



**Re-imagining the  
Future of Onondaga Lake:  
A Presenter's Guide**



## “Re-imagining the Future of Onondaga Lake” A Presenter’s Guide

This presentation was created in the summer of 2010 by the Onondaga Environmental Institute (OEI), a not-for-profit organization with the mission to advance environmental research, education, planning and restoration in Central New York. It was produced for the Onondaga Nation as a work product of a series of Clean Water Act grants funded by USEPA Region 2.

We hope that this presentation will serve as an engaging and accessible introduction to the history of Onondaga Lake, current remediation and restoration efforts, and “The Onondaga Nation’s Vision for a Clean Onondaga Lake.” In educating the public about the Onondaga Nation’s goals for the lake, we are striving to promote a more inclusive and equitable community dialogue leading to a shared, cross-cultural vision for the future of the lake. OEI greatly appreciates your assistance with these efforts.

In this guide you will find the script that accompanies the PowerPoint presentation slides. It is fully referenced and has footnotes providing additional information that will help you field audience questions about the material. We ask you to please read the script word-for-word when you deliver the presentation, as it contains very specific messages that we would like to communicate to the audience. The presentation script is also included in the “Notes” section of the PowerPoint slides themselves. If you find that you have questions about the information presented in this guide or technical difficulties in running the PowerPoint presentation, please contact OEI staff at 315-472-2150.

## **“Re-imagining the Future of Onondaga Lake” Estimated time: 35 minutes**

Introduction and outline slide

### I. Historical Conditions prior to the mid-1700s

- A. Lake waters: thriving cold-water fishery
- B. Area around the Lake:
  - 1. Lowlands: cedar swamps, maple-ash swamps, salt marshes, animal life
  - 2. Uplands: Onondaga towns and crop fields, forests

### II. Onondaga Lake from the mid-1700s to the present

- A. Commercial salt production and deforestation
- B. Wetland destruction and development
- C. Industrial waste dumping
- D. Municipal waste dumping
- E. Tully-mud boils
- F. Non-point source pollution

### III. Remediation and Restoration Efforts

- A. Superfund Remediation
  - 1. Remediation Plans
  - 2. Call for and importance of public participation
- B. Natural Resource Damage Assessment and Restoration (NRDAR)
  - 1. Description of NRDAR
  - 2. Opportunity for and importance of public participation
  - 3. The Vision Statement as important contribution to community conversation

### IV. Cultural Context of the Vision Statement

- A. Introduction to the Onondagas and the Haudenosaunee Confederacy
- B. Why Onondaga Lake is important to the Onondagas
  - 1. Sacred and historic importance
  - 2. Economic and Cultural importance
  - 3. Homeland
- C. Some important cultural concepts informing the Vision Statement
  - 1. Spiritual equality of all Creation and the need to respect Creation’s right to exist
  - 2. Importance of carrying out spiritual instructions
  - 3. Importance of giving thanks. Vision statement was modeled after Thanksgiving Address.
  - 4. Importance of thinking 7 generations ahead

### V. Introduction to the Content of the Vision Statement

- A. Major goals identified
  - 1. People will be able to drink water and eat fish from the lake.
  - 2. Children will be able to play and swim in the water.
  - 3. Wetlands will be restored and reconnected with the lake.
  - 4. The Tully Valley mudboils will be corrected, Onondaga Creek will flow clear.
  - 5. Native animal and plant species will be restored, and invasive species will be managed.
  - 6. The lake will be protected from polluted storm water runoff.

7. The wastes deposited in and around the lake will be removed.
8. The waters will be cleaned of chemicals that cause reproductive problems.
9. Light pollution will be reduced and people will be able to see the stars.

B. Examples of Restoration Strategies

1. Green Infrastructure

- permeable pavement
- green street design
- vegetated roofs

2. Native species restoration on lakeshore

3. Minimizing light pollution

VI. Next Steps: Acknowledging and Sharing the Resources in our Communities

A. Biocultural Restoration and a Chance for Cross-Cultural Partnership

B. Web Resources

C. Presenter- and time-specific information

VII. Closing

Thank you very much for coming today.

**SLIDE (2)**

I'd like to open with a quote by Jeanne Shenandoah, a member of the Onondaga Nation, the indigenous people of this area. [*Presenter's note: please read the following quote.*]

“I always tell everybody that I live right here; even though I've had the chance to travel and I've looked all around different parts of the world, I never had any question that I belong right here... I truly love where I live. And I hope everybody else does. Everyone has that right to love where you live, acknowledge it and respect it. We're all living here together, that's the reality right now. We all live here together.”

-Jeanne Shenandoah, Onondaga Nation<sup>1</sup>

Jeanne Shenandoah was pointing out that even though we're all different, we have important things in common. One is this place where we live. It's a very special place, but it hasn't always been given the best treatment.

**SLIDE (3)**

This is a map of the Onondaga Lake watershed. As you can see, water is the lifeblood that links us all together. The heart of our watershed, Onondaga Lake, receives water from an area of over 240 square miles.<sup>2</sup> We're here today to talk about how we as watershed residents have a personal responsibility to engage in a public conversation about the future of the lake and our relationships to it. That conversation will help prepare us to contribute to decision-making about the future of Onondaga Lake.

We'll be discussing the history of the lake, the troubles it has faced, and what is being done to help remediate and restore this precious resource. Then we'll take a look at a recent contribution to the public conversation about these issues, “The Onondaga Nation's Vision for a Clean Onondaga Lake.”

In order to know how to move forward into the future, we first need to understand where we've come from. So let's start by looking at what Onondaga Lake used to be like, and how it has changed.

**SLIDE (4)**

Four hundred years ago, prior to the arrival of Euro-American missionaries and settlers, Onondaga Lake was the center of the Onondaga Nation's homeland. It was an age-old link for communication and commerce between the indigenous nations of the broader region. The lake was also an important spiritual, cultural, and historical site for the Onondagas and neighboring nations because in ancient times they were all brought to the lake's shores by a spiritual messenger called the Peacemaker, pictured here, who showed them a way to live together in peace.<sup>3,4</sup>

## **SLIDE (5)**

Numerous historical sources and modern oral history of the Onondagas agree that prior to the industrialization of the landscape, Onondaga Lake was a beautiful and bountiful place.<sup>4,5</sup>

The waters of the lake originally supported a rich ecosystem with a plentiful cold-water fishery. There were large populations of Atlantic salmon, eel, and sturgeon. Historical writers also reported the presence of a variety of other species in this region, including burbot and yellow perch. The Onondagas relied heavily on these fish for food, and the loss of their fish diet in later centuries would severely harm the Onondagas' health, culture, and economy.<sup>5,6</sup>

Prior to the mid-1700s, Euro-American settlers began to arrive in the region. They gradually established sport fishing and a thriving commercial fishery in Onondaga Lake.<sup>5</sup> One species in particular, the Onondaga Lake whitefish,<sup>A</sup> was so prized that it was served as a delicacy in restaurants around NY state up until the end of the 19th century.<sup>7,8</sup>

## **SLIDE (6)**

This map of the southern end of Onondaga Lake was created around 1800. [*Presenter's note: Please point out Onondaga Lake to the audience and orient them to the cardinal directions.*] You can see that true north and modern names of tributaries have been added. The map shows that the land surrounding the lake was a patchwork of different kinds of habitats, including forests and spring-fed salt and freshwater wetlands.<sup>5,9</sup> Wetlands are areas that are seasonally or permanently covered with shallow water.<sup>10</sup>

We know from a variety of historical sources that a rich diversity of organisms lived in this area. In particular, the various kinds of wetlands around the lake and its tributaries, like the swamps that we'll discuss in a moment, were important habitats for many animals including fish, birds, mammals, amphibians, and reptiles. They also played important roles in the broader environmental system, helping to maintain water quality and control erosion and flooding.<sup>10</sup>

## **SLIDE (7)**

Near the tributaries of the lake, there were the cool, dark cedar swamps, like the Lodi Swamp, which once stretched along the southeastern shores of the lake.<sup>5</sup>

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<sup>A</sup> There are no museum specimens of the Onondaga Lake whitefish, so scientists are unsure of the exact species. It may have been the cisco or lake herring.<sup>8</sup> Whitefish disappeared from the lake by 1897.<sup>2</sup>

Cedar swamps are home not only to majestic cedars but also to other trees like black ash, tamarack, white pine, yellow birch, and hemlock. The forest floor tends to be populated with ferns and a diverse array of other plants,

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including rare species like the different native orchids that used to live in Lodi Swamp.<sup>5</sup>

**SLIDE (8)**

Around the mouths of some of the tributaries were maple and ash swamps.

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These forested areas probably also included oak and American elm, as well as a rich variety of shrubs, ferns, and other plant species. American elm was a particularly important resource for the Onondagas because it provided them with medicine, cooking utensils, bark for building homes, and ceremonial objects.<sup>5,11</sup>

**SLIDE (9)**

Inland salt springs created salt marshes to the southwest and southeast of the lake.<sup>9</sup>

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These were wet areas with less vegetation cover or plant species diversity than the swamps.

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The salt springs attracted large animals like deer, elk, and possibly bison.<sup>5</sup> The Jesuits who settled near the lake in the mid-1600s reported seeing rattlesnakes and flocks of many hundreds of passenger pigeons around the salt springs.<sup>5</sup>

**SLIDE (10)**

Animal life around Onondaga Lake also included beaver, which probably played an important role in shaping the wetlands, as well as bears, otters, turtles, cougars, moose, wolves, and many other species.<sup>5</sup> Clans among the Onondaga Nation and neighboring indigenous nations are named after some of these animals, and after local birds and fish, because they have been so important to the people since time immemorial.<sup>11</sup>

**SLIDE (11)**

The soil around Onondaga Lake and the Finger Lakes is generally very fertile. In the uplands were fields that the Onondagas had cleared for the construction of towns and cultivation of crops like corn, sunflowers, beans, and squash.<sup>4</sup> In the uplands there were also very extensive, diverse

forests of beech, chestnut, oak, maple, basswood, elm, and other species.<sup>5</sup> These woods astonished the Europeans who first came to the area. In 1745, a bishop by the name of Spangenberg who was traveling toward Onondaga wrote, “The forest is so dense that for a day the sun could not be seen, and so thick that you could not see twenty feet before.”<sup>4</sup>

This and other historical accounts certainly paint a different picture from what we see around us today. Let’s look at some of the changes that have come to this area, and in particular to Onondaga Lake.

### **SLIDE (12)**

In the late 1700s, Euro-American settlers began commercial salt production on the shores of Onondaga Lake.<sup>12</sup> Salt was such a valuable commodity that many speculators came to the area during the following century in order to seek their fortunes.<sup>13</sup> Forests were cut down to fuel fires that evaporated the water from the salt brine and to build barrels to hold and ship the produced salt.<sup>5</sup> Forests were also cleared to make room for agriculture and other development.<sup>14</sup> By the early 1800s, timber supplies were being rapidly depleted and firewood needed to be shipped in to the area in order to sustain the salt industry.<sup>14,15</sup> As the local forests disappeared, the salt marshes expanded.<sup>5</sup>

### **SLIDE (13)**

As the 19th century dawned and the construction of the Erie Canal brought more people to the area, the lake’s outlet was dredged, lowering the lake’s water level and draining the swamps in the northern section of the city of Syracuse. Development of the lakeshore accelerated throughout the 1800s as hotels, amusement parks, and other tourist attractions were constructed to accommodate the many visitors who arrived to enjoy swimming, boating, and fishing in the summers.<sup>12</sup> More and more of the lakeside habitats were destroyed, and plant and animal life declined.<sup>16</sup>

### **SLIDE (14)**

In the 1880s, the Solvay Process Company began production of soda ash on the western shore, beginning a century of severe industrial pollution of Onondaga Lake. By the turn of the 20th century, its wastes had buried the salt marshes and contributed, along with over-fishing and habitat destruction, to the decline of the fisheries.<sup>5</sup> Over the course of the next 102 years, the company underwent several mergers and eventually became part of Honeywell International Inc. It operated at several locations around the lake and left behind enormous quantities of non-toxic and toxic wastes at multiple sites.<sup>12,16</sup> Honeywell pollution was compounded by toxic wastes released from other local industries and facilities, especially those located along the tributaries that flow into the lake.<sup>16</sup>

The industrial contamination of multiple sites in the watershed had very damaging impacts on the lake. Industrial waste dumping contributed to a substantial decrease in the lake’s volume.<sup>17</sup> Some of the deposited wastes have been responsible for increasing the concentration of salts in the lake water, which lowers the amount of dissolved oxygen in the water and reduces the



number of species that can survive.<sup>18</sup> Other contaminants in the lake, like mercury, tend to accumulate in the bodies of fish, making them unsafe for humans to eat. Today, it is recommended that children and women of child-bearing age not consume any fish from the lake. Humans who come in contact with the polluted sediments in the lake face a potential risk of developing cancer and other health problems. The contaminants are also very poisonous to organisms that live on the bottom of the lake and that are important links in aquatic food chains.<sup>16,18</sup>

#### **SLIDE (15)**

Another source of pollution in Onondaga Lake has been municipal waste from the city of Syracuse and other parts of Onondaga County. Over the past century, the city and county have gradually improved their treatment of waste. Yet the long history of dumping raw sewage (either directly or through combined sewer overflows) and inadequately treating wastes at the county Metropolitan Sewage Treatment Plant (Metro) did leave a legacy of environmental problems. For many years, the lake was severely impacted by elevated levels of ammonia, which is toxic to fish, and phosphorous, which causes extensive algae growth that damages water quality. Today, improvements in county Metro treatment processes and efforts to eliminate the combined sewer overflows have significantly reduced ammonia and phosphorous levels. Positive changes can be seen in the lake from these improvements.<sup>12,16,18</sup>

#### **SLIDE (16)**

Another significant source of damage to the lake's and Onondaga Creek's water quality has come from the Tully mudboils. Associated with Tully Valley salt mining operations, mudboils are "muddy springs" that emerge through vents in the ground and release large amounts of sediment into Onondaga Creek, which ultimately carries it into Onondaga Lake.<sup>18,19</sup> Although past interventions reduced the amount of sediment being released into Onondaga Creek by the mudboils, the problem worsened in 2010.<sup>20</sup>

Non-point source pollution, which comes from varied and scattered sources like street litter or improper disposal of household waste, has long been an environmental problem plaguing Onondaga Lake. By its nature, this problem is difficult to track and control.<sup>21</sup>

#### **SLIDE (17)**

For the past few decades, we have been coming to terms with the severity of the pollution in Onondaga Lake and developing plans for how to address the problem.

Major dumping of industrial wastes ceased in the late 1980s.<sup>12</sup> In 1994, the Onondaga Lake site, which includes the lake bottom and numerous other polluted areas in the watershed, was listed on the Superfund National Priorities List according to a federal law called the Comprehensive Environmental Response, Compensation and Liability Act, or CERCLA for short. Following CERCLA regulations, the NYS Dept of Environmental Conservation (DEC) and US Environmental Protection Agency (EPA) are now overseeing a complex process whereby the industries responsible for the pollution are required to complete part or all of the necessary

remediation projects.<sup>16</sup> “Remediation”<sup>B</sup> is legally defined as actions that “prevent or minimize the release of hazardous substances so that they do not migrate to cause substantial danger to present or future public health or welfare or the environment.”<sup>22</sup>

**SLIDE (18)**

This is a map showing the distribution of contaminated facilities that are polluting (or threatening to pollute) the lake, and so were included as part of the Superfund site by mid-2010, when this map was created. Additional contaminated areas may be named as “subsites” as they are found.<sup>16</sup> An important first task of the Superfund remediation process is to stop the movement of pollution from these various upland subsites to the lake.<sup>23</sup>

As part of the Superfund process, the EPA and DEC have required the responsible parties to create a unique remediation plan for each of these subsites that will proceed according to their own timelines. Therefore, the remedial actions are currently at various stages of completion.<sup>16</sup> Honeywell is responsible for pollution in the lake bottom and at least 5 other subsites.<sup>16</sup>

By early 2010, remediation plans had been created for 7 of the subsites. Most of these plans involve:<sup>C</sup>

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excavating some of the contaminated soil,

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on-site treatment of contaminants in soil or water,

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and placing caps over pollution that will be left on-site.

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Most of the remediation plans also include on- and/or off-site disposal of contaminants. For example, at the lake bottom subsite, the most contaminated of the dredged sediments will be disposed of elsewhere, while the majority will be put in part of Wastebed 13, an existing

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<sup>B</sup> Superfund remedial actions are supposed to be designed to significantly and permanently reduce the danger to public health or the environment from exposure to hazardous substances. For more information about the Superfund program, see: [www.epa.gov/superfund/index.htm](http://www.epa.gov/superfund/index.htm)

<sup>C</sup> Please refer to PowerPoint Presentation, slide 17: As each of these cleanup activities is mentioned, a different symbol will appear over the relevant subsites on the map. As each set of symbols appears on the map, a legend will be constructed at the top of the graphic.

wastebed in Solvay.<sup>D</sup> [*Presenter's note: Please point out Wastebed 13 (labeled in red) on the Superfund Site map.*]

These actions will leave significant amounts of pollution in the ground at 6 of the 7 subsites with remediation plans. All of the existing plans call for long-term monitoring of the subsites after remedial actions are completed.<sup>23-36</sup> To learn more about the plans for each of these subsites, you can check out the resources listed on the “Getting Involved” handout.

The Superfund program requires the NYS DEC and Honeywell to involve the public in the process of designing and completing remediation solutions.<sup>37</sup> To involve the public in the remediation process, Honeywell and the DEC have been collecting citizens’ comments on their remediation plans and holding public meetings. Recently, they formed a Community Participation Working Group, a volunteer group with the mandate to educate the public and give decision-makers feedback on the remediation process.<sup>37</sup>

Strong public participation is very important in the Superfund remediation process to help make sure that the remedies selected will be effective and serve the best interests of the people who live near the site.<sup>16</sup>

## **SLIDE (19)**

While this remediation has been going on, there’s another important CERCLA process that has been unfolding: the Natural Resource Damage Assessment and Restoration (NRDAR), which is designed to deal with harm to natural resources that may not be remedied under the Superfund hazardous waste remediation. NRDAR requires the responsible parties to compensate the public for past and future injuries and loss of use of environmental resources resulting from the release of hazardous substances.<sup>E</sup> This includes a requirement that the parties complete or pay for

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<sup>D</sup> The plan to dispose of lake bottom dredgings in Wastebed 13 has caused some controversy, and it is possible that the issue will be raised during the question and answer period. To prepare yourself to field questions on the subject, you can review the following resources:

Camillus Community Coalition’s website:

**<http://www.cleancny.com/index.html>**

Answers to frequently asked questions, NYSDEC, NYDOH, USEPA:

**[http://www.dec.ny.gov/docs/regions\\_pdf/scafaq.pdf](http://www.dec.ny.gov/docs/regions_pdf/scafaq.pdf)**

Documents relating to the Human Health Risk Assessment completed by the USEPA:

**<http://www.epa.gov/region02/superfund/npl/onondagalake/docs.html>**

<sup>E</sup> Within the legal framework of the NRDAR, the terms “injury” and “damages” have very specific meanings. “Injury” is physical harm to or destruction of natural resources through the release of hazardous substances or oil. (Continued in the footnote on next page.)

environmental restoration projects that will return natural resources as close as possible to the state they would have been in if the lake bottom and other subsites had not been illegally polluted by industries.<sup>38-40,42</sup>

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The Onondaga Nation, the US Fish and Wildlife Service (which is part of the federal Department of the Interior), and the NYS DEC are working together on these efforts. As a group, they are called the “Trustees” because the natural resources of Onondaga Lake are held in trust for the public. They are currently determining how much harm was done to the local environment and will later decide on what restoration projects must be completed.<sup>38-40</sup>

Similarly to the Superfund remediation process, NRDAR will offer opportunities for public input on the assessment and restoration plans.<sup>38</sup> It’s very important that we as citizens participate in this process, because the Trustees will make decisions that will affect what the lake will look like in the future and how we will interact with it. As we discussed before, this area has bountiful and unique land and water resources and the potential to support a tremendous diversity of life. The NRDAR process will give us the chance to share our experience and knowledge of the lake and brainstorm ideas about what the restoration could involve.

It’s vital that we start talking about these issues now. If we take the time to start asking some difficult questions, then we will be more prepared when we are faced with a short time period in which to offer our comments on remediation and restoration plans. And if we can work to find some common ground before we are called upon to offer comments, then our voices will have greater impact with decision-makers.

## **SLIDE (20)**

The Onondaga Nation recently helped reinvigorate this public conversation by issuing their “Vision for a Clean Onondaga Lake.” This document offers a very detailed picture of what the lake could look like in the future and how we could change our relationship with the lake and its non-human inhabitants. It is available on the Nation’s website

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Under NRDAR, injuries are calculated through time, generally from 1980 (when CERCLA legislation went into effect) through the future date when resources will have been restored to the baseline condition (defined as the condition they would have been in without the illegal release of hazardous substances). “Damages” is monetary payment for restoration, calculated as the sum of:

- the monetary cost of restoring natural resources to the baseline condition (see above)
- monetary compensation for loss of use of natural resources through time (see above)
- the costs of a damage assessment to be conducted by the Trustees.<sup>38-42</sup>

For more information about the NRDAR, visit:

**[www.epa.gov/superfund/programs/nrd/primer.htm](http://www.epa.gov/superfund/programs/nrd/primer.htm)**

or you can request paper copies from the Onondaga Nation Communications Office.

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This information is also listed on the “Getting Involved” handout.

*[Note to presenter: If you know of other locations distributing paper copies of the Nation’s Vision, please mention them to the audience.]*

## **SLIDE (21)**

Understanding some key points about the Nation’s history and beliefs will help us more fully appreciate the meaning of this Vision statement. In such a short presentation, we can only provide a limited introduction to the Onondagas’ very ancient and complex culture. If you would like more information, we recommend that you visit the website of the Onondaga Nation and the website of Neighbors of the Onondaga Nation, which are listed on your “Getting involved” handout.

Present-day New York State is the aboriginal territory of a group of Native American nations who are Haudenosaunee, a name that is translated as “People of the Longhouse.” Non-Natives sometimes refer to them as “Iroquois” or “Six Nations.” Onondaga Nation is the central meeting place of the Haudenosaunee Confederacy, an alliance founded at least 1,000 years ago when five warring nations, the Mohawks, Oneidas, Onondagas, Cayugas, and Senecas, met on the shores of Onondaga Lake and agreed to bury the weapons of war and live by the principles of the Great Law of Peace. The Tuscarora Nation joined the Confederacy in the early 1700s when they fled their homelands in North Carolina to avoid being enslaved by Euro-American colonists. The Grand Council of the Haudenosaunee, which represents all the confederacy’s member nations, continues to meet at Onondaga as it has since ancient times.<sup>3,4, 43</sup>

The lands of the Confederacy once included about 80% of what is now New York State as well as surrounding areas in modern-day Ohio, Pennsylvania, Ontario, and Québec.<sup>3</sup> The Haudenosaunee Confederacy exerted tremendous political influence in the region. Benjamin Franklin and other founding fathers of the United States were inspired to adopt some of its governance principals when setting up a government for their fledgling nation.<sup>44</sup>

The Haudenosaunee people were devastated by European-introduced diseases, Euro-American attacks on their settlements, the illegal appropriation of most of their lands following the American Revolution, and many years of cultural persecution. Many were scattered far from their homelands, and those who remained were crowded onto small pieces of land.<sup>3,4</sup>

The Onondaga Nation's currently recognized territory is located a short distance south of Syracuse.<sup>F</sup> As a sovereign nation, they accept no US federal or NY state funding apart from what was promised them in their original treaties, namely for education, health care, and road maintenance. They negotiate with the United States and NY State on a government-to-government basis, as according to agreements in the Two Row Wampum<sup>G</sup> treaty.<sup>3,4,45</sup>

## **SLIDE (22)**

The Onondaga Nation has profound spiritual, cultural, and historical ties to this area and is committed to helping restore the health of the local environment, particularly Onondaga Lake.<sup>46</sup> As we mentioned earlier, the Nation participates as a Trustee in the Natural Resource Damage Assessment and Restoration (NRDAR) process with the US Department of Interior's Fish and Wildlife Service and the New York State Department of Environmental Conservation. The Trustees will work, within NRDAR's legal framework, to restore or replace the natural resources of Onondaga Lake that were injured by decades of industrial pollution.<sup>39</sup> The Nation believes that collaborating with its neighbors to restore environmental health goes hand-in-hand with its ongoing efforts to provide for the well-being of its people, heal relationships between local Native and non-Native communities, and contribute to the economic revitalization of central New York.<sup>3,43</sup>

Onondaga Lake is extremely significant to the Onondagas for a number of reasons, including the following:

-The lake is a tremendously important sacred and historic site, in large part because on its shores the Haudenosaunee Confederacy was founded under a profound spiritual, political, and cultural framework called the Great Law of Peace. In this respect, the lake is highly significant not only to the Onondagas, but to the rest of the Haudenosaunee as well. Each year, some Haudenosaunee citizens travel to sacred sites in their homelands, and Onondaga Lake is an important stop on their route.<sup>3</sup>

-The resources provided by the lake have sustained their people for many centuries and the use of those natural resources has long been an important part of their culture. The damage to the landscape and decline of many key species led to severe human health, economic and cultural losses for the Nation.<sup>3,47</sup>

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<sup>F</sup> The Onondaga Nation filed a land rights action in federal court on March 11, 2005.<sup>3</sup> Their case is described in detail on the Nation's website:

**<http://www.onodaganation.org/land/complaint.html>**

The Onondaga Nation's participation as a Trustee in the Natural Resource Damage Assessment and Restoration is a separate legal process from the court proceedings of the land rights action.

<sup>G</sup> The Two Row Wampum is a 17<sup>th</sup> century treaty between the Haudenosaunee Confederacy and Dutch colonists. The Haudenosaunee understand it to be a model for relationships between peoples and the basis for all subsequent treaties with European and North American governments.<sup>45</sup> For more information about the Two Row Wampum and other treaties, visit the Onondaga Nation's website: **<http://www.onodaganation.org/gov/treaties.html>**

-It is part of their homeland, and as a people they are committed to staying in this area and protecting it for future generations.<sup>3,46</sup>

### **SLIDE (23)**

This “Vision for a Clean Onondaga Lake” is grounded in the Onondagas’ deeply-held beliefs about how they should interact with and relate to their surroundings and the other living things that call this place home.

One important concept woven into this Vision statement is the Haudenosaunee belief that all Creation is spiritually equal and interrelated. Humans must respect the equal right of all things to exist and fulfill their unique responsibilities.<sup>3,4,48</sup>

The Haudenosaunee believe that the Creator has given all parts of Creation special instructions that create different kinds of relationships between them.<sup>48</sup> Failure to fulfill these responsibilities will result in social and natural disruption.<sup>3</sup> The Creator expects the Haudenosaunee to always do their best to follow their spiritual instructions.<sup>4</sup>

The Haudenosaunee believe that one of the responsibilities of humans is to give thanks to the beings and forces that are carrying out their original instructions and in so doing, sustain human life. Thanks are given formally at the beginning and end of meetings by saying the Thanksgiving Address, also known as the “the words that come before all else.” The Address is a speech that reminds the listeners that all Creation is interrelated and interdependent. It also encourages individuals to come together to act as a community to fulfill their responsibilities as human beings and interact correctly with the rest of Creation.<sup>4,49</sup>

The Thanksgiving Address is structured so that gratitude is expressed to different parts of Creation individually.<sup>49</sup> The Vision statement issued by the Nation follows that model, addressing people, then the earth, the waters, the fish, the plants (including medicine and food plants), the animals, the trees, the birds, the four winds, the Thunderers, Grandmother Moon, the sun, the stars, the enlightened teachers, and lastly, the Creator.

Another of the responsibilities of humans is to take actions that will benefit people living seven generations from now, and to avoid actions that will harm those descendants. The Haudenosaunee are reminded to maintain this long-term perspective by the belief that the coming generations of all beings are waiting just below the surface of the earth, looking up at their predecessors.<sup>48</sup>

One of the ways the Onondagas have worked to fulfill their spiritual responsibilities is through a long history of advocating for environmental and cultural protection. This Vision statement is an important contribution to that legacy.<sup>3,43</sup>

### **SLIDE (24)**

In their Vision statement, the Onondagas offer many ideas for how to restore the lake.<sup>11</sup> We don't have time to cover them all right now – I encourage you to read through the document yourself – but here are some of the major goals listed in the document:

- People will be able to drink water and eat fish from the lake. (p. 1)
- Wetlands will be restored and reconnected with the lake. (p. 3)
- The Tully Valley mudboils will be corrected and will no longer pour sediment into Onondaga Creek. (p. 3)
- Native animal and plant species will be restored, and invasive species will be managed. (p. 4-6)
- The lake will be protected from polluted storm water runoff. (p. 7)
- The wastes deposited in and around the lake will be removed. (p. 7)
- The waters will be cleaned of chemicals that cause reproductive problems. (p. 9)
- Light pollution will be reduced and people will be able to see the stars. (p. 9)

The Onondagas also offer concrete strategies for how to achieve many of these goals.

## **SLIDE (25)**

One of these strategies is to install green infrastructure, which means creating or preserving areas with wetlands, trees, and other vegetation in urban areas.<sup>50</sup> Green infrastructure allows rainwater to soak into the ground or be harvested for other uses (p.3), instead of contributing to the storm water runoff that causes combined sewer overflows, which send untreated sewage into the streams and ultimately into the lake.<sup>50,51</sup>

The Vision statement cites multiple examples of green infrastructure. For instance, it talks about using permeable pavement, or paving methods and materials (like porous asphalt, stones, bricks, etc.) that allow water to pass through into the soil below. Benefits of permeable pavement include reduction of stormwater runoff and natural filtration of water by soil.<sup>52</sup>

Green street design, or incorporating planted areas into a city's streets, is also discussed. Benefits of this kind of street planning include reduction of stormwater runoff, reduction of summertime temperatures in urban areas, natural filtration of polluted runoff, air quality improvement, neighborhood beautification, and creation of habitat for wildlife.<sup>53,54</sup>

## **SLIDE (26)**

Vegetated roofs, also called green roofs, are another kind of green infrastructure technology mentioned in the Vision statement. These are roofs covered with a growth material and plants. Vegetated roofs provide sound and temperature insulation for buildings, lengthen the life of the roof structure, reduce stormwater runoff, create habitat for wildlife, and improve air quality.<sup>55</sup>

The goals of using technologies like permeable pavement, green street design, and vegetated roofs line up with the recent commitment by Onondaga County and the City of Syracuse to install green infrastructure to help address the problem of combined sewer overflows.<sup>56</sup>



## **SLIDE (27)**

Another strategy outlined in the Vision statement is restoring vegetation and wetlands around the lake by planting native wild species and cultivating native food and medicinal plants. (p. 4-6)

The Vision statement also says that we can start preparing for climate change by planting species that can survive in warmer climates, and that some of the plantings can help clean and enrich the soils around the lake (for example, some trees can remove toxins from the soil).

Restoring vegetation and wetlands around the lake would restore habitats for native species, increase biodiversity, and provide additional food sources for humans and non-humans.<sup>57</sup>

## **SLIDE (28)**

The last strategy from the Vision statement that we have time to discuss today is minimizing light pollution in the city so that people can see the stars again.

The Vision statement suggests using energy-efficient, downward-shining lights, following the model of the Dark Skies Initiative. (p. 10)

Benefits of using such technology would include a greater ability to appreciate and study the stars, less disruption of wildlife, and energy conservation.<sup>58</sup>

## **SLIDE (29)**

As you can see, the Onondagas have presented many ideas for ways to move toward a healthier lake environment and, in so doing, contribute to the healing of the Nation's relationship with all those who live in this region.<sup>3,46</sup> Some of the ideas presented in the Vision statement go beyond the scope of the Superfund remediation and Natural Resource Damage Assessment and Restoration because those processes only deal with hazardous waste.<sup>22</sup> We hope that the document will encourage more people to share their visions for the future of the lake and how we as watershed residents will relate to it. If enough people participate in the Superfund remediation process, the Natural Resource Damage Assessment and Restoration, and other local environmental planning, we can have a big influence on the decisions that are made.

The communities of the Onondaga Lake watershed have many local resources that we can share with one another to support our participation in this discussion.

For example, we have a remarkable opportunity to benefit from an exchange of environmental knowledge with the Onondaga Nation. The Onondagas have many centuries worth of knowledge about the functioning of the lake ecosystem and could contribute that knowledge to our collective remediation and restoration efforts.

One way our communities could achieve that kind of cross-cultural partnership would be through a process called biocultural restoration. Biocultural restoration involves bringing the people who

live in a degraded landscape into active participation in the landscape's restoration. This is achieved by using the cultural goals and knowledge of the people to shape the restoration process.<sup>59</sup>

Biocultural restoration has been used successfully across the country and around the world. Some researchers at SUNY ESF have argued that we have an opportunity to apply those successful practices right here at home.<sup>60</sup>

The Internet is a valuable tool the community can use to share knowledge about the lake and ideas for its remediation and restoration. On your "Getting Involved" handout, you'll find the address for a new blog called "Revive Onondaga Lake." This site offers information about the lake, news updates, and event and meeting announcements. It also allows users to comment on blog entries and on an interactive map of Onondaga Lake.

We invite you to explore and use the resources on this website as you become involved in our community conversation about the lake.

*[Presenter's note: If you are aware of any upcoming comment periods, meetings, or other action opportunities relating to the lake, please provide the audience with this information.]*

### **SLIDE (30)**

Beyond the complex challenges of restoring Onondaga Lake lies the promise of a life-giving resource strongly interconnected with the lives of the people and other living things that call this place home. We can restore the lake, and our relationship to it, only through our active participation as members of its watershed community. As Bradley Powless of the Onondaga Nation has said: *[Presenter's note: please read the following quote.]*

"That's how you save the lake. You know that you're gonna be here and your children's children's gonna be here, and that you want the best for them. Your children are coming. And you tell your grandchildren, and you tell your relatives, and you think, 'Onondaga is our home.' And that's what makes it sacred to you. .... But until you have that within yourself, ... it's like a sidebar, Onondaga Lake as a sidebar, not as a part of."<sup>61</sup>

Thank you for your attention. Are there any questions?

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