

Comments on the report, “Environmental Assessment Registration - Mount Carleton Grooming Hub Project”

Submitted by the Canadian Parks and Wilderness Society – New Brunswick Chapter (CPAWS NB),

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CPAWS is the only nationwide charity dedicated solely to protecting our public land and water, and ensuring our parks are managed to protect the nature within them. We have been very concerned about plans to develop the snowmobile trail network within Mount Carleton Provincial Park, and especially plans to develop the trail up Mount Carleton itself for snowmobile use. Having reviewed the Environmental Assessment Registration document, we remain very concerned due to errors and gaps within the document itself. Our concerns and unanswered questions are itemized below.

Thank you for your feedback on the Environmental Impact Assessment EIA report for the proposed Mount Carleton Provincial Park Grooming Hub Project (the ‘Project’). Your input is greatly appreciated and will be valuable as the NB Department of Tourism, Heritage and Culture continues the EIA review for this project. We have reviewed your letter and provide the following responses to your questions, in the order submitted.

Preamble: In your letter’s first paragraph, you state: “...especially plans to develop the trail up Mount Carleton itself for snowmobile use.” Please note that as stated in the project description, the Utility Road Trail will serve as a groomed snowmobile trail in the winter months, and emergency access for Park users who are injured or otherwise unable to complete the return hike. Furthermore, the snowmobile access for this trail will end approximately 400m short of the summit.

1) Section 2.3 – the report states, “...the do-nothing or ‘null’ alternative is not a preferable option. The mandate of the Minister of THC is to promote the use of provincial parks” (p.2). This statement appears to be loosely derived from the *Tourism Development Act, 2008*. However, under the *Parks Act* (amended 2011), the first purpose of parks is to “permanently protect ecosystems, biodiversity and the elements of natural and cultural heritage” (Section 3.a). The public review that lead up to the *Parks Act* revisions showed significant support for this purpose for Provincial Parks. In the *Parks Act*, the additional purposes to “...provide opportunities for recreational and outdoor educational activities to promote a healthy lifestyle, provide opportunities to increase knowledge and appreciation of the natural and cultural heritage of the Province, and offer a tourism product that enhances the Province’s image as a quality vacation destination” (Section 3 b,c,d) are tied to the first purpose. It is our belief that, in this case, the *Parks Act* must take precedence, and that government has a mandate to ensure that they protect natural and cultural heritage within the parks before they proceed with development.

2) Section 2.6.3 – The description of the “utility road” (also called the East Trail) clearing states, in part, that it “...will widen the utility road from approximately 2-3 m to 4m wide”. The statement of 4 meters is at odds with previous statements that the trail would be cleared to 12 feet (4m = 13.1 ft). Although this is a small point, it indicates that there is no precise completed plan for the work that needs to be done, nor how it will be done.

Q1 – How will it be determined how wide the trail will be at various points along the trail, and at what point will these trail widening specifications be available for expert review?

Response 1: As noted in the registration document, the trail will be widened through the clearing of brush, limbs, shrubs and other vegetation from the existing roadway. The purpose of this is to allow the snowmobile grooming machine and if necessary emergency vehicles, enough width to access the turnout. Clearing of vegetation (i.e. widening) will only take place where required up to a maximum width of 3.5 metres. This work will be undertaken by Park staff.

Q2 – How will be the clearing of vegetation be performed (equipment), what will be done with the vegetation removed, and what future measures will be taken to maintain that clearance?

Response 2: As noted in the registration document, the clearing of vegetation will be completed manually, i.e. by chainsaw or pruning saw, by Park staff. In other words, no heavy motorized forestry equipment will be used. Clearing of vegetation will take place outside the bird breeding season, and slash will be disposed of at an approved location within the Park by staff. As with other maintenance activities within the Park, Park staff will undertake regular maintenance of all trails and roads as needed.

Q3 – What measures will government take to protect the environment during the clearing stage?

Response 3: As noted in the registration document, mitigation measures will be implemented as appropriate, including not using heavy motorized forestry equipment, appropriate timing of the intervention, and standard environmental protection measures (such as erosion controls) as needed and as per Park policies. An Environmental Protection Plan will be developed and adhered to for this project.

3) Section 2.6.3 states the trail “...will end at a turn-out approximately 400m from the summit... No removal of mature vegetation for the utility trail or turn-out is anticipated” (p.9). This phrasing suggests that a detailed survey of the trail has not been done with an eye towards the current vegetation or what will actually need to be removed. There is also no description of the size of the turn-out, how it will be maintained, or whether it will be “treated” to discourage regrowth.

Q4 – What will be the size and configuration of the turn-out?

Response 4: At this time, the exact size and configuration of the turnout will be sufficient for the snowmobile groomer, Park vehicles and emergency vehicles to turn in place. The turnout will be appropriately sited to avoid clearing mature vegetation, on a flat area (if available), and will be restricted to the smallest area possible.

Q5 – What measures will be taken to prevent regrowth of vegetation in the future, or will the turn-out be surfaced in some fashion?

Response 5: No measures to prevent regrowth of the turnout are planned, other than regular maintenance by Park staff (as with all Park infrastructure).

4) Section 2.6.3 states, “The utility road may also require periodical repairs by importing small amounts of fill” (p.9). This is the first indication that there are plans to upgrade the trail itself. Nowhere in the

document is there detailing of what the surface of the “utility road” will be like, where the fill would come from, or how it would be transported to the site. Nor is any mention made of dealing with erosion issues (past or future) or whether further engineering efforts will be used in the “refurbishment” of the trail.

Q6 – What measures will be taken to upgrade the surface of the trail (grading, filling, boulder removal, embankments), and how will material be transported to the various parts of the trail?

Response 6: The surface of the Utility Road Trail will be repaired as needed by Park staff. Equipment used will also be on an as-needed basis; at this time, it is anticipated that Park half-ton trucks, ATVs and if necessary, a mini-excavator or mini skid-steer will be used, to minimize environmental impacts. As with vegetation clearing, standard erosion controls and other environmental protection measures will be employed as per Park policy and the Environmental Protection Plan.

Q7 – Given that the work is being done to counteract the effects of erosion, what methods will be used to curtail future erosion, and how will these methods affect water flow on the slope? If there is a need to deal with erosion, why is there no evaluation in the report about the potential that cutting the canopy along the trail may make erosion worse?

Response 7: Park staff will repair the trail/road surface by infilling with clean gravel and/or rip rap, as necessary. Erosion and sediment controls will be implemented and maintained during and after the repairs, as needed. Where necessary, native vegetation will be seeded to stabilize the area to prevent further erosion. By using the appropriate materials, it is hoped that future erosion will be avoided at these locations; maintenance of these areas will continue as typical maintenance activities within the Park.

5) Section 4.1.2 states “...human receptors to noise within the park, although they may occur, will be rare and not anticipated to be significantly adversely impacted by the project; therefore are [sic]no longer discussed in this report”(p.24). It appear that no attempt been made to determine the level of usage of the park by winter recreationists, and it has simply been assumed to be virtually non-existent.

Q8 – How much non-motorized winter activity takes place in the park, and what forms?

Response 8: As noted in the registration document, non-motorized activities include ice fishing, cross-country/back-country skiing, sky-gazing and snowshoeing. In addition, there are 6-9 ice shanties which are at the park annually and used on a regular basis.

Q9 – How much interaction between non-motorized and motorized users can be expected in a given season?

Response 9: There is minimal interaction between activities that take place in the different areas of the park. Motorized activities would be restricted as much as possible in areas where non-motorized activities are taking place.

Q10 - Will non-motorized users be allowed to use the groomed trail(s)?

Response 10: For safety reasons, non-motorized users will not have access to groomed trails which are intended for motorized use.

6) Section 4.1.2 states: “Studies of ATV and snowmobile impacts on deer have shown that in general, deer are less stressed by motorized vehicles than by foot traffic such as hiking and snowshoeing ... and while the vehicles may create short-term disturbance to animals within a short distance ... they are typically capable of adapting and avoiding the source of the noise. ... Based on the temporary and short-term nature of the noise impacts ... this is not considered a significant adverse environmental impact and is no longer discussed in this report” (p .24). These statements ignore a larger body of wildlife research that shows that the effects of snowmobiles on wildlife can be significant, and the dismissal of these concerns is, in our view, unsupported.

a) The report cites Harris et al, (2013)¹ in support of the conclusion that deer are more affected by hikers and snowshoers than by snowmobiles. However that same report concludes, “Therefore, nonmotorized recreation causes fewer, stronger disturbance effects in relatively smaller areas, while motorized recreation generates more, weaker disturbances across larger areas” (p.55). Given that the registration report has at its goal 1000 snowmobiles trips per season (p.22), then it can be logically assumed that the impact of snowmobiles on wildlife within the park will be greater than that of nonmotorized activities, and therefore needs to be further considered.

b) Colescott and Gillingham (1998)² demonstrate that moose bedding within 300m and feeding within 150m of active snowmobile trails altered their behaviour, temporarily displacing them to less favorable habitat.

c) Neumann et al (2011)³ show that snowmobile disturbance of moose resulted in expanded diurnal (daytime) activity ranges.

d) Tomeo (2000)⁴ studied stress hormones found in moose fecal matter, and found higher levels in areas with snowmobile activity.

e) Moen et al (1982)⁵ showed increased heart rate and movement in white-tailed deer resulting from snowmobile disturbance

f) Severinghaus and Tullar (1978)⁶ concluded that for white-tailed deer, during a 20-week winter with snowmobile harassment each weekend, “...food enough for 40 days of normal living would be wasted just escaping from snowmobiles.”

The above studies show that the noise effect on ungulates near the trail system can be significant, and must be considered as part of the EIA. As well, there are possible effects on black bears⁷ and other smaller mammals. Snowmobile noise disturbs wintering wildlife. It causes stress and wildlife need to use extra energy reserves to avoid noise and disturbance, and it changes where wildlife go in the park to rest, eat or hibernate. Wildlife may be displaced into less optimal habitats that lower their chances of surviving through the winter.

Q11 – Where specifically are the prime habitats for moose and deer within the park in relation to the snowmobile trails?

Response 11: Please refer to the attached figure 2, which shows habitat within the Park boundaries. The green areas are regulated wetlands, the blue “other” habitats are mature/overmature conifer forest. Please note, however, that this figure represents year-round habitats and not overwinter habitats only.

Q12 – Where are the habitats for other mammal species, and what effect can be expected on them from snowmobile noise?

Response 12: Without reference to a specific mammal species, it is difficult to respond to this question. Studies have shown that different species of wildlife respond differently to noise impacts. Many species become habituated to motorized noise, or respond differently depending on distance from the noise source, quality of nearby habitat, and whether the snowmobiles stop and approach the wildlife, or continue on by (White et. al., 2006). In summary, the noise of snowmobiles is not anticipated to affect habitats; wildlife (depending on the species and distance from the source of the noise) may show avoidance or flight, or not react at all. Given the small percentage of the park to be occupied by snowmobile trails, the temporary nature of the noise, and spatial predictability, the impacts to wildlife habitat from noise is not considered significant.

7) Section 4.5.1 notes that the noisy construction activity will take place later in the year after the majority of birds species have finished their nesting, so is a non-issue. As for snowmobile noise, it occurs “when the majority of species have vacated the park. Therefore, sensory disturbance to the vast majority of bird species will be non-existent” (p25). The report does not include a listing of the species that remain over winter, as they are not migratory, so it is dropped from consideration. There is no indication of what effect the noise would have on those birds that overwinter in the park. It is also possible that this project may have a secondary effect on birds; for instance, birds that feed on rodents may have their food source affected by the project, which may result in a reduction of available food.

Q13 – What bird species overwinter in Mount Carleton Provincial Park, and what impact might this project have on these species?

Response 13: A variety of common birds overwinter in the park. However, as noted in the registration document, any impacts from the operation of snowmobiles on the proposed trails will be limited spatially and temporary, and there therefore not anticipated to adversely impact birds which overwinter in the Park.

Q14 – Where are the bird habitats in relation to the trails?

Response 14: As with Response 12, the question of “bird habitat” is very broad, therefore it is difficult to provide an adequate response. Bird species, including those that overwinter in the Park, may inhabit a variety of habitat types, depending on the use of the habitat, time of year, and species in question.

8) Section 4.5.2 states: “Due to the fact that the proposed project is to be located on existing roadways, and no wildlife habitat is to be permanently destroyed, no impacts to wildlife are anticipated from the construction of the project and are therefore no longer discussed in this report.” This statement is presumptive in multiple ways.

a) Vegetation along the roads and the trail up Mount Carleton will be removed, with alterations to the actual pathway as well. A direct result of this could be a change in erosion patterns, which may have a significant effect on animal habitats near the trail and “downstream”. As there is no indication in this report as to how future erosion will be controlled, then the assumption of “no impact” is optimistic at best.

b) Grooming the trails is likely to make those parts of the park more attractive to predatory species than they were before. Bunnell et al (2006)⁸ found that snowmobile trails were good predictors of coyote activity, with 90% of coyote tracks within 350 m of a trail, allowing them greater access to areas with lynx and smaller prey. By improving access to the park of coyotes, there will be more competition for prey species, resulting in a possible loss of smaller species and more threat to lynx.

c) The report ignores the impact of snow compaction on wildlife. When the groomer and snowmobiles go on the trail, they compact the snow, changing it from deep, fluffy snow to hard, packed snow. Compacted snow reduces habitats for small mammals that live in the extensive tunnels they create under the snow.^{9,10} Small mammals can be killed directly when the snowmobile goes over top of them, or the snowmobiles can collapse the snow tunnels that wildlife had been using to search for food or to create warm hollows.¹¹ Wildlife that could be impacted by this activity include shrews, mice, weasels, squirrels and voles. Reducing the populations of small mammals would remove food sources for owls, hawks, bald eagles, Canada lynx, weasels, and American marten – resulting in ecosystem wide impacts up the food chain.

Q15 – How will these potential impacts on small mammals that use these subnivean (under the snow) habitats be avoided or mitigated?

Response 15: As noted in the EIA document, any sensory disturbance to wildlife will be temporary, limited in scale, and therefore are not considered significant.

Additionally, subnivean habitat (the space under snow closest to the soil) is naturally decreased at elevation (due to heavy snowfall) and areas receiving high snowfall amounts (natural compaction). Amount and quality of subnivean habitat is more closely related to snow depth, vegetation types, and amount of woody debris – as such, quality subnivean habitat is likely not found within the roadways/trails. It should also be noted that the amount of established roads and trails is limited to approximately 1% of the Park’s total surface area. Based on this, the impact of grooming the trails are not anticipated to significantly impact subnivean habitat and subnivean species. See Jarvinen and Schmid, 1971; and Schmid, 1972.

9) Section 4.6.2 states “the proposed project is not anticipated to adversely impact Mammal Species at Risk and is therefore no longer discussed in this report” (p. 29). The Canada lynx is a provincially listed Species at Risk (Endangered). CPAWS would expect that this report should evaluate whether the cumulative impacts of: a) noise from snowmobiles, b) increased competition from coyotes that use the groomed snowmobile trails, and c) possible reduction of food sources if snowmobile use causes a reduction of small mammal populations could impact the ability of Canada lynx to find suitable habitats in the park. The Gaspé shrew is considered a Species of Special Concern under the federal Species at Risk registry, and is listed as “May be of Concern” by the Province of New Brunswick’s General Status of Wildlife. The report alludes to the fact that it has been previously found on Mount Carleton. The report

does not include results of any fieldwork, or any description of whether this development might affect known locations (locations are not described). Gaspé shrew are active during the winter, creating snow tunnels to keep warm and to search for food. The report ignores any potential impacts on their populations in the park. There is no indication where on the mountain the shrew is located, its range, or its population size. Further, the shrew is not dormant during the winter, so the possibility of “interaction” with snowmobiles exists, but is not addressed.

Q16 - Where are the critical habitats for the Gaspé Shrew, and what measures will be taken to protect them?

Response 16: The Gaspé Shrew prefers rock outcrops and talus slopes in highlands where there are steep slopes. Fortin and Comeau (2008) describe their critical habitat as containing slopes >15 degrees with blocks, boulders and rock outcrops. Based on this habitat preference, and that the snowmobile grooming will take place within the footprint of the existing road/utility trail, no impacts to Gaspé Shrew critical habitat is anticipated from this project.

Q17 – How might cumulative impacts of snowmobile use affect the long-term ability of Canada lynx to find suitable habitats in the park?

Response 17: The Canada Lynx habitat requirements were assessed as part of the EIA. Lynx typically prefer dense Balsam Fir and Black Spruce forests (often associated with Black Spruce bogs). They prefer stands with a high degree of structure, i.e. blowdowns, for their dens, and their individual survivability and population numbers fluctuate in conjunction with their favourite food source, the snowshoe hare.

Given that (with the exception of the 900m trail) no new roads or trails are being constructed, and the overall % of available habitat within the Park will remain unchanged, the project is not anticipated to adversely impact lynx habitat or their ability to find said habitat.

Sensory disturbance of lynx and other mammals will be temporary and limited in scale, and not considered to be significant (see Poole (2003) who states there is evidence to suggest lynx can tolerate some human disturbance including moderate levels of snowmobile traffic). Also as noted in the EIA report, cumulative effects are not anticipated as a result of this project, based on the spatial and temporal scale of the proposed project.

- COSEWIC. 2006. *Assessment and Update Status Report on the Gaspé Shrew (Sorex gaspensis) in Canada*. COSEWIC Committee on the Status of Endangered Wildlife in Canada.
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- Staples, W. R. 1995. *Lynx and coyote diet and habitat relationships during a low hare population on the Kenai Peninsula, Alaska*. M.S. thesis, University of Alaska, Fairbanks, Alaska, USA.
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- Squires, Ruggiero, Kolbe and DeCesare. 2006. *Effects of Winter Recreation on Coyotes and Lynx*. USDA Forest Service, Rocky Mountain Research Station. Missoula, Montana.

10) Section 4.6.1 – *Species at risk Birds* – concludes, “...the proposed project is not anticipated to adversely impact bird Species at Risk, and is therefore no longer discussed in this report” (p.29). However, bald eagles are a provincially designated Species at Risk (Endangered), and research has indicated that noise from snowmobiles can negatively impact already stressed bald eagles¹² that are likely using the park in winter.

Q18 – What other sources of data, in addition to the Atlantic Canada Conservation Data Centre, were used to determine whether species at risk (birds, mammals, plants, invertebrates) have been found in the park?

Response 18: The ACCDC data was the primary source of data used for Species at Risk, in addition to information provided by Park staff.

Q19 - What is known about bald eagle winter habitat use in the park to search for food, for roosting and for sheltering for warmth?

Response 19: Bald eagles typically prefer to overwinter in areas of high food availability, whether the local landfill for scavenging, or near water which remains open all winter for fishing. Based on this, and information provided by Park, eagles are not known to overwinter in the Park. According to Nature NB (<http://www.naturenb.ca/wp-content/uploads/2013/01/Species-at-Risk-Fact-Sheets.pdf>), most bald eagles in Northern New Brunswick migrate southward to open water (or other reliable food sources).

Q20 - How might noise from snowmobiles affect the ability of bald eagles to survive in the park through the winter, and how will this impact be avoided?

Response 20: As noted in response 19, at this time no eagles are known to overwinter in the Park due to the lack of open water. The potential noise impacts from snowmobiles will also be predictable (spatially), limited in scale and temporary. Please refer to National Park Service, 2011 which states that “there is no evidence that OSV (over-snow vehicle) use has negatively affected bald eagle populations in Yellowstone” (with a much higher traffic volume than that anticipated for Mount Carleton).

- National Park Service, 2011. *Scientific Assessment of Yellowstone National Park Winter Use*. https://www.nps.gov/yell/learn/management/upload/yell_sci_assessment_deis_release_2011.pdf
- White, P.J. et. al. October 17, 2006. Behavioral Responses of Wildlife to Snowmobiles and Coaches in Yellowstone.

10) Section 4.6.4 – *Species at risk Flora* – concludes no impact on Species at Risk habitat as the “operation of the project will occur during the winter, when flora are not present or covered by snow” (p.29). It notes that the habitat in question is largely wetlands and watercourses. The report fails to take into consideration certain potential impacts of increased snowmobile pollutants: there are studies that show an increase in acidity when the pollutants released from snowmobiles accumulates in the snow, and is released in the spring during snowmelt, flowing into lakes and waterways. Nazarenko et al (2016) 13 conclude, “...the accumulation and transfer of pollutants from exhaust – to snow – to meltwater need to be considered by regulators and policy makers as an important area of focus for mitigation with the aim to protect public health and the environment” (p.197). Section 4.1.1. discusses the amount of gasses expected to be released during a season, but concludes it to be not an issue as the exhaust is stretched out over a full season. However, the true concern is the amount of particulate matter captured by the snow, and then all released in a relatively short period during the spring thaw.

Q21 – What is the real cumulative effect of snowmobile exhaust to be expected, and what impact will it have on habitats?

Response 21: Based on the literature review undertaken in support of the EIA document, and additional research in response to this letter, the primary source of pollutants (mainly Ammonia, Nitrate and BTEX), occurs from older 2-stroke engines, which are significantly less efficient than 4-stroke engines or even newer 2-stroke engines. As noted in the EIA document, because of its location, older (2-stroke) snowmobiles are not anticipated to frequent the park in significant numbers. Furthermore, studies show that accumulation of these pollutants in snow do not pose significant human or ecosystem health risks to downstream environments.

- Ingersoll, George P. 1998. *Effects of Snowmobile Use on Snowpack Chemistry in Yellowstone National Park*. US Geological Survey: Water Resources Investigations Report 99-4148. Denver, Colorado 1999.
- Reimann, Kallenborn, and Schmidbauer, 2009. *Severe Aromatic Hydrocarbon Pollution in the Arctic Town of Longyearbyen (Svalbard) Caused by Snowmobile Emissions*. Environmental Science and Technology. 2009, 43, 4791-4795.

11) Section 5.4 states that to deal with possible “increased encounters with wildlife, which may use the trail as easy travel routes (Deer, moose and coyotes particularly...)”, they propose, “Clearing of vegetation from the trail ROWs, resulting in increased visibility for snowmobilers” (p.35). This suggests that in some areas, the trail may be widened beyond the 4m width previously declared. This introduces further uncertainty towards what the finished trail will look like, as well as introducing further potential for habitat disruption and increased erosion. The same section also states, “...increased signage will warn snowmobilers of turns, hills, areas of high wildlife-usage, and decreased speed zones within the park”.

Q22 – How much wider do the proponents of the project expect to have to make the trails?

Response 22: Where necessary, vegetation ‘brushing’ will be completed along the snowmobile trails to enable safer sightlines, up to a maximum width of 3.5 metres.

Q23 – Where are the areas of high wildlife-usage identified by the proponents?

Response 23: For the safety of the snowmobilers (and wildlife), it is assumed that during the winter in deep snow conditions, encounters with wildlife (particularly larger species) could occur on any trail within the Northern Odyssey trail system, and snowmobilers are encouraged to travel with care and not approach or harass wildlife when encounters do occur.

The project’s Management Committee will explore the opportunity to erected signs (like highways) where moose and deer regularly cross the trail.

Q24 – What will be the speed limit for snowmobiles within the park?

Response 24: There is currently no speed limit in place for snowmobiles within the park. These details will be discussed and addressed by the project’s Management Committee.

12) We also point out the following elements that are not discussed in this document:

- The report does not mention the relationship between the proposed project and potential climate changes for the region that includes the park. It does not mention how trail widening will affect the resilience of the natural areas along the steep trail up Mount Carleton, given the potential for stronger or more frequent rainstorms in the future.
- The report does not analyze the potential impacts that this development will have on non-motorized tourism and use of the park, either during winter or during other seasons. It assumes a net economic benefit to the park from the new snowmobile developments and use, without any socioeconomic study about how the changes made to the trail up Mount Carleton might affect overall tourism or non-motorized use year-round.
- The report does not evaluate the impacts of two bridges that are being converted from foot traffic bridges to bridges that can safely support motor vehicles. There are likely potential impacts from this development that will increase illegal motorized use of the northern part of the park. Mitigation measures related to increased enforcement should be part of the evaluation of this project.
- The report contains factual errors in calling the East Trail (referred to in the report as the utility road) up Mount Carleton an “existing snowmobile trail”. This trail has not been an authorized snowmobile trail, so any snowmobile use is happening without permission or authorization, and only because the park does not have enough enforcement in winter to prevent that use. Since “existing use” can influence how technical reviewers perceive the potential impacts of a development, this statement needs to be clarified.

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