

## 9.2-3 Rabbit Lake Dam (Ontario Power Generation Inc.)

Selected Option					
Issue Objective	Target/Existing Voluntary Constraint	Strategy	Benefits	Conflict or Concern	Rationale for Selection
<b>Fisheries:</b> - operate the dam to maintain or improve trout habitat during its natural life cycle (3.1.1, 3.1.2, 3.1.4, 3.1.6, 3.1.8)	- remove Jan 15 constraint - drawdown target of 287.00 by Mar 20 and then close off dam with onset of freshet	- maintain the lake trout habitat - removal of the Jan 15 constraint will benefit power production while maintaining lake trout habitat - drawdown target of 287.00 m by Mar 20 and then close off dam with onset of freshet; fill rate dependant on spring runoff - by agreement with MNR dam is not cindered when closed off to sustain ecology downstream	-reservoir created more fish habitat -power production (100 households per year) -recreation -less ice damage to docks -navigation -economics -loon nests	- none	Option 2 selected: - Jan 15 constraint removed as it does not benefit trout spawning - Improves power generation - Reduces risk of ice damage to docks
- operate the dam to maintain or improve walleye habitat during its natural life cycle (3.1.3, 3.1.7)	-to establish a new walleye constraint to achieve the summer minimum level of 291.40 m. by May 1st on a reasonable effort basis based on inflows.	- be in the summer band by the time spawning occurs and covers the incubating eggs	-fisheries -navigation -recreation -waterfowl -pike spawning -near shore wildlife	-potential erosion downstream	Option 2 selected: - Improves walleye spawning - Improves pike spawning - Benefits recreation and navigation
- operate the dam to maintain or improve pike habitat during its natural life cycle (3.1.5)	- none				
<b>Navigation:</b> - operate dam to maintain or improve navigability on Rabbit Lake (3.3.1, 3.3.2, 3.3.3, 3.3.4, 3.3.5, 3.3.6, 3.3.8, 3.3.9, 3.3.10, 3.3.11, 3.3.12)	- lake level maintained between 291.40m - 291.88m Victoria Day weekend May to Thanksgiving weekend October on a reasonable effort basis - docks and boathouses should be designed to withstand operating levels	- achieve the summer band by Victoria Day weekend in May and maintain until Thanksgiving weekend in Oct on a reasonable effort basis - floating debris accumulating on booms removed on a regular basis and disposed of according to regulations - educate the public to use website and infoline	- water levels have been mitigated over the years to arrive at the present mode of operation - navigation - recreation - fisheries - wildlife	- power production (2,300 households per year)	option 1 selected: - Maintains navigation
-operate dam to maintain or improve navigability below Rabbit Lake (3.3.7, 4.3.2)	- none				

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<b>Recreation:</b> - operate dam to maintain or improve recreation on Rabbit Lake (3.4.1, 3.4.2, 3.4.3, 3.4.4, 3.4.6, 3.4.7)	- lake level maintained between 291.40m - 291.88m Victoria Day weekend May to Thanksgiving weekend October on a reasonable effort basis - docks and boathouses should be designed to withstand operating levels	-achieve the summer band by Victoria Day weekend in May and maintain until Thanksgiving weekend in October on a reasonable effort basis -floating debris accumulating on booms removed on a regular basis and disposed of according to regulations	-water levels have been mitigated over the years to arrive at the present mode of operation -navigation upstream -recreation	-power production (2,300 households per year)	option 1 selected: - Maintains recreation
-operate the dam to maintain or improve recreation below Rabbit Lake Dam (3.4.5)	- target the minimum of the band 291.40 m Thanksgiving day weekend during dry summers	-optimize the available flows downstream while staying within the summer band upstream	-recreation and navigation downstream -aquatic habitat -emulates natural flow regime	-none	option 2 selected: - Benefits recreation, navigation downstream - Improves aquatic ecosystem
<b>Flooding:</b> -operate dam so as to minimize the risk of damage due to flooding (3.6.1, 3.6.2, 3.6.3)	-normal operating range 287.00 - 291.88 m -absolute range 286.00 - 292.34 m -flood allowance 291.88 - 292.34 m -drawdown target of 287.00 by March 20 and then close off dam with onset of freshet	-the range of 292.18 to 292.34m is only used for flood emergency after consultation with MNR	-minimize flood damage downstream and upstream	-none	Option 1 mitigates flooding, no Option 2
<b>First Nations:</b> -No issue identified to date	-none				
<b>Cultural Heritage:</b> -No issue identified to date	-none				
<b>Erosion:</b> -operate dam to minimize erosion on Rabbit Lake (3.5.1, 3.5.2, 3.5.3, 3.5.4, 3.5.5)	-legal maximum of 292.34 m -summer band of 291.40 - 291.88 m from Victoria day weekend in May to Thanksgiving weekend in October on a reasonable effort basis	-not to exceed legal max of 292.34 m -use range above 292.18 m to mitigate flooding downstream	-erosion mitigation -navigation -recreation -economics -wildlife -fisheries	-power production (162 households per year)	Option 1 mitigates erosion, no Option 2

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<b><u>Wildlife:</u></b> -operate dam to maintain or improve wildlife habitat on Rabbit Lake (3.2.1, 3.2.2, 3.2.3, 3.2.4, 3.2.5, 3.2.6)	-none				No options
<b><u>Economics:</u></b> -operate dam to maintain or improve sustainable economic opportunities on Rabbit Lake (3.7.1, 3.7.2, 3.7.3, 3.7.4, 3.7.5, 3.7.6)	-lake level maintained between 291.40 - 291.88 m from Victoria Day weekend May to Thanksgiving weekend October on a reasonable effort basis	-lake level maintained between 291.40 - 291.88 m from Victoria Day weekend May to Thanksgiving weekend October on a reasonable effort basis	-consistent water levels in dry years as compared to a natural lake -recreation -navigation -economics	-power production (2,300 households per year)	Option 1 maintains sustainable economic opportunities, no Option 2
<b><u>Public Safety:</u></b> -operate dam to maximize public safety	-flood allowance 292.18 - 292.34 m. used only in the event of flood conditions -ensure Public Awareness of facility operations.	-operate dam within the normal operating range on a reasonable effort basis, but use flood allowance to minimize flooding downstream -public waterway safety program is implemented -educate the public to use website and infoline	-contributes to public safety -recreation -fisheries -navigation -economics -flood mitigation -erosion mitigation	-downstream flooding -recreation -erosion	Option 1 maximizes public safety, no Option 2
<b><u>Power Generation:</u></b> -operate dam to maintain or improve power production	-normal operating range 287.00 - 291.88 m -absolute range 286.00 - 292.34 m -summer band 291.40 - 291.88 m Victoria Day weekend May to Thanksgiving weekend October on a reasonable effort basis -remove Jan 15 lake trout constraint	-operate dam adhering to voluntary constraints on a reasonable effort basis	-fisheries -navigation -recreation -flood mitigation -mitigation of erosion -public safety -economics -less ice damage -power production gains (100 households per year) by removing January 15 fishery constraint	-power production (2,720 households per year)	Option 1 selected: - Jan 15 constraint removed as it does not benefit trout spawning - Improves power generation - Reduces risk of ice damage to docks

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<b>Natural Flow Regime:</b> -operate the dam so as to reflect a natural flow regime	-normal operating range 286.00 - 291.88 m -absolute range 286.00 - 292.34 m -summer band 291.40m - 291.88 m -Victoria Day weekend May to Thanksgiving weekend October on a reasonable effort basis -remove January 15 lake trout constraint	-operate dam adhering to voluntary constraints on a reasonable effort basis -the dam is not cindered when closed off to sustain ecology downstream	-fisheries -navigation -recreation -flood mitigation -mitigation of erosion -public safety -economics -less ice damage -power production gains (100 households per year) by removing January 15 fishery constraint	-power production (2,720 households per year)	Option 1 selected to balance objectives (no data for reservoirs)