

4.3 Water Resources

Section 3.3 Water Resources describes the water resources of the Study Area in detail. This section addresses potential direct, indirect, and cumulative effects on water resources including surface water, groundwater, and jurisdictional wetlands and waters. Section 4.1 Introduction established the context for defining criteria to determine the potential for a significant effect within any resource category. Specific significance criteria are presented below for each category of water resources. Section 2.0 Alternatives and Section 4.1 Introduction establish and define the range of possible taxation and jurisdictional scenarios that could apply to lands not conveyed into trust.

4.3.1 Surface Water

Significance Criteria

Several criteria were considered in determining whether an action has a potentially significant adverse effect on surface water. Potentially significant adverse effects on surface water may occur directly, indirectly, or cumulatively if the action is likely to:

- Affect the course, rate or volume of flow;
- The use of or material demand for surface waters;
- Cause other effects that may significantly or irreversibly impair the use or quality of surface waters or create a human hazard on adjacent non-Nation lands or within the larger geographic context of a town or county; or
- Increase the incidence or duration of flooding within areas designated as being within the 100-year floodplain.

The direct, indirect, and cumulative potentially significant adverse effects of the implementation of the Proposed Action or any of the alternatives are discussed below.

4.3.1.1 Direct Effects

Surface water resources, including water supply sources and receiving waters for wastewater discharge, are described in detail in Section 3.3.2 Surface Water. The Proposed Action does not involve construction or alteration of the physical environment. The implementation the Proposed Action (Alternative A) or any of the alternatives described in Section 2.0 Alternatives would not result in any use of or physical disturbance to surface waters or associated watersheds located on Nation lands, on adjacent non-Nation lands, or on any lands located within the towns or counties of the Study Area. Implementation of the Proposed Action or any of the alternatives would not result in any direct effects to surface water resources in the region.

4.3.1.2 Indirect Effects

Surface water resources, including water supply sources and receiving waters for wastewater discharge, are described in detail in Section 3.3.2 Surface Water of this

document. The Proposed Action (Alternative A) and the trust alternatives (B, C, D, E, and F) are described in Section 2.0 Alternatives. There are no planned development projects or facility expansions contingent upon the implementation of any of the alternatives.

Implementation of the Proposed Action or any of the alternatives would, however, allow for the continued operation of the Turning Stone Resort & Casino and projected growth associated with casino operations to occur over time. This growth includes an increase in casino visits and an associated increase in casino employment as described in Section 4.7 Socioeconomics. Such growth would result in an increase in water usage and wastewater disposal. This increase in usage and disposal would have an incremental effect on water supply and wastewater disposal and are addressed as part of the assessment presented in Section 4.3.1.3 Cumulative Effects.

Indirect effects may also result from excluding lands from being conveyed into trust depending on the taxation and jurisdiction scenario that is applied to that land. These taxation/jurisdictional scenarios are described in detail in Section 4.1.3

Taxation/Jurisdictional Scenarios. Potential indirect effects may result from implementation of Alternatives E and G. Alternative E could have a potential indirect effect on surface water under the **PTNP – F** scenario. Under Alternative E, the golf courses associated with the Turning Stone Resort & Casino would not be placed into trust and, under the **PTNP – F** scenario, the Nation might not retain ownership of the golf course properties. Up to 90 percent of the treated effluent from the City of Oneida Sewage Treatment Plant is currently used for irrigation at the golf courses, a practice that reduces flows and waste loads that would otherwise be discharged to the plant's receiving stream (Oneida Creek) which eventually flows into Oneida Lake. Although the City of Oneida Sewage Treatment Plant is permitted to treat and discharge these loads, diverting them for irrigation purposes does have a beneficial effect on water quality in Oneida Creek. If the golf courses were to cease operation, the irrigation water would no longer be needed and presumably the plant's effluent would once again be discharged to Oneida Creek. The City of Oneida Sewage Treatment Plant has a NYSDEC State Pollution Discharge Elimination System permitted flow limit of 3 MGD. Discharge of this flow would result in an increase in organic loadings to Oneida Creek, which could have an adverse effect on water quality and biota.

Conversely, closure of the Nation's golf courses would eliminate the need to use fertilizer on the grounds. This would have a potentially beneficial effect on receiving waters. No indirect effects would occur under the **PTP** or the **PTNP – DC** scenarios under Alternative E, as the Nation's wastewater reuse and storm water management programs would remain in effect.

Under Alternative G **CC- AEC** and **PTNP – F** scenarios, the Turning Stone Resort & Casino and its associated golf courses might cease operations. In addition to the effects described in the preceding paragraph, water consumption at the Turning Stone Resort &

Casino (currently ranging between 0.1 and 0.4 MGD based on data from February to May 2005) might be virtually eliminated. This may offset the effect associated with discontinuing the wastewater reuse program by a maximum of 0.4 MGD; however, it would not fully eliminate the need to discharge effluent to Oneida Creek, as the Nation reuses a much larger volume of water than it consumes and discharges to the City of Oneida Sewage Treatment Plant.

4.3.1.3 Cumulative Effects

Past actions by the Nation effecting surface water relate primarily to the construction of the Turning Stone Resort & Casino. Those actions included the installation of storm water controls and paying for an expansion of the City of Oneida Sewage Treatment Plant. While the Nation's past actions may have affected surface water through storm water discharge and increased use of water supply and wastewater treatment capacity, the Nation, consistent with their stated policy and practice, regulated those activities that could affect surface waters in a manner that avoids or minimizes adverse effects including funding water supply and wastewater treatment plant capacity improvements and construction of storm water retention ponds to treat non-point source runoff from the Turning Stone Resort & Casino.

Current activities by the Nation effecting surface water include operation and maintenance of the Turning Stone Resort & Casino and other Nation activities and enterprises, including the golf courses. The golf courses use reclaimed water (treated effluent) from the City of Oneida Sewage Treatment Plant for irrigation, which removes nutrients from the water and reduces the need for additional fertilizer. This practice benefits the golf course and reduces the waste load on the receiving stream, (Oneida Creek), and downstream Oneida Lake.

The Nation's ongoing and reasonably foreseeable plans, as described in Section 4.1.4 Ongoing and Planned Nation Development Projects and Activities, include projects in and around the Turning Stone Resort & Casino some of which may result in increased water demand. They are as follows:

- Turning Stone Resort & Casino – The addition of a swimming pool, spa, and sweat lodge would increase water demand and the need for wastewater disposal capacity. The spa is expected to serve approximately 18,500 hotel guests in fiscal year 2007 (the first year of operation). These guests would use approximately 30 gallons of water per day per person. In addition, the pool facilities associated with the spa would use 17,000 gallons of water per week. This results in a total daily spa water use of approximately 4,000 gallons per day. This would represent a 1.48 percent increase over the projected Turning Stone Resort & Casino water usage of 0.27 MGD in 2007. Turning Stone Resort & Casino water use currently averages 0.26 MGD and would increase by an average of 19.2 percent to 0.31 MGD in 2011 (including spa water use). The COPWS provides potable water to the Turning Stone Resort & Casino. This system has a design capacity of 4 MGD and currently supplies users with approximately 3 MGD from the 320 million gallon

Glenmore Reservoir. Demand projections for the COPWS estimate that water supply usage will grow to approximately 4.2 MGD in the year 2020. Assuming that increases in water supply demand occur in a linear fashion, the increase of 50,000 gallons a day associated with the Turning Stone Resort & Casino represents 8.7 percent of the COPWS projected surplus capacity of 0.57 MGD in 2011. Continued increases in Turning Stone Resort & Casino visits and the addition of the spa would also result in an increase in wastewater generation. The Turning Stone Resort & Casino currently generates 0.210 MGD of wastewater that is discharged to the City of Oneida Sewage Treatment Plant. This flow will increase by 18.8 percent to 0.247 MGD in 2011. Over the same period of time, flows to the sewage treatment plant are projected to increase to 3.1 MGD. The additional flow from the Turning Stone Resort & Casino would represent a 1.61 percent increase over the total flow to the Sewage Treatment Plant and approximately 10 percent of the incremental increase that would occur between 2006 and 2011. Other planned projects including the additional tennis courts, racquet ball and squash facilities, and clubhouse are not expected to increase overall water usage.

- Agricultural Activity – There may be an increase in the Black Angus herd and crop production on some presently unused property that is suitable for agriculture. Increased crop production depends on market conditions. Expanded agricultural production could increase water demand and contribute to an increase in non-point source pollution (herbicides, pesticides, fertilizer, and animal waste). This would have a less than significant effect given the relatively small amount of land dedicated to these activities when compared to agricultural land use in the region.

Potential actions proposed by others are listed in Section 4.1.5 Future Projects Proposed by Others.

4.3.2 Groundwater

Significance Criteria

For the purpose of defining whether the Proposed Action or any of the alternatives including the No Action Alternative (Alternative G) would potentially affect groundwater, several criteria are considered. Potentially significant adverse effects may occur directly, indirectly or cumulatively if the action is likely to:

- Affect the quality or supply of a principal-primary aquifer;
- Affect the recharge capacity such that there would be a reduction in supply or lowering of groundwater levels;
- Alter the use of or material demand for groundwater; or
- Cause other effects that significantly or irreversibly impair the use or quality of groundwater or create a human hazard on adjacent non-Nation lands or within the larger geographic context of a town or county.

The direct, indirect, and cumulative potentially significant adverse effects of the implementation of the Proposed Action or any of the alternatives are discussed below.

4.3.2.1 Direct Effects

Groundwater resources are described in detail in Section 3.3.3 Groundwater. The Proposed Action does not involve construction or alteration of the physical environment. Neither the Proposed Action (Alternative A) nor any of the alternatives described in Section 2.0 Alternatives would result in any use of or physical disturbance to groundwater on Nation lands, adjacent non-Nation lands or on other lands within the towns or counties in the Study Area. Implementation of the Proposed Action or any of the described alternatives including the No Action Alternative (Alternative G), would not directly result in a significant adverse effect on groundwater resources.

4.3.2.2 Indirect Effects

Groundwater resources are described in detail in Section 3.3.3 Groundwater. There are no planned development projects or facility expansions contingent on their implementation of the Proposed Action or any of the trust alternatives. Implementation of the Proposed Action or any of the trust alternatives would allow for the continued operation of the Turning Stone Resort & Casino and projected growth associated with casino operations to occur over time. This growth includes an increase in casino visits and an associated increase in casino employment as described in Section 4.7 Socioeconomics. The Turning Stone Resort & Casino does not use groundwater for any operations. Thus, growth in visitors and employees would not result in an increase in groundwater use. Growth is not expected to result in an increase in regional development or population and, thus, would not result in an increase in groundwater usage.

Excluding lands from conveyance into trust could result in a reduction in the usage of groundwater associated with private residential supply wells that might cease operation under the PTNP – F scenario. Given the limited number of Nation member homes that utilize groundwater as a supply source, as described in Section 3.3.3 Groundwater, this reduction is not expected to have a measurable effect on groundwater supply in the region. The various taxation/jurisdictional scenarios that would apply to lands not conveyed into trust are described in detail in Section 4.1.3 Taxation/Jurisdictional Scenarios. As such, implementation of the Proposed Action or any of the described alternatives including the No Action Alternative (Alternative G), would not have an effect on groundwater in the Study Area.

4.3.2.3 Cumulative Effects

Past actions by the Nation do not appear to have had an adverse effect on groundwater in the region. A 10-foot deep, hand-dug community well located adjacent to the Turning Stone Resort & Casino, did experience filming and foaming at the time that the Turning Stone Resort & Casino was being constructed. An investigation by the USEPA concluded that contaminants did not exceed water quality criteria and recommended no further action. Current Nation activities affecting groundwater include the use of private wells for water supply, primarily on Group 3 lands.

The Nation's ongoing and reasonably foreseeable plans, as described in Subsection 4.1.4 Ongoing & Planned Nation Development Projects & Activities, do include activities some of which may be associated with increased water demand that may be supplied through groundwater on active and inactive pasture and agriculture lands. Current rentals and cropping patterns are expected to remain essentially the same in future years. There may be an increase in the Black Angus herd and crop production on some presently unused property that is suitable for agriculture. Increased crop production would be dependent on market conditions. Increased agricultural activities could increase groundwater use. This increase would not be expected to have an effect on groundwater resources, as the Nation does not rely on groundwater to irrigate crops. Groundwater is used to support livestock operations; however, considering the limited area that the Nation uses for these activities in the context of the regional agricultural use of groundwater, this is not expected to have an adverse effect.

Potential actions proposed by others are listed in Section 4.1.5 Future Projects Proposed by Others. There is insufficient information to determine whether these projects could result in potential cumulative effects on groundwater resources.

4.3.3 Jurisdictional Wetlands and Waters of the U.S.

Significance Criteria

For the purpose of defining whether the Proposed Action or any of the alternatives, including the No Action Alternative (Alternative G), results in a potentially significant adverse effect on regulated wetlands and waters of the U.S., several criteria are considered. Potentially significant adverse effects may occur directly, indirectly or cumulatively if the action is likely to:

- Eliminate reduce, or disturb regulated wetlands or waters of the U.S. through direct filling, dredging, clearing or hydrological interruption;
- Disturb Class I wetlands or their buffer areas and NYSDEC designated Class A, AA, (T) streams;
- Disturb the movement patterns of resident or migratory fish and wildlife;
- Disturb fish and wildlife nursery areas;
- Result in other effects that may significantly or irreversibly impair the use, quantity or quality of waters and wetlands; or
- Create a human hazard on adjacent non-Nation lands or surrounding areas of the affected towns or Madison and Oneida Counties.

The direct, indirect, and cumulative potentially significant adverse effects of the implementation of the Proposed Action or any of the alternatives are discussed below.

4.3.3.1 Direct Effects

Jurisdictional wetlands and waters of the U.S. are described in detail in Section 3.3.4 Jurisdictional Wetlands and Waters of the U.S. The Proposed Action does not involve construction or alteration of the physical environment. Neither the Proposed Action (Alternative A) nor any of the alternatives described in Section 2.0 Alternatives would result in any physical disturbance or use of jurisdictional wetlands and waters of the U.S. on Nation lands, on adjacent non-Nation lands or on any lands within the towns or counties of the Study Area. As such, implementation of the Proposed Action or any of the alternatives would not directly result in significant adverse effects on jurisdictional wetlands and waters of the U.S.

4.3.3.2 Indirect Effects

Jurisdictional wetlands and waters of the U.S. are described in detail in Section 3.3.4 Jurisdictional Wetlands and Waters of the U.S. There are no ongoing or planned development projects or facility expansions contingent on the implementation of the Proposed Action or any of the trust alternatives. Implementation of the Proposed Action or any of the trust alternatives would allow the continued operation of the Turning Stone Resort & Casino, thereby allowing projected growth associated with casino operations to occur over time. This growth includes an increase in casino visits and an associated increase in casino employment, as described in Section 4.7 Socioeconomics. Growth in visitors and employees would not encourage use or degradation of jurisdictional wetlands or waters of the U.S. Growth is not expected to result in an increase in regional development or population and thus would not result in an increase in development that could encroach upon existing resources.

The various taxation/jurisdictional scenarios that would apply to lands not conveyed into trust are described in detail in Section 4.1.3 Taxation/Jurisdictional Scenarios. As such, implementation of the Proposed Action or any of the described alternatives, including the No Action Alternative (Alternative G), would not have an effect on jurisdictional wetlands or waters of the U.S. in the Study Area.

4.3.3.3 Cumulative Effects

Past actions by the Nation that have affected jurisdictional wetlands include the construction of the Turning Stone Resort & Casino and other development on Group 1 lands including the Shenendoah golf course, the Villages at Turning Stone RV Park, and the Kaluhyat and Atunyote golf courses. The Nation determined that these actions affected approximately 33 acres of freshwater wetland habitat protected under Federal wetland regulations. The Nation also dredged in and near Oneida Lake to maintain the access channel to the Marion Manor Marina and deposited the sediment on the marina's grounds in accordance with a USACE Nationwide Permit.

The Nation has mitigated the loss of wetlands resulting from these projects. Approximately 21 acres of mitigation wetland-treatment basins were created to

compensate for the wetland impacts resulting from the construction of the Turning Stone Resort & Casino complex and the Village of Turning Stone RV Park. In order to compensate for the loss of wetlands associated with the construction of the Kaluhyat and Atunyote golf courses and potential future wetland impacts, the Nation restored the hydrology to a 75-acre wetland located to the west of Germany Road (Germany Road Wetland Mitigation Bank or GRWMB) in the Town of Verona in October 2002 (Wetland and Ecological Consultants, 2002e). According to the Nation, they consulted with the USACE-Buffalo District regarding the design of this wetland bank.

Present actions by the Nation relate primarily to the operation and maintenance of the Turning Stone Resort & Casino and other business enterprises. Maintenance of the Nation's golf courses includes routine mowing, which in some cases occurs within the 100-foot buffer area of NYSDEC mapped wetlands. Mowing and maintenance of existing lawns is not, however, regulated under Article 24/Part 663 of the ECL; as a result, this action does not have a significant effect on wetlands.

The ongoing and planned projects by the Nation are primarily associated with the Turning Stone Resort & Casino. For example, the proposed improvements to the Turning Stone Resort & Casino are within its existing footprint. The Nation also proposes the continuation of current land rental and cropping patterns, a potential increase in the size of the Black Angus herd, and a potential increase in crop production on Nation lands. These actions would have insignificant effects on wetland resources. The Nation may also need to perform further maintenance dredging at its marinas on Oneida Lake, but currently has no formal plans to do so.

Potential actions proposed by others are listed in Section 4.1.5 Future Projects Proposed by Others. There is insufficient information to determine whether these projects could result in potential cumulative effects on wetlands or other waters of the U.S.

Based on the available information, it appears that cumulative effects of the past actions of the Nation have had no significant effect on the wetland resources on Nation lands or the surrounding areas of Madison and Oneida Counties. The Nation has employed the described environmental protection procedures to assess, minimize, and mitigate effects on wetlands. Moreover, the cumulative effects of past, present, and reasonably foreseeable future activities on wetland resources do not appear to have had a significant effect on jurisdictional wetlands and waters of the U.S.