenced the *Traditional Use and Archaeological Overview* report completed by the KKTC (Keefer, Choquette, McCoy and Williams, 2003) which contains some information on traditional use, cultural and archaeological assets. While the study helps complete some information gaps that were missing from our previous reports, we found a lack of hard quantitative data to provide a meaningful base-line for the creation of a traditional use account within the GWA. Much of the information contained in the TUS/Archaeological report is based on community consultation and interviews (like our own GWA process) with some field surveys of TUS and archaeological resources.

Notwithstanding, the lack of statistical, quantifiable data to populate our GWA framework, we believe that the stakeholder consultations and interviews we did conduct, along with the results of the TUS/Archaeological survey provide sufficient information upon which to assess the potential well-being impacts, albeit qualitative, to the Ktunaxa Nation. The orally expressed concerns and perceptions of risk to their well-being cannot be dismissed simply because they cannot be statistically quantified or monetized. They represents expressions of value and reveal impacts of significance to the First Nations people. With respect to issues identified in the *Final Project Report Specifications* as requiring additional information to complete the review, no one will be in a position to state whether these issues have been adequately addressed until new and the most complete information is provided.

Genuine Wealth Indicators

In conventional GWA we help the community identify key “Genuine Wealth Indicators” (GWI) that serve as proxies for the conditions of their overall well-being. In the case of the Ktunaxa Nation, we were able to only identify broad well-being attributes, identified in Table 1. Quantifiable indicators of well-being were not possible primarily because of the lack of statistical data to support such an accounting. However, qualitative information was available through the stakeholder/community consultations and interviews.

Typically, the GWI would be used to measure and assess the before and after-project impacts to the community’s well-being. A typical set well-being indicators for a First Nations community could include employment rates, household income, household expenditures, income inequality, traditional use (e.g. hunting, berry picking), social indicators (e.g. crime rate, sense of community cohesion, problem gambling, auto crashes), emotional and spiritual well-being indicators, health indicators (e.g. life expectancy, disease rates, smoking, suicide rates), educational/skills attainment, ecosystem integrity, air and water quality, grizzly bear population, fish population, ungulate population, access to sacred sites and changes in time use (e.g. work time vs. unpaid work/traditional use).

In most cases, these GWI can be “populated” with data from conventional statistical sources such as Statistics Canada or provincial statistical agencies. Others would have to be developed using customized survey methods.

Unfortunately and typically in smaller communities as the Ktunaxa Nation (with only 1,137 citizens) conventional socio-economic statistical sources simply don't exist. For example, while Statistics Canada's census has some Aboriginal socio-economic data¹⁵, the community profiles for the KKTC member bands are limited to only educational attainment and population data.¹⁶ Our inquiry with the KKTC about other socio-economic data found no better information sources.

Without even basic, socio-economic data let alone natural resource and TUS statistics, clearly limits our capacity to produce a GWA system for the Ktunaxa Nation as we have done for larger municipalities (e.g. Edmonton, Santa Monica) or in the case of Nunavut where we benefited from a new statistical agency with the capacity to provide First Nation relevant data to populate the GWA model. In an ideal scenario, we would have like to have a household survey like the one developed for the Inuit of Nunavut. However, that is beyond the scope and budget of this study.

What data we had hoped to gather from the KKTC themselves was inadequate for our GWA, including the limitations of the KKTC TUS study (Keefer, et. al. 2003). The absence of conventional statistical data does not itself limit the capacity of the GWA as a process and accounting of well-being impacts.

How did we deal with the lack of quantifiable data? Quantifiable indicators is only one part of the GWA model. The other key attribute of the GWA is its qualitative well-being accounting method which uses a process of stakeholder consultation, dialogue and interviews to solicit subjective opinions and attitudes about key attributes of quality of life and well-being. The qualitative accounting process can also be used to solicit opinions about potential perceived impacts (i.e. opinions and attitudes) towards any given issues that impact upon well-being. It is this latter approach to well-being assessment which we used to conduct our First Nation impact assessment regarding JGR.

Through the stakeholder consultation and interview process, we could identify the key well-being attributes of most importance to the Nation and that would serve as proxy indicators of well-being. This qualitative or subjective inventory of well-being would also serve as a basis of asking interviewees what their sense of impacts to their personal, household and community's well-being from the proposed JGR (most of those we interviewed were relatively well informed about the scope and nature of the proposed JGR).

While qualitative analysis is our second preferred methodological option, we found the results robust and sufficient to complete our impact analysis. With input from 33 individuals, 19 through direct interviews, the results revealed a full range of well-being impacts that could be expected from the perspective of the citizens themselves.

The methodology and rationale we used for conducting our impact assessment based on qualitative input was described in Section 3.0 of this report. As noted, while ideally quantitative and qualitative input would be desirable to complete a Genuine Wealth accounting exercise, reliance on the robust oral input from a reasonable cross section of the First Nation population gave us some comfort in conducting a valid analysis of the potential positive and negative impacts of the proposed JGR. Given the quality of oral input and the nature of the values revealed towards JGR, these values carried sufficient weight to question the utility of more quantitative socio-economic impact analysis. We do not believe that the qualitative nature of the impact analysis made possible through our interview process diminishes in any way the capacity

¹⁵ After consulting with the human resources people at the KKTC and in examining statistics on DIAND's website and Aboriginal community profile data on-line we concluded that the data we needed was simply unavailable for purposes of our study and our GWA approach to impact assessment.

¹⁶ see Aboriginal community profile for the Columbia Lake Band.

http://sdiprod2.inac.gc.ca/FNProfiles/FNProfiles_PrintForm.asp?BAND_NUMBER=604&BAND_NAME=Columbia+Lake&ES=CUS&Q=3

to analyze the well being impacts of the proposed JGR. Indeed, if anything, the qualitative input through interviews provides poignant expressions of values and impacts.

For example, the sacred significance of the site is best expressed by spiritual reverence for the existence of the grizzly bear to roam freely in the Jumbo Creek area without the disturbance of a permanent resort. For many of the Ktunaxa Nation, the grizzly bear has significant spiritual value and is thus a key indicator of First Nation genuine natural wealth. Any impact on the grizzly bear's well-being resulting from the proposed JGR will be closely tied to a sense of loss in personal and spiritual well-being for many Ktunaxa, a loss of value which has no monetary commensurability.¹⁷ For many the very existence of the Jumbo area left undeveloped and remote backcountry is of a value that one could argue exceeds any monetized value of the financial returns to external investors in the JGR. We have then entered the realm of the "priceless" which are typically assigned to places, shrines or sanctuaries which have sacred importance that should never be disturbed.

These qualitative indicators related directly to quality of life and First Nations values can have at least as much importance as conventional socio-economic indicators of employment, income and educational attainment.

Genuine Wealth Impact Assessment

Using the quantitative and qualitative information compiled for each of the Genuine Wealth Account attributes, we could assess the potential well-being impacts of the proposed JGR project, drawing from the interviews with SIB and CLIB members, other band members, KKTC staff, and PPMC (Mr. Oberto Oberti) and his team. All interviewees were asked to express their opinions about their views on the potential positive and negative impacts of the proposed JGR.

Some of the impact issues and concerns raised by Ktunaxa people may overlap with issues already raised and with some addressed in the previous Jumbo impact assessment contained in the May 1998 *Final Project Report Specifications Appendix A: Background to Reporting Requirements*. We have made efforts to reference the relevant issues covered in this report with our impact analysis. We also considered the sustained efforts by the PPMC to promote the benefits to First Nations well being of joint venture opportunities to realize the benefits of the proposed JGR, including the PPMC's presentation of the project at the September 25, 2003 town hall meeting at Columbia Lake, and Mr. Oberti's fax of March 3, 2003 to Chief Sophie Pierre of the St. Mary's Indian Band of a paper titled *A Discussion Paper Leading to a Proposal for the First Nations Regarding the Jumbo Glacier Resort Project*. This latter paper outlined the PPMC's vision for a First Nations partnership in the resort project and spelled out some anticipated benefits to both parties. Finally, the PPMC's recent *Jumbo Glacier Resort Master Plan: Volume 6 : Socio-economic and Market Analysis* provides some details of the proposed benefits to First Nations of the proposed project. (We note, however, that these benefits are likely to accrue to the SIB only, given the bilateral negotiations between the PPMC and the Shuswap Kinbasket Development Corporation.)

The purpose of our Genuine Wealth assessment is to define the expected quantitative socio-economic impacts of the proposed JGR as well as the perceived impacts (positive and negative) to the economic, social and environmental well-being of both the SIB, the CLIB but also the other three member bands of the KKTC whose collective interests are presented and expressed by the KKTC.

¹⁷ In our interviews we discerned a kind of spiritual reverence for the grizzly bear that does not extend to black bears or other wildlife species. A few interviewees noted that they would never hunt a grizzly bear, because of its sacred nature, though they would hunt black bears which are considered utilitarian.

We examined the PPMC's draft *Jumbo Glacier Resort Master Plan Concept: Volume 6: Socio-Economic and Market Analysis* (The report was not dated but was sent by email from Pheidias Project Management on September 18, 2003 to Mark Anielski. for projections of First Nation socio-economic impacts including employment and other project opportunities. We cross-referenced these projected impacts with the expectations for development anticipated by the Shuswap Kinbasket Development Corp., which has been in negotiations with the PPMC regarding development opportunities. We also cross-referenced our analysis with the May 1998 *Final Project Report Specifications Appendix A: Background to Reporting Requirements* (which were validated December 2002). We considered Mr. Oberti's most recent letter to Chief Sophie Pierre, which promotes the benefits of a joint venture on the proposed project, presumably between the KKTC representing the Ktunaxa Nation as a whole, and Glacier Resorts Limited Partnership (L.P.) Finally, we considered Mr. Oberti's presentation and discussion of the proposed JGR to the September 25, 2003 town hall meeting with Ktunaxa Nation people.

At the September 25, 2003 meeting, Mark Anielski joined the Ktunaxa Nation community dialogue regarding the proposed JGR, sponsored by the KKTC. The afternoon community gathering was intended to provide an opportunity for the Ktunaxa Nation, as a community, to hear presentations by the PPMC (Mr. Oberto Oberti) as well as representatives from the Jumbo Creek Conservation Society about the proposed JGR. An in-camera session was later held to allow Ktunaxa people to express their feelings and opinions about the project. The KKTC use this kind of community dialogue process to solicit feelings, impressions and input from community members who are concerned about the potential "genuine wealth" impacts. Carrying on to the evening, a focused session with elders was held to explore some of the deeper and more intrinsic values of the Jumbo area.

The process of the September 25 community dialogue involved a focus group meeting at the CLIB hall, facilitated by Ray Warden of the KKTC. The meeting began with a presentation by Jumbo Creek Conservation Society, followed by a presentation by Mr. Grant Costello of the PPMC with Mr. Oberto Oberti fielding most of the subsequent questions from the Ktunaxa community. After the respective presentations there was a question period where Ktunaxa Nation peoples could pose questions to both the JCCS and PPMC, after which the session went in-camera with both JCCS and PPMC representatives leaving the hall for further discussion amongst the Ktunaxa.

After lunch KKTC facilitated the remainder of the community dialogue, in-camera with Ktunaxa citizens discussing issues of traditional use and archaeological resources in the Jumbo Creek area. Our own experience with community focus group consultation of this nature around quality of life issues, along with First Nation circle processes, suggests that this style of dialogue allows for valuable citizen input that is qualitative in nature, including values, principles, opinions, feelings, memories, and traditions. Some of these discussions were recorded in writing by Mark Anielski.

Following a recess for dinner, Mark Anielski invited a group of roughly 12 Ktunaxa elders and others who wished to join in to an evening dialogue to delve even more deeply into the values most important to the Ktunaxa people with respect to the Jumbo environs. The discussion lasted roughly 2 hours.

The following questions were posed by Mr. Anielski:

- What is important about the Jumbo site?
- What values are most important to you?
- How do you see the proposed Jumbo Glacier Resort in light of your values?
- What is at risk if the development proceeds?
- What will you gain?
- What will you lose?

Input from this dialogue was also incorporated into our study results. Some of the key issues raised included the perceived sacred importance of the Jumbo area.

As part of this community dialogue/consultation process, Mark Anielski was able to identify the core values and genuine wealth attributes and impacts for all bands that comprise the Ktunaxa Nation, including and especially the Columbia Lake and Shuswap Indian Bands. These included the potential socio-economic impacts (e.g. infrastructure development, employment and contracting opportunities, training opportunities), community impacts (e.g. social cohesion and quality of life), traditional use impacts (e.g. wildlife, berry picking, sacred significance of the area), and archaeological values.

The interviews, conducted between September 15 to November 30, 2003 by Mark Anielski, provided a rich and balanced account of the opinions and expected impacts of the proposed JGR. An healthy balance of SIB (7 members) and CLIB (7 persons) along with 3 members of the St. Mary's Band and 2 from the Tobacco Plains Band provided a sufficient, representative sample size to conduct our well-being impact assessment. The sample also included chiefs, councillors, elders and other respected members of their bands, some of whom are employed by the KKTC.

5. First Nations Genuine Wealth Assessment for Jumbo Glacier Resort

5.1 Limits to the Study

The primary limitation of our study was not the GWA model itself but rather but rather the lack of quantitative/statistical data on social, economic, health and environmental conditions of well-being of the Ktunaxa Nation. In other applications of the GWA, the statistical data is important to creating quantitative indicators of well-being to establish a baseline profile of economic-social-environmental well-being. Against this quantitative baseline "what if" impact scenarios could be tested.

In an ideal world and in our normal practice and application of the GWA model, we would start with a statistical data base (e.g. Statistics Canada) to construct a baseline inventory of well-being using numerous quantifiable indicators and then proceed to develop qualitative or subjective well-being indicators. Unfortunately, socio-economic and environmental data at the scale of a community as small as the Ktunaxa Nation (1,137 people) is generally unavailable. This was the case in this study where our initial expectations to gather the desirable socio-economic, traditional use and environmental data were challenged by lack of data from primary sources such as Statistics Canada (e.g. the most recent Aboriginal census results for the Ktunaxa Nation revealed only population and educational attainment data). We were also hampered by the lack of a solid baseline data set that we had expected from the KKTC's traditional use study and archaeological survey. Some useful information was revealed but not sufficient to conduct a meaningful spatial "what if" impact assessment from the perspective of Ktunaxa Nation households.

The only alternative solution would be to design a custom survey to inventory the well-being attributes considered to be aligned with the community's values.

For example, my work with the Inuit in constructing the Inuit Genuine Well Being indicators (Anielski and Pollock, 2002) benefited from a new Inuit-value-based household survey which had been developed to create one of the most robust First Nations household well-being profile based on Inuit traditions, lifestyles and traditional use.

Fortunately the GWA was designed to account for both the quantitative and qualitative attributes of well-being. The qualitative attributes and indicators of well-being can be solicited in several ways. The most effective way is through community/group dialogue and through one-on-one

interviews. Both methods were used in the JGR impact analysis. In our experience the qualitative input (i.e. attitudes and perceptions of quality of life issues) is at least as robust and important in assessing well-being through a more quantitative lens.

While some might feel concerned that the absence of quantitative information in our analysis may limit the utility of the results, we are of a different opinion. In some cases, the input received in a qualitative assessment of well-being can be as good if not better than conventional statistics particularly where well-being is of a more subjective nature. Just because a condition cannot be quantifiably measured does not mean that the expression of that condition or value in subjective terms is no less valid.

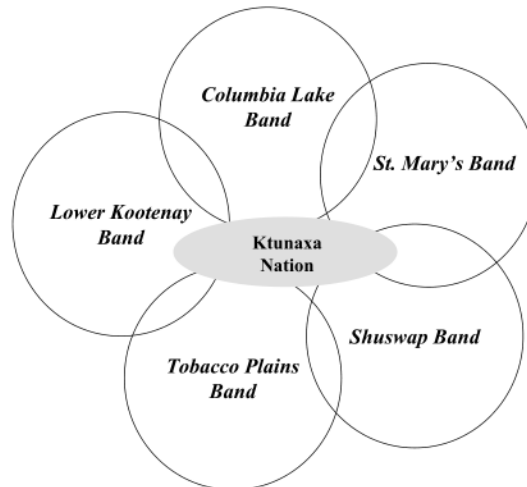
However, in future analyses of this kind it would be valuable to have a baseline of data that reflects the values of the community. The Inuit Genuine Well-Being Indicators framework (Anielski and Pollock, 2002) represents a benchmark for future First Nation well-being indicator development. A typical set well-being indicators for a First Nations community could include: employment rates, household income, household expenditures, income inequality, traditional use (e.g. hunting, berry picking), social indicators (e.g. crime rate, sense of community cohesion, reciprocity/sharing indicator, problem gambling, auto crashes), emotional and spiritual well-being indicators, health indicators (e.g. life expectancy, disease rates, smoking, suicide rates), educational/skills attainment, ecosystem integrity, air and water quality, grizzly bear population, fish population, ungulate population, access to sacred sites and changes in time use (e.g. work time vs. unpaid work/traditional use). These are just some examples of quantitative indicators which could form the base-line from which impact assessments could then be conducted.

5.2 Ktunaxa Nation: Five Bands; One Nation

While our original intent was to limit our assessment to the CLIB and the SIB only, the leaders of Ktunaxa/Kinbasket Tribal Council (KKTC), including various band Chiefs who govern the KKTC, advised us that all issues pertaining to the Ktunaxa Nation – people and territory – are under the governance of KKTC. The Ktunaxa Nation comprises five member bands of which the Columbia Lake and SIB are members. The Jumbo Glacier/Creek area is part of the territory claimed by the Ktunaxa Nation through the KKTC. This suggests that any decision pertaining to the development of the Jumbo Creek/Glacier area will ultimately be determined through a KKTC consensus process and resolution involving all five member bands. Thus any discussion of impacts of the JGR must involve all five member bands of the KKTC and cannot be limited to an analysis of SIB and CLIBs only. We also understand that although the KKTC process respects individual expressions of band values and economic development aspirations, the KKTC resolutions and processes overrules band decisions on issues that impact the well being of the entire Ktunaxa Nation and its territory, which includes JGR. As consultants and analysts of the First Nations socio-economic impacts of JGR, we feel compelled to honour the Ktunaxa Nation governance and decision making structure.

Notwithstanding, our analysis inventories the values and the JGR impact concerns of all First Nation stakeholders, including the expressions of the Ktunaxa Nation through the KKTC and its resolutions, as well as the individual expressions by the SIB and CLIB. Our analysis honours these expressions and identifies a range of potential perceived impacts from a cross section of Ktunaxa Nation people.

The Ktunaxa Nation comprises 7 member bands (5 located in Canada and 2 in the United States). The title exists in the name of the Ktunaxa Nation (one Nation but five communities identified as “bands” identified under the Indian Act). The Ktunaxa Nation holds title, from which rights flow. The five Canadian bands are: Columbia Lake Indian Band, St. Mary’s Indian Band, Shuswap Indian Band, Tobacco Plains Indian Band, and Lower Kootenay Indian Band. KKTC speaks for the Ktunaxa Nation in Canada, as their governing body.



The Nation speaks as a unified body of five Canadian member bands through its governance structure – the Ktunaxa/Kinbasket Tribal Council (KKTC) -- on all issues pertaining to the overall well being and development of the Traditional Territory which the Ktunaxa Nation claims as theirs. This includes any considerations of development of the Jumbo Creek environs.

The KKTC also empowers a Treaty Council, an arm of the Tribal Council, to negotiated territorial and land claim matters. KKTC is in the midst of stage 4 of a six stage B.C. treaty process. KKTC is taking a territory approach and is looking at respective relationships over the entire territory and system that includes the Jumbo Creek/Glacier area.

The governance of the KKTC aims at consensus decision making, which can be onerous and time consuming in arriving at a collective decision. Although we were sensitive to understanding the individual Band views and expressions regarding the Jumbo Creek proposal, we felt that because of this consensual approach, resolutions which expressed the KKTC’s official opinions about the proposed Jumbo Resort proposal would reveal the “values” and “principles” of the people of the region and the Ktunaxa Nation more significantly than any other analysis of values and principles guiding individual bands or the Nation as a whole.

The KKTC operates similarly to a government body; however, their governance is by the rule of consensus. Consensus decision making can be onerous and time consuming in arriving at a collective decision. Thus we were interested in knowing how and on what values-basis the KKTC, as a Nation government, expressed its official opinions about the proposed Jumbo project. We thus focused on resolutions, both current and historical, which expressed an opinion about the Resort proposal. Yet we were sensitive to understanding the individual Band views and expressions regarding the Jumbo Creek proposal. This would reveal the “values” and “principles” of the people of the region and the Ktunaxa Nation more significantly than any other analysis of values and principles guiding individual bands or the Nation as a whole.

According to archaeologist Wayne Choquette, understanding the cultural origins of the Ktunaxa Nation and Kinbasket peoples is important to understanding the diversity of values of each of the five bands which make up the KKTC. According to Wayne Choquette (personal, October 1, 2003), tracing the lineage of these people is a challenge, since the Ktunaxa have lost so much of their history and relationship with their ancestors, the Qatmuknik, mostly due to the decimation from disease from European settlers. Choquette only recently came to appreciate the significance of the Qatmuknik and the origins of the Ktunaxa, from listening to the conversation of elders.

The Qatmuknik resided in the area for more than 10,000 years, including regular use of the Jumbo Creek environs. The Qatmuknik, the original CLIB, were spoken of by elders as having used the Kootenays in the summer for salmon fishing, and then wintered on the Invermere side, possibly using the Jumbo Pass as the easiest passage through the Purcell range. According to elders, the Qatmuknik were mentioned by Alfred Joseph and named for the Jumbo Pass - Jumbo Creek corridor, the *Qatmu*, which they used. So the *nik* (the people) were identified with the *Qatmu* (the travel corridor) and the movement across the mountains to winter in the Columbia Lakes wetlands. This suggests the importance of the area, especially to the CLIB.

Choquette explains that technically there is a distinction between the Ktunaxa Nation (which includes the Columbia Lake Indian Band) and the Kinbasket peoples (the Shuswap Indians). The Ktunaxa had been decimated by diseases and the Kinbasket (i.e. the Shuswap Indians) migrated into the area in the 1800s. The Kinbasket people encountered the Ktunaxa Nation and its people and negotiated that they could stay there. The Ktunaxa say that they welcomed them and let them stay. The Stoneys also came from the Assiniboine area and moved south settling into the Bow River Valley rather late, then moved across the mountains into the head waters of the Columbia River and made an alliance with the Shuswap against the Ktunaxa. There was probably a truce, recognizing that no one would go away.

The Shuswap are now strongly intermarried with the Ktunaxa. But the Ktunaxa do not recognize the Kinbasket as part of their Nation. They differentiate the Shuswap people as a distinct group. The Ktunaxa/Kinbasket relationship is a political alliance. According to Choquette, the Shuswap Indian Band maintains a relationship with the Ktunaxa Nation through the KKTC as one of convenience and for this reason often present their interests as separate from the other four bands that make up the KKTC. To the Ktunaxa Nation, the Kinbasket are considered as the Shuswap People. "Kinbasket" refers to the name of the patriarch of a Shuswap family: Peter Kinbasket. Kinbasket was the patriarch of the Shuswap family and by the time they entered the Rocky Mountain trench they were already considered as Kinbasket.

The Shuswap are more likely to have a clan/family structure, unlike the Ktunaxa people who did not have strong social organizations. The Ktunaxa did not have clan, cast or house structures of organization; their social organization was based on self-organizing adaptation to the changes in their natural environment and thus their social organization was contingent on changes in the resource and natural world. As a result, the Ktunaxa Nation developed a very flexible governance structure where bands self-organized according to the needs and skills required to survive. The nature of the Ktunaxa Nation is tied more closely to the land than to their ancestry. Choquette speculates that the Qatmuknik were similar in social structure. If the head of a band died, the band would most likely disperse and go back to their original families. Bands typically would form strategic alliances based on logistical common purposes (e.g. this is why there are 7 bands in Montana which may have existed for only one generation and come together for strategic and logistic purposes).

With the onset of European settlement, the descendants of the Qatmuknik were decimated by disease and their remnant, only a shadow of what they were in pre-settlement days, ended up forming bands and being segregated onto reservations. The outcome is five bands, essentially created by the federal government, constituting roughly 1,100 people that make up the current KKTC and who live on the reservations. In essence, both the bands and band councils are administrative creations of Indian Affairs.

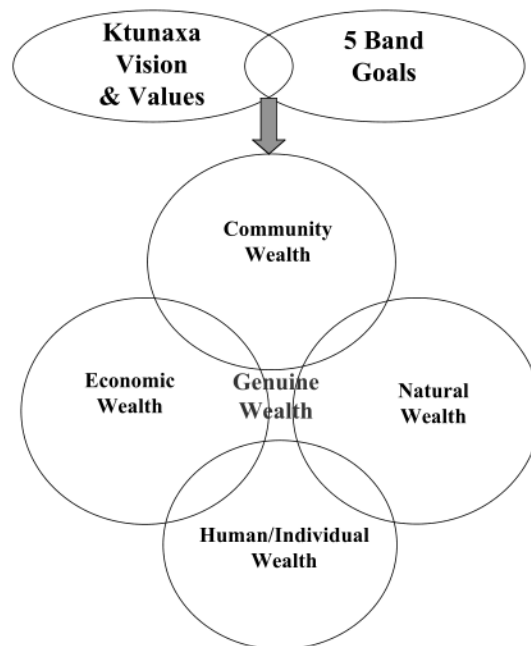
A Tribal Council such as the KKTC is a collective unit representing all of the bands. The original Tribal Council was formed in 1975 by the Ktunaxa Nation to deal with Indian Affairs and rights-related issues, and to provide safety in numbers that could more efficiently deal with social and economic well being issues such as housing, health, and education. This made sense administratively as the basis for interaction with federal and provincial governments and with inter-First Nation relationships. However, in traditional times the Ktunaxa had no equivalent administrative structure and only got together as individual bands based on common needs, meaning that the Ktunaxa do not have a strong cultural tradition of central government. Sophie Pierre, Chief of the St. Mary's Band, as administrator of the K/K Tribal Council, had the difficult task of serving effectively as the Grand Chief, which had no precedent in the Ktunaxa Nation history.

These important cultural roots help explain some of the differences (which we explore later in this report) in the values expressed by the KKTC, the CLIB and the SIB, especially the differences in the relationship with the land and wildlife, and differences in the sense of the sacred qualities which were expressed by many towards the Jumbo Creek area. It is apparent that the memory of the Qatmutnik people still pervades many of the First Nations of the region.

5.2.1 Ktunaxa Nation Values and Band Goals

What are the values, vision, and goals of the Ktunaxa Nation? The Genuine Wealth assessment begins with an examination of the Ktunaxa Nation values, operating principles, goals and expectations of genuine progress of the community. Within the Genuine Wealth model the Ktunaxa Nation visions, values and goals are related to four general genuine wealth categories: community wealth, natural wealth, human/individual wealth and economic wealth.

Ktunaxa Nation Genuine Wealth Framework



The Ktunaxa Nation shares a common vision statement. Each of the five member bands has its own unique set of goals in pursuit of well being aspirations (see below). It is important to honour the diversity of values and opinions within the Nation, particularly in reflecting differences of opinion amongst individuals and band leaders within each of the bands as they relate to the Jumbo Resort proposal. Yet, the Nation speaks through the KKTC as its governing body.

5.2.2 Ktunaxa Nation Vision Statement

The Ktunaxa Nation has expressed the following vision statement:

As a Nation we are striving to achieve strong, healthy citizens and communities speaking our language(s) and celebrating who we are and our history in our ancestral homelands working together managing our lands and resources within a self-sufficient, self-governing nation.

5.2.3 Ktunaxa Nation Demographics

The Ktunaxa Nation constitutes a population of roughly 1,200-1,300 people with relatively equal distribution amongst the five bands (see Table). The KKTC Bands have a total combined reserve land base of roughly 50,000 acres.

Table 2: Ktunaxa Nation Population Statistics

Ktunaxa Nation Band Populations

	On Reserve	Off Reserve	On Other Reserves	Total
Shuswap				
Numbers	62	121	36	219
% of total	28%	55%	16%	
Columbia Lake				
Numbers	135	76	39	250
% of total	54%	30%	16%	
St. Mary's				
Numbers	251	69	4	324
% of total	77%	21%	1%	
Lower Kootenay				
Numbers	92	100	12	204
% of total	45%	49%	6%	
Tobacco Plains (1)				
Numbers	*	*	*	140
% of total	*	*	*	
Totals (2)	540	366	91	1,137

(1) Tobacco Plains population figures are estimates

(2) Sub-totals do not include Tobacco Plains Band

* not available

Source: September 2003 Registered Population

Derived from 1996 Canada Census by Statistics Canada for

Department of Indian and Northern Affairs

The diversity of residency amongst the five bands may say something about the strength and social cohesion of each band. For example, the SIB with 219 members (19% of the Ktunaxa Nation population) has 28% of their members living on the SIB reserve, 55% living off-reserve

and another 16% on other reserves. By comparison, St. Mary's Indian Band (with 28% of the Ktunaxa Nation population) has 77% of their members living on reserve, 21% off reserve and only 1% living on other reserves. Columbia Lake also has more members living on reserve (54%) than off reserve (30%). These are important statistics since they may say something about the quality of life and sense of community experienced by each band on their reserve land.

5.2.4 Ktunaxa Nation Position on Jumbo

According to the report *Jumbo Glacier Resort Project Review: Final Project Report Specifications: Appendix A- Background to Reporting Requirements (May 20, 1998: p. 194-195)*:

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While the CLIB and KKTC are opposed to the project, the SIB have expressed the following views on the project, mostly in support of the proposed JGR (BC EAO, 1998: 195):

- *"The SIB is proud of the traditions of First Nations, and wishes to preserve the unique insight of its ancestors into the relationship between man and nature;*
- *the SIB does not fight nature, but works with it, and is part of it;*
- *the bear is also part of the SIB nature, and the SIB knows where the bear is, and lives with and respects it;*
- *the SIB also lives with, respects, and works with other people;*
- *the SIB sees a future for tourism in the region, because the SIB is not here to combat economic growth, but to participate and assist in it;*

- *tourism is the economic future of this part of the Kootenay region, and the SIB views with favour serious initiatives which will contribute to regional growth;*
- *the SIB can contribute to, and is seeking ways to participate in, this growth;*
- *the SIB does not want to await the outcome of treaty negotiations before economic activity can occur;*
- *the SIB finds the proposed Jumbo Glacier project interesting, and wishes to learn more about it;*
- *the SIB is disturbed by some antagonistic positions toward the project;*
- *the SIB does not believe that the white man has yet learnt good judgment and to understand nature;*
- *the project may be good for the valley;*
- *the SIB wants to see a co-operative approach taken both in the project committee and in the Columbia valley; and*
- *although the SIB has many commitments, it will try to find time to consider the project."*

The KKTC's opposition to the JGR proposal was stated on June 21, 1995, when the KKTC reviewed the proposed Jumbo project and raised several concerns and conditions about the project. They laid out specific conditions for the proponent and B.C. Government if the proposal were given approval. They also passed a unanimous resolution on September 20, 1995 opposing the Jumbo project proposal. It reads as follows:

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At the time of the resolution, the PPMC's proposal called for an initial phase of 2 resort building with 300-400 beds at the head of Jumbo Creek valley, with a growth expansion to 6,500 beds in 4 'village' nodes along the valley and 50,000 skier-days per year, a resort comparable to Sunshine Village in Banff National Park. The current September 2003 Jumbo Resort proposal calls for a

smaller scale development (i.e. smaller spatial footprint) of roughly 112 hectares¹⁸) with a slightly reduced capacity of 6,250 bed accommodation (5,550 tourist beds and 750 staff beds)

The 1995 resolution opposing the Jumbo Resort proposal was signed by Alfred Joseph (Chief of Columbia Lake Indian Band), Josephine Shottanana of Tobacco Plains Band, Chief Sophie Pierre (Chief, St. Mary's Indian Band), and Chad Luke, Chief of the Lower Kootenay Band. The SIB was absent from the November 20, 1995 meeting and did not sign the resolution. Based on the most recent band census data for 2003, the resolution would have represented 81% of the Ktunaxa Nation population. The KKTC aims to govern on a consensual basis, which effectively means that if there is agreement amongst a significant majority of Chiefs then a resolution stands approved as a position of the Ktunaxa Nation.

"The view of the Jumbo Glacier Resort development is that it is an activity that has not garnered the full support of the First Nations community. If we have a strong showing of consensus, as a Nation, then we have to present that consensus. The title to the Jumbo area exists in the name of the Ktunaxa Nation ('tunaha'), one Nation but five communities identified as "bands" identified under the Indian Act. That is who holds title and rights flow from that. The position of KKTC – the political entity of Ktunaxa Nation – is that they have not been in support of the development. They have yet to be provided with new information to change that position. "

Kathryn Teneese, KKTC Treaty Negotiator

Prior to the 1995 resolution a position respecting the Treaty process and the proposed Jumbo Glacier Resort was taken and adopted in August 4, 1994 which stated:

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This 1994 resolution laid out a number of conditions that would have to be fulfilled, in their entirety, to entertain any development of the JGR prior to the resolution of the Treaty process (which is now in Stage 4 of negotiations). The title to the Jumbo Creek area exists in the name of the Ktunaxa Nation, one Nation encompassing five communities identified as "bands" under the Indian Act. The Ktunaxa Nation holds title, and the rights flow from that. It is important to note that KKTC, in Treaty negotiations, is taking a territory approach and looking at respective relationships over the entire territory and ecosystem.

The 1995 resolution by the KKTC has not been revisited, although the PPMC (on behalf of GRL) has presented subsequent revised proposals of the proposed development to the KKTC for their consideration, including the most recent presentation on September 25, 2003. Since 1995 the KKTC feels that they have yet to be provided with information from PPMC (on behalf of GRL) that would warrant a change to the 1995 resolution (personal conversation with Kathryn Teneese, KKTC Treaty Negotiator September 22, 2003). In accordance with the KKTC rules of governance, a strong showing of consensus was presented in 1995, a resolution that applies to this day.

¹⁸ This information is based on information contained in PPMC's Jumbo Glacier Resort: Project Proposed Outline (www.jumboglacierresort.com) provided to Mr. Anielski on September 25, 2003 (but which is undated on the document) notes that "The design is centred on a compact grouping of small-scale building in a pedestrian environment, covering 40 acres (16 hectares) when fully developed, and a low density chalet area that will cover a maximum of about 238 acres (96 hectares)." (p. 9). The document compares the proposed Jumbo Resort footprint with the Panorama resort of 600 acres (242 hectares) and notes that it would be a magnitude of "one to ten" relative to Whistler/Blackcomb (at least in terms of the resort size). They do suggest that the ski area itself (i.e. runs) will be "similar, but will run over a higher and larger territory of glaciers" compared with Whistler/Blackcomb.

The CLIB has, like the KKTC, rejected the proposed JGR development as early as 1995 and as recently as October 2003 in a new band resolution opposing the revised project proposal from PPMC (these issues are covered later in 5.2.2.3 of this report).

5.2.5 The Proponents Position on First Nations

According to JGR project materials provided by the PPMC (2003) and in discussions with Mr. Oberto Oberti and his team (September 26, 2003 in Cranbrook), there has been an ongoing expression of interest in cooperating with First Nations in potential joint ventures from “the beginning of the project proposal in the early 1990s, with frequent meetings with the local Shuswaps and developing a relationship with the former Chief. (p. 12)” Mr. Oberti noted that “Specific business proposals were discussed over the years with the Economic Development Office of the Shuswap First Nation in Invermere” ...including “to design a project that would not be different if it were designed as a project to further the First Nations business objectives in sustainable tourism, and to create a unique opportunity for an entry into a tourism project for them” (p.12). The document notes Copyright

In addition to these project benefits for First Nations, the PPMC's report (*Jumbo Glacier Resort: Project Proposal Outline*) spells out other potential opportunities for First Nations including:

- Guiding
- Ski patrol
- Avalanche control
- Business partnerships in the hospitality industry
- Development of an interpretive centre
- Development and running an environmental monitoring station
- Provision of water and sewer services by a public utility company owned and operated by First Nations (i.e. Shuswap Kinbasket Development Corporation).

In discussions with Mr. Oberto Oberti on September 26, 2003, he made reference to the St. Eugene Mission resort complex on the St. Mary's Indian Band reserve as a model for the kind of First Nations joint venture development the PPMC envisions. Indeed, the St. Eugene's Mission resort, golf course, casino and First Nations interpretive centre does serve as a model or

benchmark for First Nations tourism development where benefits (e.g. employment, revenue sharing) accrue to Ktunaxa Nation as a whole. However, the St. Eugene Mission resort was developed through a lengthy consultative process of the Ktunaxa Nation people through the KKTC); this is clearly different from the process being followed in the case of the proposed JGR. To our knowledge the only commitment of a potential First Nations joint venture with Glacier Resorts L.P. has been with the Shuswap Kinbasket Development Corporation, without any commitment or expressed interest by the KKTC, the governing body which represents the interest of the entire Ktunaxa Nation.

In our opinion, the PPMC has been acting in good faith and goodwill towards the First Nations in communicating the potential opportunities of the proposed JGR with the First Nations, particularly the SIB and the KKTC. The PPMC is also sensitive to the importance of resolving the Treaty process that is currently in process and which includes the Jumbo Creek area within the scope of the territory identified by the KKTC.

5.2.6 Assessment of Ktunaxa Nation Values with Respect to Jumbo

From the perspective of our values-based Genuine Wealth analysis, the KKTC resolution in 1995 represents a strong and unequivocal expression of the Ktunaxa Nation's values rejecting the JGR proposed development of the Jumbo Glacier/Creek area. Because the KKTC, as a governing body, speaks for the Ktunaxa Nation's collective interests, we believe that the opinions and collective resolutions of the KKTC with respect to the proposed JGR need to be honoured.

We also respect the reality that the KKTC and the Ktunaxa Nation is a community of five bands who have their own aspirations and values. We honour those differences. These differences are evidenced in the differences of opinion towards the proposed JGR by the SIB and the CLIB. Dean Martin, CEO of the Shuswap Kinbasket Development Corporation (SKDC), noted that the SIB supports the proposed JGR for the area and has empowered the SKDC (a third party) to negotiate development opportunities with the PPMC. However, after some attempts, we could not locate a Shuswap Band resolution that expressed support (or reservations) about the proposed JGR. Given Clarissa Stevens reluctance to return our repeated calls¹⁹ to clarify these issues, we are left with position that we are uncertain whether or not the Shuswap Band is unified in its support of the proposed JGR, other than the strong support expressed by Dean Martin and Matt Nye of the SKDC. Mr. Martin suggested that he spoke on behalf of the SIB position with respect to the JGR.

However, in our interviews of 7 SIB members, including councillors and other band members, the feelings towards the JGR were mixed; some were strongly opposed, some ambivalent, one acquiesced to other authorities, and some strongly favour the project (personal conversation with Dean Martin October 9, 2003).²⁰ We could only conclude that the JGR is a divisive issue within the SIB.

In contrast to the SIB, the CLIB appears unified in its strong opposition to the proposed JGR, rejecting the new JGR development proposal in an October 8, 2003 Band Council resolution. The CLIB, who are neighbours with the SIB as well as a member band of the KKTC and Ktunaxa Nation, share a common interest in the potential benefits and costs associated with the proposed JGR. The reasons for the collective opposition vary but they appear to be primarily around the

²⁰ What we could not confirm is whether the Shuswap Indian Band Council passed a resolution in support of the JGR. Mr. Martin noted, however, that the Band Council has empowered the Shuswap Kinbasket Development Corp. to negotiate development on the Band's behalf and has signed a letter of intent with the proponent. However, in our conversations with other Shuswap Indian Band members it was apparent that there is a lack of consensus within the Band towards Jumbo, even strong opposition by some members. Indeed, we were concerned that the only strong expression of support for the project came from Dean Martin, the CEO of the Shuswap Kinbasket Development Corp. which would be the beneficiary of a joint venture with Glacier Resorts L.P.

sense that the Jumbo Creek area has sacred value, and that no development of a permanent nature as proposed should occur in the area.

These strong differences of positions on Jumbo between at least the SIB and CLIBs is significant and important to our analysis. Since ecological economic analysis is concerned with issues of fairness, equity and distribution of benefits and costs, it would be insufficient to conduct our “what if” impact analysis without consideration of the issues of equity and fair distribution.

The weight of the KKTC resolution of 1995 rejecting the JGR proposal²¹ is particularly significant since it represents a collective Ktunaxa Nation’s position of values that reject the proposed potential benefits to First Nations from the proposed JGR. The 1995 resolution is a significant expression of the consensus values of the Ktunaxa Nation, while honouring differences of opinion and values within their consensus process. From our understanding of the decision making process used by the KKTC, decisions are made through consensus. Our understanding from discussions with Kathryn Teneese (KKTC Treaty Negotiator) is that by the time a resolution (such as the 1995 resolution) is signed, it has effectively been approved in advance of a final resolution. From a Genuine Wealth accounting perspective, the 1995 KKTC resolution is akin to a vision statement (supported by principles and virtues) for the Jumbo Creek area that fundamentally rejects the type and scale of the economic development proposed.

What is clear is that any decision regarding the development of the Jumbo Creek area is an issue of the Tribal Council as a Ktunaxa Nation values issue. Even potentially revisiting the 1995 Resolution, in light of new evidence about the JGR, will ultimately require a collective Tribal Council decision.

We would interpret the KKTC rejection as saying that either a) the expected costs to well being of the Ktunaxa Nation outweigh any potential benefits for developing the JGR or b) that the project is simply unacceptable from a position of the shared values of the Ktunaxa Nation. According to discussions with the KKTC the 1995 resolution has not changed, notwithstanding repeated efforts by the PPMC to communicate the merits of newly revised proposals of the JGR to the KKTC.

In our opinion, the process for gaining support for the proposed JGR is unlike the development of the St. Eugene Mission resort, which used a very open process under the leadership of St. Mary’s Indian Band Chief Sophie Pierre, ensuring that the project involved full KKTC and Ktunaxa Nation support with local First Nation ownership by the people.²² Given that the St. Eugene Mission resort, casino and golf course represents an important comparable benchmark for First Nations economic and tourism development, we asked ourselves why the proposed JGR is so different. Why has the proposed development been so divisive? Why would the KKTC reject potential economic benefits, that on paper, appear similar to those achieved with the St. Eugene Mission? Answers to these questions are at the heart of our socio-economic impact assessment for the JGR.

Any socio-economic impact assessment for the First Nation must be sensitive to the potential costs to social cohesion or social capital that might result from project that may result in an inequity of benefits and costs within an otherwise cohesive Nation. Issues of equity are central to ecological economics and a key component of the Genuine Wealth assessment model. In our professional judgment, any estimated benefits need to be analyzed in terms of their accrual primarily to the SIB, given the rejection of the proposed development by the KKTC on behalf of the Ktunaxa Nation and by the CLIB in a band council resolution of October 8, 2003. This

²¹ We originally questioned the importance of the absence of the Shuswap Indian Band at the November 20, 1995 meeting and the absence of the former Shuswap Indian Band Chief Paul Sam’s signature. However, in our understanding of the governance structure of the KKTC, the absence of the Shuswap signature does not diminish the weight of a Tribal Council resolution that expresses an consensus opinion on behalf of the entire Ktunaxa Nation. The resolution effectively represents 81% of the population of the Ktunaxa Nation.

²² These opinions about the St. Eugene Mission resort development were expressed by a variety of First Nations people we interviewed including a key member of the Shuswap Indian Band.

effectively represents an inequity within the Nation where 81% of the population (representing the four bands of the KKTC, excluding the SIB) are opposed to the project, suggesting they perceive the “costs” to their well being far outweigh any potential benefits.

Nevertheless, potential benefits have been identified by the Shuswap Kinbasket Development Corp. and by the PPMC (2003b), which we have identified and assessed.

5.3 Band Values, Goals and Positions on Jumbo

The following sections provide a profile of each of the five bands, including populations and the place of residence, as well as vision and goal statements. The purpose is to compare and contrast the different vision and goal statements of each band as a way of revealing any differences in values, particularly with respect to understanding positions on the proposed Jumbo project. We examine, in more depth, the positions and opinions of two bands (CLIB and SIB) towards the proposed Jumbo project. For reasons of confidentiality in socio-economic research we cannot reveal the source of a statement, unless the person is speaking in an official position of authority.

5.3.1 Shuswap Indian Band (SIB)

Table 3: Shuswap Indian Band Population (Statistics Canada, 2003)

	On Reserve	Off Reserve	On Other Reserves	Total	% of Ktunaxa Nation Population
Shuswap					
Numbers	62	121	36	219	19%
% of total	28%	55%	16%		

5.3.1.1 Vision and Mission:

The Band believes that pride and the achievement of self-sufficiency strengthen individuals who are the foundation for the achievement of the Band's goals. In addition, strong strategic alliances, the continuation of networking, achievements of self-sustaining families, and control of natural resources are also priorities. Two strong priorities of the SIB are education and self-government.

5.3.1.2 Goals:

- 1) Achievement of self-government and self-sufficiency,
- 2) Increase the career choices of the membership,
- 3) Provide meaningful opportunities for youth,
- 4) Increase the education level of membership through the promotion of completion of, and return to education,
- 5) Create employment opportunities,
- 6) Maintain 100% completion rate of Shuswap high school students,
- 7) Maintain zero drop out rate of Shuswap high school students from Grades 8 to 12,
- 8) Uphold and promote strong cultural values,
- 9) Preserve and / or develop the most valued aspects of the traditional culture and values,
- 10) Concentrate, establish and demonstrate small successes,
- 11) Promote and establish Band and individual owned business,
- 12) Generate revenue and income,

- 13) Achieve economic stability and independence,
- 14) Maximize jobs with potential for permanent, meaningful work in order to ensure widespread distribution of economic and social benefits.

Allotted in 1884, the SIB comprises 1,106.1 hectares (2,733 acres) in one reserve located near Invermere, B.C. Highway 93/95 dissects the reserve running north to south. This section of highway has the highest traffic flow anywhere in the Columbia Valley.

5.2.1.3 Views and Positions on Jumbo:

The SIB has historically shown the greatest support for the proposed JGR project. Previously noted views of the SIB on the proposed JGR project include:

- *“The SIB is proud of the traditions of First Nations, and wishes to preserve the unique insight of its ancestors into the relationship between man and nature;*
- *the SIB does not fight nature, but works with it, and is part of it;*
- *the bear is also part of the SIB nature, and the SIB knows where the bear is, and lives with and respects it;*
- *the SIB also lives with, respects, and works with other people;*
- *the SIB sees a future for tourism in the region, because the SIB is not here to combat economic growth, but to participate and assist in it;*
- *tourism is the economic future of this part of the Kootenay region, and the SIB views with favour serious initiatives which will contribute to regional growth;*
- *the SIB can contribute to, and is seeking ways to participate in, this growth;*
- *the SIB does not want to await the outcome of treaty negotiations before economic activity can occur;*
- *the SIB finds the proposed Jumbo Glacier project interesting, and wishes to learn more about it;*
- *the SIB is disturbed by some antagonistic positions toward the project;*
- *the SIB does not believe that the white man has yet learnt good judgment and to understand nature;*
- *the project may be good for the valley;*
- *the SIB wants to see a co-operative approach taken both in the project committee and in the Columbia valley; and*
- *although the SIB has many commitments, it will try to find time to consider the project.”*
(BC EAO, 1998: 195)

Our goal was to affirm the strength and prevalence of these views amongst the SIB. We did this through a series of interviews with key members of the SIB. We interviewed or met with seven SIB members to explore the values and expected impacts of the proposed JGR, including Clarissa Stevens (“Chief”²³ and councilor of the SIB), Dean Martin (CEO of the Shuswap Kinbasket Development Corporation), a Band Councilor, another senior member of the SIB who works for the KKTC, three other Band members, and Matt Nye (CFO of the SKDC).

Our interviews revealed a range of opinions from strong support of the proposed JGR to ambivalence to acquiescence to the SKDC (as a agent of authority) on the issue of the proposed JGR and economic development. This range of opinions suggested less than unanimity amongst some of the key members of the SIB.

We had hoped that a SIB band resolution would provide evidence of a unified SIB position on the JGR. However, after repeated requests and attempts to consult the senior members of the SIB,

²³ As previously noted, we were unable to confirm the official title of Clarissa Stevens but know that she, along with Marg Eugene serve as councilors on the Shuswap Indian Band Council and also serve on the board of the Shuswap Kinbasket Development Corp. speaking for the interests of the Shuswap people.

we were unable to source a Band Council resolution that either supports or rejects the proposed JGR. According to SKDC's CEO, Dean Martin, the Band Council has given approval to the SKDC to negotiate agreements with the PPMC (on behalf of GRL) on behalf of the Band Council. In our interviews we were referred to Dean Martin as the key spokesperson on the issue of the JGR. While we made several attempts to interview Clarisa Stevens to clarify the Band's position on the JGR, she did not return our calls, so we were unable to confirm her own views or the position of the Band Council.

Positive Positions

The most strongly held position on the proposed JGR of the seven SIB members we consulted was that of Dean Martin, CEO of the Shuswap Kinbasket Development Corp. (SKDC), expressed in a lengthy discussion. Mr. Martin is a clear promoter of the project and holds a strong vision for the potential benefits for his SIB. This bullish support for the JGR was not evidenced amongst the other 6 SIB members we interviewed. Many deferred their opinions to the apparent authority of the SKDC on the project and one senior member expressed strong reservations about the project.

"We are excited about the Jumbo project. If we had any serious concern about the proposed project we would have rejected it earlier.... This is a good business opportunity and we want to exercise our options"

Dean Martin
Shuswap Kinbasket
Development Corp.

According to Dean Martin, the SKDC has negotiated with the PPMC (on behalf of GRL) a phased-in process of development. The Band is reported to have signed a letter of intent with the JGR Proponent (GRL) through the SKDC, which has been empowered to negotiate on behalf of the band. No formal contracts are yet in place. At this stage, contracts would be deemed to be premature from a business standpoint until the project has been reviewed and passed by the Government.

The SKDC is governed by a Board which has two band council members on the Board. Those two band councillors (including the Band Chief and a Councillor) represent two voting shares on the Board, and represent the 219 SIB members. The SKDC holds all

development leases on behalf of the Band. Individual corporations are set up separately to protect each opportunity entity or facility. The goal of the SKDC is to enrich and advance economic development opportunities for the SIB.

Employment estimates: Dean Martin noted that given the speculative nature of the proposed JGR, any expected employment benefits for the SIB would be rough estimates. He noted that there are roughly 100 Band members who are employable out of 219 members. Mr. Martin anticipates between at least a half a dozen or more SIB members (possibly as many as 20) could be employed during the project construction phase and through to full time operations. Ideally the SIB would want employment agreements in place. Many of these people currently work in the forestry sector. Some might find meaningful employment in the JGR both during construction and during full time operations. The JGR is also expected to attract off-reserve members (currently 55% of their population) back to the reserve community by providing them with meaningful employment opportunities.

This is currently not the case with other ski resorts in the area including Panorama and Kicking Horse resorts. Both the operators of Panorama and Kicking Horse resorts noted that they do not currently employ First Nations people at their facilities (email communication with Justin Downes, Area Manager of the Kicking Horse Mountain Resort, October 10, 2003 and personal communication with the manager of Panorama Ski Resort, October 7, 2003). Kicking Horse did have First Nations employees in the past, but not at this time. Nor do they currently have a policy around hiring of any particular race or persuasion other than an initial mandate to hire from the local community wherever possible.

There has never been a partnership of this kind between First Nation and a developer; so this could be a unique case. Mr. Martin indicates the SIB is not interested in getting caught up in treaty negotiations but wants to be an integral part of this regional economic development to ensure opportunities are available to the Shuswap people. Mr. Martin notes the Shuswap respect the Treaty process but want to ensure that if economic development opportunities come to their region that they are front and centre at securing meaningful opportunities for their people.

Trapping: The SIB holds the Taynton Creek to Jumbo Creek trap line lease. According to Dean Martin, any loss of the current trap line benefits will be trumped by the economic development benefits of the JGR. Shuswap is not concerned about the loss of these benefits against the prospect of greater economic benefits.

Sacred Nature of the Area: According to Mr. Martin, all things are sacred. To a Native the earth, water and air is sacred. Mr. Martin does not believe that developing Jumbo violates the sacredness of the Jumbo area. In his view developing the Jumbo area means taking and enhancing something and getting more from it for his people, like farming and raising livestock. He sees his people in the new age of economic development.

Another member of the SIB expressed support for the project and for the vision of Mr. Oberti in bringing such a project to the area.

Negative Positions

The following were negative opinions expressed by SIB members towards Jumbo:

An elder woman from the SIB:

- “As long as what has been missing from the Shuswap perspective is that the feelings are coming out and we are taking the next step... This will definitely have a huge impact on the area that I don't think is positive... I lived up in that area and my uncle and Dad were both loggers and lived up there. This kind of activity is part of the harvest but to have something in the magnitude in what has been proposed [JGR], the ecosystem can't handle it, both from up there and down below... I lived up there in the valley and most of the impact will happen in between the seasons. The area will be overrun by tourists. Economy-wise who is going to live up there and support the kinds of project he [the proponent] hopes for... Most of the people who are in tourism don't live in the area and they don't bring their money to stay here, they come here and then leave nothing. I'm pretty well aware of the outside forces coming in and not living in the area.”
- “In terms of wildlife, the wildfires have already displaced animals. The project will have huge impacts. The grizzly bear can quickly become your neighbour; you have to have respect for them. It is their home, not our home. We need to respect them. I know from the years I lived there [Jumbo Valley].”
- “The backcountry is what we hold as something special that we do want to share it. You have to do it [development] in a way that is respectful. A lot of us are hikers and we will hike days to get to places. It is all part of the experience. Building a huge development in there and asking the world to come here is not very well thought through. We don't want another Lake Louise. My understanding is that they were hoping to melt the glacier down. You leave these things of nature alone.”
- “I can understand economic development but we need to look at the long term effects, the sustainability and longevity.”
- “The ones that feel development is legitimate they clearly have vested interests with a very short vision. The St. Eugene Mission development used a different approach to

development. There has been a far more inclusive process that involves more of the people. With lease agreements all you are is a slum lord so now the rest of us have to live with it. We own St. Eugene Mission. At Shuswap we don't own the Super 8 or the restaurant or the golf course....We need a collective motion as a Nation. St. Eugene Mission used a very open process and Chief Sophie Pierre ensured that the project would go ahead but with local ownership by the people...The Jumbo project is coming from elsewhere and is not coming from home like St. Eugene Mission."

- "The scale of development would present irreparable damage to the Jumbo Creek Area. The main point is that there are people who go in and out of the area with far less intensive use of the area than a permanent facility."

An elder and SIB councillor:

- "Talk to Dean Martin. He speaks for the Shuswap on Jumbo, Panorama and other developments in their traditional territory."

Other Positions

Other positions of the remaining SIB who provided input ranged from ambivalence to acquiescence to the SKDC on the issue of the proposed JGR.

5.3.2 Columbia Lake Indian Band (CLIB)

Despite the traditional Ktunaxa name for this area, *Akisiq'nuk* meaning, "two bodies of water", referring to the Windermere and Columbia Lakes, the CLIB reserve lands are adjacent to the east shore of Windermere Lake and north of the town of Fairmont Hot Springs. The one reserve occupies only 8,405 acres and is dissected by Highway 93/95. The total area of the reserves of all the Canadian Bands is roughly 50,000 acres. The current estimated population of the CLIB is 250 (see Table 3), a majority of which live on the reserve.

The Columbia Lake Indian Band members are probably the most direct descendants of the ancient Qatmuknik. Many members trace their lineage back to the original Qatmuknik and thus have a strong sense of relationship with the land through their ancestral heritage. The CLIB are the second closest in proximity to the Jumbo Creek area and are neighbours with the SIB.

Table 4: Columbia Lake Indian Band Population (Statistics Canada, 2003)

	On Reserve	Off Reserve	On Other Reserves	Total	% of Ktunaxa Nation Population
Columbia Lake					
Numbers	135	76	39	250	22%
% of total	54%	30%	16%		

5.3.2.1 Vision and Mission:

The CLIB is committed to economic development through support of individual business initiatives, training, and mentorship programs. The Band believes community economic

development plays an integral role in the advancement of their community, government, Nation and people and has thus established the following goals:

5.3.2.2 Goals:

1. Maintain and preserve the culture and values;
2. Achieve self-government, self-sufficiency, and economic independence and stability;
3. Develop the community in a holistic manner;
4. Identify and recognize current and future needs of membership;
5. Continue offering a full range of programs and services;
6. Increase wealth and income for Band members;
7. Maximize jobs with potential for permanent, meaningful work in order to ensure widespread distribution of economic and social benefits;
8. Ensure the community remains safe, and;
9. Promote education.

These goals will be achieved by concentrating energies on enhancing and strengthening the sectors of Career, Employment & Education, Culture, Health & Wellness, and Economic Development.

Despite the traditional Ktunaxa name for this area, *Akisiq'nuk* meaning "two bodies of water" referring to the Windermere and Columbia Lakes, the reserve lands are adjacent to the east shore of Windermere Lake and north of the town of Fairmont Hot Springs. The reserve occupies 8,405 acres.

5.3.2.3 Views and Positions on Jumbo:

To gain an understanding of the views of the Columbia Lake Indian Band, we interviewed seven key members of the Band including Chief Mary Jimmy, elders, and other members, some of whom also work for the KKTC. In addition, 10 of the 20 or more who attended the afternoon and evening September 25, 2003 town hall meeting at the Columbia Lake Indian Band hall were from the CLIB, including some who asked questions of the Mr. Oberto Oberti (PPMC) or provided input during the community dialogue. We have attempted to capture some of these opinions in our assessment of values and positions.

Overall our impression is that the CLIB is unified in its opposition to the proposed development of the JGR. This opinion was prevalent in our interviews as well as during the September 25, 2003 town hall meeting. As with the SIB, we inquired with the CLIB whether the band had taken previous positions through band council resolutions on JGR. They noted that they were signatories to the 1995 KKTC resolution against the proposed JGR. On October 8, 2003, in consideration of the newly revised JGR proposal from PPMC, the CLIB Council passed a unanimous new resolution that rejected the current JGR development proposal. The reasons for rejecting the proposed development vary (some of these are expressed in the negative opinions towards the project), however, they represent sustained opposition to the project and its potential benefits for the CLIB and First Nations, in general.

Positive Positions

We found no positive positions towards the proposed JGR project either from the 7 CLIB members we interviewed nor the input from CLIB members at the September 25, 2003 town hall meeting.

Negative Positions

Some of these negative positions were expressed in the following terms:

- Some people expressed the opinion that the Jumbo Creek valley and environs should simply be left alone.

"This site [Jumbo Creek] is sacred to me because this is where we came from."

Columbia Lake Indian Band elder

- "When I look at a map of our area, including the Jumbo Creek area down to Kettle Falls this our spirit trail. It should be protected. The importance of our spirit trail should be put down in the impact assessment."
- "The grizzly bear are one of us, they roamed the land just like us. This one of the last places they have left. Leave the bears in peace. Berry picking is of significance to them. Huckleberries, strawberries, and other berries."
- "Water: where are they going to get it from? Wind changes can happen in seconds; wind gusts can be extreme. What happens when snow gusts."
- "Elders speak of the use of the area to access this valley in the Columbia Lake... I have an interest in walking the land one day as the elders did before us... to hear Grandfather speak... I still say no to the resort."
- The grizzly bear is spiritually significant species for many members of the Ktunaxa Nation, particularly for the CLIB who have a longer legacy and relationship to the area than the SIB. Many members view the grizzly bear as an indicator of the spiritual value of Jumbo Creek and thus have formed the opinion that the area should not experience the kind of permanent development proposed.
- "The animals are important and we must care for them because they are given by the Creator. We are responsible for the animals. Deer, elk, moose...we need to protect this area for them. We have a close relationships with the animals that keep nature in balance."
- "Because of the Quakmutnik, our ancestors, we are here. If they [Quakmutnik] weren't here and sacrificed for me then I wouldn't be here. They did it for me. That is sacred. Our ancestors fought so I could live and be here. As a younger generation I'm not prepared to give it up just because someone wants to go skiing on a glacier. I am speaking from my heart. There is no way I want this area given up. This is sacred land for me, for us, for my children. How am I going to explain this to my grandchildren if the site is developed when they ask "why?"... Some places are simply not meant to be touched."
- "My ancestors sacrificed their lives, their blood for my well being."
- "I see the big picture of what the Treaty is doing... the territory is the big picture. Instead of site specific and narrow minded (some still think in narrow minds), we have to think about how we are acting as a Nation. The Creator gave us four colors that we need to share with each other."

5.3.3 The St. Mary's Indian Band

The St. Mary's Band, located approximately 6 km southeast of the City of Cranbrook in the East Kootenays region of British Columbia, has a population of 324 (see Table 4). Situated on the largest of the Band's four reserves, the Band is home to many other First Nations people living in the area. The St. Mary's Indian Band is part of the Ktunaxa Nation. *A'qam* has been the home of the Ktunaxa, or "people of the dense forest or brush", for thousands of years. Today, the area is known as Cranbrook.

"Joseph's Prairie, now known as Cranbrook, has been a traditional gathering place of Ktunaxa people for thousands of years. Cranbrook is now the gathering place for people of all Nations".

-Ktunaxa elder Leo Williams

St. Mary's is known as *A'qam*, or "people of the dense forest or brush" in the Ktunaxa language. *A'qam* has been our home for thousands of years. Today, the adjacent area known as Cranbrook is home to more than 16,000 people, and is considered to be the main service center of the Kootenay region.

Table 5: St. Mary's Indian Band Population (Statistics Canada, 2003)

	On Reserve	Off Reserve	On Other Reserves	Total	% of Ktunaxa Nation Population
St. Mary's					
Numbers	251	69	4	324	28%
% of total	77%	21%	1%		

5.3.3.1 Vision:

Elders are our most precious cultural resource, and they play many very important roles in our community. The youth in our community represents the centre element of our vision of the future.

5.3.3.2 Goals:

1. Increase citizenship interest and participation in education
2. Improve communications, participation, activities and events
3. Increase our knowledge of non-aboriginal issues and concerns
4. Eliminate seasonal employment cycles
5. Develop the tourism industry
6. Increase wealth and income for Band citizens

5.3.3.3 Economic Development and St. Eugene Mission Resort

"The St. Eugene Mission is a gem that represents what can happen when a people have a dream and decide to work together."

Chief Sophie Pierre
St. Mary's Indian Band

The St. Eugene Mission resort, casino and golf course development on the St. Mary's Indian Band reserve is a model for First Nations economic development that engaged the entire Nation in consultation and consensus building. It serves as an important benchmark for comparison with the proposed JGR, since it has similar tourism and economic development characteristics and desired outcomes. Many First Nations people we interviewed pointed to St. Eugene Mission as an example of economic development that involved consensus decision making through the KKTC to yield benefits (e.g.

employment and income sharing) that accrue to the entire Nation.

What is particularly remarkable about this development is that the original facility, a former Oblate-run residential boarding school, held strong and regrettable memories for many Ktunaxa Nation people. Copyright

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(<http://www.kahtou.com/images/townsmen.html>). This profound comment remains the interpretive centre's mission statement. The entire St. Eugene project is the only development in Canada where First Nation's people decided to turn the icon of an often sad period of its history into a powerful economic engine.

The St. Eugene Mission resort is an example of economic development that directly benefits the entire Ktunaxa Nation. All five bands and their people, as well as members of the non-native community, have benefited from the development in terms of employment and other economic benefits. The leader of this benchmark project, Chief Sophie Pierre, noted that, "The St. Eugene Mission is a gem that represents what can happen when a people have a dream and decide to

work together.” (Hills, 2003) Initiated in 2002, the \$40 million St. Eugene Mission Resort project includes the Delta St. Eugene Mission Hotel, Golf Course, Casino and a new Ktunaxa Interpretive Centre. First Nations people were employed in the construction stage and now in the management of the resort .

The St. Eugene Mission project was led by Chief Sophie Pierre, Chief of St. Mary’s Indian Band and KKTC Administrator, winner of the 2003 CANDO individual economic developer of the year award, and winner of the 2003 National Aboriginal Achievement Award for her role in the successful completion of the St. Eugene Mission resort. The St. Eugene Mission development represents economic development that is consistent with the Ktunaxa Nation vision, values and goals, as well as those of the member bands.

Over 240 permanent jobs were created as a result of the new resort, making the KKTC the third largest employer in the Kootenay region, and over 100 potential business and economic development related tie-in opportunities have been identified for development by future entrepreneurs (Hills, 2003)

The resort itself currently employs many First Nations people (Roxanne Wolfhead, KKTC, Human Resources, personal communication, October 15, 2003):

- Casino: 110 total employees (16 First Nations)
- Delta Hotel and Golf Course: 90 total employees (22 First Nation of which 15 are employed in seasonal maintenance)
- BC Lottery Corporation: 7 employees (2 First Nations)

In addition to the resort, Chief Pierre led her community through the creation of a primary school, a day care facility, a native plant nursery, a new water system, a special care facility for elders, and a stable, progressive government that is widely recognized for its sound business management.

The process of developing the St. Eugene Mission was a consensus process engaging the whole Ktunaxa Nation, that led to a unified position and has now realized sustained economic benefits for the entire Nation and for the St. Mary’s Indian Band. As Chief Pierre noted, “We all know that business development on First Nations land is more complicated, more time consuming, and more expensive” (Hills, 2003). She also notes, “We’re hoping that Band Administrators, Human Resource and Economic Development Officers and related professions will be interested to hear our story – what we’ve done within the Ktunaxa Nation is somewhat unique in Canadian aboriginal economic development.”

According to Bev Hills, Communications Coordinator for the KKTC (Hills, 2003), a strong project team worked slowly through several stages from the initial business opportunity and project concept plans through financing through to construction and now management of this luxury resort. As a KKTC project, the development team had to reach consensus within the five KKTC communities, and then over the years the final project emerged. A number of ancillary studies were conducted including environmental impact analysis, social-economic benefit impact analysis, financial feasibility studies, land use plans and human resource development strategies. At least three rounds of community meetings for the resort were held in the designation of the head leases; one of the conditions of the casino license was to demonstrate community support from all five bands in the KKTC. Thus the development of the resort and the casino involved a very extensive consultative process. Chief Sophie Pierre was central in leading the process. Consultation is critical to social cohesion within the KKTC. In our opinion, the process used in developing the St. Eugene Mission stands in stark contrast to the process being used to gain support of the Ktunaxa Nation for the proposed JGR, particularly in terms of the process of engaging the entire Ktunaxa Nation, through the KKTC, in a consensus process.

5.3.3.4 Views and Positions on Jumbo:

Given the leadership within the KKTC and the Ktunaxa Nation that the St. Mary's Indian Band has shown, we felt it relevant to interview key members of the Band, including Chief Sophie Pierre whose leadership was central to the consensus approach used to develop the St. Eugene's Mission resort.

Chief Sophie Pierre, one of the signators to the 1995 KKTC resolution rejecting the proposed JGR, restated her opposition to the proposed JGR as late as December 12, 2003 noting that she rejects the current JGR project as proposed by PPMC/GRL and remains in full support of the original 1995 Tribal Council resolution (Chief Sophie Pierre, email sent December 4, 2003 email to Mark Anielski confirming her position on the proposed JGR as shared with Michael Keefer of the KKTC on December 2, 2003). Sharing the views of the KKTC Chief Sophie Pierre is not opposed to ski resort develops, per se, but is opposed to the proposed JGR for the Jumbo environs for reasons articulated in the most December 12, 2003 KKTC Traditional Use and Archaeological Overview study. Chief Sophie Pierre's opinions carry significant weight amongst the Ktunaxa people given her record of wise and effective leadership in terms of economic development for her people.

Another St. Mary's Band members expressed these opinions about the proposed JGR:

"I don't personally see any need for this [JGR]. Not everything is being taken into consideration, by the proponent [Mr. Oberti²⁴]. When it first started I was most concerned about grizzly bear population. The answers from the proponent [Mr. Oberti] to my concerns I felt were mostly self-serving that the grizzly bears don't matter... But, the wildlife that were there historically were meant to be there permanently... This Jumbo development of such magnitude is self-serving and unnecessary. The key issue are the grizzly bears... the bears themselves represent the significant sacred value... I'm a hunter and I would never shoot a grizzly bear... they are too personal, too sacred... they are not the dumb animals that people talk about... they should be given more respect than they are getting..."

One thing is when it comes to sacred sites, people want it to be known that they exist without pinpointing the exact place of the sacred site... they simply want others to be aware of its existence... When I can't get good and clear explanation from an elder I don't feel that pushing is necessary just the fact that is coming from the heart... the heart is good enough for me... With issues of the heart and sacred values, the need for depth and details are not an issue anymore...it is right there by action and emotion...the differences in band positions is an issue of self-serving attitudes. Some see only financial benefits and immediately see opportunities in their immediate area and they start drawing lines around their immediate community... but what happens to the rest of the territory.... I see the immediate danger of such narrow minded thinking, but it is hard to get beyond the limited financial focus."

²⁴ In most interviews we conducted Mr. Oberto Oberti is seen as the "proponent" of the proposed JGR

5.3.4 Lower Kootenay Indian Band

Lower Kootenay Band near Creston, BC are referred to as the Yaqan nukiy, "the people where the rock is standing." The reserves for the Lower Kootenay Band were first created in 1877 when roughly 7,300 acres was allocated. Today there are seven reserves totaling 5,988 acres. The majority of Band members and housing are all located on Indian Reserves 1A, 1B, and 1C, with the majority of remaining land leased for agricultural purposes or on flood plain.

Table 6: Lower Kootenay Indian Band Population (Statistics Canada, 2003)

	On Reserve	Off Reserve	On Other Reserves	Total	% of Ktunaxa Nation Population
Lower Kootenay					
Numbers	92	100	12	204	18%
% of total	45%	49%	6%		

5.3.4.1 Vision:

The Lower Kootenay First Nation strives to provide a full range of programs and services in a holistic manner to meet the current and future needs of the membership of Yaqan nukiy. This will be accomplished with the full participation of the community, through self government and self-sufficiency in harmony with Ktunaxa traditions.

5.3.4.2 Goals:

1. Maintenance and preservation of the culture, values, and harmony.
2. Achievement of self-government and self-sufficiency.
3. Identify and recognize the current and future needs of the citizenship.
4. Development of the community in a holistic manner.
5. Continue offering a full range of programs and services.
6. Achievement of economic independence.
7. Maximization of jobs with potential for permanent, meaningful work in order to ensure widespread distribution of economic and social benefits.
8. Increase wealth and income for Band members.
9. Preservation and / or development of the most valued aspects of the traditional culture.

Each program delivered by the Band also has its own goals which reflect the values and mission statement, and the goals of the Band's overall operations.

Yaqan nukiy, "the people where the rock is standing", the Lower Kootenay band near Creston, BC, was home of the distinct and unique sturgeon nose bark canoe. The location of the reserves in the Creston Valley creates many opportunities for the band in highway/commercial development and agriculture.

Reserves for the Lower Kootenay band were first created in 1877 when roughly 7,300 acres were allotted. However, today there are seven reserves totaling 5,988 acres. Agriculture constitutes the main economic activity in the Creston Valley. Fruit, corn, wheat and barley productions are the main products grown. The climate and topography of the area are compatible with growing potatoes, field peas and beans, for seeds and tame hay and the bench lands as well as tree fruit production, particularly apples, and berry crops on the bench lands above the flats.

5.3.5 Tobacco Plains Indian Band

Known as the *akun'kunik*, 'people of the place of the flying head', the Tobacco Plains band was also the "big village" or ancient capital of the Ktunaxa. Today, the Tobacco Plains band is active in agriculture, forestry, and commercial activities, and is recognized as an anchor of the Grasmere economy.

Located in the south-eastern corner of British Columbia in the Tobacco Plains Valley at the Canada - USA border crossing of Roosville, the Tobacco Plains Band reserves traces the Canada - USA border to the south and the Koocanusa reservoir system and Baynes Lake to the west. To the east is Waterton Lakes National Park which is revered for its scenic beauty. On reserve are two bodies of water - Edwards Lake and Shotnana Lake.

The one reserve of the Tobacco Plains Indian Band comprises 10,600 acres and consists of rolling hills with some steep sloping lands. The majority of the land is flat with open grassy low land areas promoting agricultural activities. Highway 93 dissects the reserve in the north / south direction. Roughly 5% of the total land base is held by locals and several plots bordering Edwards Lake are leased.

The population of the Tobacco Plains Indian Band is approximately 140 people.

5.3.5.1 Goals:

1. Education - improve the quality of educational programs, provide more career training and self-esteem services.
2. Administration - provide programs and services in a manner that is economical, efficient and accountable.
3. Social Development - provide resources to increase the employability and skills of the client.
4. Recreation - provide opportunities for social and recreation activities.
5. Economic Development - diversify the Band and local economy, improve the economy of the Band, identify and participate in opportunities that may be or are available.
6. Health - promotion of health education, and review health transfer and negotiate.

5.4 Assessment of Band Values

All five bands share similar aspirations for community economic development and well being of their communities. All share a common interest in self-determination, strong cultures, traditional use and desire for a healthy community and vibrant economy. As a whole, the Ktunaxa Nation and the KKTC have been a model of consensus-based, First Nations economic development as evidenced by the success of the St. Eugene Mission resort. The SIB has also shown economic development leadership in the development of the new water reservoir and distribution facility in Invermere.

However, on the issue of the proposed development of the JGR there are clear and marked differences in values and opinion between the KKTC, SIB and the CLIB. Despite the most recent attempts by the proponent [Mr. Oberti] to communicate the potential benefits of the project to First Nations, it would appear that only the SIB, and more specifically the SKDC, are in support of the proposed JGR. In our discussions with the KKTC, they affirmed that the 1995 resolution rejecting the proposed JGR remains in effect. The CLIB is unified in its opposition to the project, expressed in its October 8, 2003 resolution rejecting the proposed development.

For many, the Jumbo Creek area is viewed as sacred for both their culture and for wildlife, particularly the grizzly bear. This reverence for their ancestors, the Qatmutnik, who traveled the

area for thousands of years, appears to be part of the basis for the strong opposition to the development. The existence of the grizzly bear in the area is viewed as an indicator that the area has sacred significance and should be left undeveloped, at least without a permanent footprint of development. Many feel that the well being of grizzly and the future well being of the Ktunaxa are closely intertwined. Yet, even around these fundamental issues there are apparent differences of opinion.

How should we interpret these positions from the perspective of value differences and in consideration of the purposes of conducting an impact assessment for First Nations?

The SIB's apparent support for the proposed JGR might be interpreted as an affirmation that it is consistent with their values and aspirations for economic development; however, this interpretation should be tempered by the fact that our interviews suggest a lack of consensus within the band towards the JGR. The unequivocal opposition by the CLIB to the project is a clear expression that they are opposed to the project on grounds of band values. The KKTC rejection suggests the Nation's rejection of the proposal, notwithstanding the SIB position.

The unequivocal rejection of the potential socio-economic benefits of the project by the KKTC and the CLIB is akin, in economic terms, to stating that there is no willingness to accept any range of economic benefits that are projected by the proposed JGR in exchange for the loss of welfare or well being attributes that would result from proceeding with the project. No possible monetary value would be accepted as equivalent compensation. In other words, the Jumbo Creek environs can be defined as "priceless" to the KKTC and CLIB. In most conventional socio-economic cost-benefit analyses, a "price" or "opportunity cost" can be defined whereby a willingness to pay matches a willingness to accept for a development option. No such price exists in this case.

This sense of the priceless value of the Jumbo Creek environs was reflected in the responses of many of the First Nations people we interviewed, who were unwilling to consider the quantitative impacts to their economic, social and natural wealth. This suggests that any quantitative impact analysis is seen by many First Nations people as hypothetical and irrelevant. This is why much of our subsequent analysis of the impacts to the "genuine wealth" of the KKTC, CLIB and SIB are based on qualitative analysis.

In standard economic theory we have entered a complex area where there is effectively no willingness to accept (WTA) (either monetary or other in-kind compensation) of at least one party (the KKTC and the CLIB) for the willingness to "pay", by the GRL of the JGR, to develop the natural capital asset of the Jumbo Creek environs for a ski resort. However, it can be said that the SIB are willing to accept a price (e.g. jobs and infrastructure development spin off benefits) for developing the natural capital asset. For economists this means that, in the case of the KKTC and CLIB, that the WTA values are infinite. These are referred to as essential goods (Adamowicz, et.al. 1998 and Victor Adamowicz, email correspondence, November 12, 2003).). However, this presents a measurement challenge as it is always possible to say that the good is essential, but in revealed actions it is not. Furthermore, there may be some things that are essential in aggregate but not at the margin (e.g. water). Thus, this is a tricky issue. Some people also refer to this as lexicographic preferences. One of the challenges is that there may not be a monetary compensation that would provide a potential Pareto improvement, but there could be a non-monetary compensation (e.g. in kind or resource compensation). However, as we move into the range of sacred values we are into what some economists (e.g. Adamowicz) would call the "taboo" range of values, which is outside the realm of potential Pareto improvement tests.

It appears that the sacred value of the area to the CLIB, with the grizzly bear as one indicator species of the sacred importance of the place, may be the reason why no Pareto improvement is possible or deemed desirable at least for the CLIB and if the KKTC 1995 resolution can be interpreted as such an expression. We interpret the CLIB and KKTC response as saying that maintaining the Jumbo Creek area, as is, is essential in the aggregate (that is, it includes the entire ecosystem and all its respective species). There is no "margin" (e.g. scale) at which

compensation is desirable or can be negotiated for any size resort development in the area. Nor is there any acceptable in kind or resource compensation that the KKTC and CLIB would accept from the GRL. This has been the history of the relationship between the KKTC and the PPMC (on behalf of GRL) for several years. Of course, this situation poses a complex analytic that would lie outside the realm of conventional economic analysis.

Our quantitative impact analysis might only focus on the estimated potential benefits to the SIB who have already estimated some preliminary benefits (jobs, income, revenue sharing and other infrastructure development opportunities) based on the proponent's proposal and offers for development opportunities. The same proposal/offers have also been extended to the KKTC and the CLIB. To our knowledge both the KKTC and the CLIB have carefully considered the same potential socio-economic benefits and joint ventures offered by PPMC/GRL but have been repeatedly rejected these offers. Their rejection of the PPMC/GRL offers of potential joint benefit ventures is not because either the KKTC or the CLIB have not estimated any potential socio-economic benefits, per se, but rather their opposition appears rooted in their values towards the sacred significance of the proposed development area; the importance of leaving the area "as is", that is, in its current backcountry, *de facto* wilderness condition for the well-being of current and future generations.

Given these clearly delineated positions it would be inappropriate to manufacture fictitious socio-economic benefits from a potential JGR development to either the CLIB or KKTC when there is a clear statement of disinterest from both parties, with the KKTC carrying a greater weight speaking on behalf of the entire Ktunaxa Nation.

To proceed with development that is supported by only the SIB would seem to risk splitting the Ktunaxa Nation, the KKTC and introducing a distributional inequity within the community of the Nation and potentially undermining the current political and social cohesion of the Nation. The SIB would gain from their perceived socio-economic benefits from the project while the rest of the Ktunaxa Nation would lose in terms of a loss of overall well being.

Because our GWA considers the important value of social cohesion we believe proceeding with any development under the current circumstances would come at a significant cost to social cohesion.

As noted, the KKTC's past history in economic development (namely the St. Eugene Mission resort) shows that the Ktunaxa Nation is not opposed to recreation, tourism or general economic development. Indeed, the KKTC have shown unique leadership in community economic development through a robust consensual decision making process that involves all five member. In this light, the rejection of the proposed JGR by the KKTC and in particularly the rejection of the proposed development by Chief Sophie Pierre is significant. Despite more than six years of communicating the potential benefits of the proposed JGR, while sustaining unilateral negotiations with the SKDC, the PPMC (on behalf of GRL) has been unable to win the collective confidence and support of the KKTC or the CLIB.

5.5. Genuine Wealth Assets and Genuine Wealth Indicators

Listed below are the genuine wealth attributes and suggested indicators that we believe are of significant value to the Ktunaxa Nation, collectively, and which can be used to assess the positive and negative potential social, economic, and environmental impacts of the JGR development proposal. Most of the evidence we were able to gather was of a qualitative nature. Exceptions were estimates of employment and infrastructure development which provided either by the PPMC (on behalf of GRL) or by the SKDC.

Some information on traditional use and archaeological resources came from the KKTC the traditional use and archaeological overview study (Keefer et.al. 2003).

Much of our evidence of perceived benefits and costs to well-being came from the input of First Nation peoples, through interviews and the town hall meeting of September 25, 2003. The result is a series of "genuine wealth indicators" that were identified as a basis of determining the impacts to well being that are expected from the proposed JGR. A more comprehensive assessment and discussion of specific attributes are analyzed where significant genuine wealth issues have been identified. This list provides an inventory of interests and concerns that were raised by First Nation members we interviewed, not listed in any particular order of importance.

We recognize that some of these issues may have already been identified in the *Jumbo Glacier Resort Project Review: Final Project Report Specifications: Appendix A- Background to Reporting Requirements (May 20, 1998)* as being resolved for the purpose of the EA review or beyond the scope of the review. This should not diminish their importance to those First Nations who expressed concern with these well-being attributes. With respect to issues identified in the Final Project Report Specifications as requiring additional information to complete the review, no one will be in a position to state whether these issues have been adequately addressed until all information has been provided.

A. Community Wealth (human and social well-being)

A1. Archaeology and heritage resources of ethnic significance:

The most important genuine wealth value for the Ktunaxa Nation is the ethnic significance of the Jumbo Creek valley and Jumbo Pass known as the ancestral site of their predecessors, the Qatmuknik. The place or area of Jumbo Creek, Jumbo Pass and areas extending into East Kootenay and to the Columbia wetlands was originally named "Qatmu", and the people of the valley the Qatmuknik.

Based on recent archaeological studies completed for the KKTC, the mouth of Glacier Creek revealed archeological evidence of stone that came from an ancient stone mine in the Golden area. Finding the stone, estimated to be older than 8,000 years, possibly as old as 10,000 years, indicated that the First Nations (Qatmuknik) were using the Jumbo Creek and Jumbo Pass corridor for over 8,000 years. The most recent evidence of movement across the pass dates back only 1500 years ago to Stoddard Creek. An arrow point that dates to 500 years ago made from north Kootenay Lake rock quarry was found on this side of the corridor. This finding, of no surprise to the Ktunaxa, confirms the importance of the movement through the Toby Creek/Jumbo Creek area and Jumbo Pass corridor.

Archaeological studies looked at the junction between Toby and Jumbo Creeks. Creek junctions are a good place to overnight, hunt and relax. Tourmalite rock which must have come from mines further south was found there, evidence that people may have journeyed up the larger valley or along the Purcell mountain rib.

Fire broken rock was also found in the area. Rocks were heated by the Qatmuknik to boil water and for sweat lodges. When heated rocks hit the water, the rock breaks in a distinctive way that could only have been from fire pits. This rock, strong evidence that people were cooking in this area, was found right in the middle of the junction of the two creeks.

Earl Grey Pass is very steep and rough up and down, and has no water and few resources. Although Jumbo Pass is a little out of the way, it is a saddle-like wide and long open meadow, with lots of edible plants, stones for tools, and animals as well. The field study found outcrops of quartzite used to create a very sharp rock tool. One outcrop was found with large grapefruit-sized boulders which could be used as hammers to smash quartzite rock to later fashion into tools. The hammers had lichen growing on the surface area of the hammer, but no lichen on other side, suggesting the rocks were most likely placed there hundreds if not thousands of years ago. The field study also found a tool made of quartzite with distinct signs of use for woodworking, hide preparation or other uses.

The study provides archaeological evidence of a camp of people very familiar with the Purcell Mountains, and evidence of use of the Jumbo Pass at the junction of Jumbo and Toby Creeks. There is a lot of archaeological evidence that could be disturbed by the proposed development.

The study also determined that the area and land is very young, geologically speaking. Evidence of regular slides suggests that much of the archaeological evidence is buried. Ash from the 1850 Mt. St. Helens eruption was found below several feet of rock debris, showing the regular occurrence of rockslides and avalanches.

This evidence, suggesting that the Jumbo area is of "ethnic significance" archaeologically, is of extreme importance, and demonstrates that this is a very special area. Such an archaeological asset has no monetary value equivalent. It is also of significant cultural value to the Ktunaxa people who are likely descendants of the more ancient Qatmuknik. The proposed Jumbo Resort would be placed right in the very heart of the ancient Qatmuknik travel and living area.

From a Genuine Wealth accounting perspective we would make the following arguments:

- 1) Genuine wealth includes natural capital (nature's well being), social capital (community well being), economic capital (economic well being) and human capital (individual well being)
- 2) The value of natural capital includes, among other factors, the socio-cultural value of natural capital.
- 3) In turn, this includes the spiritual value of places and/or features of the natural environment. (Chiesura and de Groot, 2003: 219-231.)
- 4) The KKTC, democratic voice of the Ktunaxa Nation, is on record as saying that under no circumstances would they agree to development of any kind of the Jumbo area: "...the Jumbo Creek area should never be considered for any development."
- 5) This is equivalent to saying that the value of the undeveloped Qatmu (Jumbo Creek) area is infinite to them.
- 6) This infinite value of the undeveloped area is inherently greater than any possible finite valuation of the benefits of a ski resort. The Ktunaxa-Kinbasket Nation has put this on record already in saying "*The Ktunaxa values that exist there now far outweigh monetary value.*"
- 7) A strict economic cost-benefit valuation, which looks at the costs and benefits to society as a whole, considers only the values of the costs and benefits of a project, not to whom they accrue. An infinite value outweighs any finite value, regardless of the property rights regime involved.

Our study indicates that the archaeological ethnic significance and heritage/cultural value of the *Qatmu* (i.e. Jumbo Creek environs) is the most important and “priceless” asset of all. Its importance accounts for the Ktunaxa Nation’s adamant opposition to “any development” of the area as proposed by the GRL/PPMC of the JGR.

A2. Social Capital: Community Cohesion and Quality of Life.

We have identified, from our interviews, that social cohesion is one of the most important community wealth or social capital values to the Ktunaxa Nation. Measuring and placing a monetary value on social capital is a complex issue. However, there can be little debate about the value to social cohesion of a consensus-based decision making process. The St. Eugene Mission development serves as an important benchmark against which the proposed JGR can be compared. The St. Eugene Mission resort development showed the value of a five-band, consensus process that resulted in collective support for the development and fair and equitable distribution of social and economic benefits, the majority which have accrued to First Nations. The St. Eugene Mission development demonstrates that the KKTC are capable and supportive of a consensus-based development process, and value the achievement of consensus at all stages of a project’s development from concept, business planning, financing, construction and operations. The socio-economic outcomes of the St. Eugene Mission development are clearly evident and measurable in terms of jobs, income/revenue sharing and other indirect economic spin off benefits, including the social capital dividends for the KKTC from the successful leadership of Chief Sophie Pierre.

Many people we interviewed expressed concern that the proponent’s proposed JGR development has failed to achieve the same community support that the St. Eugene Mission development has received. Many First Nations people we interviewed expressed concerns that the failure by the PPMC to gain the same KKTC (unified five-band) support for the JGR may damage social cohesion of the five-band community by driving a wedge between the SIB and the other four bands that comprise the KKTC. This would represent a significant cost to social cohesion, an important value to the Ktunaxa Nation, which has been enhanced through the previous successful St. Eugene Mission development.

We have every reason to believe that PPMC has made every attempt to develop a good relationship with the KKTC and the other four bands that comprises the KKTC. Yet, for various reasons PPMC has been unable to gain the trust and confidence of the KKTC in supporting the proponent’s vision of the potential benefits of developing the Jumbo Creek area as a glacier ski resort.

At issue is a greater understanding of the reasons for the strong and often vociferous opposition to the PPMC/GRL’s vision for the JGR development by the KKTC. These reasons are complex and firmly rooted in the values expressed by many people we interviewed. They could be summarized by a sense amongst many of the First Nations people that the PPMC/GRL has yet to engage them in a respectful dialogue about their value-based concerns about the risks to their well being that would result from the project. As noted, many have effectively said they have no interest in the economic benefits the PPMC/GRL anticipates and would rather leave the Jumbo Creek area in its current condition, as an area considered sacred for its existence and for grizzly bears. For many First Nations people, any permanent development, regardless of the nature or scale of such a development, would be unacceptable, imposing an immeasurable cost to their overall well being.

Many are concerned that should the project proceed without a KKTC consensus approval, social cohesion of the Ktunaxa Nation will be at risk. The costs of a loss of social cohesion and social capital amongst the entire Ktunaxa Nation are likely immeasurable. Such social capital depreciation costs would likely outweigh the socio-economic benefits of employing a projected 6 to 20 First Nation people, most likely from the SIB.

Our analysis suggests that in order to proceed with a satisfactory resolution of the issues that does not damage social or political cohesion of the Ktunaxa Nation, that the BC EAO and the PPMC/GRL needs to meet directly with all five chiefs (Chief's Council) of the KKTC to come to any satisfactory resolution on the proposed JGR and the Ktunaxa Nation interests.

A3. Traditions (art, music, food, celebrations)

Potential negative impacts to traditional practices were expressed by some members of the CLIB, including concerns about impacts on cultural practices and traditions that may result from project development and increased development in the Columbia Valley.

A4. Sacred Values

Many people we interviewed expressed a sense of the sacred importance of the Jumbo Creek valley, Jumbo Pass and environs proposed for development. These sacred values were expressed most poignantly at the evening session with Ktunaxa Nation elders on September 25, 2003 following the town hall meeting to discuss the proposed JGR.

Several members of the Ktunaxa Nation spoke about the sacred or spiritual nature of the Jumbo Creek area used by their ancestors the Quatmutnik for over 10,000 years. Spiritual values are difficult to identify or quantify yet were expressed by several elders.

Some First Nation youth and young parents also voiced passionate concerns about the potential desecration of their ancestors territory that would result from a permanent ski resort development in the proposed development area. Some expressed reverence for the Quatmutnik people who used the area, and valued their own bloodline as descending from their ancient predecessors.

Several elders and members from all bands of the KKTC expressed a spiritual and sacred reverence for the grizzly bear that inhabits the Jumbo Creek valley and adjacent Purcell Conservancy Wilderness area. The grizzly bear is viewed by many as a indicator of the sacred value of the area and the reason why the Jumbo Creek valley should be left undeveloped. A hunter and member of the St. Mary's Indian Band typified some of the feelings towards the grizzly bear, noting: *"The key issue are the grizzly bears... the bears themselves represent the significant sacred value... I'm a hunter and I would never shoot a grizzly bear...they are too personal...too sacred."*

A5. Equity (distribution of income and wealth) and Social Cohesion

Given a common concern about the loss of social cohesion, the importance of inequity in the distribution of socio-economic benefits due to the different positions of the SIB, the CLIB and KKTC towards the proposed JGR is an important value at risk. At this stage the SIB are the most likely primary beneficiaries of any JGR project benefits, despite the efforts of PPMC/GRL to promote the same benefits to the KKTC and CLIB.

As noted, should the project proceed without unified support by the KKTC and with a clear division between the CLIB and the SIB, a regrettable inequity would be introduced into the community risking current social cohesion. This would go against the equitable sharing of benefits achieved in the successful completion of the St. Eugene Mission development, led by Chief Sophie Pierre.

According to benefit estimates of the SKDC's Dean Martin there could be between 6 to 20 jobs created for SIB band members. While this may improve the income and employment conditions of the SIB it may result in a higher cost of loss of societal well-being of the Nation as a whole. It would be difficult to quantify the qualitative loss to genuine well-being of the

majority of the Ktunaxa Nation who oppose the project; however, the values at risk, as orally expressed, are real and significant.

Many interviewees expressed concern that proceeding with the project would result in the concentration of income and financial benefits/wealth in the hands of a few who would benefit the most from such a development, to the detriment of the common good of the community at large.

A6. Governance and Political Cohesion

A significant potential cost to community well being of proceeding with the proposed JGR without full KKTC support is a risk to the political cohesion of the KKTC governance system. It is unclear what the ramifications would be to KKTC and Ktunaxa Nation unity should the project proceed without collective KKTC support. The concern is that a bilateral agreement between SKDC and the PPMC/GRL would undermine the consensus-based governance structure of the KKTC that has proven effective in past economic development initiatives (i.e. St. Eugene Mission).

Some of the Ktunaxa Nation members we interviewed expressed concern that the Jumbo Review Process is a rubber-stamping exercise, and that the decision to proceed with the development has already been made.

Others expressed concerns about the sufficiency of time allowed to ensure First Nation input from all members of the five bands to ensure the credibility of the impact assessment.

B. Natural Wealth (environmental well-being)

The Jumbo Creek valley has substantial resources (wildlife, berries, medicinal plants, etc.) of important social, economic and cultural value to First Nations. The proposed JGR development is deemed likely to have serious impacts on wildlife habitats and populations. First Nations cite grizzly bears and black bears, moose, elk, white-tail deer, mule deer, mountain goats, wolverine, carnivores, furbearers and raptors as species of concern (BC EAO, 1998: 197) Some previous input to the JGR review expressed concern that species which will avoid the area because of the development will include grizzly bear, black bear, mountain goat, caribou, wolverine and elk (BC EAO, 1998: D3(B), p. A- 79).

According to the TUS/Archaeological Study (Keefer et.al. 2003: 25) *"When applying the Ktunaxa concept called ñaóqnumuŌtiâiâ to the proposed development one must look at the core Ktunaxa resources found in the watershed such as clean water, diverse ecosystems and wildlife, and question of how these resources would be impacted by the proposed development."* Keefer et.al. 2003: 25) note that because the proponent was not willingly to share relevant data with KKTC, that large parts of the study of ecological and traditional use impacts would have to be deferred to until the next stage of the EIA.

Moreover, the KKTC TUS study (Keefer et.al. 2003) is clear about the rights and title to the natural wealth of their traditional territory, including the Jumbo Creek area noting: *"this study effectively prove that Ktunaxa aboriginal rights and title have always existed and continue to exist in the Jumbo Valley. It was put forward by numerous members at the community meetings that the proposed development, if allowed to go ahead, would clearly constitute a major infringement on rights and title."*

B1. Wildlife

Based on KKTC inventories and other oral statements, there is evidence of an abundance of wildlife in the Jumbo Creek area. It is likely that the area provides an important connectivity through the valley over Jumbo Pass. Species of particular importance and concern include

the following:

Grizzly bears are very important particularly for their spiritual or sacred value to First Nations (BC EAO, 1998: 199) The grizzly's "existence" is a significant and sufficient reason to leave the Jumbo area alone. The Ktunaxa believe the grizzly bear is not only in the Jumbo Creek area but forms a larger regional population and thus requires an intact ecosystem for habitat.

Many elders speak about the importance of leaving the grizzly bear habitat alone. According to the majority of First Nations people we interviewed, the grizzly bear is revered as a sacred creature and is not hunted for this reason. As one elder noted:

"The grizzly bear is one of us. They roamed the land just like us. This is one of the last places they have left. Elders speak of the use of the area to access this valley in the Columbia Lake. We have an interest in walking the land one day as the elders did before us, to hear Grandfather speak. I still say no to the resort. Just leave the site alone. Leave the bears in peace." -- Columbia Lake Indian Band Elder

Grizzly bears are held in great reverence by the Ktunaxa Nation. There is a mystical or spiritual value to the grizzly bear which cannot be easily expressed in English. Some of the sentiments expressed towards the bears are that they "were here before us" and "they should be left in peace."

The value of the grizzly bear is echoed in the KKTC's TUS study (Keefer et.al. 2003: 25) which states: Copyright

MELP (Ministry of Environment, Lands and Parks) considers the Jumbo Creek drainage to be important for grizzly bears. According to the Jumbo Glacier Resort project review (BC EAO, 1998P: D3(B), p. A- 81), concerns about impacts to grizzly bear and Black bear habitat were identified. The review notes that "Spring and fall ranges are important for both Black and grizzly bears. As bears come out of hibernation, they move down to lower forage areas in the forested valley bottoms. However, they often move back up the valleys in mid-spring to feed on the high quality vegetation associated with early green-up on avalanche paths. Quality forage for bears in the fall is crucial if the animal is to store sufficient fat reserves for winter hibernation. These important fall ranges are often found on the mid-to-high-elevation south-facing slopes and lower segments of avalanche paths in drainages such as Jumbo Creek." The preamble to the review states: "It has not been established that the Jumbo Creek valley functions is a 'sanctuary' for any particular species. However, based on information currently available on the ecological requirements of grizzly bear, elk, black bear, mule deer and several other species which are known to frequent this valley (e.g. small furbearers), the potential for loss of habitat and disruption of migration patterns is a significant issue."

In a 1999 grizzly bear population survey prepared for GRL and the BC EAO of the Central Purcell Mountains, Strom, Proctor and Boulanger (1999)²⁵ summarized their

²⁵ MELP, after evaluating feedback on this issue from KKTC and Parks Canada, the public advisory committee and the public, recommended to the project committee that some grizzly bear field observations be required to provide a better understanding of grizzly bear habitat use and numbers. Thus, specification D.3(B)#12 requires the proponent to collect hair samples from grizzly bears within the area of expected direct and indirect impacts of the Jumbo resort for one field season for the purposes of genetic analysis. DNA analysis is to be performed

findings noting “History and extrapolation from other research efforts in the region suggest that there will be impacts associated with the development [JGR]. However, a comprehensive assessment of impacts and potential mitigation measures will be required in order to quantify and estimate the significance of post-mitigation, project-specific impacts and project-related impacts on grizzly bear populations and habitats.”

Some bear biologists, including the Province’s own wildlife experts, have expressed serious concerns about the potential impact on the grizzly bear population in the Jumbo Creek area. Particularly important is the location of the area immediately adjacent to the Purcell Conservancy. Grizzly bear biologist Dr. Michael Proctor is examining the possibility that the Purcell Conservancy is serving as a “bear incubator” or nursery for the region’s bear population (personal conversation, September 23, 2003). Such research is critical to understanding the significance of the Jumbo Creek area to grizzly bears and the potential impact of the proposed road development to Jumbo Valley (Alan Calder, email correspondence, October 20, 2003). The potential impacts to the movement and breeding of grizzly bears in the Jumbo Creek area could be considerable, even with mitigative strategies by the PPMC/GRL.

Proctor and other bear biologists have studied the impacts of road fragmenting and isolating bear populations and habitat in B.C., Alberta and the U.S. A key concern is that putting any upgraded road into the Jumbo Creek area would increase human traffic and thus the potential for making the Jumbo Creek area a “sink” for bears to become attracted to. Also, the potential for a road being extended over the Jumbo Pass into the West Kootenay area would effectively cut off the movement of female grizzly bears to the north of the Purcell Conservancy. While such a road is not currently being proposed, the risk of such a road being considered in the future is clearly heightened because of the Jumbo Resort proposal.

Michael Proctor’s work has shown that isolation of bears and bear gene pools is possible when roads transect their migration routes and create complete or partial barriers to bear and wildlife movement. These barriers can create a sink situation where bears restricted to Jumbo Valley could become nuisance bears for the Resort. This would most likely increase the risk of mortality of the bears.

In a conversation with Biologist Trevor Kinley, he noted that studies show there were a number of bears in the proposed development area, but that surveys have been at a rather dense scale of inventory (Trevor Kinley, personal, September 22, 2003). He noted that there are certainly bears in the upper Toby Creek area. Kinley noted that the terrain in the upper Toby Creek area makes for a good place for bears to cross from the North side of the Purcells. This is a more desirable route for North-South migration than Horse Thief Creek, which has steep terrain.

Alberta-based grizzly bear expert, Dr. Brian Horejsi, also confirmed the importance of the Purcell Conservancy as the potential “heart” of the grizzly bear range, which lies adjacent to the Jumbo Creek area. Dr. Brian Horejsi’s 2000 study titled *The Purcell Mountains Grizzly bear: Cumulative Effects and the Proposed Jumbo Glacier Development* (2000) examined some of the potential cumulative impacts of the proposed JGR. He noted that the JGR development would be “in the heart of one of British Columbia’s two most secure southern grizzly bear ecosystems and would border on the region’s largest and most productive core roadless habitat (the Purcell Wilderness Area).” He notes that provincial population estimates of the Purcell grizzly bear population are unsound and may be several magnitudes in error. He confirms Proctor’s warning that the high road-density infrastructure already developing and traversing Glacier, Jumbo and Toby Creeks

on the samples, and interpretation of those samples and the findings are to be reported in the project report. The results are reported in the 1999 study by Strom, Proctor, Boulanger (1999).

threatens to create a barrier to movement that will cut the ecosystem and bear population into smaller, more risk prone sections and that the construction of a Jumbo highway upgrade will finalize this fracture. His study notes that the proposed JGR will “change the dynamics of the Purcell grizzly bear ecosystem” (p. iv) with development becoming “the focal point for intense human use, the most insidious and relevant source of grizzly bear mortality” (p.iv) resulting in “displacement effects and the alienation of habitat, leading to reduced bear occupation and the creation of ecological and behavioural filters and/or barriers to movement” (p.iv). He identifies several sources of conflict with grizzly bears that will arise from the Jumbo development and identifies at least four cumulative effects. Based on his hypothesized cumulative effects he concludes with a considerable degree of scientific confidence that: “1) there will be physical and ecological loss of habitat; 2) the risk of grizzly bear mortality will increase, and 3) the townsite/resort development and its highway corridor will fragment habitat.” (p. v).

The B.C. Government's own assessment of potential impacts to the grizzly bear population in 2000 was negative, though it noted that the BC Government itself could take mitigative steps without the PPMC/GRLs participation prior to the project development. In the view of Matt Austin, the Large Carnivore Specialist at the Wildlife Branch in the Ministry of Environment, Lands and Parks:

“Based on my review of the documentation (proponents proposal) it is my opinion that the proposed Jumbo Glacier Resort has the potential for substantial direct and cumulative impacts to the Central Purcell grizzly bear population and the ability to maintain effective linkage between the grizzly bear population south of Jumbo Creek (including the threatened cross-border Yahk population) with grizzly bear populations to the south. I believe, however, that these impacts could be substantially addressed through a number of potential mitigative measures and, provided that a comprehensive mitigative package was implemented, may result in no net impact to the population.”

The biologist placed most of the onus on the BC Government to implement mitigative measures with the participation of GRL. It is unclear whether or not the PPMC/GRL has adequately addressed the potential impacts both of the current proposal, and of possible cumulative impact to grizzlies of future development in a critical bear habitat.

Black Bear. Black bear exist in the area and have been traditionally hunted by First Nations for utilitarian purposes. More information is required on the expected impacts on black bears.

Deer and Moose: The Jumbo Creek area is considered to be excellent Whitetail deer habitat. There are two species of deer (**Mule** and **White tail Deer**) that migrate through the area. A herd of mule deer cross the Jumbo Glacier annually and summer in Duncan. If the road were to get busy, the herd would likely be annihilated. The road would also create fragmentation of their habitat.

According to biologist Trevor Kinley, the impact on deer and moose might be negligible (e.g. Panorama has had no impact) (Trevor Kinley, personal communication, September 22, 2003). Kinley noted that while other wildlife species might be impacted (grizzly bear, mountain caribou), the on-site impacts to deer and moose are likely minimal. According to Kinley, moose were not even found in the area historically. The moose population has expanded due to the impact of fire in Toby creek but now the forest is beginning to reach maturity and is crowding out the moose.

Elk: There is evidence of elk in the Jumbo Creek valley area and some concern was expressed about the affects on elk population that would require a more detailed study.

Biologist Trevor Kinley supports the claim that there are elk in the area.

Mountain Caribou: The mountain caribou is of value to First Nations people living in the area and some expressed concern about the proposed development's impact on their populations. According to some biologists, and anecdotal (oral) testimony of First Nations, there is evidence of mountain caribou use of the area. According to biologist Trevor Kinley there is history of caribou populations in the Jumbo Creek area, though their numbers have been reduced significantly since the turn of the 20th century (Trevor Kinley, personal communication, September 22, 2003. Kinley noted that there are caribou still in the central Purcell Conservancy and animals moving through the area including Toby Creek, Glacier Dome, Brewer Creek, as well as sightings in the Horse Thief Creek area. Kinley estimates that the proposed project would impact the potential for regular movement and healthy populations. Any permanent development and traffic activity in the area will most likely disrupt caribou movement, since most caribou would avoid the area.

Kinley's statements are contradicted by MELP (Ministry of Environment, Lands and Parks) which noted that "that there is no clear evidence that either mountain caribou or mountain sheep occur within the Jumbo Creek valley or more generally within the area of influence of the project (BC EAO, 1998: D3(B), p. A- 81).

Mountain Goat: While there are no formal studies of the existence of mountain goats in the proposed development area, an elder noted that there are mountain goat on the other side of Toby Creek. According to JGR GRL's project application, "there is little evidence of winter use of the alpine parts of the Jumbo Creek valley by mountain goats, although this is based on a very limited field survey(BC EAO, 1998: D3(B), p. A- 81).

Golden Eagle: there is evidence of Golden Eagle in the area.

Fisheries: Concerns were raised about potential impacts that road and project development would have on stream water quality affecting the well-being of cutthroat trout. According to the BC EAO (1998: A-73) "MELP's primary concern is potential impacts on Cutthroat trout and Bull trout. Bull trout are blue-listed, and are a species of special management concern for the region. Tributary streams are crucial for the maintenance of stream ecosystems and fish populations. While, inventories show Cutthroat trout at the Jumbo Creek site, Bull trout have not been observed in Jumbo Creek to date. However, Bull trout have been documented in Toby Creek and some of its tributaries. There does not appear to be an obstruction to fish passage between Jumbo Creek and Toby Creek. Based on the other Bull trout populations in the Kootenays, portions of Jumbo Creek may be utilised by Bull trout during some stage of their life cycle.... Bull trout are a species of concern in BC and are extremely sensitive to habitat disturbance, thus habitat protection is a key component of conservation. It needs to be established that this project will not affect critical habitat parameters, such as stream water temperatures and flows, channel stability and in-stream cover (e.g. related to road access)."

B2. Ecosystem Cumulative/Systemic Impacts.

There are concerns by some First Nations people about the broader, cumulative ecosystem impacts resulting from a permanent development in the Jumbo Creek valley. Some of these were identified in the KKTC TUS (Keefer et.al., 2003: 32-33).

These cumulative impacts have not been addressed sufficiently in our opinion. Many feel that any assessment of the impacts to wildlife habitats and populations should include consideration of the following cumulative impacts:

- Habitat losses due to resort development;
- Habitat losses associated with lifts and groomed ski runs;

- Habitat losses associated with opening up ski runs;
- Population impacts of summer skiing, hiking, wildlife viewing etc.;
- Road kills along the access road;
- Killing of 'problem' bears (especially grizzly bear) as a result of the Resort as a "sink";
- Cumulative hunting and resort development impacts;
- Impacts (and compensation) to registered trapline holders throughout the proposed ski resort development area, and;
- Impacts on wildlife of increased frequency of human-caused forest fires.
- Further fragmentation of the Invermere/Windermere region from subdivisions;
- Increased demand on the region's landfills, resulting in shortened lifetime of the facilities;
- Increased demand on the region's highways, that also increases roadkills and pollution;
- Stress on the water quality and fisheries of downstream areas;
- Increased additions of greenhouse gasses to atmosphere;
- Increased summer use damaging summer range for ungulates and bears;
- Increased summer use causing hikers and other backcountry users to go elsewhere for their activities, thus further stressing the region's ecosystems.

B3. Water and Wetlands:

There are commonly expressed concerns about impacts to water supply, water flows and water quality that would result from the project, that include:

- Concerns about pollution of waterways and impacts of fish and water biota.
- Concerns that the project will affect the watershed in Horsethief Creek and all the way to Windermere.
- Concerns that the development will result in less water getting to Windermere.
- Concerns that sewage and nutrient loading (risk of eutrophication) will affect traditional use (berry picking and hunting).
- Concerns about the impacts on Jumbo and Toby Creek from withdrawing an estimated 20 litres per second from groundwater or surface sources of water at the Resort site.

There are some Ktunaxa Nation concerns about the risk to downstream water quality resulting from the proposed project. Some impacts have already been sustained in the watershed due to the Panorama resort. Impacts to Cutthroat Trout and Gold Trout, and the sustainability of water have been raised as issues.

Salting and chemicals on the glacier: Concerns were raised by some Ktunaxa over the possible use of salting on glaciers. While the proponent claims that salting will not be a practice for general public skiing it may be a practice for professional skiing in the area.

According to Mr. Oberto Oberti, the Canadian Olympic ski team and other ski teams are planning to use the proposed Jumbo Glacier Resort area for their summer ski training. Salt is typically used by professional ski racers to create a level playing field for competitive skiing (Oberto Oberti, personal conversation, September 26, 2003, Cranbrook, B.C.). The typical amount required to salt a glacier can exceed 20 tons of salt. Mr. Oberti noted that he is encouraging CODA (Calgary Olympic Development Association) to consider the Jumbo area as the permanent home of the Canadian Olympic Ski Team summer training facility, with Farnham Glacier as the key site. CODA would then avoid the expensive travel to Europe for summer training. CODA also is interested in making Panorama their permanent winter ski training area. CODA would likely salt the glacier in order to achieve the level-playing field it desires for competitive skiing and training. Thus salting, albeit limited to professional skiing, is still an issue of concern for First Nations.

According to BC EAO (1998: A-42) no further assessment of issue of salting the glacier is required: *"In various submissions, most recently in a letter dated January 22, 1998, the proponent has stated that neither salt nor fertiliser will be used by the Jumbo Glacier resort's management to maintain runs for general public ski use. This is because of the higher-than-normal elevations of the proposed ski runs. It is possible that race organisers may opt to use salt on a few race days each year, but the quantities of salt involved, on an annual basis, would be very minor. In any cases where salt use is proposed on race days, MELP (BC Environment and Lands) will require advance notice of the salting sites and the salt quantities to be used, and the applicant will require specific prior approval from MELP (BC Environment and Lands)."*

Wetlands: Jumbo Creek drains into Toby Creek which drains into the Columbia wetlands. The cumulative effects on the Columbia wetlands due to changes in water flow and reductions in water quality resulting from sewage and impacts of road salting are unknown and may be significantly negative. Wetlands have significant value in ecological economic terms. Even a modern sewage treatment facility, no matter how advanced, does have eutrophication impacts. The wetlands are significant to the CLIB who use the area for subsistence fishing and possibly for a trap line. Drainage also into Horse Thief Creek is a significant issue, as Horse Thief drainage is the source of drinking water supply for Radium. These cumulative impacts, combined with the impact of the existing Panorama, have not been adequately addressed.

Biosolids: Impacts from trucking sewage sludge offsite must be addressed as well as the offsite impact of waste disposal.

B4. Waste treatment

There are concerns about the safety of waste treatment. Some expressed concerns about the downstream health safety and environmental quality risk to waterways from sewage and wastewater treatment at the site. Some people expressed concern about the construction of septic tanks and their potential down-stream leakage impacts on water quality in Columbia Lake, Windermere Lake and the Columbia River.

B5. Wilderness Character

There are general concerns amongst many of the First Nations people we interviewed about the loss of the "wilderness re-creation" experience for current and future First Nation people resulting from increased traffic and access to the now remote site. Other concerns expressed included the potential loss of the spiritual value of experiencing the mountains and glaciers in the Jumbo Creek area due to a permanent resort development. Many people were concerned that the permanency of the proposed resort would damage their wilderness experience of the area, which is currently remote and inaccessible enough, despite historical forestry, mining and other road development, to limit the number of visitors to the area. Some wondered why the area couldn't continue to be left as is, used infrequently and seasonally with less permanent activities like heli-skiing and hiking in the area.

B6. Geology

Concerns about the potential impacts to the geological values of the Jumbo Creek area include:

- Concerns were expressed about changes of the surface of the mountain due to the permanent development of roads, houses, businesses and other infrastructure.
- Concerns were expressed about the potential risk of cracks in the Jumbo and other glaciers to the viability of a glacier skiing operation.

- Concerns were also expressed that the PPMC/GRL is ignoring the potential human safety risk of rock slides and avalanches that are currently evident in the Jumbo valley. Moreover, some raised concerns that the geological instability of the area poses an ongoing potential threat to human safety and potential catastrophe at the Resort site.

Avalanche risk

There is some evidence from site visits that the soil profile is very young, suggesting a history of significant mass wasting events -- slides and avalanches -- throughout the Jumbo Creek and Valley. It is not clear whether the PPMC/GRL has taken this risk into full consideration, particularly the issue of a very young soil profile and the history of slope instability. The limited soil work as part of the Traditional Use/Archaeological Study suggests that Terrain Stability Mapping should be completed for the valley. How much of a financial risk the chance of slides and avalanches poses to the long-term viability of the proposed Resort is an important issue. Moreover, it is not clear who will assume the full costs of maintaining the road in the eventuality of slides and avalanches. Finally, the impacts of climate change will increase the risk to instability of the site's slopes and potentially pose a risk to public safety.

B7. Climate Change Risk and Possible Impacts

The KKTC has expressed concern about the long-term economic viability of the project arising from potential cumulative impacts of global warming on the glacier. In addition to their concerns for the overall viability of the project from a climate change perspective, they voiced concerns that the information the PPMC/GRL is working with is outdated and is not keeping pace with the evolving understanding of climate change.²⁶

In the recent TUS study by the KKTC (Keefer et.al. 2003:26), the KKTC notes:

The concept of sustainability as reflected by ἄθνηνυ τι ι also requires that the impacts of global climate change are addressed. There is widespread local knowledge that all of the alpine glaciers in the region are experiencing a period of rapid retreat, it is believed that this is directly correlated with global warming. With forecasts of a 2-6 degree Celsius increase in temperatures over the next 100 years, serious consideration must be given to the soundness of building ski resorts. The concerns also include the sustainability of causing increased use of fossil fuels by the transportation of people and resources to the resort... The 2003 fire season is a major factor when considering the construction of a major resort, if a fire such as the one in the Middlefork of the White River were to have occurred in Jumbo Creek, it is extremely likely that any resort would have been consumed by the fire along with its patrons. Such factors when applied against ñáoqnumuÖtiâî make it clear that there should be a rigorous scientific review of the possible impacts of climate change before the proposed resort is considered any further."

However, according to specification C.1 of the final report by the BC EAO (1998:A-40) further study of climate change impacts of the proposed JGR is deemed unnecessary:

"With respect to longer-term climatic influences, some discussion of the climatic stability of the project area was presented in the proponent's application (see Volume 2, section 4.2.1), although the topic of glacier ablation was not

²⁶ The professional opinions expressed here are by Heather Johannesen, one of the co-authors of our First Nations impact assessment report, and an international expert on the economics of climate change. Our report reflects the most current knowledge of this emerging field of ecological economic analysis that considers systemic impacts of climate change of economies and ecosystems as whole-systems.

specifically addressed... MELP advises that, while it requires proponents of projects which could contribute significant volumes of greenhouse gases to the atmosphere to propose strategies to mitigate greenhouse gas emissions, it has not been requiring project proponents in the EA process to predict the impact of climate change on their projects. The assessment of the impact of long-term climate change is an area of much uncertainty, and it is not clear how any information which the proponent could provide would be evaluated. Moreover, it is not anticipated that climatic change would affect this resort significantly without having already had much more severe impacts on many of the other mountain resorts in BC, which are situated at significantly lower elevations... The proponent has stated that there are no comparable glacier skiing areas in North America, and that projected effects cannot be determined by comparison with existing developments."

Notwithstanding that C.1 has addressed some of the issues relating to climate change, we raise this risk because of concerns expressed by the KKTC over the long-term viability of the project arising from potential impacts of global warming on the glacier. In addition to their concerns for the overall viability of the project from a climate change perspective, they voiced concerns that the information the PPMC/GRL is working with is not keeping pace with the rapid advances in the scientific community's understanding of climate change.

The following section on climate change risk meets the reporting requirements requested under G.1, Issues of concern to First Nations: other technical, resource management and community impact issues as well as C4 and parts of Section E, (see for example E.1, E.2(A), E4).

Over the past quarter century, we have experienced an average global temperature increase of 0.6°C. Because changes in snow cover and temperatures are likely to be amplified at higher elevations with global warming, alpine environments throughout the world could be among those most profoundly affected. Canadian Alpine areas like the B.C. Interior Mountains have experienced nearly twice this increase in temperature and climate records show the Rocky Mountains have experienced nearly three times this increase. Scientists are predicting average global temperatures to rise 1.4°C to 5.8°C over the next century. Given the impact temperature increases have had on Canadian alpine regions thus far, it is conceivable the Purcell/Jumbo region could experience some impact.

Climate change has the potential to be the major problem of the century for tourism; particularly winter sports such as skiing. At the December 2-3, 2003 World Conference on Sport and the Environment international researchers issued a warning that "low altitude ski resorts face economic hardship and even ruin as a result of global warming" (UNEP, 2003). Dr. Rolf Bürki, a co-author of a study with Elsasser, and Abegg (2003), noted:

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The researchers noted that North American and Australian ski resorts are also at similar risk due to climate change impacts.

While it is early to determine the potential direct long-term and cumulative ecological and socio-economic impacts of climate change on the proposed higher-elevation JGR, the UNEP studies suggest that any socio-economic analysis of its impacts will require a rigorous climate-change-risk lens of analysis both now and in the future. JGR represents an example of what Bürki, Elsasser, and Abegg (2003), predict as increasing pressure to build or relocate ski resorts to higher, environmentally sensitive areas such as the Jumbo valley. Even if JGR can escape the immediate impacts of climate change due to its higher elevation the potential financial and insurance risks of climate change cannot be ignored.

Following are some of the issues that should be taken into consideration:

- **Energy** – we are moving into a carbon-constrained world if we are to meet our Kyoto Protocol target. Even with significant reductions in levels of greenhouse gas concentrations, we can expect to experience changes in climate over the next twenty to fifty years that will have far-reaching implications for Canadian society. Over the next decade or two, we can expect increased volatility in energy prices. In BC, water is a dominant fuel for energy production but water scarcity (due in part to climate change) is creating a growing challenge for the industry. We are expecting declines in the available supply of water and increases in conflict over water for irrigation, potable water, and recreation, etc. as well as ecological services. Increased energy costs, for transportation could impact the resort because of its isolated location.
- **Fire** – (Section C4) This summer we saw significant forest fire activity in BC. Insect infestation (which weaken forests making them vulnerable to disease and fires) and forest fires are expected to increase under climate change. Increased activity in this regard is already being documented. In the summer of 2003, 22 B.C. provincial parks were shut down due to the risk of forest fires and wilderness and ranch owners reported cancellations in tourism activity. The KKTC noted White Creek burned this summer and asked how the PPMC/GRL would evacuate and safeguard human populations given the history of wildfire in the Jumbo Creek. Vulnerability to fires can increase insurance rates and in some cases, insurance cannot be purchased.
- **Melting permafrost** - Global warming increases melting of permafrost making many mountain areas vulnerable to landslides. Mountain infrastructure (cableway stations, lifts, buildings) in permafrost soil can become unstable. There is a significant body of literature on the subject including that generated by a three year study called "Permafrost and Climate in Europe" (PACE) which was commissioned by the EU and Swiss government. Anchoring and bracing mountain infrastructure in melting permafrost soils is costly. Warming in mountain areas makes skiing, hiking and climbing more dangerous because of increasing rock fall. A significant body of research is available on the impact of melting permafrost on mountain infrastructure in the Alps where installations often reach into permafrost areas. While we recognize the climate of the Purcells is different to that of the Alps, the experience of European tourist operators can yield valuable lessons for ski resorts in Canada.

- **Glacial melt** – Glacial retreat has been documented all over the world. Over the last century, Glacier National Park has lost 115 of its 150 glaciers and the remaining 35 glaciers are expected to disappear over the next 30 years. Since 1850, Swiss glaciers have lost more than 25% of their surface. With climate change it is estimated that by 2030, 20-70% of Swiss glaciers will have disappeared. Given that glaciers are presently melting in British Columbia, it is possible the Jumbo region's glaciers may also be impacted.
- **Changing weather conditions** - Future climate is expected to be warmer and more variable. We can also expect more weather extremes (wind and ice storms, etc.) which will have implications for tourism activities and infrastructure. Satellite data show the extent of snow cover in the Northern Hemisphere has decreased by about 10% since the late 1960s. Panorama is already having snow problems – what would the financial impact be on Jumbo with similar snow problems?
- **Shifts in mountain flora and fauna** – Potential biophysical impacts on natural mountain environments due to climate change are expected with implications for tourism. As temperatures rise, tree lines are expected to shift upward, shrinking the alpine environment and fragmenting wildlife habitat. In Jasper National Park, upslope migration has been documented. Climate change is expected to impact food availability, habitat, and breeding conditions making wildlife in alpine areas vulnerable. Tourism will put extra stresses on these already fragile environments.

The above noted issues are of a general nature. A scientific assessment of the Jumbo region is needed to better anticipate what the specific risks of climate change in the area might be. Socio-economic and financial viability implications should be explored particularly because the SIB have expressed interest in making investments in the project.

C. Economic Wealth (socio-economic well being):

C1. Economic Development, Employment and Income

The economic development benefits and costs of most concern to the Ktunaxa Nation include:

- Type of employment opportunities
 - Full-time, part-time, or seasonal
- Income
 - What kind of jobs are expected: low-paying/minimum wage living wage, high pay scales?
- Rent distribution
 - Where do the economic rents from the JGR operations accrue?
- Distribution of economic benefits in the community
 - Will the economic benefits be equitably distributed amongst the entire Ktunaxa Nation or will they accrue to a single band or parties?
- Infrastructure
 - Who will provide utility services to the proposed JGR?
 - How will these utility rents be shared amongst the Ktunaxa Nation?

Many of these issues could not be adequately addressed given the lack of concrete estimates from the PPMC/GRL about the expected First Nation benefits from the proposed. However, some estimates of economic benefits are available.

The PPMC/GRL has discussed special employment and training opportunities with regard to ski area operations with the SIB (namely the SKDC) and KKTC. The PPMC/GRL anticipates the International Union of Operating Engineers will cooperate in this program. Other activities discussed with the SIB range from specific tourism projects orientated to the hospitality industry, such as the first condo/tourist rental accommodation project attached to the first Daylodge, to the management and operation of an interpretive centre, to guiding and ski patrol activities.

The SIB has negotiated a phased-in process of development with the PPMC/GRL although contracts have not yet been negotiated. They expect at least a half dozen or more people working from startup in construction and possibly through operations. The Band is presently involved in sewer and water infrastructure initiatives throughout the valley both on and off reserve and are interested in providing similar services to Jumbo. Although they feel discussion of employment opportunities at this stage of the process is speculative, they have also expressed interest in opportunities in the development phase including project management, construction, running an interpretive centre, training and guiding and resort operations.

One of the common set of values and goals of the Ktunaxa Nation and the member bands is to create “meaningful” jobs for their members, particularly the youth of their Nation. The development of the St. Eugene Mission Resort, an initiative owned and partly operated by First Nations people, supported by the KKTC and five-band consensus, and developed on St. Mary’s Indian Band reserve, is a good example of First Nations community economic development. The Casino-Hotel-Golf Course employs a total of 207 permanent and seasonal employees of which 40 (almost 20% of the workforce) are First Nations employees, the majority from Ktunaxa Nation bands (Roxanne Wolfhead, KKTC, Human Resources personal conversation, October 15, 2003). St. Eugene Mission serves as an important benchmark for the proposed Jumbo Resort as a model of economic development that used the KKTC consensus process to ensure the inclusion of all member bands of the Ktunaxa Nation in making the decision to develop the opportunity.

In the case of Jumbo, the PPMC/GRL estimates that direct permanent employment generated from the project within five years would be approximately 320 full time and part time operational positions, with an additional 750 person years of employment generated during the construction of Phase 1 of the development. A construction workforce of up to 70 people comprised of carpenters, electricians, pipefitters, boilermakers, plumbers, heavy equipment operators and labourers is anticipated. In the following stages of development, assuming a capital investment of roughly \$100 million, 150 construction jobs are projected during a particular construction period. The PPMC/GRL expects wages for this construction workforce will range between \$4 and \$8 million per year.

The PPMC/GRL projects the following workforce requirements at build out.

Workforce Requirements at Build Out

(Full & Part-Time Positions)

Ski areas	350
Hotels	400
Support services	115
Total	865

(Source: Pheidias Project Management Corp. *The Jumbo Glacier Resort Master Plan Concept: Volume 6: Socio-economic and Market Analysis*. Table 6.28 p. 6-37. Note that the document is not dated.)

Positions will be made up of

Management

➤

Supervisors

- | | |
|---------------------------|---------------------------|
| ➤ Lift operators | ➤ Labourers |
| ➤ Ticket sellers/checkers | ➤ Food & Beverage servers |
| ➤ Clerks | ➤ Bartenders |
| ➤ Ski-board instructors | ➤ Chefs |
| ➤ Ski technicians | ➤ Kitchen workers |
| ➤ Ski patrol | ➤ Front desk |
| ➤ Grooming | ➤ Reservations |
| ➤ Trades | |

Payroll estimates are \$17 million per year at build out, based on the 2003 Draft Master Plan. Wages for part-time and junior level workers are expected to be low, but managerial and supervisory positions are expected to range from \$50,000 to \$80,000 per year.

The PPMC/GRL expects indirect employment opportunities as a result of the project. These may include:

- Guiding services – skiing, mountaineering
- Heli-skiing
- Snowmobiling
- Interpretive services
- Bed & breakfasts/lodges
- Restaurants
- Pubs
- Ski shops
- Retail stores
- Light manufacturing.

The PPMC/GRL expects the seasonal component of the workforce to be in the order of 10% of the workforce at the resort, and at least 50% of the seasonal workforce to be local residents commuting from the Columbia Valley.

According to a discussion with Brian Wills (Financial Consultant to the PPMC/GRL) a substantial number of the jobs will be part-time, low wage in the service sector. Mr. Wills noted that young people would be occupied in low paying jobs with some benefits like free-season passes and that jobs for trades would be available. If there are going to be trade opportunities the wages must be sufficient to make good on their ability to travel to the site. The potential for inflation in living costs (housing and other costs) putting pressure on the local economy, is of concern to the CLIB. The question is whether or not the wages would be a sufficient “living wage”²⁷ to keep pace with the inflationary impacts of the development in the entire region.

Based on verbal estimates by Dean Martin of the Shuswap Kinbasket Development Corp. between 6-20 First Nations employees would be working during the full build out phase of the Jumbo project, This would constitute only between 0.7% and 2.3% of the estimated 865 position workforce, a significantly smaller proportion than the First Nations workforce at the St. Eugene Mission.

Current resorts which serve as employment benchmarks for the proposed JGR, including Panorama (near Invermere) and Kicking horse Ski Resort (designed by PPMC) at Golden, currently do not employ any First Nation employees, even though they are in close proximity to the SIB and to other First Nation communities.

C2. Economic and Financial Risks

²⁷ A wage sufficient for a worker or family to provide the necessities and comforts essential to an acceptable standard of living in their community.

The CLIB and KKTC have concerns about the financial viability and risk of the proposed project. The SIB has expressed interest in investing in the Jumbo Glacier Resort Project and therefore, would have a vested interest in the long term financial viability of the project. Following are some of the risk factors requiring assessment. (Section G1, E2)

Biophysical Factors - Glacial melt, insufficient snow cover, avalanche risks, fire risk and other factors could quickly contribute to a non-viable operation. For example, the proposed project lies within an area of the southern Purcell Mountains that is subject to a significant risk of wildfire in a typical fire season. Climate change experts are predicting more forest fires. Bankers or insurers may have reservations about making investments or insuring them in high-risk areas. Warm winters in Europe already have negatively impacted the performance of skiing resorts in the Alps and have led some banks to review their credit applications in view of possible impacts of climate change (IPCC, 2001). An assessment of the above noted risks on the financial viability of the project, including insurance issues, is needed.

Ski resort demand/visitation statistics – Some Ktunaxa Nation people we interviewed expressed concern about the financial viability of adding yet another ski resort to the general area. For the East Kootenay there are already four significant destination resorts (Panorama, Fernie, Kimberley, Golden Peaks/Kicking Horse) as well as others nearby in West Kootenay and the National Parks (Lake Louise, Sunshine, Norquay, Red Mountain, Whitewater). In central B.C. there are already 14 other ski hills or resorts.

C3. Tradition Use of Wildlife, Fish, and Plant.

Given that the KKTC is in the process of completing a more comprehensive TUS with respect to the Jumbo Creek area, our analysis is preliminary based on initial evidence presented at the September 25, 2003 town hall meeting. Our understanding is that the KKTC TUS is based on anecdotal/oral evidence through dialogue with elders and various band members relying on current experience with country food gathering and memories of the Jumbo Creek area. TUS is generally not concerned with the past but more about what people do today and the future multi-generational options for use they and their children and grandchildren will have tomorrow. Current traditional use statistics are not available to provide meaningful rates of participation and consumption of country foods in the Jumbo Creek area.

Many Ktunaxa feel that any development of the Jumbo Valley to the standard proposed by the PPMC/GRL of the Resort would detract from their current traditional use of the area which includes hunting, trapping, fishing, berry picking and simply enjoying the wilderness characteristics of the place called Jumbo. Many feel that the proposed development of the site would likely preclude future hunting and trapping activity. Increased traffic as a result of a new four-season road would restrict or eliminate hunting opportunities. Loss of the area for berry picking is another significant perceived loss of traditional use of the area. More accessibility will mean reduced country food harvest for the existing community. Loss of cultural practices and traditional use is a common concern voiced by many of the Ktunaxa Nation people we interviewed. Many voiced concerns about the loss of the wilderness feeling and character of the Jumbo Creek and Valley due to the proposed Resort. The intrinsic value of a “wild” experience is of importance not only to the First Nations people but to many people of Invermere and the surrounding community. Many local residents enjoy the wild nature of the Jumbo environs as a place of beauty providing solitude and reflective space for themselves and their children. Many feel that the proposed Jumbo Project will privatize “the commons” or what is currently public land. Concerns were raised that the site development resulting from the proposed infrastructure development of roads, parking lots and other infrastructure would limit their current “free” access to the area.

The following specific concerns were raised about the potential impacts to traditional use and country foods from the Jumbo Creek area that are perceived to be at risk if the JGR proceeds:

- Concern about animal habitat disturbance, particularly grizzly bear, caribou, and golden eagle. There is evidence of considerable game in the Jumbo Creek area; evidence of grizzly bear droppings, as well as elk and many deer. Deer trails worn deeply into the ground with two species of deer (Mule Deer and Whitetailed Deer).
- Huckleberry picking is common in the area and an important traditional use, with concerns that increased access and traffic in the area will limit First Nations benefits from wild berries.
- Concerns about impacts to furbearers and trapping impacts from increased traffic.
- Concerns with impacts on elk and moose hunting. There are memories of hunting for moose and other animals (deer, elk) and for sheep in the older days. They noted that there had been sheep up there in the past but they had moved out.
- Pollution of waterways. Concerned about the development of the construction of septic tanks flowing into streams and into Columbia Lake, Windermere Lake and Columbia River and the pollution of the whole valley and wetlands.
- Changes to the surface of the mountains, the glaciers and the valley resulting from roads, resort, houses and businesses.
- Some people were concerned that with increased access to the Jumbo Creek environs resulting from the project, that their own ways of conservation of fish and wildlife would be hampered.
- Strong feelings of the sacred importance of the mountains.
- A 93 year old woman remembers hunting, shale rock and berry picking; would shape the rock and use it for tanning hides. Others gathered the rock for sweat lodges.

Berry picking: There is evidence of huckleberries and blueberries of different varieties in the proposed development area, including Jumbo Pass and Jumbo Creek valley. Berries and berry picking is an important traditional use by the Ktunaxa in the Jumbo area.

Huckleberries are an important value (huckleberries are seen as a sign of the importance of habitat and source of food for the Grizzlies and for the Ktunaxa people). A major fire in the 1950s gave rise to excellent berry picking, but this area is less used now because canopy closure has put berries in decline.

Trapping: Trapping is still practiced in the Jumbo Creek area. Donald Rosell, a non-First Nations, holds the Jumbo Creek trapping rights. However, the SIB holds the Taynton Creek to Jumbo Creek trap line lease. Mose Teneese had the lease in the early 1900s. Mose's lease was passed to the SIB. According to Dean Martin, CEO of the SKDC, the SIB is not concerned about the loss of trapping benefits in light of the proposed JGR offering greater offsetting economic benefits.

Medicinal plants: The Ktunaxa currently use the area for gathering medicinal plants. There are concerns about future access to the area and impacts from increased human presence in the area on medicinal plants.

Hunting: Many Ktunaxa Nation members continue to hunt for moose and other animals (deer, elk, black bear). They hunted for sheep in the old days, but noted that sheep had since moved out of the area. There are concerns that increased human activity in the area resulting from more traffic volume into the Jumbo Creek area will significantly limit hunting opportunities, or preclude them altogether as a result of pressures from tourists to restrict hunting activity in the area.

Rock and shale: A 93 year old woman remembers hunting, gathering shale rock and berry picking. The rock was used to shape tools for use in preparing and tanning hides. Others gathered the rocks for sweat lodges.

C4. Local Recreational Use

Some members of the Ktunaxa Nation expressed concerns that increased access to the Jumbo Creek area resulting from the proposed JGR development would detract from the quality of their current recreational experience (e.g. hiking and spiritual renewal).

C5. Housing (livability and affordability)

Some members of the CLIB raised concerns that the impact of the proposed resort would result in the inflation of their costs of living (e.g. housing and living expenses) resulting from real estate and other commercial development. Many CLIB already feel squeezed or hemmed in both physically and economically by the development that is occurring in the Columbia Lakes area and are concerned that more development of the scale of the JGR will detract further from their quality of life and the affordability of their lifestyles.

C6. Infrastructure development impacts (roads)

Some CLIB members expressed concern over infrastructure development (roads and other public infrastructure) both in terms of the potential increase of traffic through their reserve. Traffic speeds and volume through their reserve are already considered a problem, and more development could exacerbate this situation. There are also concerns that more people in the area will mean increased demands on public utilities with potential increasing costs to First Nation households, as well as potential deterioration of water and air quality.

The current road to Jumbo Creek is in poor condition and would require a significant investment to upgrade to current standards for public roads. We have reviewed the current PPMC's Infrastructure Plan, the Sno Engineering report and the draft McElhanney Consulting report and believe the key issue of the estimated cost of the access road has not been adequately and transparently addressed.

It is not clear who will maintain the road to the Jumbo Resort site from the Mineral King Mine and whether the road will become a private road or will be maintained as a public road by the Government. The McElhanney study recommends the Jumbo Creek FSR road "remain under the control and jurisdiction of the Proponent until it meets the standards established for a Rural Local Undivided Road" to "ensure unauthorized access could be controlled for the safety of all users." Given the traditional use of the Jumbo area and access to the site by the current road, this is an issue of keen interest to the KKTC, including the CLIB and the SIB.

Parking has not been adequately addressed. [Section E.6(C)] The Master Plan indicates removal of the parking area and bus access facilities at the Mineral King Mine site. The PPMC/GRLs propose access by bus from the Columbia River Valley and from Panorama. "The most important benefit derived from access by bus would be delay in the construction or the complete avoidance of automobile parking, and delaying the cost of major road improvements." This downloads responsibility for parking to Panorama and the Columbia River Valley and restricts access to the Jumbo Creek area to those paying for the shuttle bus service. Greater clarity is needed regarding public access unrelated to use of the resort facilities.

6. Conclusions

The purpose of our study was to conduct a First Nations well-being impact assessment of the socio-economic, ecological, archeological and traditional use (TUS) impacts (both positive and negative) of the proposed Jumbo Glacier Resort (JGR) by the proponent, GRL. This study is concerned specifically with the well-being impacts of the Columbia Lake Indian Band (CLIB) and the Shuswap Indian Band (SIB). However, because the proposed JGR impacts the Ktunaxa Nation (all five member bands) and territory, as a whole, we (the authors of this report) have determined the interests of the entire Nation need to be considered.

The interests of the Ktunaxa Nation are represented by Ktunaxa/Kinbasket Tribal Council (KKTC) -- the Ktunaxa Nation's governing council -- which acts like any national government that represents the collective well-being interests of all of the people who make up the Ktunaxa Nation (and its five band members) and its territory. Like any government the KKTC has the resources to assess and analyze the possible impacts to the Nation's well-being from economic development opportunities and pressures that may arise, such as the proposed JGR.

To complete our impact analysis study, we adopted a customized version of the Genuine Wealth Accounting (GWA) and assessment model. The GWA model is a values-based, well-being measurement, analysis and reporting system that accounts for both the quantitative and qualitative attributes of financial, social and environmental conditions of well-being (i.e. "wealth") or quality of life. The GWA is generally used to develop reports on quality of life and sustainability of organizations, however, it can also be used to assess the potential impacts to well-being of proposed changes in a community's economic, social and environmental well-being, as is the case with the proposed JGR.

The GWA was effective in determining:

1. The values, operating principles, and well-being goals of the CLIB, SIB and the KKTC;
2. The key economic, social and environmental well-being attributes that are considered important in defining the Ktunaxa Nation's quality of life;
3. Identifying and developing a base-line of key quantitative and qualitative Genuine Wealth Indicators (GWI) to assess the current state of conditions of well-being and for then estimating the potential impacts (positive and negative) of the proposed JGR, and;
4. Assessing the overall potential well-being impacts of the proposed JGR.

Unfortunately, due to the lack of statistically sound quantitative socio-economic, demographic, health and environmental data, the full benefits of the GWA could not be realized to assess the full potential impacts of the proposed JGR. In the absence of statistical base-line data, our quantitative analysis was limited to assessing the potential employment and other economic benefits that might result from the JGR. The absence of such quantitative data is not unusual particularly in smaller communities such as the 1,137 member Ktunaxa Nation. The quantitative data limitations did not hinder our capacity to assess the potential project impacts to well-being.

Our GWA model also includes a process of engaging citizens or members of an organization in self-assessing their quality of life and developing their own set of qualitative Genuine Wealth Indicators to measure and monitor their well-being. We used this GWA qualitative assessment process, using community dialogue and personal interviews, to solicit values and potential well-being impacts of the proposed JGR from a representative sample of SIB, CLIB and other Ktunaxa Nation people.

A total of 33 Ktunaxa Nation people (out of population of 1,137) were consulted about their perceived impacts of the proposed JGR. Of the 33 who provided input, 19 were interviewed while 14 provided input through a community circle dialogue session on September 25, 2003. The use oral and dialogue processes is an effective way of engaging First Nations people in examining

impacts of proposed developments being consistent with their traditional decision making processes.

In our consultation we posed two key questions to solicit input: 1) What is most important to you about the Jumbo Creek/Glacier area?, and 2) How do you feel the proposed Jumbo Glacier Resort development will benefit or detract from your well-being and/or the well-being of your community?

The results was a rich inventory and diversity of revealed values, preferences, attitudes and opinions about the possible well-being impact of the proposed JGR (as outlined by the proponent and known to all those we interviewed) to the community and the Ktunaxa Nation lands. Indeed, we feel the robustness of the information received is perhaps richer and more meaningful for decision making than what could be expected from using conventional statistical data sources and conventional socio-economic, cost-benefit analysis. The input formed the basis of our analysis and findings.

We were made aware early on in the process of the 1995 resolution by the KKTC that strongly opposed the proposed JGR and whose opposition remains unchanged despite changes in the projects specifications. We were also aware that the CLIB was also strongly opposed to the proposed JGR as late as October 2003. And that the SIB were apparently supportive of the JGR, at least their economic development arm; the SKDC. Our goal was to determine the underlying values that formed the basis of these decisions and assess the potential positive and negative impacts which each of these governing bodies perceived or expected from the JGR proposal. This analysis could then be compared with the broader community and individual citizen input to assess the strength of citizen support for the governing body positions.

We structured our analysis according to three categories of well-being or “wealth” (conditions of well-being): 1) human wealth (education, health); 2) community wealth (social well-being); 2) natural wealth (environmental well-being and natural resources); 3) economic wealth (financial and socio-economic well-being). Based on the input received through our stakeholder interviews and in consultation with the CLIB, SIB and KKTC, we developed a set of “Genuine Wealth” accounts according to a set of well-being attributes. Within these wealth accounts we analyzed qualitative and quantitative information (if available) that revealed potential well-being impacts of the proposed JGR.

In addition, we considered: 1) the results of the KKTC’s study of traditional use and archaeological resources; 2) the quantitative socio-economic-environmental impact estimates for the JGR provided by PPMC (Mr. Oberto Oberti); 3) the quantitative economic impact estimates from the Shuswap Kinbasket Development Corp., and; 4) information contained in the B.C. EAO’s Final Project Report Specifications report. Unfortunately, all of these potential quantitative data sources fell short in terms of the data that would have been necessary to create quantitative Genuine Wealth Indictors.

Despite the limits of data to our quantitative analysis, our qualitative GWA and impact analysis (combined with relevant information from the above sources) did provide a robust set of revealed preferences and expected impacts of the proposed JGR that would be beneficial to decision making.

Our study revealed the following most important well-being impact issues from a permanent JGR development as proposed including:

- Many people are not opposed to economic development (e.g. ski hills and resorts), per se, but reject any permanent development (particularly the JGR as proposed) in the Jumbo Creek/Valley Damage citing a strong sense of the sacred, ecological and cultural values. Most simply want the existing Jumbo Creek/Valley area (also known as the *Quatmu* area) left alone in its current backcountry condition.

- Many people expressed the sacred importance of the integrity of the area to their current well-being and the well-being of future generations and suggested that there is no price or set of socio-economic benefits great enough to compensate them for the loss of this priceless, sacred area. Many were unequivocal in their statements that the area should be left alone as a place of spiritual importance and to the grizzly bear.
- Many feel that they would lose access to the current backcountry and *de facto* wilderness area that they currently enjoy for re-creation and spiritual renewal.
- Many consider the grizzly bear to be a sacred creature and indicator of the sacred importance of the *Quatmu* and thus any regrettable impact or loss of grizzly bear habitat and population would be viewed as a loss of their own sacred heritage, namely the ancestral value of the *Quatmu* area.
- Many worry about the regrettable damage to wildlife habitat for the grizzly bear, black bear, caribou, deer, furbearers, eagles, trout and other wildlife.
- Many are concerned that the JGR project has already created strife within the Ktunaxa Nation and that proceeding (or not) without the consensus of the entire Nation through the KKTC could result in a permanent loss of social cohesion, trust and community integrity. Many point to the successful consensus-based approach used to gain Nation support for the economic development of the St. Eugene Mission resort.
- Some are concerned about the cumulative ecological impacts of the proposed permanent resort which will be situated at the headwaters of streams whose integrity is critical to current and future generational well-being.
- Some were concerned that a permanent development and road would disrupt or preclude their current access to traditional use of the area for hunting, berry picking, spiritual enjoyment of the area, and gathering of other country food.
- Some expressed concern about the disturbance of the archeological resources that are associated with their ancient ancestral kin, the *Quatmutnik* (the people who once used and inhabited the area).
- Some expressed concern about the potential inequitable distribution of benefits and costs should the proposed JGR be developed particularly the possible inequity created within the Nation if the SIB (the lone supporters of the JGR) receive the lion's share of any socio-economics benefits and the other KKTC band members receive little or no benefits.
- Some were concerned with socio-economic pressures (e.g. cost of living increases, more traffic through the area) that would detract from the current quality of life.
- Only a handful (2 members) of members we interviewed were excited about the potential economic benefits (employment and First Nation joint ventures) of the proposed JGR.

Overall, our analysis reveals that a majority of those person who provided input for our GWA assessment were opposed to the proposed permanent JGR development in the Jumbo Creek/Valley area (with the exception of two members of the SIB). We did not expect this depth, degree and widespread opposition to the project. Yet the opposition is strong and often vocal. Even amongst the SIB, who appear to be supportive of the project, there are differences of opinion and some strong feelings against the proposed development. Based on our findings and the expression of values of both the persons we interviewed, the KKTC, the CLIB and the SIB, we are led to conclude that proceeding with the proposed JGR or any permanent development in the area would result in a regrettable and real loss in both the quantitative and qualitative attributes of well-being considered most important to the Ktunaxa Nation, which includes the CLIB and SIB. Opposition to the project has been most clearly voiced by the KKTC as early as 1995 in a Tribal Council resolution; a position which has not changed in spite of repeated efforts by the proponent to present newly revised proposals with attractive socio-economic benefit packages. Perhaps most importantly is the opposition to the project by two of the Ktunaxa Nation's most important and respected Chiefs: Chief Sophie Pierre of the St. Mary's Indian Band and Chief Mary Jimmy of the Columbia Lake Indian Band.

We do not believe that more data, more studies or further quantitative analysis would change the nature of our conclusions nor would it change the position and opinions of the majority of people

we interviewed. Nor do we believe that the results of our analysis reveal any shortcomings of the GWA model.

What is indeed unique about this study is the significance of sacred values revealed about a place or area known as “Jumbo” or *Quatmu* and the associated sacredness of the grizzly bear, as indicator of sacred values. In economic terms, entering into the realm of sacred values is to suggest a price or willingness to accept compensation approaching infinity. That is, there is no exchange where a seller is willing to accept compensation (a price or benefits) from the buyer. The expressions of the sacred and “priceless” value of the Jumbo/*Qatmu* by many of the First Nations people should not be underestimated. As economists, we could interpret this situation as a revealed preference of no development under any circumstances with an ‘infinite price’ tag. In another sense revealing values which are sacred suggests that there is no pareto solution where there is any price or willingness to accept compensation (even in kind) which would be acceptable to those who expect a loss of welfare.

Of the potential quantifiable socio-economic benefits which were revealed in our GWA assessment, the SKDC, which supports the JGR, estimated that between 6 to 20 jobs would be generated for First Nations as well as other possible spin off benefits associated with the project construction, operation of a proposed interpretive centre, a waste treatment arrangement with the resort operator, land lease rental agreements, and other joint ventures in operating the proposed resort. Unfortunately, concrete figures were not available due to the preliminary and speculative nature of these negotiations between the proponent and the SKDC. Nor is it clear whether these benefits would accrue primarily to the SIB and the SKDC. The SKDC did not identify any “costs” or regrettable outcomes that they felt would diminish the well being of the SIB people should the project proceed. However, from our interviews with seven SIB members, a lack of unanimity was revealed within the SIB towards the JGR.

The question is whether these socio-economic benefits outweigh the perceived loss of well-being or quality of life for an apparent majority of the people of the Ktunaxa Nation. This begs the question: at what price development? And is there such a thing as the “priceless” when it comes to real wealth that is seen as a sacred trust?

Other questions at the heart of ecological economics remain to be resolved. Namely, who and how should the genuine wealth of the community (the common-wealth of the Ktunaxa Nation and the people of British Columbia) be fairly and equitably distributed? This includes a question about the intergenerational equity and well-being impacts that can be anticipated from the development of the JGR. Key questions remain including: 1) who will benefit most from this proposed economic development?; 2) how equitably will the benefits (and costs) be distributed?, and; 3) what are the costs to social cohesion of a community that might result from inequitable distribution of financial and economic benefits? Some of these questions can only be resolved through an open and honest dialogue amongst all parties with a stake in this development.

We recommend that any satisfactory resolution of these outstanding complex trade-off issues is beyond the scope of conventional cost-benefit analysis and will ultimately require a open and respectful dialogue between the KKTC (as representatives of the Nation’s interests) and the B.C. Government (as representing the interests of the people of British Columbia and the common good). While this would be a useful and desired exercise, our sense is that there may be no amended JGR proposal (considering our own analysis as input) that would change the position of the KKTC against the permanent development of the Jumbo area as proposed.

Nevertheless, we believe that our analysis has fulfilled the expected outcomes and terms of reference of this impact study and represents an honest assessment of the potential positive and negative socio-economic-cultural-ecological impacts of the proposed JGR development.

References Cited

- Adamowicz, W, T. Beckley, D. Hatton-Macdonald, L. Just, M. Luckert, E. Murray, and W. Phillips. 1998. "In Search of Forest Resource Values of Indigenous Peoples: The Applicability of Non-Market Valuation Techniques." *Society and Natural Resources*. 11:51-66.
- Anielski, Mark and David Pollock. 2003. *The State of Inuit Well Being in Nunavut*. Report prepared for the Nunavut Social Development Council and the Nunavut Tunngavik Inc.. Draft Report March 1, 2003
- Anielski, Mark, Mary Griffiths, David Pollock, Amy Taylor, Jeff Wilson, and Sarah Wilson. 2001. *Alberta Sustainability Trends 2000: Genuine Progress Indicators Report 1961 to 1999*. Pembina Institute for Appropriate Development. <http://www.pembina.org/green/gpi/> April 2001.
- Anielski, M and J. Rowe. 1999. The U.S. Genuine Progress Indicator: Summary Report. Redefining Progress, San Francisco. (www.rprogress.org)
- B.C. Environmental Assessment Office. 1998. *Jumbo Glacier Resort Project Review: Final Project Report Specifications: Appendix A- Background to Reporting Requirements* (May 20, 1998).
- Bürki, Rolf, Hans Elsasser, and Bruno Abegg. 2003. Climate Change and Winter Sports: Environmental and Economic Threats. Paper presented at the 5th World Conference on Sport and Environment, Turin 2-3 December 2003 (IOC/UNEP)
- Chiesura, Anna, and Rudolf de Groot. "Critical natural capital: a socio-cultural perspective." *Ecological Economics* 44 (2003) 219-231
- Daly, Herman. 2003. *Ecological Economics: The Concept of Scale and Its Relation to Allocation, Distribution, and Uneconomic Growth*. Keynote paper presented at the Canadian Society for Ecological Economics Conference, October 16-19, 2003, Jasper, Alberta, Canada.
- De Groot, Rudolph Johan Van der Perk, Anna Chiesura and Arnold van Vliet. 2003. "Importance and threat as determining factors for criticality of natural capital." *Ecological Economics* 44 (2003) 187-204.
- Hills, Bev. 2003. "The St. Eugene Mission: A 10-year lesson in business development" by Bev Hills, Communications Coordinator of the KKTC. See; ww.foa.ca/newsletter_august/chief-sophie-pierre.pdf, August 18, 2003
- Intergovernmental Panel on Climate Change. 2001. IPCC Working Group II: Impacts, Adaptation and Vulnerability, Chapter 5, *Ecosystems and Their Goods and Services*, 2001
- Keefer, Michael, W. Choquette, L. McCoy and R. Williams. 2003. *Ktunaxa Aboriginal Interests: Traditional Use and Archaeological Overview of the Proposed Glacier Alpine Resort*. Research and Planning Department, Ktunaxa Kinbasket Tribal Council. December 12, 2003.
- Pheidias Project Management Corp. 2003a. *Jumbo Glacier Resort: Project Proposal Outline*. September 26, 2003. Pheidias Project Management Corp., Vancouver, B.C. see www.jumboglacierresort.com
- Pheidias Project Management Corp. 2003b. *Jumbo Glacier Resort Master Plan Concept: Volume 6: Socio-Economic and Market Analysis*, prepared by Pheidias Project Management Corp., Vancouver, B.C.

Statistics Canada. 2003. First Nation 1996 Census Data. Derived from special tabulations of 1996 Census of Canada by Statistics Canada for the Department of Indian and Northern Affairs September 2003.

Strom, K (AXYS Environmental Consulting Ltd.), Proctor, M. (University of Calgary) and Boulanger, J. (Integrated Ecological Research). 1999. Grizzly Bear Population Survey in the Central Purcell Mountains, British Columbia. Available online at www.eao.gov.bc.ca/epic/output/html/deploy/epic_document_18_15940.html

United Nations Environment Programme (UNEP). 2003. "Many Ski Resorts Heading Downhill as a Result of Global Warming." Press release at the V World Conference on Sport and the Environment in Turin 2 to 3 December 2003
<http://www.unep.org/Documents.Multilingual/Default.asp?DocumentID=362&ArticleID=4307&I=en>

Wynne, Harold and Mark Anielski. 2001. *Building on the Whistler Symposium: A Framework For Assessing the Socio-Economic Impacts of Gambling*. Harold Wynne (Wynne Resources) and Mark Anielski (Anielski Management Inc.) a paper prepared for the 2000 First International Symposium on the Economic and Social Impacts of Gambling Whistler, British Columbia., September 2000.

Appendix A: Project Work Plan

The original Work Plan proposed by Anielski Management Inc. (AMI) was as follows:

Phase I: Data Collection

Working collaboratively and in consultation with KKTC, Anielski Management Inc. team will collect, assess and assemble the relevant socio-economic, archaeological, traditional use and oral information (resulting from First Nation community consultations and interviews by KKTC) into MS Excel spreadsheets for the construction of a set of integrated Genuine Wealth Accounts and for conducting the “what if” Columbia Lake and Shuswap First Nation impact assessment.

Anielski Management Inc. will discern the strength and relevancy of the information collected in the archaeological and traditional use study conducted by the KKTC in constructing a robust Genuine Wealth Accounting and Assessment Framework.

Phase II: Develop the First Nations Genuine Wealth Accounting Framework

Anielski Management Inc. intends to develop a customized Genuine Wealth Accounting system as the primary tool for assessing the current conditions of well being and expected changes in the conditions of well being of the Columbia Lake and Shuswap First Nation communities that may result from the Project. The Genuine Wealth model is an ideal impact assessment tool because it provides a comprehensive, systems perspective on well being both historical, current and “what if” future scenarios. It also reveals the current trends, before the Project impacts, in key well being attributes which are critical to providing a more objective and informed analysis of the potential impacts of any given development proposal.

Anielski Management Inc. proposes the following steps in developing the Genuine Wealth Accounting framework and conducting the “what if” impact assessment:

- ∞ Identify the core values, vision, goals and desired future of the Columbia Lake and Shuswap First Nation impacted by the proposed Project. Some of this information is already revealed in the KKTC’s Nations’ vision and goal statements. While this is not a critical step in the process it will help to reveal how the proposed development Project aligns or does not support the values and principles held by the First Nation community. In other words, understanding the values of the community is critical to determining whether or not the proposed development would lead to “genuine” well being or regress. Additional consultations and interviews with Columbia Lake and Shuswap First Nation representatives or elders by our team may be necessary.
- ∞ Identify the key “genuine wealth” assets of importance to the Columbia Lake and Shuswap First Nation communities within four core genuine wealth classes: economic, human/individual, community and nature (ecological) assets. While this project is specifically focused on a select few First Nation issues and concerns, a comprehensive assessment of all core well being attributes would be desirable to determine the full well being impacts of the Project. Much of the information may be gained through consultation with the KKTC and possible consultation with representative members of the First Nation communities. We propose to begin with the Genuine Wealth Accounting Framework (which is shown later in this report).
- ∞ Identify the key “genuine wealth indicators” for each of the genuine wealth accounts that can be used to assess the socio-economic, cultural, archaeological and ecological impacts of the project on local Columbia Lake and Shuswap First Nation. These would include both quantitative and qualitative (perceptions/opinions) indicators of the conditions of the wealth of the community. The objective is a) to assess the current state

- (condition), use, and value (importance) of nature's wealth (fish, wildlife, and other resources) and nature's services (e.g. clean water, carbon sequestration) and b) assess the Columbia Lake and Shuswap First Nation community life-style characteristics that could be changed substantially as a result of the project (e.g., quality of life, community character). To identify these indicators, we will be relying on the KKTC TUS inventory and archaeological inventory (for quantitative data) as well as the community consultation/interview results (for qualitative data). The Genuine Wealth Indicators should shed some light on the Columbia Lake and Shuswap First Nation community's resilience and capacity to accommodate any stresses associated with the project. Our interest is in whether the indicators reveal both the current conditions (stock) and use (demands) of these genuine wealth assets, as a sound basis for determining future possible impacts on the conditions of these assets with or without the Project development.
- ∞ Conduct, where feasible, a full cost opportunity cost analysis (accounting) for the key "genuine wealth" assets at risk due to the proposed development including the monetary values associated with key cultural, ecological, archaeological, and community assets. We realize, based on our own experience, that estimating the monetary values (market or non-market) of non-monetary values such as archaeological assets, ecosystem services, and social capital can often be problematic if not infeasible. Yet, we expect to apply the best methods and relevant benchmark evaluations from other studies of a similar nature to this evaluation exercise.
 - ∞ Construct a comprehensive, integrated Genuine Wealth Accounting system within a conventional MS Excel spreadsheet. The key accounts will include archaeological asset accounts, traditional use accounts (including inventory information of traditional land/country food assets), cultural assets, and other assets considerable significant and valuable to the Columbia Lake and Shuswap First Nation.

Phase III: Impact Assessment

- ∞ Using the Genuine Wealth Accounts, examine the "what if" impact scenarios that would be expected as a result of the Project, allowing for input from both the Project proponent and the Columbia Lake and Shuswap First Nation. This may involve consultation with both the Jumbo Glacier Resort Project proponent and with selected members of the First Nation community.
- ∞ On September 25, 2003 Mark Anielski will join the KKTC in their process of community dialogue (consultation and interviews) as part of the First Nations process of soliciting information from community members who are known to be knowledgeable of the impact area and the potential "genuine wealth" assets at risk. The process will involve a focus group meeting to take place in the CLIB hall. The meeting would begin with a presentation by PPMC (on behalf of the project proponent GRL) of the development. After the PPMC's presentation there will be a question period. After lunch KKTC will conduct the remainder of the meeting in camera with Ktunaxa citizens. Anielski Management Inc.'s experience with community focus group consultation of this nature around quality of life issues, along with First Nation circle processes, suggests that this focus style meeting will provide valuable citizen input that is qualitative in nature (including values, principles, feelings, memories, and traditions). After this point KKTC, in cooperation with Mark Anielski, will conduct one on one interviews with our informants to solicit their qualitative input (e.g. memories, stories, qualitative assessment). The tapes from these meetings will be transcribed for easy retrieval of information in the future. At the conclusion of this study, a second focus group is proposed to discuss the findings and obtain additional information, if any.
- ∞ As part of this community dialogue/consultation process, Anielski Management hopes to identify the key Columbia Lake and Shuswap First Nation values and the genuine wealth

assets at risk given the expected impacts of the proposed Project. Attempt to determine which of key genuine wealth assets are most at risk due to the proposed development and estimate the degree of risk to the integrity and sustainable well being of the Columbia Lake and Shuswap First Nation.

- ∞ Anielski Management Inc. will identify, through discussions with the Jumbo Glacier Resort Project's prime consultant (Mr. Oberto Oberti of PPMC) and Columbia Lake and Shuswap First Nation representatives (i.e.. KKTC), information being collected in the general socio-economic information report and potential measures to address socio-economic impacts on First Nations interests and key genuine wealth assets [e.g. employment and contracting opportunities, training opportunities, archaeological asset protection, wildlife impact mitigation, etc.).
- ∞ Using the information collected above and analyzed in the Genuine Wealth Accounts, prepare a preliminary assessment and report (delivered September 30, 2003) of the socio-economic and well being impacts on the Columbia Lake and Shuswap First Nation. This will include a specific focus on archaeological, traditional use and general socio-economic impact information.
- ∞ Anielski Management Inc. will recommend how this specific impact analysis information, and the Genuine Wealth Accounting, in general, might be considered and incorporated into the general socio-economic assessment.

Phase IV: Final Report

- ∞ A final First Nations Socio-economic Impact Assessment report will be completed and delivered in hard and electronic copy by October 31, 2003.

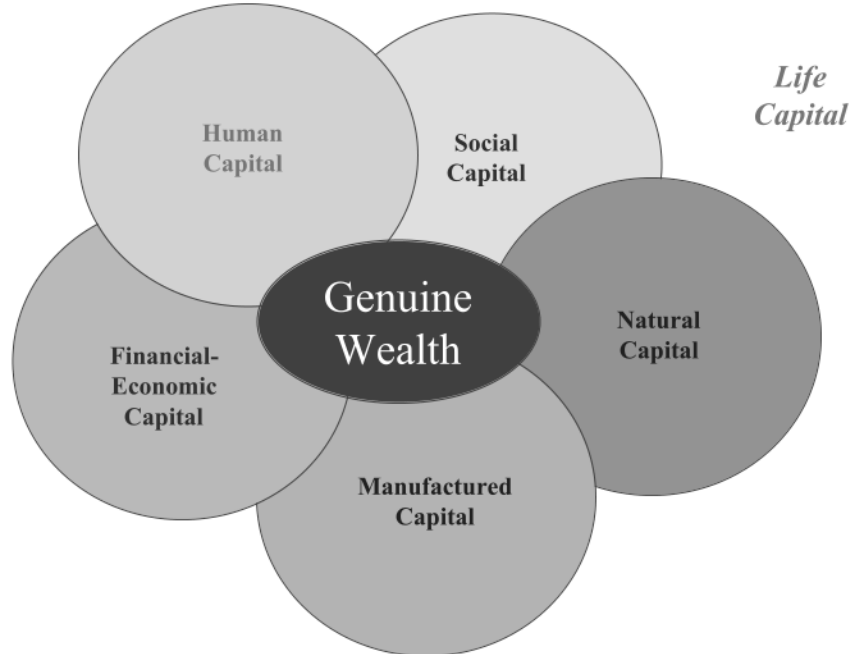
Appendix B: The Genuine Wealth Accounting and Assessment Model

In keeping with the principles and practices of ecological economics our team proposes to use a comprehensive and integrated impact analysis and accounting model called “**Genuine Wealth Accounting.**” The terms “Genuine Wealth” are used since the word “wealth” is by definition “the conditions of well being” and the word “genuine” refers to the values, virtues and principles of a community towards quality of life and stewardship of the land. Thus, the Genuine Wealth Accounting model is a tool for assessing the overall well being of a community or organization and is ideal for analyzing the changes, over time, in the overall conditions of well being that result from various impacts, including economic development. The Genuine Wealth Accounting system is thus a holistic assessment tool that considers the widest possible range of “assets” or “wealth” of a community that are consistent with the values of the community.

The Genuine Wealth Accounting model was developed by Mark Anielski following from previous efforts to develop alternative economic well being measures to the Gross Domestic Product. Anielski’s first efforts included the update to the US Genuine Progress Indicator (GPI) as Senior Fellow with the California economic think-tank Redefining Progress. The GPI attempts to measure the full economic, social and environmental “costs” (and unaccounted benefits) that otherwise are treated as contributing to GDP growth. By netting out the depreciation costs of losses in human, social and natural capital, the national income accounts of a nation or state are more objectively presented. He then expanded the original GPI model to account for both physical and qualitative attributes of societal and ecological well being along with the full cost accounting of depreciation costs. The new model, applied first to the Yukon (Yukon Sustainable Progress Indicators) in 2000 and then Alberta (Alberta GPI System of Sustainable Well being Accounts) in 2001, was an attempt to design a comprehensive sustainability accounting and reporting system. In 2002 he designed the Genuine Wealth Accounting system, beta-testing the model in two corporate settings (Suncor Energy and EPCOR) as the first fully-integrated economic-social-environmental accounting systems for assessing corporate sustainability. In 2003 he applied the model for the first time in a First Nations setting, developing a prototype Genuine Well being Indicator system for the Inuit of Nunavut. He is now exploring opportunities to apply the model in other First Nation communities, who understand the importance of a holistic, integrated and balanced approach to “economic development.”

The strength of the Genuine Wealth Accounting model is that it is consistent with general accounting principles (ledgers, balance sheet, income statement, inventory) and is comprehensive in its treatment of all of the assets or “wealth” of a community and the ecosystem, which supports the community. It is a powerful tool for accounting (i.e. gathering information or inventory) for well being (quality of life) and sustainability, and can be used by communities in strategic-business planning and other planning processes for determining where investments should be made to improve or sustain the conditions of well being (wealth) of the community.

Genuine wealth includes five **capital assets** categories— **human, social, natural, manufactured and financial capital** (human, social and natural capital is defined as “life

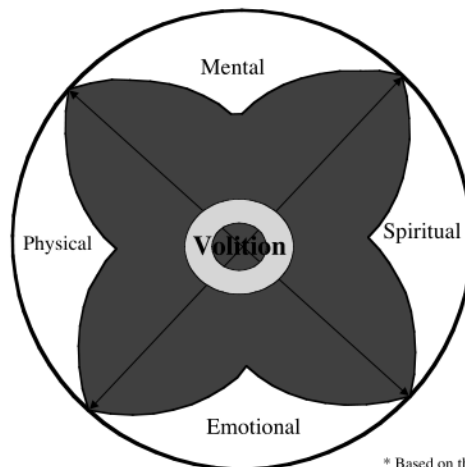


capital.”) In essence, this represents a new and expanded “balance sheet” for an organization or community that goes beyond the conventional financial statements.

Human capital is people. Human capital can be defined as “the knowledge, skills, competencies, and other attributes of each individual that facilitates the creation of personal, social, and economic well being.”²⁸ But it is more than that. Human capital includes time (our life energy) and good health (mental, emotional, and spiritual).

According to Indigenous cultures of North America there are four aspects of a human being: emotional, physical, spiritual and mental. A complete human being has a healthy balance of these core assets or capabilities. We exercise these assets through “volition” (our will power) in pursuing our vision or dreams.

Four Aspects of Personal Wealth *



* Based on the indigenous people's “Medicine Wheel” with four aspects of human nature

February 8, 2003

Social capital is essentially the strength



²⁸ *The Well being of Nations: The Role of Human and Social Capital*. OECD. 2001.

of our relationships with each other and the strength of our interdependence which would include such things as trust, networks, shared responsibility, reciprocity, neighborliness, and a sense of community.

Natural capital are nature's goods and services, whether trees, land, water, air or wildlife. Natural capital also includes the ecological services provided by watersheds and wetlands in maintaining clean air and clean water. Natural capital is vital for our economic well being.

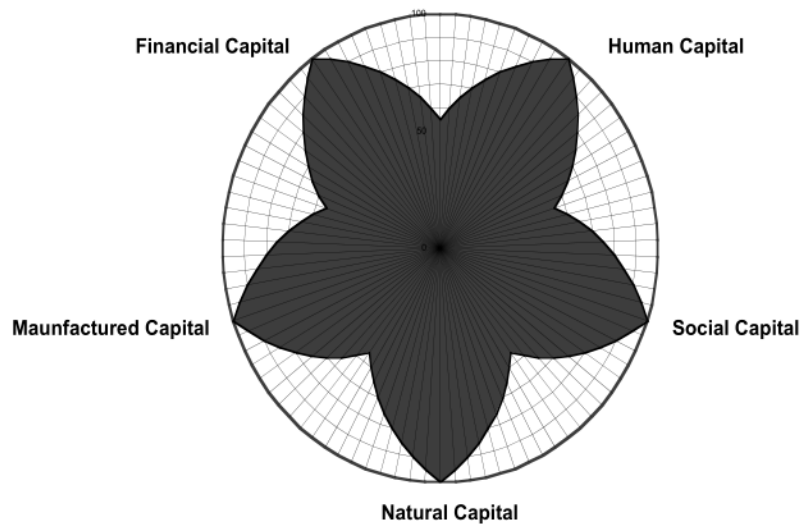
The last two forms of "capital" include manufactured and financial capital.

Manufactured capital are assets that have been produced by investing both human capital (time, labour, ideas) and natural capital (resources) to build infrastructure – homes, household appliances, cars, factories, hospitals, schools, roads. Manufactured capital also includes new technology, designs, patents, processes and ideas. Manufactured capital contributes to our overall economic well being by providing comfortable and sustainable life styles.

Financial capital includes conventional money-valued assets – cash, savings, investments, real estate and other money-valuable things. Financial capital also includes debt and financial liabilities.

These five categories of Genuine Wealth can be accounted for as an integrated "system" revealing the important interrelationships between the real assets of any organization, community or household.

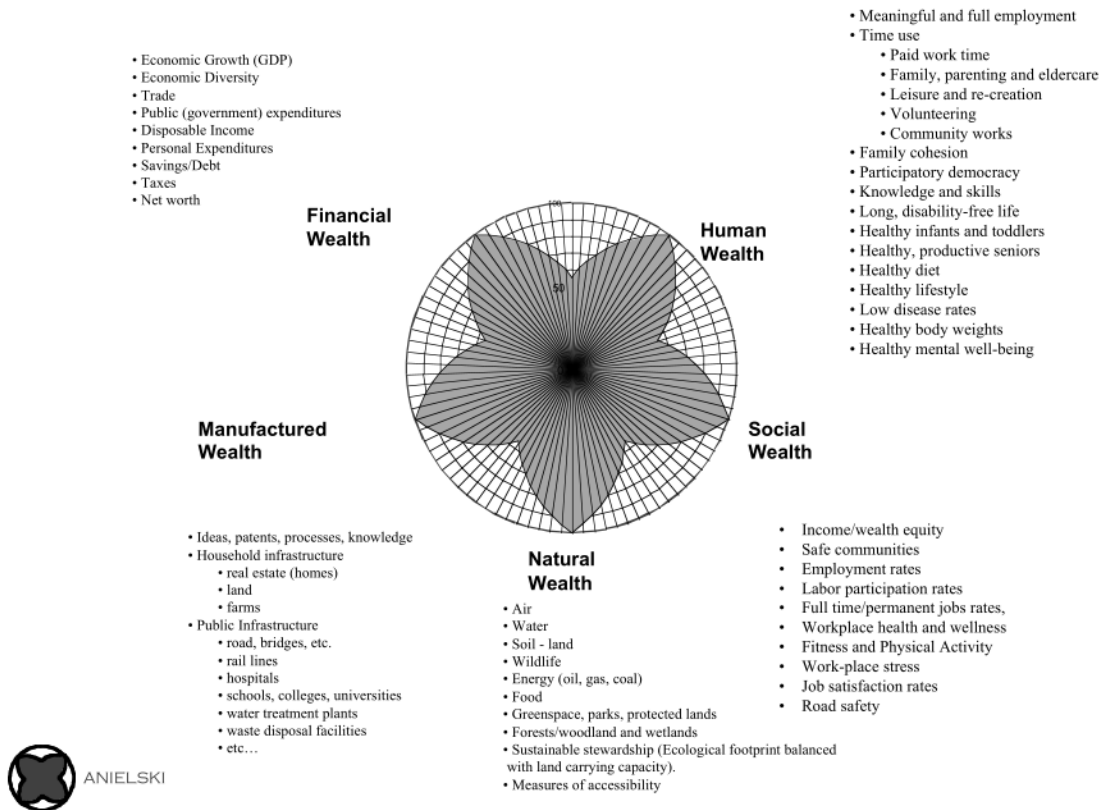
A more comprehensive picture of genuine wealth emerges, beyond our conventional measures of financial or economic wealth and progress. This genuine wealth account allows us to both name and measure the things that we intuitively know makes life worth living.



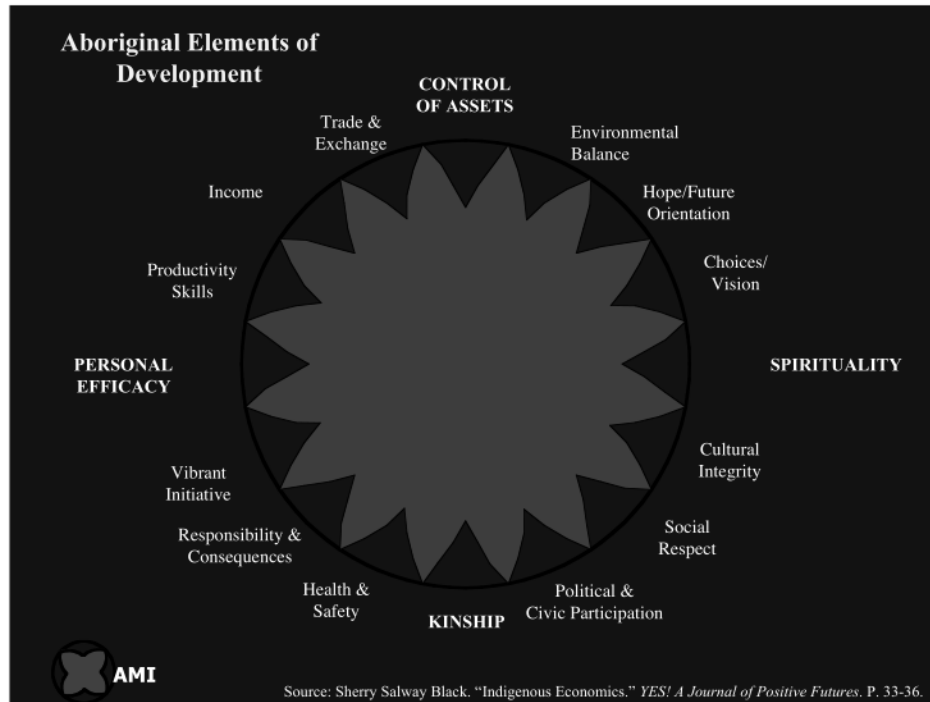
Each Genuine Wealth Accounting system is custom built since each organization or community defines well being according to its own set of values, principles, vision and objectives. Anielski Management Inc. has applied the model in businesses, municipalities and First Nation communities, each with its own unique accounting system and set of Genuine Wealth indicators – used to assess the conditions of well being and measure progress.

Our experience has shown us that a typical set of community genuine wealth accounts might be represented with the following set of genuine wealth attributes:

Community Genuine Wealth

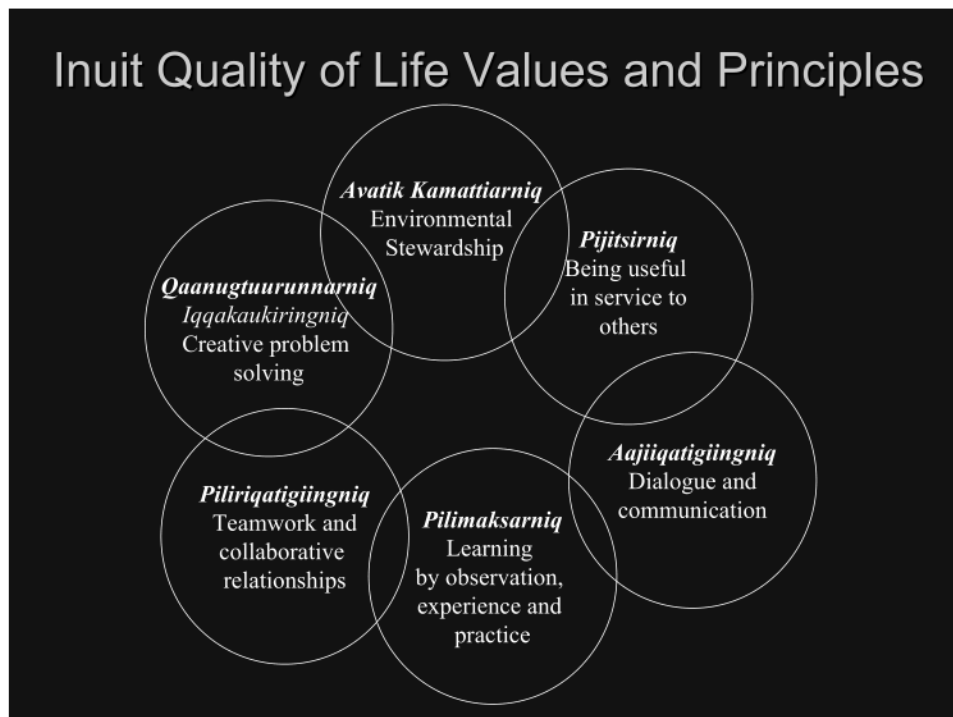


We have also developed a Genuine Wealth Accounting framework of relevance to the individual and household scale of accounting. This includes unique quality of life attributes and indicators that individuals use in defining quality of life.

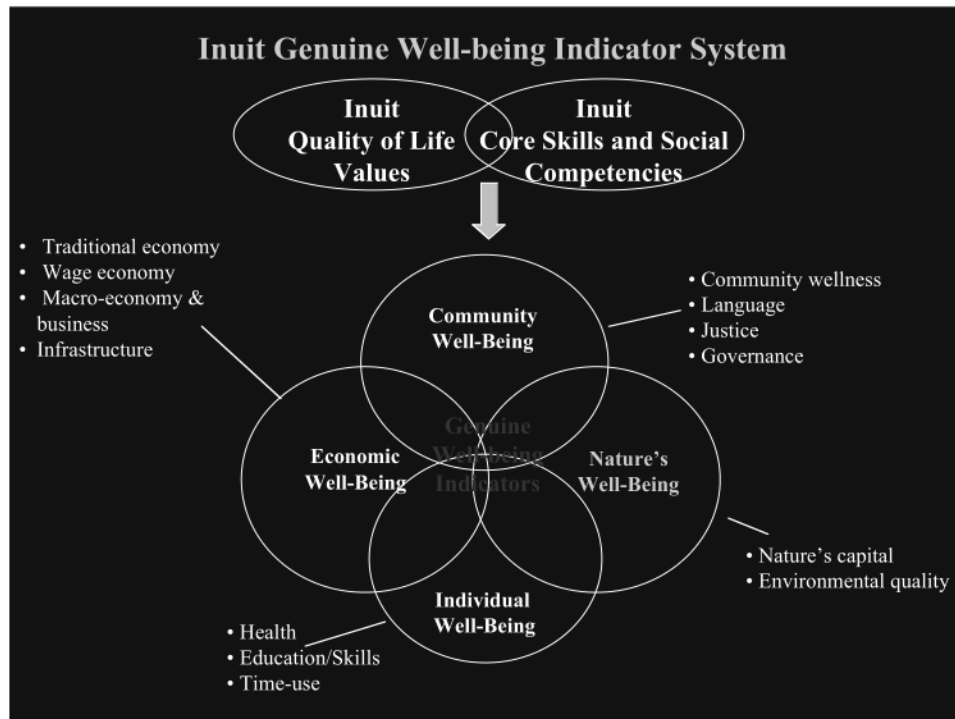


Each community and organization will have its own unique set of wealth accounts and genuine wealth indicators that reflect the values of the organization. First Nation communities might define genuine wealth according to different value sets such as the following elements of "development" model developed by Sherry Black:

Mark Anielski' experience with the Inuit showed that this First Nation's culture has a unique set of core values and a series of core competencies and skills define the "human and social capital assets" of their society. The following diagram shows the alignment of Inuit values and core



competencies/skills with a proposed “genuine wealth” set of accounts and genuine well being indicators used to assess the conditions of their genuine wealth assets. What is unique is how these values and core competencies differ (and in some cases compliment) from southern Canadian communities. These values are unique to their culture.



Working with the Inuit, Mark Anielski helped to develop and identify a unique set of genuine well being indicators in contrast to conventional economic, social and environmental indicators of southern Canadian communities. Using these Inuit Genuine Well being Indicators, it is now possible to celebrate and account for the changes in the key and unique Inuit well being attributes in accordance with their core values.

These Genuine Wealth Indicators tell us something about the actual conditions (physical, qualitative and monetary) conditions of the community or organization, both past and present. Like a balance sheet, they reveal the “surpluses” and “deficits” in real wealth thus pointing to where investments need to be made. They can be used as a basis of assessing the “what if” potential impacts of a change in the economy, environment or community. They are thus a powerful tool for guiding decision-making and helping the community (through a process of dialogue) evaluate the values at risk from any expected socio-economic-ecological changes.

Genuine Wealth accounts and Genuine Wealth Indicators (GWI) are used to evaluate the “returns to the total wealth” of an organization or community, including the environment. Using the “genuine wealth accounts” and “genuine wealth indicators” (derived from the accounts), impacts or progress can be evaluated over time. Genuine Wealth accounting includes gathering information (i.e. inventory) on the physical, qualitative/subjective and monetary (full-cost accounting) attributes of each of the five wealth “asset” components. The accounts inform decision makers and citizens whether or not genuine wealth is being developed or whether genuine progress is achieved in accordance with the values of the community.

The Genuine Wealth model is more than an accounting system; it is also a *process* of engaging the community of interests through dialogue about their values (i.e. “what makes life worthwhile?”) and dreams/vision for “development.” The process of dialogue allows individuals in the community to be fully involved in sharing their own values and in assessing the impacts of

“development” options on their households, businesses or organizations. Inventorying both the values and the actual conditions of well being of a community is critical for an effective governance system. Genuine wealth is being achieved when there is a good alignment of a community’s values and its real wealth.

The following diagram summarizes the Genuine Wealth asset measurement and management system. It is a comprehensive strategic-business planning system that ensures the alignment of the values and principles of an organization/community with an accounting and reporting system of the actual “conditions of well being” thus providing a superior accountability model than many other business planning and performance measurement models. The Genuine Wealth model recognizes the interrelationships and balance required amongst all the attributes of well being in order to achieve genuine progress. It builds on the strengths of conventional accounting systems but expands the balance sheet to include five asset categories and provides a full cost accounting that reveals a new and more honest income statement. It is the ideal tool for those communities or organizations interested in managing for sustainability.

