



November 29, 2012

Young S. Chang, Remedial Project Manager
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290 Broadway, 20th Floor
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Dear Young:

The St. Regis Mohawk Tribe, the United States Department of the Interior (U.S. Fish and Wildlife Service) and the National Oceanic and Atmospheric Administration, who are the tribal and federal natural resource trustees ("the Trustees") for the Grasse River appreciate the opportunity to comment on the U.S. Environmental Protection Agency's (EPA) September 2012 Proposed Plan for the Grasse River Superfund Site and the agency's preference for Remedial Alternative 6 (T1-T72 Nearshore Dredge and Backfill to Grade, T1-T72 Main Channel Capping). The EPA and the Trustees have a great opportunity to integrate remediation and restoration for this ecologically, culturally and historically significant river. We trust that these comments will be useful to the EPA in furthering our mutual goals of a cleaner and healthier river.

Cultural and Ecological Significance of the Grasse River

The grass meadows on both sides of the Lower Grasse River, within the boundary of the Grasse River Superfund Site, were set aside by the Seven Nations of Canada Treaty of 1796 for the Mohawks of Akwesasne. Tribal members fished and hunted the Grasse River prior to issuance of PCB-based fish advisories and harvested sweet grass and other medicines for traditional practices from Indian meadows. Removal of a substantial volume of PCB-contaminated sediment is the only action that will provide assurance to the Mohawk community that the fish, wildlife and habitats of the Grasse River will be available for traditional tribal uses for all future generations. The main channel of the river has the potential to serve as foraging, breeding, or nursery habitat for some fish species, (e.g., sturgeon, walleye) and should require similar remedial measures as the nearshore areas.

Prior to European township names, place names in the Mohawk language were assigned to rivers and land surrounding Akwesasne. The Mohawk name for Grasse River is *Nikentsiake*, which translates to "full of large fishes". This is significant due to the importance of known fish migration, foraging, and spawning of significant large St. Lawrence River fish species in the Grasse River tributary. The earlier Mohawk name assigned to the Grasse River accurately

identified what resource scientists know today about the high value of the Grasse River as fish and wildlife habitat. The Mohawk name of the Grasse River is just one line of cultural evidence of the significance of the Grasse River to Mohawk uses, and intended future protection and restoration needs.

The Lower Grasse River also falls within the boundaries of the Grasse River Significant Coastal Fish and Wildlife Habitat and serves as current or historic habitat for Atlantic salmon, American eel, lake sturgeon, and other designated or proposed protected species as well as non-listed potamodromous (such as walleye, suckers, yellow perch) and resident species.

The Massena Area of Concern (AOC) includes the Lower Grasse River and Power Canal. This area was designated an AOC due to the presence of persistent toxic substances released from local industries. Several beneficial use impairments are linked to PCB contamination (e.g. fish consumption restrictions, degradation of fish and wildlife populations, degradation of benthos). In the Grasse River, the concentration of PCBs upstream of the Alcoa Grasse River Site (“the Site”) is low compared to downstream and adjacent to the Site. Trans-boundary jurisdictions and impacts to downstream areas are relevant considerations for delisting impaired beneficial uses in this AOC and are driven in the Grasse River by contaminant releases from the Site. Alternative 9 would achieve better progress toward delisting the AOC than Alternative 6 because it poses less of a long term threat to downstream areas in the AOC.

Remedy Selection Can Influence Location of NRDA Restoration

The Trustees goal, to protect and restore injured natural resources, motivates us to pursue the selection of a permanent and effective remedy for the Grasse River, settlement of natural resource damages, and design and implementation of restoration projects to compensate the public for injuries from releases of hazardous waste from 3 Massena sites. The Trustees have successfully settled a natural resources damage claim with GM in bankruptcy court and are pursuing settlement with Alcoa.

The Trustees have initiated efforts to identify candidate restoration projects for the St. Lawrence watershed including the Grasse River. Restoration projects must be designed to restore, enhance, create, and/or otherwise acquire the equivalent of injured resources and services. The Trustees are evaluating potential ecological, human use, and cultural restoration. Selection of Alternative 9 provides greater assurance to the Trustees that selection and implementation of restoration actions within the Grasse River will not be compromised by remedy failure.

Trustees Previous Recommendations on Grasse River Remedial Alternatives

The Trustees seek permanent and protective remedies for natural resources (e.g., water, sediment, biological and cultural resources) in the Grasse River under our stewardship. In partial fulfillment of this responsibility, the Trustees expressed a lack of support for EPA’s preferred remedy, as proposed in the EPA 2002 Draft Proposed Plan for the Grasse River Study Area (dredge \geq 25 ppm PCB, cap \geq 5 ppm PCB) for the 7.2 miles of the Lower Grasse River. The Trustees’ concerns were documented in an April 19, 2002 letter to the National Remedy Review Board (NRRB). The NRRB formally recognized many of the Trustees’ concerns in a

memorandum dated May 29, 2002. The Trustees appreciate that the 2012 Proposed Plan for the Grasse River Superfund Site addresses many of the issues raised about the 2002 Proposed Plan. The NRRB noted that “any selected remedy may require a combination of capping and dredging to ensure appropriate risk reduction as well as long-term reliability and there may be high, localized PCB concentrations that warrant removal as well.” The NRRB recommended Region 2 “optimize the dredging and capping components during remedial design to maximize the immediate risk reduction and relatively low cost achieved through an engineered cap, and the longer-term reliability achieved through mass removal in appropriate areas of the river bed.” EPA supported this concept and affirmed “that the removal of highly-contaminated sediments, including those in near-shore areas, may result in a more reliable and permanent remedy than the capping of such sediments.”

Comparison of Alternative 6 and Alternative 9

Alternative 6 and Alternative 9 both dredge T1-T72 nearshore sediments and then restore nearshore bathymetry through placement of backfill. The two alternatives differ in their remediation approach for the main channel of the Lower Grasse River. In Alternative 6, the construction of a main channel armored 25-inch cap between T1-T21 and a main channel unarmored 12-inch cap between T21-T72 to sequester PCB-contaminated sediments (with no main channel dredging) will leave in place a substantial inventory of PCBs. Riverine caps will be subject to erosion and bioturbation. Cap construction will significantly reduce water depths of the Lower Grasse River. Water depths will be further reduced by placement of a habitat layer on top of the cap, especially in areas of the river where armored stone is utilized. Reductions in water depth will alter the river profile and dimensions, contributing to river instability and increasing the probability of erosive forces acting upon the capped river bottom from ice scour and high flow events.

In contrast, Alternative 9 dredges a substantial portion of the main channel of the Grasse River. PCB contaminated sediments in the main channel are removed and residuals are then capped between T1 and T46 and a 12-inch non-armored cap is placed between T46 and T72, where predominantly lower concentrations of PCBs are found. Alternative 9 removes significantly less sediment than Alternative 10, but generally removes the most highly contaminated sediment from the river and thus represents a reasonable compromise because it balances protectiveness and permanence with cost-effectiveness. Selection of Alternative 9 reduces the likelihood of cap disturbance and contaminant migration due to inventory removal prior to capping and the resultant increased water depths compared to placement of a cap without any inventory removal in the main channel and the resultant decrease in water depths associated with Alternative 6. We remain concerned about the stability of caps placed on top of sediment inventory in dynamic river environments because their ability to withstand future erosional events is uncertain. For the Trustees, Alternative 9 meets the spirit of the NRRB consultation process because this alternative minimizes exposure potential, and maximizes risk reduction and long-term reliability. Alternative 6 affords greater exposure potential and less long term protection and permanence because PCB inventory in the main channel is capped in the ice scour prone section of the river (T1-T21) and in high energy areas downstream of T21.

Greater Mass of PCBs Removed Under Alternative 9 than Alternative 6 Lessens Exposure Potential

The 2012 final version of the Analysis of Alternatives Report did not include estimates of mass removed and the September 2012 Proposed Plan did not compare the pounds of PCBs removed when comparing the 10 remedial alternatives against the 9 evaluation criteria. The Trustees relied upon the 2010 estimates of PCB mass removed for a subset of alternatives reported in a 2011 draft of the Analysis of Alternatives to evaluate the amount of PCBs likely targeted for removal by Alternative 6 and Alternative 9.

Alternative B1 of the 2002 Proposed Plan proposed to dredge/cap T1-T72 to 1 ppm PCBs, equivalent to Alternative 10 of the 2012 Proposed Plan, with the removal of an estimated 18,700 kg of PCBs. Alternative C3 (2002 Proposed Plan), most similar to Alternative 6 (2012 Proposed Plan) was estimated to remove 1,100 kg of PCBs. Alternative B2 of the 2002 Proposed Plan proposed to dredge/cap T1-T72 to 1 ppm PCBs. This alternative has no comparable equivalent in the current Proposed Plan but is likely to be most similar to Alternative 9 in PCB mass targeted for removal (~13,600 kg). EPA's preferred Alternative 6 is likely to leave about an order of magnitude more PCBs in the Grasse River than Alternative 9 which significantly increases future PCB exposure potential from cap failure. The Trustees support Alternative 9 over Alternative 6 because significantly greater mass of PCB is permanently removed from the aquatic environment, making Alternative 9 more likely to permanently and reliably achieve all of the Remedial Action Objectives (RAOs).

Bottom Conditions and Remedy Selection

Capping of the main channel is selected as EPA's preferred action based on the irregular hard bottom of the river and the intermixing of rock and cobble with sediment. Site investigations suggest that these conditions are more prevalent upstream of T21 than downstream of T21. Main channel river bottom conditions have been influenced by dredging and deepening of the river channel by Alcoa in the early 1900's and subsequent deposition of upstream sediment and PCBs originating from the Alcoa Grasse River Site. Remediation of PCB-contaminated sediment in the St. Lawrence River at the GM and Reynolds Sites encountered similar constraints related to rock and cobble in the channel, but mechanical dredging successfully removed most of the targeted inventory and remaining residual contamination was capped. The rationale against dredging does not appear to be supported by previous work at these other Massena sites. The Trustees recommend that EPA select a remedy for the Grasse River that is more similar to the one implemented at Reynolds and GM Sites, which are both located just downstream of the mouth of Grasse River and could become re-contaminated if the Grasse River remedy is not fully effective in sequestering PCB-contaminated sediments. The Reynolds and GM Records of Decision selected dredging as the primary action for remediating contaminated river sediments.

Cost Effectiveness, Time to Remedy Completion and Attainment of Remedial Action Objectives

The Trustees are concerned that the costs and the duration of construction for remedial alternatives with a dredging component are inflated and do not reflect costs or time frames experienced at other Superfund sites. The time frame required to achieve RAOs for remedial

alternatives that include some amount of dredging are protracted due to the protracted construction period. While costs and productivity were based on the site-specific Remedial Options Pilot Study (ROPS), they likely are not characteristic of a full scale dredging operation.

During the ROPS 2005 construction season, the sediment removal rate of 20 to 38 cy/hr was achieved. Low sediment removal productivity was related to damaged equipment, difficulty in removing residual sediments, problems deploying and maintaining silt curtains, bottlenecks in water treatment and dewatering due to insufficient capacity, and attainment of a 2 ug/l PCB water column criterion. At Reynolds, 86,600 cy of sediment were dredged during the 2001 construction season where an action level of 2 ug/l was used. Improving the depth of the cut line, modifying dredging procedures, and improving capacity at the dewatering facility should significantly improve sediment removal rates. Greater economies in scale would seem reasonable when implementing a multi-year >600,000 cy removal compared to a 25,000 cy one year pilot study. Using updated estimates and assumptions for productivity would reduce costs of construction, reduce the length of the construction period and provide more similarities in the years required to attain RAOs. In addition, the potential hidden costs of dealing with an erosional event or cap failure due to a major storm could be significant, resulting in the future need for additional sampling, mass removal, recapping, and monitoring, thereby substantially increasing the cost of Alternative 6 and time to attainment of RAOs.

Selection of ARARs

Members of the tribal community traditionally use the Grasse River and water bodies within and near Akwesasne. The St. Regis Mohawk Tribe promulgated a sediment standard for PCBs of 0.1 ppm on April 30, 1989. The federal Trustees support the Tribe in their request that their sediment standard be considered as a “relevant and appropriate” standard for the cleanup of the Grasse River since the United States maintains that Akwesasne, Mohawk territory of the federally-recognized SRMT, as described in the 1796 Treaty with the Seven Nations of Canada, 7 Stat. 55, includes land on both banks of the Grasse River, as well as land located along the St. Lawrence River downstream of the Site, together known as the Indian Meadows.

Mohawk Special Fish Advisory

The Proposed Plan should acknowledge the Mohawk Special Fish Advisory for consumption of lake sturgeon issued in 1995 by NYSDOH based on elevated PCB concentrations in flesh and roe. The Mohawk population was advised to eat no more than one meal per month of flesh or roe of lake sturgeon from the St. Lawrence River. Women of childbearing age and children under the age of 15 were advised to not eat any lake sturgeon flesh or roe. No advisory was issued for the general angling public since sport angling for lake sturgeon is prohibited in New York State.

Potential Extent and Degree of Ice Jam Formation

In the main channel of the Grasse River, Alternative 6 proposes construction of an armored cap between T1-T21 and a non-armored cap between T21-T76 without any sediment removal. Cap construction and placement of a habitat layer on top of the cap will raise the elevation of the river

bottom. The capped PCB inventory will protrude significantly into the water column exposing it to the erosive forces of high flow and ice jam formation. Information is insufficient to rule out historic or future ice scour or high flow erosional events downstream of T21. Lines of evidence documenting areas prone to ice scour provided by Alcoa included tree scars, core stratigraphy and geochronology, and changes in bathymetry. While EPA may ultimately place armored caps in high energy areas in the main channel downstream of T21, this will create greater discrepancies in sediment elevations due to the approximate 1 foot differences in armored and unarmored cap thicknesses. Modifications to the river hydrodynamics and bathymetry by remedy implementation will likely change erosional and depositional patterns that the current conceptual site model does not capture. Removal of significant PCB mass and contaminated sediment inventory reduce the potential for breaching or catastrophic failure of the caps and lowers the risk of future exposure, recontamination of remediated areas and downstream transport within the Grasse River and into the St. Lawrence River.

Effect of Global Climate Change on Remedial Decision Making

EPA issued a policy statement on climate change adaptation in 2011 that included application of the guiding principles and planning framework for climate change adaptation, understanding the environmental justice implications of climate change on vulnerable communities, and incorporating said issues into design and evaluation. Selection of Alternative 9 significantly reduces the degree of uncertainty in long term permanence, reliability and protectiveness posed under changing climate scenarios compared to selection of Alternative 6 due to the greater vulnerability of sequestered large volumes and mass of PCBs to projected increased frequency and severity of storms and changes in climatological conditions relative to those assumed by model runs.

Habitat Reconstruction

Habitat reconstruction should ameliorate impacts from the remedy on the ecosystem and enhance the ecosystem services provided to the general public and the tribal community and be consistent with general AOC delisting goals. The Trustees request that EPA coordinate with us on baseline habitat conditions, other natural resource and habitat reconstruction approaches (e.g. freshwater mussels, thickness of habitat layer) as the remedy is designed and implemented.

Concluding Remarks

The preferred Alternative 6 in the September 2012 Proposed Plan includes placement of an armored cap to sequester PCBs in the upper portion of the main channel of the Lower Grasse River that is most prone to ice scour and a non-armored cap for the remainder of the main channel. These caps may not protect against future non-modeled conditions of more extreme and frequent storms and erosion (due to ice scour, high flows) and other unknowns. Outcomes may be significantly different from model projections, including increased potential for recontamination of sediments or release of PCBs into the aquatic system, or catastrophic cap failure. Monitoring and maintenance of Alternative 6 will not adequately protect against breaching of the cap or downstream and trans-boundary issues. Selection of Alternative 9 provides greater confidence that human and environmental health will be protected over the long

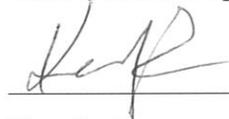
term. The more protective the selected remedy the greater the opportunities for: 1) lifting beneficial impairments within the Massena AOC; 2) restoring ecosystem services and the full use of the river by the general public and tribal community; and 3) reducing exposure, risk, and injury to the fish and wildlife that inhabit the river.

If you have any questions or comments, please do not hesitate to contact us.

On behalf of the Trustees,

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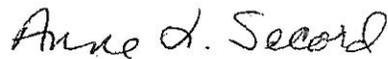
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