Appendix D: Student Worksheet L3-D
Actions Considered

Alternative A: No Action	*Under the no-action alternative, wolves would not be introduced to the park.* **Pro**: Least impact to wilderness. **Cons**: **Island Ecosystem**: broad changes to forest composition and structure could be further influenced by climate change and increased plant consumption. **Moose**: Without wolves, moose population would likely increase and could deplete their food source. A large-scale starvation event could possibly occur. **Wolves**: Original population would likely disappear from the island. Presence of wolves on the island would depend on natural immigration, which is unlikely due to reduction of ice bridge formation because of global climate change. Wolf reproduction would be unlikely because of low genetic diversity and inbreeding.
Alternative B: Immediate, limited introduction of new wolves	*Under alternative B, the park would introduce wolves over a 3-year time period. After the third year, if an unforeseen event occurred (disease or mass deaths), wolves may be supplemented for an additional 2 years. No wolves would be introduced after 5 years from the first introduction.* **Pros**: **Island Ecosystem**: Restore an apex predator and the process of predation to the island. Retain forest components. **Wilderness**: Restore an ecological function (predation) on the island and benefit the natural quality. **Moose**: Reintroducing predation to the ecosystem would reduce the fluctuations of the moose population. **Wolves**: Island wolf abundance and distribution would increase. Genetic variation would increase with the aim to delay any potential future inbreeding problems **Cons**: **Wilderness**: The wilderness character of the island would be impacted. This alternative includes the use of radio collars and mechanized transport that impact the untouched and undeveloped qualities of wilderness.

Alternative C: Immediate introduction of new wolves, with potential addition of more wolves in the next 20 years	*Under alternative C, wolves would be immediately introduced with the possibility of more introductions over a 20-year period.* **Pros**: **Island Ecosystem**: Restore an apex predator and the process of predation to the island. Retain forest components. **Wilderness**: Restore an ecological function (predation) on the island and benefit the natural quality. **Moose**: Reintroducing predation to the ecosystem would reduce the fluctuations of the moose population. A smaller number of wolves would be introduced, allowing some predation. Future introductions of wolves would be allowed to manage the moose population as needed. **Wolves**: Relocating a lower number of wolves would best reflect a natural migration event. This would result in a lower genetic diversity in the short term. The NPS would have the ability to relocate wolves and increase diversity as needed. **Cons**: **Wilderness**: The wilderness character of the island would be impacted. This alternative includes the use of radio collars and mechanized transport that impact the untouched and undeveloped qualities of wilderness. Additional impacts to wilderness could occur depending on the number of introduction events.
Alternative D: No immediate action, with allowance for possible future addition of wolves	*Under alternative D, the park would continue to monitor conditions and take no immediate action but allow for future introductions of wolves to Isle Royale.* **Pros:** All pros are depending on if future action occurs. Pros would be similar to alternatives B and C. **Wilderness**: If action did not occur, nature would be allowed to take its course without human influence. **Cons**: All cons depend on if future action occurs. **Wolves**: A delayed response could lead to the original wolf population disappearing and new wolf relocations would possibly establish a new, genetically different, population. **Moose**: A delayed response could lead to the moose population continuing to increase until a possible moose population collapse due to starvation or winter moose ticks causing illness. **Wilderness**: If action occurred, the wilderness character of the island would be impacted. This alternative includes the use of radio collars and mechanized transport that impact the untouched and undeveloped qualities of wilderness. Additional impacts to wilderness could occur depending on the number of introduction events.