Beyond Standing Rock: The Intersection of Tribal and Environmental Law

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BEYOND STANDING ROCK: THE INTERSECTION OF INDIGENOUS NATIONS AND ENVIRONMENTAL LAW
MATERIAL FOR PRESENTATION BY
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A. Wm. Beauchamp map of Indigenous territories in New York, before colonization:

B. Red paper on Treaties;

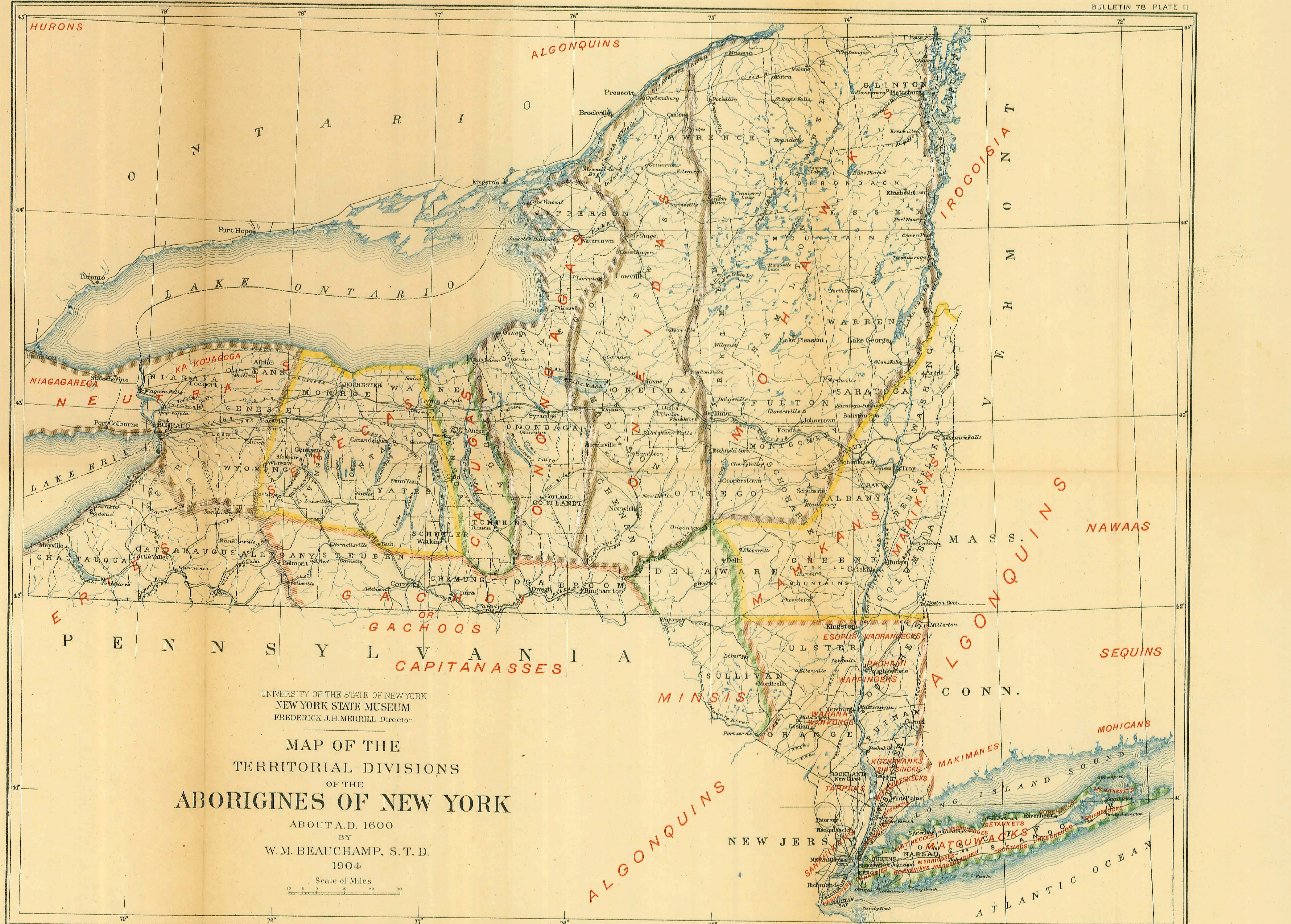
C. Red paper on Nations not tribes;

D. 1st ¶ of 2005 Onondaga Nation Land Rights Action Complaint;

E. Map of Superfund sites in and around Onondaga Lake;

F. U. S. Fish & Wildlife article on Traditional Ecological Knowledge;

G. NYS DEC Consultation with Indian Nations Policy.


HURONS
ALGONQUINS
ONTARIO
LAKE ONTARIO
LAKE ERIE
NIAGAGAREGA
KA KOUAGOGA
NEUTRALS
ERIES
SENECAS
CAYUGAS
ONONDAGAS
ONEIDAS
MOHAWKS
IROCOISIA
MOHICANS
MAHIKANS
GACHOI OR GACHOOS
CAPITANASSES
MINSIS
ESOPUS
WAORANECKS
PACHAMI
WAPPINGERS
WARANAWANKONGS
KITCHAWANKS
SINTSINCKS
TAPPANS
SANHIKANS
MATOUWACKS
MAKIMANES
NAWAAS
SEQUINS
PENNSYLVANIA
VERMONT
MASS.
CONN.
NEW JERSEY
LONG ISLAND SOUND
ATLANTIC OCEAN
UNIVERSITY OF THE STATE OF NEW YORK
NEW YORK STATE MUSEUM
FREDERICK J. H. MERRILL Director
MAP OF THE
TERRITORIAL DIVISIONS
OF THE
ABORIGINES OF NEW YORK
ABOUT A.D. 1600
BY
W. M. BEAUCHAMP, S. T. D.
1904
Scale of Miles

A BRIEF HISTORY OF HAUDENOSAUNEE TREATY MAKING AND THE OBLIGATIONS OF THE UNITED STATES TO PROTECT HAUDENOSAUNEE LANDS AND TO NOT DISTURB THE FREE USE AND ENJOYMENT THEREOF:

March, 2012

In Article VI, the United States Constitution clearly mandates that: "[A]ll Treaties made, or which shall be made, under the Authority of the United States, shall be the supreme Law of the Land. . . ." The United States Senate has recognized that the Constitution was heavily influenced by and modeled after the Haudenosaunee Confederacy's founding principles, contained in the Great Law of Peace.

Before reviewing a more complete history of Haudenosaunee treaty making, we will begin with the most recent treaty: the 1794 Treaty of Canandaigua, which was pursued by President Washington, because he very much needed to ensure that Haudenosaunee warriors would not join in the Ohio Indian wars, in which his armies were being defeated. Washington summoned the Six Nations Chiefs to Canandaigua by sending out wampum strings, as required by Haudenosaunee diplomatic protocol. He also had Congress appropriate the funds necessary to create a wampum belt to commemorate the Treaty.

In Article IV of Canandaigua, after recognizing and affirming the territory of the Haudenosaunee Nations, the United States unequivocally committed to: "never to claim the same, not to disturb them, or any of the Six Nations, or their Indian Friends residing thereon, and united with them, in the free use and enjoyment thereof . . . ."

This commitment by the fledgling United States to not disturb the Six Nation, or the free use and enjoyment of their territories, was absolutely consistent with the history of Haudenosaunee treaty making with the European colonial powers and with the 13 colonies in the mid to late 18th

century.

The first treaty that the Haudenosaunee entered into with a European power was the Guswentha, or the Two Row Wampum, which was signed in 1613 with the Dutch, near Albany, New York. As with all treaties, it was fundamentally about trade and it clearly established an equal relationship, with both sides committing not to interfere with the other's government or laws; and it was commemorated with the making of a wampum belt.

The message of the Two Row Wampum Belt is important, as it contains two rows of purple wampum beads ruling parallel across a background of white beads. These two rows symbolize the two governments and cultures on an equal footing and their mutual commitment to respect each other and not to pass laws that would interfere with the other.

The Two Row is the fundamental basis of all Haudenosaunee diplomacy and treaty making which continued from 1613 right up to 1794 and Canandaigua. The Two Row also established a "covenant chain" to bind the two governments, cultures and peoples in peace, with the commitment to periodically polish this chain of peace and friendship, as the Haudenosaunee did in 1701 and 1768 with the British.

From the start, the Haudenosaunee unity of several Nations into one unified government was reflected in the thinking and actions of the Americans. In 1754 Benjamin Franklin proposed the Albany Plan of Union, which was one of the first salvos in the colonies' struggle for independence from British colonial rule. Franklin had visited the Haudenosaunee in 1744 and 1753 and the unification of the thirteen separate colonies proposed in the

Albany Plan of Union was modeled after the Haudenosaunee Confederacy, to the extent that Franklin proposed to call the new, unified legislature the "Grand Council."

The importance of the Haudenosaunee to the Americans' revolutionary struggle for independence and unity was again clearly reflected in 1775 in the Articles of Confederation and Perpetual Union, which Franklin proposed on May 10, 1775. This was after blood had been shed in Boston and after it was clear that independence would only be won with unity and with armed struggle. So, as the colonies prepared for this inevitable war with Britain's colonial army, Franklin proposed this first version of the Articles that were later modified and adopted in 1777. In his 1775 proposal, Franklin included this statement in Article XI:

> *A perpetual alliance, offensive and defensive, is to be entered into as soon as may be with the Six Nation; . . . their land not to be encroached on, nor any private or Colony purchases make of them hereafter to be held good; nor any contract for lands to be made, but between the Great Council of the Indians at Onondaga and the General Congress.*

So, we see clearly that these principles of peace and friendship and non-interference into the Haudenosaunee territories were fundamental parts of the formation of the United States, and these principles remained the basis for the treaties with the Haudenosaunee after independence: the 1784 Treaty of Fort Stanwix, the 1789 Treaty of Fort Harmor and the 1794 Treaty of

Canandaigua. The oft repeated commitment by the young United States to the Haudenosaunee, not to disturb them in their territories and to protect their territories, was also the focus of President Washington's December 29, 1790 speech to Cornplanter and other Seneca Nation leaders. Washington was responding to an earlier speech by Cornplanter, and to statements made that summer to Timothy Pickering at Tioga by Haudenosaunee Chiefs, about the on-going disturbance caused by attempts to take and settle upon their land:

> *I the President of the United States, by my own mouth, and by a written Speech signed with my own hand Speak to the Seneka Nation, and desire their attention, and that they would keep this Speech in remembrance of the friendship of the United States. . . . That in future the United States and the Six Nations should be truly brothers, promoting each other's prosperity by acts of mutual friendship and justice. . . .*
>
> *"Here then is the security for the remainder of your lands. No State nor person can purchase your lands, unless at some public treaty held under the authority of the United States. The general government will never consent to you being defrauded. But it will protect you in all your just rights.*
>
> *Hear well, and let it be heard by every person in your Nation, That the President of the United States declares,*

that the general government considers itself bound to protect you in all the lands secured you by the Treaty of Fort Stanwix. . . .

If however you should have any just cause of complaint . . . the federal Courts will be open to you for redress, as to all other persons. . . .

Remember my words Senekas, continue to be strong in your friendship for the United States, as the only rational ground of your future happiness, and you may rely upon their kindness and protection."

Given all this history and all of these promises, how is it that

- the United States have not protected the treaty lands of the Haudenosaunee?
- the United States courts have refused to live up to the treaties and find justice for the illegal takings of Haudenosaunee lands?
- the United States continues to disturb the Haudenosaunee by passing laws that interfere with their trade and free use and enjoyment of their lands?

Honor the treaties.

Let us put our goods minds together to find solutions that are good for all and for the generations yet to come.

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NATIONS ARE SOVEREIGN; THEY ARE NOT "TRIBES":

Over the past 35 + years since I have been fortunate enough to have served as General Counsel for the Onondaga Nation. In 1998, I was asked by the Onondaga Chiefs to author a law review article on their diplomatic resolution of the excise tax issue with then Governor Pataki over a year and a half period, which resulted in the May 1997 signing of a New York State/Haudenosaunee Trade and Commerce Agreement, (46 Buffalo Law Review 1011, 1998). Interestingly, despite over two centuries of difficulties in this area, in this historic Agreement the state accepted the Haudenosaunee as Nations and used that label, rather than *tribes*.

The last sentence in the first footnote on this article states: "The more substantive terms *nation* and *people* will be used collectively in their international law sense, rather than the pejorative term *tribe*."; and the last sentence of the second foot note states: "In the past 25 years, as they have struggled to reaffirm their sovereign status, the Haudenosaunee have endeavored to reject these colonial and imperialist terms . . . ." (*Id*. at 1012.)

So it is important to understand that, to the Haudenosaunee, the use of the term *tribe* means that they are not be accepted as sovereign, independent Nations. However unintentional the continued use of the term *tribe* may be, its use will be interpreted as disrespectful and insulting by traditional Haudenosaunee.

The treaties of 1784, 1789 and 1794 were between sovereign Nations:

The fledgling federal government entered into three treaties with the "Six Nations", the last of which was the 1794 Treaty of Canandaigua, which, in Charles J. Keppler's book, *Indian Treaties, 1778-1883*, is entitled: "Treaty with the Six Nations, 1794". Although this treaty has been repeated violated by the non-Native side, it remains in effect and is actively celebrated in Canandaigua, New York, by both sides each November 11th, its anniversary. The federal government knew and continues to know that the Haudenosaunee are Six

Nations.

Further, as we all know, the United State Constitution sets forth very clearly that "treaties are the supreme law of the land," because of the abundantly clear wording of Article VI, Section 2:

> This Constitution, and the Laws of the United States which shall be made in Pursuance thereof; and all Treaties made, or which shall be made under the authority of the United States, shall be the supreme Law of the Land; and the Judges in every State shall be bound thereby, any Thing in the Constitution or Laws of any State to the Contrary notwithstanding.

With this wording, I would submit that the Constitution mandates that state officials honor the treaties, and particularly that they honor the Haudenosaunee requests to be referred to as Nations.

New York State's historical disregard for federal laws and deliberate policy to refuse to accept the Haudenosaunee as Nations:

Let us try to think back to 1783 and the Treaty of Paris with Great Britain which ended the Revolutionary War: New York State effectively only had settlements as far west as what is now Herkimer ("German Flats"). The state was broke from the war and could not even pay its soldiers. Therefore, the state had an insatiable thirst for Indian lands. This need was so great that New York knowingly violated the Constitution; clear federal laws, such as the 1790 Trade and Intercourse Act (today 25 USCA § 177); the treaties; and written warnings from George Washington's administration. These violations are the subject of the land rights litigation.

In this period, in July of 1784, a New York representative to the Continental Congress, James Duane, wrote a letter to then New York Governor, George Clinton. Duane advised that the State abandon the centuries old practice of diplomatic treaty making with the Haudenosaunee Nations, which had been employed by the Dutch, the French and the English. Duane went on to be a delegate to the Constitutional Convention and later to be Mayor of New York City.

In his July 1784 letter to Governor Clinton, Duane advised that New York should significantly alter the manner in which it related to the Haudenosaunee, because such an alteration would facilitate the taking of their vast holdings of

land. Duane wrote that Clinton should no longer use the ceremonies and protocol, such as wampum exchange, treaty councils, etc.: "*it would be wise to bring them to adopt, gradually, our forms*." Duane continued: "*I would use neither Belts nor Strings [of wampum] in any communications. Instead, all messages or communications should be signed and sealed or both*." [1]

Most importantly, for this discussion, Duane then advised:

> I would never suffer the word "Nation" or "Six Nations" or "Confederates" or "Council Fire at Onondaga" or any other form which would revive or seem to confirm their former ideas of independence. . . . Treat them as though they were your citizens–therefore–subject to your authority. . . . The style by which the Indians are to be addressed is of moment also. They are used to be called *Brethren, Sachems and Warriors of the Six Nations*. I hope it will never be repeated.
>
> They should rather be taught [that] . . . they have become wretched and destroyed themselves, and that public opinion of their importance had long since ceased.

These colonial period references may seem remote to us in the 21st century, but rest assured that the Haudenosaunee still refer to them constantly and to New York's historic pattern of referring to them in less-than-respectful terms such as "tribes".

Further support for this position is found in the United Nations Declaration on the Rights of Indigenous Peoples.

It is our hope and request that federal, state and local governmental leaders will take some time to reflect on this historical, treaty-based history and the Constitutional background, as you consider the difficulties which will most probably continue with the exclusive use of the pejorative term *tribe*. In the spirit of the Haudenosaunee mandate to "use the good mind" to find solutions, let us try to find a reasonable ground on this issue of such importance to the Haudenosaunee.

Respectfully submitted,

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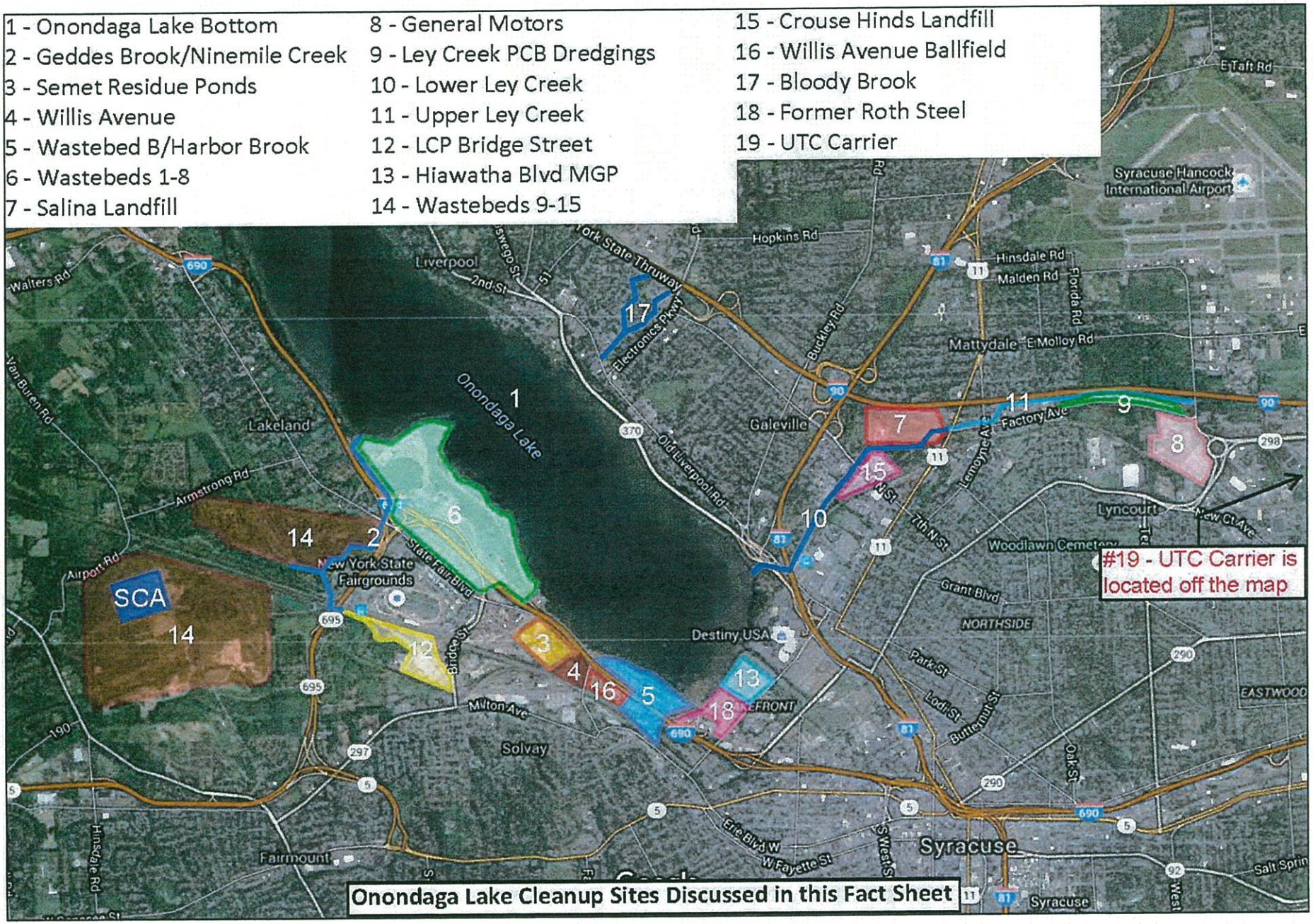
[1] Parenthetically, ten years later, when President Washington wanted to convene the treaty council at Canandaigua, he asked for and received money for Congress to purchase wampum, so that invitation strings could be properly delivered to all of the Haudenosaunee Councils of Chiefs, to invite their participation.

Joseph J. Heath

Joseph J. Heath, Esq.

FIRST ¶ OF ONONDAGA NATION'S LAND RIGHTS ACTION, COMPLAINT, FILED March 11, 2005;
(This is the framework of all of the Nation's environmental work)

The Onondaga People wish to bring about a healing between themselves and all others who live in this region that has been the homeland of the Onondaga Nation since the dawn of time. The Nation and its people have a unique spiritual, cultural and historic relationship with the land, which is embodied in the Gayanashagowa, the Great Law of Peace. This relationship goes far beyond federal and state legal concepts of ownership, possession or legal rights. The people are one with the land, and consider themselves stewards of it. It is the duty of the Nation's leaders to work for a healing of this land, to protect it, and to pass it on to future generations. The Onondaga Nation brings this action on behalf of its people in the hope that it may hasten the process of reconciliation and bring lasting justice, peace and respect among all who inhabit the area.


1 - Onondaga Lake Bottom
2 - Geddes Brook/Ninemile Creek
3 - Semet Residue Ponds
4 - Willis Avenue
5 - Wastebed B/Harbor Brook
6 - Wastebeds 1-8
7 - Salina Landfill
8 - General Motors
9 - Ley Creek PCB Dredgings
10 - Lower Ley Creek
11 - Upper Ley Creek
12 - LCP Bridge Street
13 - Hiawatha Blvd MGP
14 - Wastebeds 9-15
15 - Crouse Hinds Landfill
16 - Willis Avenue Ballfield
17 - Bloody Brook
18 - Former Roth Steel
19 - UTC Carrier
#19 - UTC Carrier is located off the map
Onondaga Lake Cleanup Sites Discussed in this Fact Sheet
Onondaga Lake
Liverpool
Lakeland
Galeville
Mattydale
Syracuse Hancock International Airport
New York State Fairgrounds
Destiny USA
Solvay
Fairmount
Syracuse
Lyncourt
Woodlawn Cemetery
NORTHSIDE
EASTWOOD
SCA

U.S. Fish & Wildlife Service

Traditional Ecological Knowledge

for Application by Service Scientists

Fishing at Ninepipe Natiomal Wildlife Refuge, Montana / USFWS

Working Definition of Traditional Ecological Knowledge

Traditional Ecological Knowledge, also called by other names including Indigenous Knowledge or Native Science, (hereafter, TEK) refers to the evolving knowledge acquired by indigenous and local peoples over hundreds or thousands of years through direct contact with the environment. This knowledge is specific to a location and includes the relationships between plants, animals, natural phenomena, landscapes and timing of events that are used for lifeways, including but not limited to hunting, fishing, trapping, agriculture, and forestry. TEK is an accumulating body of knowledge, practice, and belief, evolving by adaptive processes and handed down through generations by cultural transmission, about the relationship of living beings (human and non-human) with one another and with the environment. It encompasses the world view of indigenous people which includes ecology, spirituality, human and animal relationships, and more.

The Use of TEK is Nothing New and Continues to Evolve

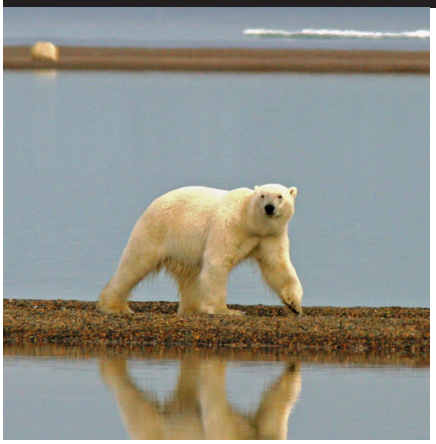
Local biological knowledge, collected and sampled over these early centuries, most likely informed the early development of modern biology. For example, during the 17th century the German born botanist Georg Eberhard Rumphius benefited from local biological knowledge in producing his catalogue, Herbarium Amboinense. Rumphius' index included the plant's name, illustrations, description for nomenclature, place, discussion of the plant's use to the local inhabitants, stories, folklore, and religious practices. During the 18th century, Carl Linnaeus referenced and relied upon Rumphius's work, and also corresponded with other people all around the world when developing the biological classification scheme that now underlies the arrangement of much of the accumulated knowledge of the biological sciences. In addition, during the 19th century, Charles Darwin, the 'father' of evolutionary theory, on his Voyage of the Beagle took interest in the local biological knowledge of peoples he encountered.

Contemporary naturalists and biologists also acknowledged the importance of TEK as it relates to Western science. For example, C. Hart Merriam was one of the great naturalists of his generation. In 1886, Merriam became the first chief of the Division of Economic Ornithology and Mammalogy of the United States Department of Agriculture, predecessor to the National Wildlife Research Center and the United States Fish and Wildlife Service. He was one of the original founders of the National Geographic Society in 1888 and developed the "life zones" concept to classify biomes found in North America. Although not widely recognized, C. Hart Merriam was also an amateur anthropologist who spent decades of five to six months each year traversing the country interviewing Native Americans and writing down voluminous records of what they were still able to tell him. He recorded the distribution of words to ascertain the precise distribution of dialects, languages, tribes, families, and their beliefs and customs, similar to the way he recorded the distribution of song sparrows, grizzly bears, and wolves in order to delimit life zones. The idea that TEK has guided modern biology (or Western science) should encourage conservation biologists to investigate TEK more thoroughly.

U.S. Fish and Wildlife Service's Use of TEK

An increasing number of scientists and Native people believe that Western Science and TEK are complementary. Although an integration of indigenous and western scientific ways of knowing

Grizzly bear in Wyoming / USFWS



Polar bear / USFWS

and managing wildlife can be difficult to achieve, successful integrations have occurred. For example, during the 1989 Exxon Valdez oil spill in Prince William Sound, Alaska, Federal and state agencies recognized the vast traditional knowledge of the Native community who could provide detailed information on conditions in the years prior to the spill. The Native community had knowledge of the historic population sizes and ranges of many of the species injured by the spill as well as observations concerning the diet, behavior, and interrelationships of injured species. Optimal use of scientific data and traditional knowledge while increasing the involvement of communities in oil spill restoration enhanced the success of restoration effort.

Most recently, the U.S. Fish and Wildlife Service used both western scientific data and TEK to justify listing the polar bear *(Ursus maritimus)* as a threatened species under the Endangered Species Act. Ecological knowledge provided by Chukotka, Inuit, and other indigenous coastal residents with regard to polar bear habitat, density estimates and population numbers provided valuable data used in making the decision. The final listing rule stated that both traditional and contemporary indigenous knowledge recognized climate-related changes occurring in the Arctic, and these changes are negatively impacting polar bears.

In Alaska, the Service, as well as the State of Alaska Department of Fish and Game Subsistence Division, collect and use TEK for research and monitoring fish populations under the Federal Subsistence Management Program. The primary objective is to collect and catalogue TEK observations from local residents through interviews with local experts on the ecology, harvest, and use of salmon and non-salmon fish species. Another more recent objective has been to produce a drainage-wide portrait of climate and environmental change, emphasizing those that are related to subsistence fisheries. Use of TEK also contributes to local capacity building by utilizing a framework of community involvement in research.

Collection of TEK

Methods for documenting TEK derive from the social sciences and include ethnography. Social scientists and cultural anthropologists use a wide range of techniques to collect ethnographic data. Below are some of the methods that can be used, but they are not necessarily in the order TEK should be collected. Permission from the indigenous government should be received prior to beginning any research project.

Literature review is an important component in any research project. All most all of the Tribes in the United States have been studied by an anthropologist at one time or another. During a literature search, ethnographies as well as collections of stories/ myths/legends and songs will be instrumental to one's research for information on societies, clans, keepers of knowledge, ceremonies, uses, processes, and interactions.

The semi-directive interview is a standard ethnographic method for gathering information and can use both an open-ended and close-ended (yes or no questions) format. A skilled and experienced ethnographer can help a novice to determine the appropriate reach of the interview questions. For example, questions about a species may include such topics as the species itself, its habitat, interactions with other species, traditions and ceremonies surrounding the species or its parts, identification of who or what positions hold knowledge and rights to the species, taboos, cyclical events, and vocabulary.

Focus groups have also been used to provide direction for additional subject matter and identification of experts. Focus groups can be helpful to determine who within an indigenous Tribe holds the knowledge for the species being studied.

Participant Observation is another research method used, which involves extensive time in a culture watching and recording what people do. Participant Observation can be a source of information to verify that which has been spoken and a source of information for that which the Tribe forgets to tell because it is considered either universally known or assumed.

In addition, Linguistics can provide insight into a culture and its view of the natural world. Some Tribes now have written dictionaries for their languages. A native speaker can provide information about words, their meanings, associations and similarities. For example, the Yupik language on Nelson Island in Alaska is very intrinsically tied to the environment – there are words to describe plants, activities, and elements in the Yupik language that are non-existent in other languages. These words help Yupik people to

Alaskan salmon / USFWS

determine how they interact with their immediate environment.

Ethnography is the process which non-indigenous people interpret indigenous people's lifeways. The ethnographic process for collecting TEK results in a wealth of information that must be carefully considered for its use in a specific project. The researcher will get more than he needs and should accept all that is given during the collection phase. The one providing the information during an interview will be sharing lifeway surrounding the topic. Only afterwards should the researcher begin to decide on what is relevant to the project and what is not needed at the time. To try to edit the one speaking would be considered a lack of respect and would potentially stymie the researcher from obtaining information that on second consideration could be instrumental to the project. Retaining all of this information is important because it may be helpful for another project, although it may be more appropriate for a tribal college or other tribal institution to retain the interview transcripts. The researcher could retain those data needed for the project. Ethnographers are experts in this process.

Better Partnerships with Native American Communities

Although the collection of TEK is not government-to-government consultation, TEK is one way federal employees can honor the federal trust responsibility to tribes with regard to resources of mutual interest. Using TEK allows a mutually beneficial relationship to be created between conservation biologists and local people. Indigenous scholars and the scientific community can benefit by mutual exchange of information and interpreting the information collaboratively. A critical aspect of conservation biology and associated environmental management is acquiring information that is not only accurate, but trusted by those who make and abide by decisions based on that information. In cross-cultural settings, the latter is often difficult. The use of TEK offers one way of bridging gaps in perspective and understanding, especially when used in conjunction with knowledge derived from the scientific method.

TEK and Climate Change

As mentioned above, the Service often uses TEK in Alaska. For example, comments from Yukon River subsistence users in Alaska are beginning to identify a suite of environmental changes attributed to climate change that impact fish, fish habitats, and fishing activities. Observations include the drying-up of wetland areas, lakes, and waterways, as well as changes in weather patterns, which in turn affect river levels and average dates of freeze-up and break-up. What is currently needed is a directed, systematic, drainage-wide effort to collect and understand these changes and their impacts. Traditional Ecological Knowledge is particularly well suited for identifying environmental changes attributable to climate change at the local and regional level. Understanding the potential impacts of climate change on landscapes, wildlife, and subsistence users is important for Federal managers in order for them to carry out the mandates for which the various conservation units were established and to build flexibility into formal management structures to address a changing environment.

TEK in Journals and Professional Organizations

Interest in TEK has been growing in recent years, partly due to a recognition that such knowledge can contribute to the conservation of biodiversity and sustainable resource use in general. In 2000, the journal Ecological Applications produced an invited feature which focused on the subject of TEK in order to encourage the discussion of TEK in environmental management.

The Ecological Society of America has a Traditional Ecological Knowledge Section. The purpose of this Section is to: (1) promote the understanding, dissemination and respectful use of traditional ecological knowledge in ecological research, application and education; (2) to encourage education in traditional ecological knowledge; (3) to stimulate research which incorporates the traditional knowledge and participation of indigenous people and; (4) to increase participation by indigenous people in the Ecological Society of America (see http://www.esa.org/tek/).

In addition, The Wildlife Society has a Native Peoples' Wildlife Management Working Group which promotes improved relationships between state/provincial/federal

Yukon River, Alaska / USFWS

wildlife managers and tribal wildlife managers through improved communications. The Working Group provides a forum for tribal and agency wildlife professionals to discuss wildlife management on reservations and aboriginal lands and to share viewpoints on proposed policies affecting wildlife management on those lands. The Working Group also works to enhance wildlife management on and off reservations through joint activities (see http://joomla.wildlife.org/Native). The Wildlife Society has a Native Peoples' Wildlife Management Working Group recently held a half day symposium titled; "Implementation of Traditional Ecological Knowledge in Natural Resource Management" at their annual conference in 2010. Another whole day symposium on TEK will be hosted again during The Wildlife Society's 2011 annual conference.

How can I learn more?

Collecting TEK is not for a novice without research and guidance. Reading literature about TEK and speaking with professionals or those experienced in the field can help one determine if one would like to directly pursue collection of TEK. It is a good idea to have a professional mentor for several projects before attempting such work independently. In addition, even though one's intent in the collection of TEK may be altruistic, how the information is used can have unintended consequences. It is important to contact the Regional Tribal Liaison if TEK is pursued. The liaison may have experience with TEK and/or will be able to provide insight when working with Tribes. Indigenous ways of understanding and interacting with the natural world are characterized as TEK, which derives from emphasizing relationships and connections among species. There are a number of books and publications that examine TEK and its strengths in relation to Western ecological knowledge and evolutionary philosophy. Some of these books address the scientific basis of TEK, focusing on different concepts of communities and connections among living entities, the importance of understanding the meaning of relatedness in both spiritual and biological creation, and a careful comparison with evolutionary ecology. They may examine the themes and principles informing this knowledge, and offer a look at the complexities of conducting research from an indigenous perspective.

Once TEK is collected, combined with western knowledge, and decisions are being considered for managing the resources, take time to think about what the long-term impacts of these decisions could be beyond addressing the most pressing issue. New methodologies or technologies can have unintended consequences. Case studies are a way of learning to think beyond the hoped for result to the sometimes unintended consequences. The Suggested Reading List below provides information on the topics expressed in this Fact Sheet from several authors.

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CP-42 / Contact, Cooperation, and Consultation with Indian Nations

New York State Department of Environmental Conservation

DEC Policy

Issuing Authority: Alexander B. Grannis, Commissioner

Date Issued: March 27, 2009	**Latest Date Revised:**

I. Summary

This policy provides guidance to Department staff concerning cooperation and consultation with Indian Nations on issues relating to protection of environmental and cultural resources within New York State. Specifically, this policy (i) formally recognizes that relations between the Department and Indian Nations will be conducted on a government-to-government basis; (ii) identifies the protocols to be followed by Department staff in working with Indian Nations; and (iii) endorses the development of cooperative agreements between the Department and Indian Nations to address environmental and cultural resource issues of mutual concern.

II. Policy

It is the policy of the Department that relations with the Indian Nations shall be conducted on a government-to-government basis. The Department recognizes the unique political relations based on treaties and history, between the Indian Nation governments and the federal and state governments. In keeping with this overarching principle, Department staff will consult with appropriate representatives of Indian Nations on a government-to-government basis on environmental and cultural resource issues of mutual concern and, where appropriate and productive, will seek to develop cooperative agreements with Indian Nations on such issues.

III. Purpose and Background

A. General

Nine Indian Nations reside within, or have common geographic borders with New York State: the Mohawk, Oneida, Onondaga, Cayuga, Seneca, Tonawanda Seneca, Tuscarora, Unkechaug, and Shinnecock. The United States formally recognizes all but the Unkechaug and Shinnecock Nations. The State of New York recognizes all nine Nations.

The Mohawk, Oneida, Onondaga, Cayuga, Seneca, Tonawanda Seneca, and Tuscarora are known as the Six Nations or Haudenosaunee. Relations between the Department and the Haudenosaunee will be conducted in the spirit of Peace and Friendship established in the 1794 Treaty of Canandaigua.

All nine Indian Nations and their diverse governments and governmental entities may share mutual interests with the Department concerning environmental and cultural resources. For the purposes of this policy, the Department will communicate with representatives from any Indian Nation government where there are environmental or cultural resource issues of mutual concern.

The Department interacts with Indian Nations in two critical areas of mutual importance: the environment (including air, land use, water, fish and wildlife) and cultural resources (including sacred sites, traditional cultural properties, artifacts, ancestral remains, cultural items, and pre- and post-contact historic sites). It does so in several capacities, including, but not limited to, permit application review, site remediation, hunting and fishing regulation, and the development, implementation, and enforcement of regulations.

It also has care, custody and responsibility for 13 percent of the State's land area, and, as such, is its largest single steward of archaeological resources. The Department wishes to ensure that its actions with respect to the environment and cultural resources are sensitive to the concerns of Indian Nations, and that the perspective of the recognized Indian Nations is sought and taken into account when the Department undertakes an action having implications for Indian Nations or their territories.

B. Consultation

Close consultation ensures that the Department and Indian Nations are better able to adopt and implement environmental and cultural resource protection policies and programs in a manner that is cognizant of shared concerns and interests. Additionally, mutually beneficial cooperation and the appropriate resolution of occasional disagreements or misunderstandings can best be achieved if there is a commitment to regular consultation on environmental and cultural resource issues of mutual concern. While successful intergovernmental communication and cooperation are not guarantees of agreement on every issue, communication and cooperation will ensure a durable, effective working relationship between the Department and Indian Nations.

Communication between the Department and Indian Nations should be direct and involve two-way dialogue and feedback. Meetings between Indian Nation representatives and Department policy and/or technical staff, as appropriate, can increase understandings of any proposed actions and enhance the development of effective outcomes and solutions. Face-to-face meetings are generally desirable; however, phone calls, correspondence, and other methods of communication are also encouraged.

Identifying the need for consultation and making the decision to consult may be difficult to determine in some cases and will vary among the diverse Indian Nation governments. The main guide, though, and one that requires further delineation, is that consultation is required for any Department decision or action which could foreseeably have Indian Nation implications. Consultation can be initiated by either the Department or an Indian Nation. The Department understands that its planning and permitting processes may not be familiar to the Nations and shall take that into account when initiating consultation. To ensure sufficient time for input before decisions are made and actions taken, early involvement of Indian Nations is essential.

Good faith efforts should be undertaken to involve Indian Nations. The Department should strive to ensure that appropriate communication and response for any particular Indian Nation government or governmental entity is provided to any request for consultation.

C. Protection of Environmental Resources

Since all the natural world is interconnected and interrelated, environmental issues transcend geographic boundaries. As such, there are numerous unexplored opportunities

for the Department and Indian Nations to pursue programs and policies through partnership for the betterment of all of our communities and citizens.

The Department and Indian Nations share key roles in protecting and preserving natural and cultural resources important to all citizens, and early consultation and cooperation between the Department and Indian Nations will foster more comprehensive protection and preservation of those resources.

D. Protection of Cultural Resources

The preservation of Native American sacred sites, pre- and post-contact historic sites, and traditional cultural properties, and the preservation, disposition, and repatriation, when appropriate, of Native American ancestral remains, funerary objects, artifacts, cultural items, and cultural property ("Native American Sites and Objects") displays respect for Indian Nations, and preserves the historical, ancestral, and cultural heritage of Indian Nations and all New Yorkers. Actions approved, undertaken, or funded by the Department may have the unintended and inadvertent result of disturbing or adversely affecting Native American Sites and Objects. Accordingly, early consultation with Indian Nations connected to such Native American Sites and Objects is necessary to ensure proper and respectful treatment and to avoid any irreplaceable loss.

The careful consideration of the preservation, disposition, and repatriation of Native American Sites and Objects is consistent with the State Historic Preservation Act, State Environmental Quality Review Act, the federal Native American Graves Protection and Repatriation Act, and the National Historic Preservation Act.

IV. Responsibility

The Department's Office of Environmental Justice in the Office of General Counsel will provide oversight to ensure compliance with this policy. It shall assess the policy's effectiveness and initiate changes as needed, and shall appoint an individual to serve as Indian Nations Affairs Coordinator for all matters concerning this policy. The Office of Environmental Justice will maintain a list of current contacts for each Indian Nation, and will provide the contact list and any updates to the list to regional and central office staff.

All the Department's divisions and regional offices will fully cooperate and work closely with the Office of Environmental Justice in the implementation of this policy. Each division and regional office will appoint a single point of contact for Indian Nation matters; and each will identify that individual to the Office of Environmental Justice. Each division and regional office may issue its own guidance to further the implementation of this policy. Such guidance shall be developed in consultation with the Office of Environmental Justice to ensure consistency with this policy and uniformity of application throughout the Department.

The Commissioner and Department staff will strive to meet with representatives of each Indian Nation on an annual basis to continue to foster this cooperative, government-to-government policy.

V. Procedure

This policy is intended solely for the purpose of facilitating intergovernmental cooperation between the Department and recognized Indian Nations and may not serve as a basis for any legal claim against the Department or its employees, agents, or contractors. Nothing in

this policy shall or is intended to modify, diminish, or alter any rights and is not intended to create any right, benefit, obligation, or cause of action, whether direct or indirect, for any person or entity.

A. Contact

Department staff are encouraged to engage in regular contact with representatives of Indian Nations, especially program counterparts, in order to facilitate a cordial and cooperative working relationship. Informal contacts (e.g., telephone calls and in-person meetings) should be conducted on an as-needed basis, without the necessity of prior review or approval. Formal written contacts or contacts resulting in commitments should be coordinated with the appropriate Department executive, Office of Environmental Justice and, if deemed necessary, legal staff.

B. Consultation

Department staff shall consult with appropriate Indian Nation representatives on a government-to-government basis regarding matters affecting Indian Nation interests, with the goal of creating durable intergovernmental relationships that promote cooperative partnerships on environmental and cultural resource issues of mutual concern. As used herein:

- "Consultation" means open and effective communication in a cooperative process that, to the extent practicable and permitted by law, works toward a consensus before a decision is made or an action is taken. Consultation should begin as early as practical, and, where appropriate, consultation should continue through the implementation of such decision or action. Consultation means more than simply informing affected Indian Nations about what the Department is planning. Consultation is a process, not a guarantee of agreement on outcomes. Consultation should not be limited to specific issues or actions, but applied broadly in order to achieve mutually beneficial priorities, programs and interests.

- "Affecting Indian Nation interests" means a proposed action or activity, whether undertaken directly by the Department or by a third party requiring a Department approval or permit, which may have a direct foreseeable, or ascertainable effect on environmental or cultural resources of significance to one or more Indian Nations, whether such resources are located on or outside of Indian Nation Territory.

- "Indian Nation Territory" means all lands within the exterior boundaries of any Indian reservation and all lands held in trust by the federal government for any Indian Nation.

It is expected that Department staff will work with each Indian Nation to identify categories of actions or activities that will likely require consultation. As this policy is implemented, the Department will cooperatively establish with affected Indian Nations the manner and time frame for consultation, and will strive to accommodate the differences in deliberative processes. When a regulatory or policy change is planned that may affect Indian Nation interests, the Department will invite interested Indian Nations to consult on a government-to-government basis. The Department will be receptive to requests from Indian Nations for intergovernmental consultation on actions, policies, and issues within the Department's authority.

To further achieve proper contact and consultation the Department will develop and conduct sensitivity training of all staff who will or may implement this policy. To the

extent that it is achievable, the development and conduct of such training shall include Indian Nation representation.

C. General Consultation Subjects

1. Environmental Resources

The Department is committed to working cooperatively with Indian Nations to address issues of mutual concern involving environmental resources, whether located on or outside of Indian Nation Territory. The Department recognizes that environmental resources transcend these boundaries, and that protection and preservation of those resources requires close cooperation between the Department and Indian nations. The Department also recognizes that environmental impacts transcend these boundaries and remediation and reduction of impacts should be addressed cooperatively.

Where appropriate, the Department may consider entering into a written cooperative agreement or agreements with one or more Indian Nations where it will achieve protection, preservation, or remediation of such environmental resources. With respect to environmental matters occurring wholly or partly on Indian Nation Territory, the Department shall seek to achieve protection, preservation or remediation of such resources through development of a cooperative agreement or agreements with that Indian Nation.

2. Hunting, Fishing, and Gathering

The Department recognizes that hunting, fishing, and gathering are activities of cultural and spiritual significance to the Indian Nations. The Department is committed to collaborating with Indian Nations to develop written cooperative agreements that protect the rights of such Nations to engage in these activities consistent with the Department's interest in protection and management of the State's natural resources.

3. Cultural Resources

The Department recognizes the importance of Native American Sites and Objects to Indian Nations. Specifically, for example, the Department recognizes the profound connection Indian Nations and their citizens have with their ancestors and their preeminent desire, therefore, to protect them from disturbance. The Department also recognizes that there are locations within the State that have great cultural and pre- and post-contact historical significance to Indian Nations that require similar protection.

The Department, in consultation with each Indian Nation and with the Office of Parks, Recreation and Historic Preservation, will develop a map showing the area of aboriginal occupation of each Indian Nation within the State. When the Department undertakes an action that might affect a Native American Site or Object, including but not limited to a known or potential burial, or pre- or post-contact historic site, or traditional cultural property or sacred site, it will use this information to notify and consult with any Indian Nation claiming interest in the site location, including Nations that formerly resided within the State. Similarly, the Department will

consult with the Indian Nations before it takes any action with respect to any law, regulation or policy that relates to Native American Sites and Objects.

VI. Related References

- State Historic Preservation Act [Article 14, Parks, Recreation and Historic Preservation Law]
- National Historic Preservation Act [16 U.S.C. 470 et seq.]
- State Environmental Quality Review Act [ECL Article 8]
- Native American Graves Protection and Repatriation Act [25 USC 3001 et seq.]

Annual Meeting of the Environmental and Energy Section
of the New York State Bar Association

"BEYOND STANDING ROCK: THE INTERSECTION OF TRIBAL AND ENVIRONMENTAL LAW"

Presented by:

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I. Introduction

a. Standing Rock

The building of the Dakota Access Pipeline ("DAPL"), and resulting protests by Native Americans, have highlighted the tumultuous relationship between the United States and Native American tribes. The pipeline is intended to carry oil 1,172 miles from the Bakken oil field in North Dakota to existing pipeline infrastructure in Patoka, Illinois. The DAPL's projected completion date was the end of 2016, but protests on the Standing Rock Sioux Reservation delayed its completion. The protests were prompted by the potential for oil pollution to contaminate the tribe's water supply and kill fish and wildlife necessary for tribal members' subsistence and the alleged lack of adequate environmental assessment of the pipeline by the Corps of Engineers and the owner of the pipeline. In addition to a lawsuit brought by the tribe against the U.S. Army Corps of Engineers, there was extensive media coverage, federal agency involvement and the intervention by Presidents Obama and Trump. The pipeline was completed in April 2017 and the first oil was delivered in May 2017.[1]

b. Focus of Presentation

This presentation focuses on the limitations on the authority of tribes in a litigation context relating to environmental threats and damage, and exceptions to those limitations. The presentation will provide a background for a recent decision in which a tribal court found it had subject matter jurisdiction to adjudicate claims involving environmental harm inflicted upon tribal property by energy companies.

[1] Robinson Meyer, *The Standing Rock Sioux Claim 'Victory and Vindication' in Court*, The Atlantic, June 14, 2017, at 3, 5-6; Walter H. Mengden IV, *Indigenous People, Human Rights, and Consultation: The Dakota Access Pipeline*, 41 Am. Indian L. Rev. 441, 442, 452—57 (2017).

II. Tribal Sovereignty

Indian tribes were sovereigns well before the exploration and settlement of North America by Europeans and Americans. Some tribes have histories spanning centuries. Because of their preexisting sovereignty, Indian tribes have governmental powers that derive entirely from that status and not from any affirmative grant of authority by Congress,[2] referred to as "inherent tribal authority."[3] However, that inherent tribal authority is limited by the Supreme Court through federal common law standards for determining the extent to which the inherent tribal authority has been retained despite the tribes' dependent status.[4] The situation giving rise to these standards has been the exercise of tribal regulatory or adjudicative authority over nonmembers. The seminal, "pathmarking case" in that regard is *Montana v. United States*,[5] which established a presumption that the inherent sovereign powers of an Indian tribe do not extend to the activities of nonmembers of the tribe, except in certain limited categories of situations.

III. *Montana v. United States*

In 1981, the Supreme Court established the federal principles that govern tribal civil jurisdiction over nonmembers in *Montana v. United States,*[6] which remains "the 'pathmarking case' on the subject."[7] The Court essentially found that the existence of tribal sovereign authority over nonmembers was the exception, not the rule. *Montana* involved a claim by the United States and the Crow Tribe that the tribe possessed exclusive jurisdiction within its reservation to regulate nonmember hunting and fishing on nonmember-owned fee lands. Finding no express treaty or

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[2] *National Farmers Union Ins. Cos. v. Crow Tribe of Indians*, 471 U.S. 845, 851 (1985).
[3] *Montana v. United States*, 450 U.S. 544, 565 (1981).
[4] *National Farmers Union*, 471 U.S. at 851—52.
[5] 450 U.S. 544.
[6] *Id.*
[7] *Nevada v. Hicks*, 533 U.S. 353, 358 (2001) (quoting *Strate v. A-1 Contractors*, 520 U.S. 438, 445 (1997)).

statutory right to such regulatory authority, the Court upheld "the general proposition that the inherent sovereign powers of an Indian tribe do not extend to the activities of nonmembers of the tribe."[8] However, it also carved out two possible exceptions to this "general proposition," commonly referred to as the "*Montana* exceptions:" (1) tribes retain the inherent civil authority to "regulate through taxation, licensing, or other means the activities of nonmembers who enter consensual relationships with the tribe or its members through commercial dealing, contracts, leases, or other arrangements;"[9] (2) a tribe "may also retain inherent power to exercise civil authority over the conduct of non-Indians" if "that conduct threatens or has some direct effect on the political integrity, the economic security, or the health or welfare of the tribe."[10] The Court found neither exception applicable in that case.

Because "efforts by a tribe to regulate nonmembers . . . are presumptively invalid," a tribe bears the burden of showing that its assertion of jurisdiction falls with one of the *Montana* exceptions when jurisdiction is challenged.[11]

IV. Supreme Court Cases After *Montana*

Significantly, in *Montana*, the Supreme Court "readily agree[d]" that the tribe had jurisdiction to bar nonmembers from tribal land and recognized that the tribe may place conditions on nonmembers' entry onto tribal land over and above the authority that tribes have to regulate nonmember conduct on reservation land in general.[12] Since *Montana,* the Court has reaffirmed the concept that "a hallmark of Indian sovereignty is the power to exclude non-Indians from Indian lands."[13] And it has relied on the principle that a tribe can "assert a landowner's right to occupy and

[8] 450 U.S. at 565.
[9] *Id.*
[10] *Id.* at 566.
[11] *Plains Commerce Bank v. Long Family Land & Cattle Co.*, 554 U.S. 316, 330 (2008).
[12] *Montana*, 450 U.S. at 557.
[13] *Merrion v. Jicarilla Apache Tribe*, 455 U.S. 130, 141 (1982).

exclude."[14] In *Plains Commerce Bank v. Long Family Land and Cattle Co.*,[15] the Court reiterated that tribes may "exclude outsiders from entering tribal land."[16] In discussing the *Montana* exceptions, it stated that "the tribe's sovereign interests are now confined to managing tribal land, protecting tribal self-government, and controlling internal relations."[17] The regulations permitted in *Montana* "all flow directly from these limited sovereign interests."[18] "The tribe's 'traditional and undisputed power to exclude persons' from tribal land, for example, gives it the power to set conditions on entry to that land via licensing requirements and hunting regulations."[19]

In light of these repeated affirmations of tribes' right to exclude nonmembers from tribal lands, tribal courts arguably possess jurisdiction over tribes' claims for trespass and other invasion and interference of property claims. The Court has described the right to exclude as within the regulatory, rather than adjudicative, authority of tribes.[20] But tribal court jurisdiction "turns upon whether the actions at issue in the litigation are regulable by the tribe."[21] And "where tribes possess authority to regulate the activities of nonmembers, civil jurisdiction over disputes arising out of such activities presumptively lies in the tribal courts."[22]

V. Cases Interpreting *Montana* in Trespass and Environmental Damage Contexts

a. General Trespass Claims

Several courts have applied *Montana* to situations involving trespass or other invasions of tribal property. Significantly, the notions of trespass and invasions of property have supported tribal jurisdiction in environmental claims, including claims involving the energy industry.

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[14] *Strate v. A-1 Contractors*, 520 U.S. 438, 456 (1997).
[15] 554 U.S. 316 (2008).
[16] *Id.* at 328.
[17] *Id.* at 334 (quotations, citation, and alterations omitted).
[18] *Id.* at 335.
[19] *Id.* (quoting *Duro v. Reina*, 495 U.S. 676, 696 (1990)).
[20] *See, e.g., Plains Commerce Bank*, 554 U.S. at 335.
[21] *Hicks*, 533 U.S. at 367 n.8.
[22] *Strate*, 520 U.S. at 453 (quotation and alteration omitted).

i. *Norton v. Ute Indian Tribe of the Uintah and Ouray Reservation*

In *Norton v. Ute Indian Tribe of the Uintah and Ouray Reservation*,[23] nonmember police shot and killed a Ute tribal member following a pursuit on the Uintah and Ouray Indian Reservation.[24] A Ute tribal member and certified law enforcement officer arrived shortly thereafter, but the nonmember officers prevented the tribal officer from accessing the scene.[25] The decedent's parents, his estate and the Ute Indian Tribe of the Uintah and Ouray Reservation sued the officers in Tribal Court, asserting tort claims.[26] The Tribal Court complaint claimed that the officers interfered with tribal authority over tribal trust lands. Specifically, it asserted that the nonmember police officers prevented a tribal member and certified law enforcement officer from accessing the site of the shooting or attending to the tribal member as he bled to death.[27] The Tenth Circuit found that, "in addition to impinging upon a 'hallmark of Indian sovereignty' by trespassing, . . . the officers colorably threatened the 'political integrity' of the tribe . . . by improperly asserting their own authority as superior to that of a tribal official on tribal lands."[28]

ii. *Attorney's Process & Investigation Servs., Inc. v. Sac & Fox Tribe of Miss. in Iowa*

In *Attorney's Process & Investigation Servs., Inc. v. Sac & Fox Tribe of Miss. in Iowa*, [29] the Eighth Circuit concluded that a tribal court possessed jurisdiction over a similar trespass claim.[30] There, a group of nonmembers from a corporation that provided security and consulting services to casino operators, acting at the directive of a tribal government faction, forced their way into the

[23] 862 F.2d 1236 (10th Cir. 2017).
[24] *Id.* at 1241.
[25] *Id.* at 1241-42.
[26] *Id.* at 1242.
[27] *Id.* at 1246.
[28] *Id.* at 1246 (citations omitted). The court stressed that it was not deciding whether the tribal court possessed jurisdiction, but merely whether it could "make a colorable claim that it has jurisdiction." *Id.*
[29] 609 F.3d 927 (8th Cir. 2010).
[30] 609 F.3d at 940.

tribe's casino and tribal government offices located on tribal trust lands during an intratribal governance dispute.[31] The tribe brought its tort action against the corporation in tribal court, alleging, among others, a claim for trespass to tribal land and chattels.[32] The Eighth Circuit concluded that the tribe's trespass claim sought to regulate the nonmembers' "entry and conduct upon tribal land" and "accordingly stem[med] from the tribe's landowner's right to occupy and exclude."[33] Because the nonmembers' trespass on government offices "directly threatened the tribal community and its institutions," the court held that the actions "threatened the political integrity, the economic security, and the health and welfare of the Tribe."[34]

b. Trespass and Environmental Claims

i. *Elliott v. White Mountain Apache Tribal Court*

Similarly, in *Elliott v. White Mountain Apache Tribal Court*,[35] the Ninth Circuit held that exhaustion of tribal remedies[36] was necessary for a trespass claim brought in tribal court against a nonmember who started a forest fire on the reservation.[37] The fire merged with an existing forest fire and the combined conflagration destroyed 400,000 acres of land and caused millions of dollars in damage.[38] The Ninth Circuit considered the extent of the alleged damages before deciding that a tribe had colorable jurisdiction to enforce regulations prohibiting trespass and requiring a permit to make a fire on tribal land. The court noted that "[t]respass regulations plainly concern a property

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[31] *Id.* at 931-32.
[32] *Id.* at 932.
[33] *Id.* at 940 (quotation omitted).
[34] *Id.* at 939, 940 (quotation omitted); *see also Plains Commerce Bank*, 554 U.S. at 337 (tribes retain "inherent sovereign authority to set conditions on entry, preserve self-government, [and] control internal relations").
[35] 566 F.3d 842 (9th Cir. 2009).
[36] Non-Indians may bring a federal common law cause of action under 28 U.S.C. § 1331 to challenge tribal court jurisdiction, *Nat'l Farmers Union Ins. Cos. v. Crow Tribe of Indians*, 471 U.S. 485, 850-53 (1985), but a plaintiff must first exhaust tribal remedies. *Iowa Mut. Ins. Co. v. LaPlante*, 480 U.S. 9, 19 (1987); *Nat'l Farmers*, 471 U.S. at 856-57.
[37] *Id.* at 849-50.
[38] *Id.* at 844.

owner's right to exclude, and regulations prohibiting destruction of natural resources and requiring a fire permit are related to an owner's right to occupy."[39] The court further noted that "the regulations at issue are intended to secure the tribe's political and economic well-being, particularly in light of the result of the alleged violations of those regulations in this very case: the destruction of millions of dollars of the tribe's natural resources."[40] Because the trespass destroyed the tribe's natural resources, the court found that the suit was "intended to secure the tribe's political and economic well-being" and thus fit within the second *Montana* exception. *Id.*

ii. *Rincon Mushroom Corp. v. Mazzetti*

Also, in *Rincon Mushroom Corp. v. Mazzetti*,[41] the corporate owner of a five-acre parcel within a tribal reservation sought to enjoin Rincon tribal officials from enforcing tribal environmental and land-use regulations on its property. The tribe offered declarations explaining how activities on the corporation's property could contaminate the tribe's sole water source and increase the risk of forest fires that could jeopardize its casino, its principal economic investment.[42] The court found that the threats set forth in the declarations were sufficient to make the tribe's assertion of jurisdiction "colorable" or "plausible."[43]

iii. *Pawnee Nation of Oklahoma v. Eagle Road Oil, LLC*

(a) Background Facts

The Pawnee Nation is a Plains Indian tribe, with its headquarters located on the Pawnee tribal reserve at Pawnee, Oklahoma. Its tribal jurisdiction covers all Indian and tribal trust land

[39] *Id.* at 850.
[40] *Id.*
[41] 490 Fed. Appx. 11 (9th Cir. 2012).
[42] *Id.* at 13. The Ninth Circuit noted that it has "held that both forest fires and contamination of a tribe's water quality are threats sufficient to sustain tribal jurisdiction. *Elliott*, 566 F.3d at 850 (forest fires); *Montana v. EPA*, 137 F.3d 1135, 1139-40 (9th Cir. 1998) (water quality)." *Rincon Mushroom*, 490 Fed. Appx. at 13.
[43] *Id.* at 13.

within the boundaries of the original Pawnee Indian Reservation in Pawnee County and part of Payne County, Oklahoma.

The Pawnee Nation has a history spanning more than 700 years. Early in the 18th century, more than 60,000 members of the Pawnee Tribe inhabited the area along the North Platt River in Nebraska. Although dominating the Missouri and Platte areas for centuries, they later suffered from increasing encroachment and attrition by their intruding enemies. In addition, the tribe suffered many losses due to diseases brought by the expanding Europeans. By 1900, their population had decreased to an astonishingly low 636.

After encroachment by white settlers, the Pawnees ceded their territory to the U.S. Government in the 1800s and were removed from Nebraska to an area of Indian Territory in Oklahoma in what is now Pawnee County in 1875. Thereafter, the Pawnee Indian Agency and an Indian boarding school, named the Pawnee Industrial School, were established just east of the present site of the City of Pawnee to impose tribal assimilation, viewed as a nefarious and disdained goal by the Nation over the years. However, the school was closed in 1958 and the land was returned to the Pawnee Nation in 1968. Today, many of the former Industrial School buildings serve as tribal offices and as a home for the Pawnee Nation College. The area is on the National Register as a Historic District and the Nation uses the buildings for governmental and administrative functions, community meetings, cultural meetings and education on a daily basis.

On September 3, 2016, a magnitude-5.8 earthquake shattered the areas around the Pawnee Nation. This is the largest earthquake that has ever hit Oklahoma. The earthquakes in Pawnee since September 3, 2016 have caused substantial cracks to interior and exterior walls, plaster, mortar, ceilings, and windows of the Pawnee Nation's governmental buildings. Normal daily administrative, educational and cultural functions and activities in certain Pawnee buildings were

disrupted or suspended from the damage and the subsequent need for and conduct of inspections and repair work. Tribal members and leaders who use the buildings experienced and continue to experience emotional distress on a daily basis on account of the quakes. Safety concerns exist every time a quake or aftershock hits. Operations must be interrupted or suspended to inspect for possible damage or safety risks. The Pawnee Nation estimates its damages to its buildings caused by the earthquakes to be in the multiple hundreds of thousands of dollars.

(b) Procedural Background

In March 2017, the Pawnee nation sued two oil and gas companies in tribal court alleging that the earthquake damage the Nation sustained was caused by the high-volume injection of fracking wastewater by the two defendants in the surrounding area, awakening fault lines that had been dormant for millennia. Defendants contested subject matter jurisdiction.

Because the Nation lacked any licensing, contractual or other consensual relationship with the defendant oil companies, it argued that the defendants' trespass and invasions of the Nation's property, [44] through concussions and reverberations resulting from earthquakes caused by their fracking wastewater disposal, impinged upon a hallmark of Indian sovereignty. Because the oil companies' trespass and invasions of property have destroyed and/or severely damaged the tribe's governmental, administrative, educational and cultural buildings, disrupted the functions of tribal members using those buildings and directly threatened the tribal government, tribal community, its economic and financial institutions and the health and welfare of tribal government officials and employees who daily use the tribe's governmental buildings, the Nation's claims fit within the

[44] The Nation's petition asserts causes of action for trespass, private nuisance, negligence and ultrahazardous activities. At the heart of each cause of action, the Nation argued, is some invasion of or interference with the Nation's property interests.

second *Montana* exception: the "conduct threatens or has some direct effect on the political integrity, the economic security, or the health or welfare of the tribe."[45]

However, the second *Montana* exception may be invoked only if the challenged conduct could "fairly be called catastrophic for tribal self-government."[46] The Nation argued that the conduct at issue more than fairly could be called catastrophic for tribal self-government. The earthquakes in Pawnee since September 3, 2016 have caused substantial cracks to interior and exterior walls, plaster, mortar, ceilings, and windows of the Pawnee Nation's governmental buildings, creating many health and safety risks and concerns. Normal daily administrative, educational and cultural functions and activities in the Nation's buildings were disrupted or suspended from the damage and the subsequent need for and conduct of inspections and repair work. In addition, the emotional well-being of those tribal members and leaders who use the buildings on a daily basis have been harmed on account of the repeated and ongoing quakes. Safety concerns exist every time a quake hits. Operations must be interrupted or suspended, at a minimum, to inspect for possible damage or safety risks.

Moreover, the Nation pointed out that Oklahoma courts have considered intangible invasions or intrusions, such as noise, odor, light or electric and magnetic fields, and found that they may constitute trespass if there has been damage to another's property caused by the intangible invasion or intrusion.[47]

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[45] *Montana*, 450 U.S. at 566.

[46] *Plains Commerce Bank*, 554 U.S. at 341.

[47] *See Beal v. Western Farmers Elec. Coop.*, 228 P.3d 538 (Okla. Ct. App. 2009) ("intangible invasions or intrusions, such as noise, odor, or light, *without damage*, may be dealt with as nuisance cases, but usually not trespass") (emphasis added). *Beal* found that "intangible intrusions on land, such as electric and magnetic fields emitted from power lines, are not actionable as trespasses, *unless they cause physical damage to the real property*." *Id.* at 541 (quoting 75 Am. Jur. 2d *Trespass* § 27 (2009) (emphasis added)). The court affirmed the lower court's dismissal implicitly because the plaintiffs failed to show physical damage to their property. *Id.*; *see also Walker v. Apex Wind Constr., LLC*, No. CIV-14-914-D, 2015 WL 348778, at *5 (W.D. Okla. Jan. 26, 2015) (relying on *Beal* to find that plaintiffs did not allege facts to demonstrate physical damage to their real property from noise, an intangible intrusion, so as to constitute an invasion of plaintiffs' possessory interests sufficient to support a claim for trespass but instead alleged only that

A hearing before the tribal court on defendants' motions to dismiss for lack of subject matter jurisdiction was held on October 27, 2017, and the tribal court found that it did possess subject matter jurisdiction. The case is now moving forward.

VI. Conclusion

Although Native American tribes' inherent sovereign authority is limited, their adjudicatory authority over environmental threats and harm may be exerted depending on whether the elements of the second *Montana* exception are satisfied, i.e., whether the conduct threatens or has some direct effect on the political integrity, the economic security or the health or welfare of the tribe.

wind farm will interfere with their ability to use their property as they see fit); *accord Willams v. Invenergy, LLC*, No. 3:13-cv-01391-AC, 2014 WL 7186854, at *19 (D. Or. Dec. 16, 2014) (applying Oregon law to dismiss trespass claim where plaintiff alleged no physical consequence to his property but instead alleged only that wind farm's vibrations, lights and noise affected his personal comfort and convenience).

Energy Innovation:
Storage and Distribution Strategies

Presenters:
Jason Doling
Virginia C. Robbins, Esq.
Linda R. Shaw, Esq.

Moderator:
Keith G. Silliman, Esq.

New York State Bar Association
Annual Meeting
Environmental & Energy Law Section

January 26, 2018

Continuing Legal Education Program
Energy Innovation: Storage and Distribution Strategies

Energy Storage and the Modern Grid

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What is energy storage?

An energy storage system is capable of absorbing energy, storing it for a period of time, and then dispatching the energy for use at another time. For wind and solar energy conversion systems, storage technology allows for use of the power generated at times when there is no wind or sun. Forms of storage include chemical technologies, such as batteries (lithium ion and lead-acid), flow batteries, vehicle-to-grid, and fuel cells; thermal technologies, such as molten-salt and ice storage; and mechanical technologies, such as pumped hydroelectric storage, flywheels and compressed air energy storage.[1] In New York City, in spring 2017, construction commenced on the first behind the meter lithium ion battery to be used at a multi-family affordable housing project (Marcus Garvey Village); in California, lithium ion batteries are being used to provide power to areas affected by a 2015 leak at a gas storage facility outside of Los Angeles; in South Australia, on December 1, 2017, Tesla started up the world's largest battery bank with 100 MW of storage (power for 30,000 homes for one hour) at a wind power project.

What are the benefits of energy storage?

The following benefits of energy storage are described in NY-BEST's Energy Storage Roadmap, dated January 2016. NY-BEST is the New York Battery and Energy Storage Technology Consortium, an industry-led private-public coalition (www.ny-best.org):

[1] *The State of Energy Storage, Energy Resources in New York's Wholesale Electricity Markets*, Report by the New York Independent System Operator, December 2017.

Improves Efficiency and Capacity

Energy storage has the potential to play a big role in energy de-carbonization. Because energy storage technology can both absorb energy and release it when needed, storage can improve the efficiency and capacity of the modern grid, both behind the meter and as part of a generation, distribution and transmission system. Storage can provide capacity by replacing typical fossil-fueled "peaker" plants that run only at times of high demand and that are less efficient (that is, emit more greenhouse gas pollutants) than baseload facilities. Storage can also relieve baseload generation when output is greater than demand by storing the excess energy for use at a time when it is demanded.

Brings Flexiblity To Integration of Renewables Into the Grid

Storage technology can (1) manage variable renewable resources, (2) replace redundant generation sources that would otherwise be needed during times when the output of intermittent sources decreases or ceases, and (3) time shift from the supply side instead of from the demand side (which would require users to curtail demand when renewable resources are not available).

Enhances Reliability and Resilience of the Grid

Energy storage can provide reliability at all points in the grid: behind the meter, at the distribution level, and at the grid level. Storage can provide an uninterruptible power supply, maintain power quality, and smooth the fluctuations inherent in solar and wind resources.

Massive storms have destabilizing effects on wind farms — they drive wind turbines up and down so quickly that many of them shut down for safety. The fluctuations and loss of power threaten the larger grid's reliability. So adding substantial storage to wind farms (and to the transmission grid more broadly) contributes to reliability and resilience.[2]

What are the options for battery technology?

Lithium ion technologies have advanced the furthest and work for applications that require a lot of energy for a short period, that is, in power applications. They work across the grid from large utility-scale installations to transmission and distribution infrastructure, and for individual commercial, industrial and residential systems. Some are well suited to industrial applications that require the batteries to charge and discharge quickly. Nonlithium ion batteries technologies appear to work better in other settings, for example, lead-acid products seem more economic for residential solar-plus-storage applications. Flow cells can be more economic than lithium ion for large-scale wind power.[3]

[2] *Elon Musk Bet That Tesla Could Build the World's Biggest Battery in 100 Days. He Won*., VOX, November 29, 2017, by D. Roberts at www.vox.com

[3] *The New Economics of Energy Storage*, published by McKinsey & Company, August 2016, by P. Aprile, J. Newman and D. Pinner.

Where is battery technology being deployed now on a utility scale?

In October 2015, a leak at the Aliso Canyon gas storage facility outside Los Angeles caused it to shut down. The leak reduced fuel supplies for area power plants. In response, the California Public Utilities Commission (CPUC) mandated mitigation measures, including the expedited procurement of about 100 megawatts (MW) of local energy storage resources in the Southern California Edison (SCE) and San Diego Gas & Electric (SDGE) service territories. Renewable and other types of energy stored during the day would be available when electricity demand increased in the evening, thereby avoiding the need for increased fossil fuel generation to serve that peak need.

The CPUC order directed utilities in Southern California to identify storage projects that could be sited, constructed, and put into operation providing electricity to the grid in only a few months. Within 6 months after the CPUC issued its order, two battery storage facilities were completed. SDGE contracted for the installation of two energy storage projects totaling 37.5 MW. Until this year, the larger 30 MW project in Escondido was the biggest lithium ion battery storage facility in service on a utility grid in the world and is capable of serving 20,000 customers for four hours. A battery storage facility was completed also for SCE at the Mira Loma substation capable of powering about 15,000 homes for four hours.

In September 2016, a storm in South Australia involving 80,000 lightning strikes and at least two tornadoes — knocked down dozens of electricity pylons, causing cascading failures throughout the regional electricity grid and casting virtually the entire state of 1.7 million residents into darkness.[4]

Most people had their power restored within 24 hours, though in some cases it took much longer. But there were more blackouts from storms in December, and more from heat waves in February 2017.

In early 2017, the South Australian government unveiled a $550 million energy plan to respond to the crisis and stabilize the grid going forward. Part of that plan involved contracting for around 100 MW of energy storage. Tesla won competitive bidding for the entire energy-storage portion of the project in July by promising to deliver 100 MW of storage in 100 days, and constructing the world's largest grid-scale battery. The Hornsdale Power Reserve battery is attached to the 325 MW Hornsdale wind farm, in construction near Jamestown, South Australia. The Tesla battery bank was completed on November 23, 2017 and testing has commenced.

But the Hornsdale project will not be the largest for long. Another storage project is under construction northeast of Adelaide that will involve 3.4 million solar panels (with a capacity of 330 MW) alongside 1.1 million batteries, or 100MW/400MWh worth — the world's biggest solar-and-storage installation.

[4] See article in VOX identified in Footnote 3 above for the information on the storms' devastation and the resulting Tesla energy storage at the Hornsdale project.

How Much Growth Is There In Energy Storage?

The following information was prepared by the Smart Electric Power Alliance for its *2017 Utility Energy Storage Market Snapshot* and was provided in the American Bar Association's webinar on November 30, 2017, "Prologue to Change: Grid Modernization & Power Options:"

> 2016 was a big year for energy storage. Utilities interconnected 207 MW, 257 MWh of energy to the grid, across a total of 829 systems. The total of installed energy storage nationwide at the end of 2016 was 622 MW, 661 MWh, across 2,300 systems. Thirty-one utilities deployed their first energy storage project in 2016. Growth is encouraged by price decreases as the technology advances. The average lithium-ion battery price per KWh fell from $689 to $273 between 2012 and 2016.

But there are impediments to growth. The technology for distributed energy resources (battery storage being one of those resources) is moving faster than regulatory changes to support its deployment and faster than any changes to the utilities' business models. Experts in the field comment that in some states the Commissioners are not up to speed on modern grid technologies and this delays their ability to implement new policies to encourage integration of the technology into the modern grid. Also, there need to be incentives for the utilities to improve their planning to better integrate distributed energy resources so that markets for them develop. The former Chair of the New York State Public Service Commission, Audrey Zibelman, stated that the Commission needed to move quickly because distributed generation is very important to New York's energy future and, therefore, there is a need to create the markets for the technology, and not inappropriate subsidies that upset the market, as she believed had occurred to some extent in Nevada and Arizona.[5] Regarding market development, some energy economists point out that renewables-plus-storage technology will need to outperform natural gas so decisively that investment shifts.

What strategies are states and FERC using to promote the use of energy storage?

New York State, based on Governor Cuomo's energy strategy, Reforming the Energy Vision (REV), is considered by those in the energy field to be achieving the most comprehensive utility regulatory reform in the nation. These REV efforts are being led by the Public Service Commission (PSC), the New York State Energy Research and Development Authority (NYSERDA) and the Long Island Power Authority.

In October 2016, the New York Department of Public Service issued a *Staff Report and Recommendations in the Value of Distributed Energy Resources Proceeding*. The goal of the proceeding is to develop accurate pricing for clean distributed energy resources (DERs) that reflects the actual value created by technologies that produce power outside of the utility grid (e.g., fuel cells, microturbines, and photovoltaics) and

[5] Ms. Zibelman is now CEO of Australian Energy Market Operator, which is responsible for operating Australia's largest gas and electricity markets and power systems.

technologies that produce power or store power (e.g., batteries and flywheels) as well as demand-side measures.

The staff report supports including projects that pair any energy storage technology with an eligible generation facility to receive compensation under a proposed tariff. The report also identifies a utility-driven demonstration project supporting solar-plus-storage. Consolidated Edison Company of New York is currently pursuing a demonstration project that combines multiple solar plus storage systems to improve grid resiliency and provide a dispatchable “virtual power plant” that Con Edison can control and rely on in real time. Con Edison is also pursuing grid-scale energy storage through a request for information seeking to demonstrate how large-scale utility storage can improve company operations, and establish how a singular type of energy storage can offer multiple kinds of value.

At its March 9, 2017 session, the PSC approved two significant orders (Order 17017/15-E-0751 and Order 17018/14-M-0101;16-M-0411. One enacted a new compensation structure to value DERs installed in New York. The order establishes compensation values for the first time in New York for energy storage (battery) systems when combined with certain types of DERs. In the second order, the PSC directed the state’s utilities to significantly increase the scope and speed of their energy storage endeavors. By the end of 2018, each utility must have deployed and begun operating energy storage projects at no fewer than two separate distribution substations or feeders. The Commission tasked the utilities with striving to perform at least two types of grid functions with the deployed energy resources, for example, increasing hosting capacity and peak load reduction. The Commission stated that these actions are both feasible and necessary to promote timely development of a modern grid capable of managing DERs.

On November 30, 2017, Governor Cuomo signed legislation (A. 6571) relating to the adoption of an energy storage target (see copy attached). The law calls for the PSC to commence a proceeding to establish the Energy Storage Deployment Program to encourage the installation of energy storage systems. The legislature is expected to address some deadlines in this legislation that are not feasible. One expected revision is an extension until December 31, 2018 of the deadline for the PSC’s determination to establish a target for the installation of energy storage systems by 2030 and programs that will enable the state to meet the target. The PSC will consult with NYSERDA and the Long Island Power Authority in preparing the determination. The bill amends the Public Service Law to define what constitutes a qualified energy storage system.

In June 2017, Massachusetts’ Department of Energy Resources directed utilities in the state to procure 200 MWh of energy storage by January 2020. Also, in early June, Nevada passed legislation directing its Public Utilities Commission to investigate whether the state should require an energy storage procurement by utilities.

Outside of a 20-megawatt flywheel facility in Stephentown, New York has mostly seen small-scale demonstration projects through the REV Initiative or efforts like Consolidated Edison's substation upgrade deferral program. The state's storage

pipeline includes 240 megawatts from 15 different projects, according to Green Tech Media Research. Lithium ion deployment has been slow in New York City, where the fire department has dealt with the technology on a case-by-case basis while finalizing safety requirements.[6]

California and Oregon were the first states to set storage targets. California already led the nation in energy storage deployments (73.2 MW), but in the fall of 2016 its legislature adopted and the Governor signed four bills to further develop and streamline the state's storage market. The legislation supports the construction of storage capacity to give the grid more control over when wind and solar power are consumed to achieve 50 percent renewable energy use in the state by 2030.[7]

There has also been activity in the past two years on energy storage at the Federal Energy Regulatory Commission (FERC). This is in response to wholesale power market participants and regulators who seek to better define the opportunities for energy storage in markets and as part of the transmission system.[8]

On November 17, 2016, FERC issued a Notice of Proposed Rulemaking (NOPR) to encourage the removal of barriers to energy storage resources (ESRs) and DER integration in the wholesale markets. FERC indicated its interest in Independent System Operators (ISOs) pursuing efforts to achieve this goal.[9] The NYISO submitted NOPR comments on February 13, 2017, and will develop its market design to be consistent with FERC's proposed rules. In December 2017, the NYISO issued its report, "*State of Storage, Energy Storage Resources in New York's Wholesale Electricity Markets*," in which it acknowledges that as the grid modernizes, ESRs will contribute to maintaining a reliable and cost-effective grid to both meet demand and withdraw electricity from the grid to alleviate excess supply.[10]

What are some of the legal issues connected to the deployment of energy storage technology?

1. Siting approvals – A significant barrier to the deployment of behind the meter lithium ion battery storage is the review and approval of multiple local agencies, for compliance with building codes, zoning regulations and fire codes.

2. Large energy storage projects need states to develop strong interconnection standards so that projects are not held up by delays because the interconnection process is poorly defined, lengthy or expensive. Also, the cost of interconnection can create delays. A utility may ask a developer to make large payments for

[6] *New York State Lawmakers Pass Energy Storage Target, Await Governor's Signature*, Green Tech Media Research, Energy Storage, June 26, 2017, by Julian Spector at www.greentechmedia.com
[7] *Id.*
[8] Law 360, November 7, 2017.
[9] *Id.*
[10] See NYISO Report identified in Footnote 2 above.

upgrades to the grid infrastructure to accommodate the interconnection, resulting in disputes.

3. At this time, there are regulatory valuation and compensation barriers for energy storage. To be viable, energy storage projects must be compensated for multiple services. State regulations typically do not yet properly compensate energy storage for the full value it provides to the grid. The proper valuation of energy storage is complicated apart from the avoided cost of generation.[11]

4. Energy storage plays an important role in integrating the greater use of DERs. Some utilities may consider energy storage as a threat to earnings. DERs are expected to displace 320 GW of centralized generation from 2014 to 2023 and could outpace centralized generation in annual capacity additions as early as 2018.[12]

5. Multiple parties will assert their rights in the technologies and infrastructure that make energy storage possible. These parties will confront legal issues related to regulatory compliance and permitting, real property interests, contract terms, and financing.

[11] *State Strategies for Advancing the Use of Energy Storage*, National Governors Association, October 2016.
[12] *Id.*

A06571 Summary:

BILL NO A06571

SAME AS SAME AS

SPONSOR Paulin

COSPNSR Walker, Englebright, Hunter, Moya, Buchwald, Cahill, Colton, D'Urso, Galef, Gottfried, Jaffee, Lifton, Lupardo, Niou, Ortiz, Otis, Quart, Schimminger, Simon, McDonough, Sepulveda, Santabarbara, Rosenthal L, Blake, Thiele, Barron, Jones, Palmesano

MLTSPNSR Cook, Magee

Add §74, Pub Serv L; ren §§1020-ii - 1020-kk to be §§1020-jj - 1020-ll, add §1020-ii, amd §1020-s, Pub Auth L

Establishes the energy storage deployment program to encourage the installation of qualified energy storage systems; relates to commercially available technology that is capable of absorbing energy, storing it for a period of time, and thereafter dispatching the energy.

A06571 Actions:

BILL NO A06571

03/09/2017 referred to energy
03/22/2017 reported referred to ways and means
05/09/2017 reported
05/11/2017 advanced to third reading cal.352
05/17/2017 passed assembly
05/17/2017 delivered to senate
05/17/2017 REFERRED TO ENERGY AND TELECOMMUNICATIONS
06/19/2017 SUBSTITUTED FOR S5190
06/19/2017 3RD READING CAL.1887
06/19/2017 PASSED SENATE
06/19/2017 DELIVERED TO ASSEMBLY
11/17/2017 delivered to governor
11/29/2017 signed chap.415
11/29/2017 approval memo.20

A06571 Memo:

NEW YORK STATE ASSEMBLY
MEMORANDUM IN SUPPORT OF LEGISLATION
submitted in accordance with Assembly Rule III, Sec 1(f)

BILL NUMBER: A6571

SPONSOR: Paulin (MS)

TITLE OF BILL: An act to amend the public service law and the public authorities law, in relation to establishing the energy storage deployment program

PURPOSE:

To promote the installation of qualified energy storage systems through the energy storage deployment program.

SUMMARY:

Section one amends the public service law by adding a new section 74, "Energy storage deployment program", which: i) defines a qualified energy storage system as technology that is capable of absorbing energy, storing it for a period of time, and thereafter dispatching the energy; ii) specifies that such storage systems can use mechanical, chemical or thermal processes to store energy that was generated from renewable resources or through mechanical processes; iii) provides that such storage system can store thermal energy for direct use for heating or cooling at a later time. Additionally, it provides that the Public Service Commission (PSC) shall establish 2030 targets for the installation of such systems. In doing so, the Commission will consult with the NYS Energy Research and Development Authority and with the Long Island Power Authority. The latter two entities will administer the Energy Storage Deployment Program starting in 2018, providing: a) estimates for the annual program expenditures till 2030, b) program designs related to the deferred or avoided costs and the reduction of peaks, c) performance reports and anything else the PSC deems appropriate.

Section two provides that sections 1020-ii, 1020-jj and 1020-kk of the public authorities law are renumbered sections 1020-jj, 1020-kk and 1020-11, and a new section 1020-ii is added. The latter states that the Authority shall encourage the installation of qualified storage systems in its service territory, by implementing an energy storage deployment program as defined in the new section 74 of the public service law.

Section three amends subdivision 1 of section 1020-s of the public authorities law to add that section 74 of public service law applies to qualified energy storage systems within the authority's jurisdiction.

Section four provides the effective date.

JUSTIFICATION:

In an effort to combat climate change, renewable energy sources, such as solar and wind, are being used more extensively than in the past. This development is leading to a change in the energy supply and demand patterns.

The fact that solar and wind are intermittent has presented significant challenges. For example, solar produces power primarily during the day. Conversely, wind is stronger at night, leading to a higher production of energy at night than in the day.

Energy storage systems can efficiently solve the issues related to the timing mismatch between energy supply and demand. In fact, by absorbing and storing energy resources, storage systems are able to reduce demand for peak hours, boosting the resilience and reliability of the electric grid. This way, renewable energy can be available continuously, resulting in a reduced need for baseload generation.

This legislation defines qualified energy storage systems, and provides a regulatory framework for the PSC to start the energy storage deployment program. This will encourage the installation of such systems throughout New York State, leading to a more efficient and sustainable use of renewable energy sources.

LEGISLATIVE HISTORY:

New bill.

FISCAL IMPLICATIONS:

None.

EFFECTIVE DATE:
This act shall take effect immediately.

A06571 Text:

STATE OF NEW YORK

6571

2017-2018 Regular Sessions

IN ASSEMBLY

March 9, 2017

Introduced by M. of A. PAULIN, WALKER, ENGLEBRIGHT, HUNTER, MOYA, BUCHWALD, CAHILL, COLTON, D'URSO, GALEF, GOTTFRIED, JAFFEE, LIFTON, LUPARDO, NIOU, ORTIZ, OTIS, QUART, SCHIMMINGER, SIMON, McDONOUGH -- Multi-Sponsored by -- M. of A. COOK, MAGEE, THIELE -- read once and referred to the Committee on Energy

AN ACT to amend the public service law and the public authorities law, in relation to establishing the energy storage deployment program

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

Section 1. The public service law is amended by adding a new section 74 to read as follows:

§ 74. Energy storage deployment program. 1. (a) As used in this section "qualified energy storage system" shall mean commercially available technology that is capable of absorbing energy, storing it for a period of time, and thereafter dispatching the energy. A qualified energy storage system shall be cost-effective and either assist the integration of variable energy resources, reduce emissions of greenhouse gases, reduce demand for peak electrical generation, defer or substitute for an investment in generation, transmission, or distribution assets, or improve the reliable operation of the electrical transmission or distribution grid.

(b) A qualified energy storage system shall do one or more of the following: (i) use mechanical, chemical, or thermal processes to store energy that was generated at one time for use at a later time; (ii) store thermal energy for direct use for heating or cooling at a later time in a manner that avoids the need to use electricity at that later time; (iii) use mechanical, chemical, or thermal processes to store energy generated from renewable resources for use at a later time; or (iv) use mechanical, chemical, or thermal processes to store energy generated from mechanical processes that would otherwise be wasted for delivery at a later time.

EXPLANATION--Matter in *italics* (underscored) is new; matter in brackets [-] is old law to be omitted.

LBD10350-01-7

2. Within ninety days of the effective date of this section, the commission shall commence a proceeding to establish the energy storage deployment program to encourage the installation of qualified energy storage systems. No later than January first, two thousand eighteen, the commission shall make a determination establishing a target for the installation of qualified energy storage systems to be achieved through two thousand thirty and programs that will enable the state to meet such target. The commission shall consult with the New York state energy research and development authority and the Long Island power authority in the preparation of such determination. The determination shall include the following:

(a) The creation of the energy storage deployment program to be administered by the New York state energy research and development authority and the Long Island power authority;

(b) Estimated annual expenditures associated with the program for each year commencing with calendar year two thousand eighteen and continuing through calendar year two thousand thirty;

(c) Program designs that take the following into consideration:

(1) avoided or deferred costs associated with transmission, distribution, and/or capacity;

(2) minimization of peak load in constrained areas; and

(3) systems that are connected to customer facilities and systems that are directly connected to transmission and distribution facilities;

(d) Annual reports on the achievements and effectiveness of the program to be submitted to the governor, the temporary president of the senate, and the speaker of the assembly; and

(e) Such other issues deemed appropriate by the commission.

§ 2. Sections 1020-ii, 1020-jj and 1020-kk of the public authorities law, as renumbered by chapter 388 of the laws of 2011, are renumbered sections 1020-jj, 1020-kk and 1020-ll and a new section 1020-ii is added to read as follows:

§ 1020-ii. Energy storage deployment program. The authority shall encourage the installation of qualified energy storage systems in its service territory through implementation of the energy storage deployment program as set forth and defined in section seventy-four of the public service law.

§ 3. Subdivision 1 of section 1020-s of the public authorities law, as amended by section 9 of part A of chapter 173 of the laws of 2013, is amended to read as follows:

1. The rates, services and practices relating to the electricity generated by facilities owned or operated by the authority shall not be subject to the provisions of the public service law or to regulation by, or the jurisdiction of, the public service commission, except to the extent (a) article seven of the public service law applies to the siting and operation of a major utility transmission facility as defined therein, (b) article ten of such law applies to the siting of a generating facility as defined therein, (c) section eighteen-a of such law provides for assessment for certain costs, property or operations, [~~and~~] (d) to the extent that the department of public service reviews and makes recommendations with respect to the operations and provision of services of, and rates and budgets established by, the authority pursuant to section three-b of such law**, and (e) that section seventy-four of the public service law applies to qualified energy storage systems within the authority's jurisdiction**.

§ 4. This act shall take effect immediately.

Integrating Solar, Energy Storage, Combined Heat and Power, and Fuel Cells

Microgrid Distributed Generation for NY Buildings

Presented by

FUTURE ENERGY DEVELOPMENT, LLC

Linda Shaw, Esq., Principal
lshaw@futureenergydev.com

Microgrid Definition

A microgrid is: "A group of interconnected loads and distributed energy resources (DER) with clearly defined electrical boundaries that acts as a single controllable entity with respect to the grid [and can] connect and disconnect from the grid to enable it to operate in both grid-connected or island mode." U.S. Department of Energy, Microgrid Exchange Group

NYSERDA references this definition in the NY Prize guidance.

Institute of Electrical and Electronics Engineers (IEEE) 1547.x is a set of industry standards for interconnecting distributed energy resources to electric utility systems. IEEE 1547 is being amended to accommodate microgrids and higher penetrations of DERs.

Why is this Important?

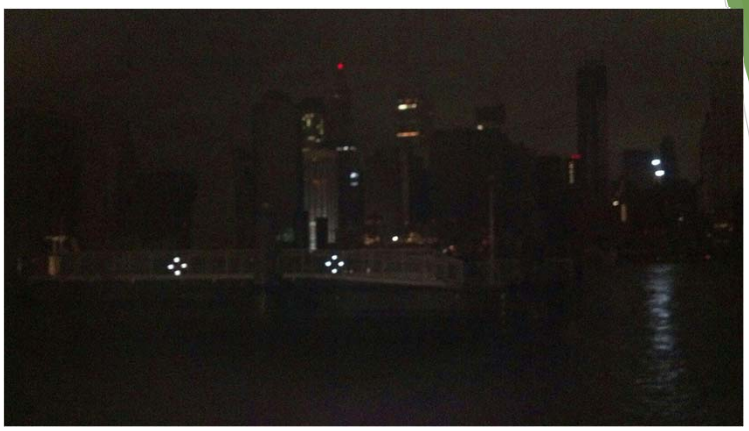
View of Midtown Manhattan Just Before Hurricane Sandy

View of Midtown Manhattan
After Hurricane Sandy

Empire State Building's new CHP Unit Kept Powering the Lights

View of Lower Manhattan from Brooklyn

Before Hurricane Sandy



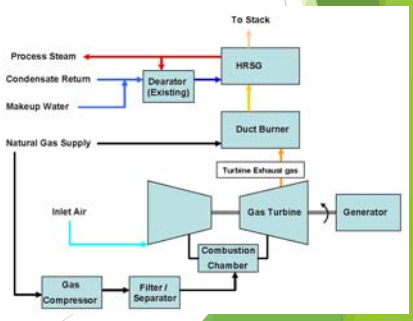
View of Lower Manhattan from Brooklyn

After Hurricane Sandy

Critical Care Facilities Need Microgrids

New York Presbyterian Hospital CHP

- 7.5 megawatt system with waste heat recovery
  - Provides 60 to 100% of hospital electricity demand
  - Waste heat drives centrifugal chillers for conditioning systems
  - Relieves load on local ConEd distribution system
  - Operates in event of power outage
- Overall efficiency of 85%
- Expected to save $5 million/year
- $1.1 million NYSERDA grant utilizied in support of estimated $16.9 million project



"Superstorm Sandy demonstrated the need for resilient power generation when critical facilities like hospitals lose electricity. . .Combined Heat and Power (CHP) technology is a clean energy, common-sense solution that keeps the lights on and systems running during emergencies. It is important that we invest in the installation of these kinds of power systems across the state to fortify our infrastructure against severe weather to maintain essential services and business productivity, and most of all, protect New Yorkers."
New York Governor Cuomo
Announcing $40M CHP Incentive Program

NYSERDA' s New CHP Acceleration Program - The maximum incentive per project is $2M and the maximum CHP system size is 1.3MW.

One River Place CHP

- One River Place - 42nd Street &12th Avenue
- CHP is saving real dollars by generating electricity and using excess heat for 2/3s of hot water demand and all pool heat.
- State of the art CHP system generates up to 150 kilowatts of Electricity and One Million BTU/hr of usable heat
- CHP Incentives Used -
  - oFederal tax credit of 10%
  - oFederal 5-year MACRS depreciation
  - oNational Grid incentives for Metro NYC (Brooklyn, Queens, Staten Island) (up to 50% of cost up to $250K)
  - oNY Brownfield tax credit incentives
  - oNYSERDA incentives

SILVERSTEIN PROPERTIES

FUTURE ENERGY DEVELOPMENT, LLC

Smart Grid or "Microgrid" Solar, Energy Storage & BMS Project

- Large capacity energy storage devices (e.g. batteries) can smooth variability of solar panels and shift power availability to higher value peak periods
- Also provides relief to T&D congestion in urban areas
- As technology improves and costs of storage decrease, storage will have significant financial returns

Smart Grid Demonstration Project at Brooklyn Army Terminal combined Solar PV, Battery Storage and building energy management system

Fuel Cells in Building Applications

Benefits of Fuel Cells for Distributed Generation in Building Applications:
•Reliable and consistent supply of electricity
•Can be used for CHP in place of combustion systems and produce overall efficiencies as high as 90%
•Can use various fuels: natural gas, hydrogen, propane, methanol
•Quiet operation vs. combustion systems.
•Near zero emissions at point of generation (compare with combustion systems).


The former Glenwood Power Plant
YONKERS, WESTCHESTER COUNTY

Incentives Previously Available:
•Federal 5 Year MACRS and available bonus depreciation
•30% Federal ITC (up to $3,000/kW)
•NYSERDA Incentives (>25 kW systems)
- oCapacity incentive $1,000/kW (up to $1,500 for essential services)
- oAdded performance incentive of $0.15/kW-hr/yr for three years
- oMax. of $1 million/site

Comparison of Benefits

	CHP (combustion)	Fuel Cells	Battery Storage
Range of electrical output	Low to Moderate	High	High
Thermal load range	Moderate to High	Moderate	None
Initial Installed Cost	Low to Moderate	High	Moderate
O&M Cost	Low to Moderate	High	Low
Noise	Moderate to High	Low	Low
Modularity	Low to Moderate	High	High
Emissions at Location	Moderate to High (fuel dependent)	Low	Low
Electrical Efficiency	Moderate to High	High	High
Peak Demand Management	Low to Moderate	Moderate	High

What are the Problems?

- Cost is still high
- Payback is still 7 years or more
- Technology Confusion – Which technology is proven and is there a long term warranty?
- Education Hurdle – Civil Engineers and Architects are still not well educated on the different technologies
- Incentives are inconsistent
- Interconnection Charges and Utility resistance
- Lack of Community Based systems to share costs

Weathering the Storm:
Adaptation and Resiliency

Presenters:
Jonathan Binder, Esq.
Dr. Frank Sciremammano, Jr., PhD, PE

Moderator:
Kathleen M. Bennett, Esq.

Observed and Projected Climate Change in New York State: An Overview

Developed for the Community Risk and Resiliency Act (CRRA) Drafting Teams

Final – 12/31/15

Background

In January 2015, Governor Cuomo released his 2015 Opportunity Agenda, which included goals for a "Climate Smart NY." The programs and initiatives outlined in Climate Smart NY advance implementation of the Community Risk and Resiliency Act (CRRA), which requires State agencies to incorporate consideration of future physical climate risks caused by storm surges, sea-level rise, and flooding in certain permitting, funding, and regulatory decisions.

Based on the most current information on observed and projected climate change for New York State, the Department of Environmental Conservation (DEC), Department of State (DOS) and its partner agencies (including Department of Agriculture and Markets (DAM); Department of Transportation (DOT); Office of Parks, Recreation and Historic Preservation (OPRHP); Department of Health (DOH); Energy Research and Development Authority (NYSDERA); Environmental Facilities Corporation (EFC); and Dormitory Authority (DASNY)) have developed implementation guidance describing application requirements for applicants in programs covered by CRRA, and review procedures for agency staff.

This document provides a summary of observed and projected climatic conditions, and potential effects of changes in these conditions, for New York State. This information is primarily derived from "ClimAID: the Integrated Assessment for Effective Climate Change Adaptation Strategies in New York State," published in 2011 by NYSERDA. In 2014, the ClimAID assessment was updated using new datasets, improved baseline scenarios, and the latest generation of climate models and emissions projections. The 2014 update provides the latest observations and projections for changes in climate in New York through 2100, while the full 2011 report articulates, by sector, the likely impacts these kinds of changes will have across the state.[1] This information is consistent with, and builds upon, the observations of observed climate change reported for the northeastern United States in the Third National Climate Assessment.[2]

As noted in the ClimAID reports, climate projections have uncertainty embedded within them. The projections are derived by downscaling global climate models, and it is possible that climate sensitivity could exceed or fall below the range in the models used. For New York in

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[1] Rosenzweig, C., W. Solecki, A. DeGaetano, M. O'Grady, S. Hassol, P. Grabhorn (Eds.). 2011. Responding to Climate Change in New York State: The ClimAID Integrated Assessment for Effective Climate Change Adaptation. Technical Report. New York State Energy Research and Development Authority (NYSERDA), Albany, New York; Horton, R., D. Bader, C. Rosenzweig, A. DeGaetano, and W.Solecki. 2014(a). Climate Change in New York State: Updating the 2011 ClimAID Climate Risk Information. New York State Energy Research and Development Authority (NYSERDA), Albany, New York. Both reports available at http://www.nyserda.ny.gov/climaid.

[2] Horton, R., G. Yohe, W. Easterling, R Kates, M. Ruth, E. Sussman, A. Whelchel, D. Wolfe, and F. Lipschultz, 2014(b): Ch. 16: Northeast. Climate Change Impacts in the United States: The Third National Climate Assessment, J. M. Melillo, Terese (T.C.) Richmond, and G. W. Yohe, Eds., U.S. Global Change Research Program, 16-1-nn. (http://nca2014.globalchange.gov/report/regions/northeast); Horton et al., 2012. Climate Change in the Northeast: A Sourcebook. Draft Technical Input Report prepared for the U.S. National Climate Assessment (http://data.globalchange.gov/file/390430f9-9cbf-4710-ba43-2ffa762754dc).

particular more research is needed on climate variability in the future, as well as on how microclimates may differ from regional projections.

Climate Change in New York State

Historically, New York State's climate can be described as humid continental. The average annual temperature varies from about 40ºF in the Adirondacks to about 55ºF in the New York City metropolitan area. The wettest parts of the state – including parts of the Adirondacks and Catskills, the Tug Hill Plateau, and portions of the New York City metropolitan area – average approximately 50 inches of precipitation per year. Mountain effects produce localized amounts of precipitation in excess of 60 inches at inland locations.[3] Parts of western New York are relatively dry, averaging about 30 inches of precipitation per year. In all regions, precipitation is relatively consistent in all seasons, although droughts and floods are not uncommon.

Observed Climate Change[4,5]

Changes from the historical climate have already been observed across New York State, mirroring observations for the northeastern United States as a whole.

Temperature
The annual average temperature statewide has risen about 1.3° C (2.4 °F) since 1970, with winter warming exceeding 2.4° C (4.4 °F); New York has warmed at an average rate of 0.14° C (0.25 °F)/decade since 1900. Annual average temperatures increased in all regions.

Precipitation
All seven stations used for the trend analysis in the 2014 ClimAID update show increasing average annual precipitation since 1900. In addition to increased mean annual precipitation across New York State, year-to-year (and multiyear) variability of precipitation has become more pronounced.[6] The pattern of precipitation has changed with increased precipitation in the winter and decreased precipitation in the summer, raising the risk of drought while adversely affecting drinking water supply.[7]

The northeastern United States has experienced a greater recent increase in extreme precipitation than any other region in the United States; between 1958 and 2010, the northeast saw more than a 70% increase in the amount of precipitation falling in very heavy events (defined as the heaviest 1% of all daily events).[8]

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[3] Horton et al., 2014(b) and Horton et al., 2012.
[4] Rosenzweig et al., 2011; Horton et al., 2014(a).
[5] Horton, R. et al., 2014(b); Horton et al., 2012.
[6] Horton et al., 2014(a).
[7] NYS 2100 Commission, 2013. http://www.governor.ny.gov/sites/governor.ny.gov/files/archive/assets/documents/NYS2100.pdf
[8] Melillo, Jerry M., Terese (T.C.) Richmond, and Gary W. Yohe, Eds., 2014: Climate Change Impacts in the United States: The Third National Climate Assessment. U.S. Global Change Research Program, 841 pp. doi:10.7930/J0Z31WJ2.

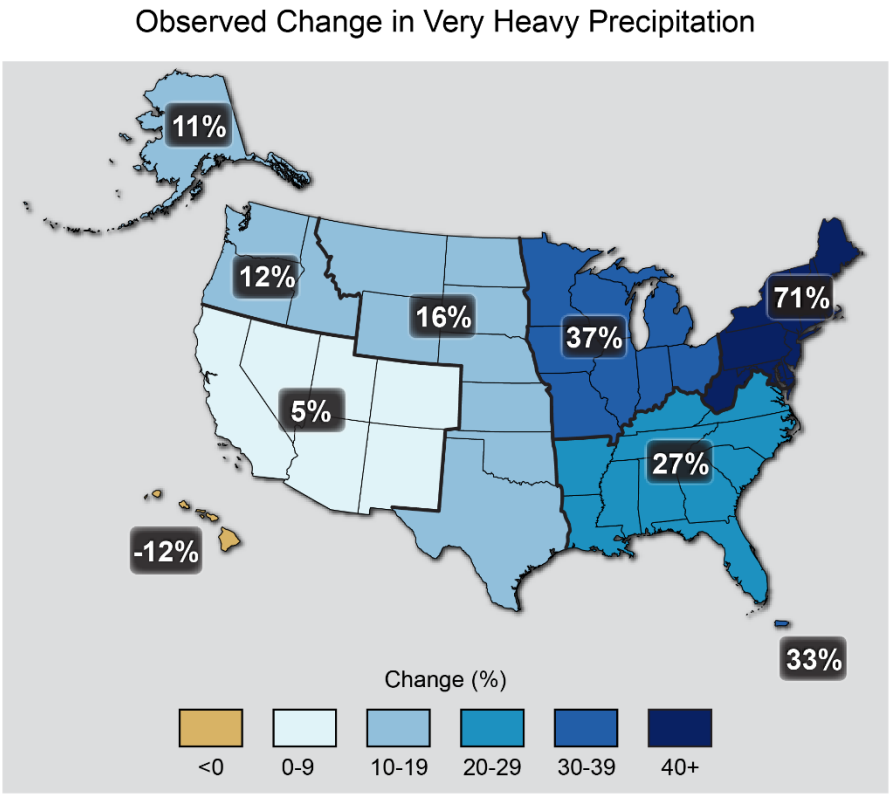

Figure 1. Observed increase in precipitation 1958-2010.[9]

New York State averages more than 40 inches per year of snow, varying regionally depending on topography and the proximity to large lakes and the Atlantic Ocean. The warming influence of the Atlantic Ocean keeps snow in the New York metropolitan region and Long Island below 36 inches per year, but snowfall amounts occasionally exceed 20 inches during nor'easters.

In addition to increased mean annual precipitation, year-to-year (and multiyear) variability of precipitation has become more pronounced. For all ClimAID stations, the standard deviation of annual precipitation (a measure of variability) was greater over the 1956 to 2012 period compared to 1900 to 1955.

Lake-Effect Snow

Lake-effect snows are an extreme precipitation phenomenon affecting areas adjacent to Lakes Ontario and Erie (and, to a lesser extent, the Finger Lakes). Arctic air masses moving over the relatively warm eastern Great Lakes are warmed, humidified, and destabilized, often leading to intense bands of heavy snowfall, generating as much as 48 inches of snow in a single storm. These events can last anywhere from an hour to a few days. Maximum seasonal snowfall in the state is more than 175 inches in parts of the Adirondacks and Tug Hill Plateau. Lake-

[9] The changes shown in this figure are calculated from the beginning and end points of the trends for 1958 to 2012. Figure source: updated from Karl, T.R., J.M. Melillo, and T.C. Peterson (eds.), 2009. Global Climate Change Impacts in the United States. Cambridge University Press. Taken from Melillo, J.M. et al., 2014.

enhanced snowfall is localized; areas within miles of each other can experience large differences in snowfall totals.

There is also evidence of an increase in lake-effect snowfall along and near the southern and eastern shores of the Great Lakes since 1950.[10] Lake-effect snow is produced by the strong flow of cold air across large areas of relatively warmer ice-free water. As the climate has warmed, ice coverage on the Great Lakes has fallen. The maximum seasonal coverage of Great Lakes ice decreased at a rate of about 8 percent per decade from 1973 through 2008, amounting to a roughly 30 percent decrease in ice coverage.[11]

Extreme Precipitation and Coastal Storms
From 1851-2014, 12 hurricanes struck New York State.[12] The frequency, intensity, and duration of extreme precipitation events and coastal storms and flooding are increasing, exemplified by the pattern of extreme weather in 2011 (Hurricane Irene and Tropical Storm Lee), 2012 (Hurricane Sandy), 2013 (Niagara County and Mohawk Valley flooding), and 2014 (Long Island flooding).

Sea-level Rise[13]
Sea level along New York's ocean coast and in the Hudson River has risen by more than one foot since 1900, or about 1.2 in/decade. CRRA directed DEC to adopt science-based sea-level rise projections and to provide guidance to help State agencies apply these projections. The projections should be used as the basis for State adaptation decisions and are available for use by all decision makers. The projections allow decision makers to consider the probability that specified levels of sea-level rise will be exceeded as well as the consequences of the exceedance and the costs of preparing for it.

To comply with CRRA, DEC has adopted 6 NYCRR Part 490, Projected Sea-level Rise. Part 490 is applicable in three regions of New York State - the tidal coast of Long Island; New York City and the Lower Hudson River upstream to Kingston; and the Mid-Hudson River from Kingston, NY upstream to the federal dam in Troy, NY (see Figure XX). All three regions exhibit small differences in relative sea-level rise due to local conditions. Five projections are provided for each of the three regions, *i.e.*, low (L), low-medium (L-M), medium (M), high-medium (H-M) and high (H), qualitative terms referring to the rate of rise and not to ultimate water level itself.[14] Warming of the Earth to date has already locked us in to at least six feet of global sea-level rise above current levels;[15] we simply do not know the precise rate at which this rise will occur. Finally, each of these projections is presented for four different time

[10] Cook, E.R., P.J. Bartlein, N. Diffenbaugh, R. Seager, B.N. Shuman, R.S. Webb, J.W. Williams, and C. Woodhouse, 2008: Hydrological variability and change. In: Abrupt Climate Change. Synthesis and Assessment Product 3.4. U.S. Geological Survey, Reston, VA, pp. 143-257.
[11] Karl, T.R., J.M. Melillo, and T.C. Peterson (eds.), 2009. Global Climate Change Impacts in the United States. Cambridge University Press.
[12] National Weather Service, National Hurricane Center, Miami, FL; Chronological List of all Hurricanes: 1851-2014. Revised May 2015. NOAA Atlantic Oceanographic and Meteorological Laboratory Hurricane Research Division (http://www.aoml.noaa.gov/hrd/hurdat/All_U.S._Hurricanes.html).
[13] NYS Sea-level Rise Projections, 6 NYCRR Part 490
[14] **L** = Low projection, the amount of sea-level rise that is very likely (the 10th percentile of ClimAID model outputs) to be exceeded by the specified time interval. **L-M** = Low-medium projection, the amount of sea-level rise that is likely (the 25th percentile of ClimAID model outputs) to be exceeded by the specified time interval. **M** = Medium projection, the amount of sea-level rise that is about as likely as not (the mean of the 25th and 75th percentiles of ClimAID model outputs) to be exceeded by the specified time interval. **H-M** = High-medium projection, the amount of sea-level rise that is unlikely (the 75th percentile of ClimAID model outputs) to be exceeded by the specified time interval. **H** = High projection, the amount of sea-level rise that is very unlikely (the 90th percentile of ClimAID model outputs) to be exceeded by the specified time interval.
[15] Strauss, B.H., 2013. Rapid accumulation of committed sea-level rise from global warming. Proceedings of the National Academy of Sciences, vol. 110 no. 34, pp. 13699–13700. (www.pnas.org/cgi/doi/10.1073/pnas.1312464110)

periods: the 2020s, 2050s, 2080s, and the year 2100 (see Table 1).[16] As shown, along the seacoast and tidal portion of the Hudson River (to the Federal Dam at Troy), sea-level rise could be up to 30 inches by the 2050s, up to four feet by the 2080s, and up to six feet by 2100.

Table 1. New York State Sea-level Rise Projections, 6 NYCRR Part 490

Region	Long Island					NYC/Lower Hudson					Mid-Hudson				
Descriptor	L	L-M	M	H-M	H	L	L-M	M	H-M	H	L	L-M	M	H-M	H
2020s	2	4	6	8	10	2	4	6	8	10	1	3	5	7	9
2050s	8	11	16	21	30	8	11	16	21	30	5	9	14	19	27
2080s	13	18	29	39	58	13	18	29	39	58	10	14	25	36	54
2100	15	21	34	47	72	15	22	36	50	75	11	18	32	46	71

Values represent inches of rise over baseline level, which is defined as the average level of the surface of marine or tidal water over the years 2000 through 2004.

Projected Climate (see Tables 2-9)

Without a dramatic decrease in the global generation of greenhouse gases like carbon dioxide, critical changes can be expected in New York's climate over the next century:

- **Annual average temperatures** in New York State are projected to rise 2.2° C to 5° C (4° F to 9° F) by the 2080s.[17]
- The number and duration of **extreme heat events** are likely to increase.
- **Short-term droughts** are anticipated to become more frequent.
- **Average precipitation** is projected to increase five to 15 percent by the 2080s, with most of the increase occurring in winter. Intense downpours will likely become more frequent.
- **Extreme weather events** are predicted to occur with increasing frequency as a result of the changing climate.
- The probability of **extreme lake-effect snows**, such as affected western New York in 2014, is likely to increase in the near future.

Given these trends and projections of future changes, past climate will likely be a less consistent predictor of future climate, and, in turn, past climate records may not suffice as benchmarks for forecasting.

Temperature

New Yorkers can expect an increase in average temperature ranging from 4 to 10°F by 2100, primarily in the form of warmer winters. Climate change modeling predicts that the anticipated increases in temperature will not be uniform across New York State and some areas may be more affected by these changes than others. By 2100, the greatest warming is projected in the northern parts of the state. Summers will become warmer and winters milder. Climate change

[16] Consistent with ClimAID, all parameters except sea-level rise throughout are presented for 30-year timeslices. For sea-level rise, the multidecadal approach is not necessary due to lower interannual variability; the 2020s timeslice for sea level (for example) therefore refers to the period from 2020–2029.

[17] Consistent with ClimAID, all parameters except sea-level rise throughout are presented for 30-year timeslices centered on the 2020s, 2050s, and 2080s. For example, the 2080s timeslice refers to the period from 2070 to 2099. For sea-level rise, the multidecadal approach is not necessary due to lower interannual variability; the 2020s timeslice for sea level (for example) therefore refers to the period from 2020–2029.

will extend growing seasons for species where temperature predominates growth, with photoperiod-controlled species being less affected by warming.

Precipitation

Projected changes in precipitation show variation across New York State. The greatest increases in precipitation are projected in the northern parts of the state, with much of this additional precipitation anticipated to occur during winter but increasingly as rain rather than snow.

Precipitation intensity is projected to increase everywhere, with the largest increases projected to occur in areas in which average precipitation increases the most (such as the northeastern United States). The northeast (and, therefore, New York State) is expected to experience the largest increases in heavy precipitation events.[18]

If intensity of sub-daily rainfall[19] (particularly in periods of less than an hour) is considered, there is evidence from historical data and regional climate modeling to suggest that the intensity of sub-daily rainfall events will increase as temperatures increase. Short, intense precipitation events can often exceed the absorption rate or ability of rainwater to infiltrate into the ground, which can dramatically increase runoff and the potential for flooding.

There also is a strong correlation between increased rainfall amounts and increases in air temperature. Warmer air is able to hold more moisture and if the atmosphere is able to hold more water, rainfall amounts would be expected to increase, particularly for the sub-daily rainfall events. According to a recent study,[20] one-hour rainfall amounts increased 7% for every degree Fahrenheit of air temperature increase.

Lake-Effect Snow

Models suggest the decreasing trend in ice cover on the Great Lakes will lead to increased lake-effect snow in the next several decades through greater moisture availability. In the longer term, lake-effect snows are likely to decrease as temperatures continue to rise, with the precipitation then falling as rain.[21]

Extreme Weather Events and Coastal Storms

Extreme weather events, ranging from heat waves to extreme precipitation events, are forecast to increase in both frequency and intensity.

The total number of hot days per year in New York State is expected to increase as the century progresses. The frequency and duration of heat waves, defined as three or more consecutive days with maximum temperatures at or above 90ºF, are also expected to increase. Extreme cold events, defined both as the number of days per year with minimum temperature at or below 32ºF, and those at or below 0ºF, are expected to decrease.

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[18] Karl et al., 2009.

[19] Measured precipitation for a period of time shorter than 24 hours.

[20] Lenderink, G. and E. Van Meijgarrd, 2008. Increase in hourly precipitation extremes beyond expectations from temperature changes. Nature Geoscience 1, 511 – 514.

[21] Karl et al., 2009; Rosenzweig et al., 2011; Kunkel, K.E., N.E. Westcott, and D.A.R. Knistovich, 2002: Assessment of potential effects of climate changes on heavy lake-effect snowstorms near Lake Erie. Journal of Great Lakes Research, 28(4), 521-536; Burnett, A.W., M.E. Kirby, H.T. Mullins, and W.P. Patterson, 2003: Increasing Great Lake-effect snowfall during the twentieth century: a regional response to global warming? Journal of Climate, 16(21), 3535-3542.

By the end of the century, the number of droughts is likely to increase, as the effect of higher temperatures on evaporation is likely to outweigh the increase in precipitation, especially during the warm months.

By the end of this century, sea-level rise alone may contribute to a significant increase in large coastal floods; coastal flood levels that currently occur once per decade on average may occur once every one to three years, and flooding at the level currently associated with the 100-year flood may occur about four times as often by the end of the century.

Climate change predictions indicate that precipitation from storms is likely to dramatically increase. The 1% annual chance storm event or "100-year storm" is expected to increase by 0.2 inches of rainfall and is likely to become more frequent, meaning larger storms are expected more often. Intense mid-latitude, cold-season storms, including nor'easters, are projected to become more frequent and take a more northerly track.[22]

Effects of Climate Change in New York

Climate change will continue to impose new risks to New Yorkers and to New York's economy and infrastructure. Without preemptive action, projected climatic changes will have deleterious effects on New York's transportation, water and energy infrastructure, and on sectors on which New York's economy depends, including agriculture, ecosystems, tourism, and water resources. These projected effects combine to threaten the livability and economic vitality of many of New York's communities, as well as the health and safety of the residents of these communities.

Rising sea levels will have major consequences for New York's coastal communities including but not limited to[23]

- Magnification of dangerous storm surges caused by high winds and tides, which increase the risk of flooding, beach erosion, and damage to infrastructure in low-lying areas;
- Increased areas of coastal inundation during regular tidal cycles;
- Regular inundation of coastal wastewater infrastructure and the direct transmission of pathogen and nitrogen pollution to ground and surface waters; and
- Increased salinity of the drinking water supply in communities along the Hudson due to saltwater intrusion.

Given projections of sea-level rise, by 2050, the number of New York City residents living within the 100-year floodplain (using current data) would increase from approximately 400,000 to 800,000 people.[24]

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[22] Kunkel, K.E., P.D. Bromirski, H.E. Brooks, T. Cavazos, A.V. Douglas, D.R. Easterling, K.A. Emanuel, P.Ya. Groisman, G.J. Holland, T.R. Knutson, J.P. Kossin, P.D. Komar, D.H. Levinson, and R.L. Smith. 2008. "Observed changes in weather and climate extremes." In Weather and Climate Extremes in a Changing Climate: Regions of Focus: North America, Hawaii, Caribbean, and U.S. Pacific Islands, edited by Karl, T.R., G.A. Meehl, C.D. Miller, S.J. Hassol, A.M. Waple, and W.L. Murray, 35-80. Synthesis and Assessment Product 3.3. U.S. Climate Change Science Program, Washington, DC.

[23] NYS 2100 Commission, 2013.

[24] NYC Special Initiative for Rebuilding and Resiliency, 2013. A Stronger, More Resilient New York. Chapter 2: Climate Analysis. (http://www.nyc.gov/html/sirr/downloads/pdf/final_report/Ch_2_ClimateAnalysis_FINAL_singles.pdf)

Other consequences of warming and changes in precipitation include northward expansion of certain invasive species and parasites that threaten native plants, ecosystems, and human beings. Warming also potentially creates significant adverse effects on key New York regional economic activities, including winter sports; and maple syrup, apple, and dairy production. Sustained heavy downpours of rain heighten the risk of localized flash flooding and erosion. Heat waves, defined as three consecutive days with maximum temperatures above 90°F, are associated with heat-related illnesses, which disproportionately affect the elderly and children. Droughts, in addition to having agricultural impacts, also affect water resources. Water-use restrictions, and in some cases, water rationing, occur during drought periods in metropolitan and suburban areas.

The 2011 ClimAID report provides a table[25] of sector-specific climate change vulnerabilities that should be consulted for additional detail on the projected impacts of climate change in New York State.

[25] Table 12.2, pp. 444-453 in Roszensweig et al., 2011.

Figure 2. The seven ClimAID regions.

Table 2. Baseline climate and mean annual changes for the seven ClimAID regions of New York State.

Regions		Baseline	2020s	2050s	2080s
1 Rochester	Temperature Precipitation	47.7°F 34 in	+1.8 to 4.0°F 0 to +8%	+3.7 to 7.3°F +2 to +12%	+4.2 to 12.0°F +1 to +17%
2 Port Jervis	Temperature Precipitation	50°F 46 in	+1.6 to 3.5°F -1 to +10%	+3.1 to 6.9°F +1 to +14%	+4.0 to 10.7°F +2 to +18%
3 Elmira	Temperature Precipitation	47.5°F 35 in	+1.8 to 3.8°F -4 to +9%	+3.6 to 7.1°F +2 to +15%	+4.2 to 11.6°F +3 to +16%
4 New York City	Temperature Precipitation	54.6°F 49.7 in	+1.5 to 3.2°F -1 to +10%	+3.1 to 6.6°F +1 to +13%	+3.8 to 10.3°F +2 to +19%
5 Saratoga	Temperature Precipitation	47.6°F 38.6 in	+1.7 to 3.7°F -1 to +10%	+3.5 to 7.1°F +2 to +15%	+4.1 to 11.4°F +3 to +17%
6 Watertown	Temperature Precipitation	45.4°F 42.6 in	+1.9 to 3.9°F 0 to +8%	+3.7 to 7.2°F +2 to +13%	+4.3 to 11.8°F +3 to +15%
7 Indian Lake	Temperature Precipitation	39.9°F 40.8 in	+1.8 to 3.8°F 0 to +9%	+3.7 to 7.4°F +2 to +15%	+4.2 to 11.8°F +3 to +17%

Baseline data are for the 1971 to 2000 base period and are from the NOAA National Climatic Data Center (NCDC). Based on 35 GCMs and two Representative Concentration Pathways. Shown is the range between the low-estimate (10th percentile) and the high-estimate (90th percentile).

Tables 3-9. Baseline and projected changes in frequency of severe weather events in seven ClimAID regions of New York State.

3. Rochester (Region 1). Full range of changes in extreme events: Low Estimate (10th Percentile), Middle Range (25th – 75th Percentile), High Estimate (90th Percentile).

	Extreme event	Baseline	2020s	2050s	2080s
Heat Waves & Cold Events	Number of days per year with maximum temperature exceeding				
	90°F	8	12 (14 to 17) 19	18 (22 to 34) 42	22 (27 to 57) 73
	95°F	0.8	0.9 (2 to 4) 6	2 (3 to 9) 17	3 (6 to 22) 38
	Number of heat waves per year	0.7	2 (2 to 2) 2	2 (3 to 4) 5	3 (3 to 8) 8
	average duration	4	4 (4 to 4) 4	4 (4 to 5) 5	4 (5 to 6) 6
	Number of days per year with min. temp. ≤ 32°F	133	99 (103 to 111) 116	78 (84 to 96) 102	59 (68 to 88) 97
Intense Precipitation	Number of days per year with rainfall exceeding				
	1 inch	5	4 (5 to 5) 6	4 (5 to 5) 6	4 (5 to 6) 7
	2 inches	0.6	0.6 (0.6 to 0.7) 0.8	0.5 (0.6 to 0.8) 0.9	0.5 (0.6 to 0.9) 1

4. Port Jervis (Region 2). Full range of changes in extreme events: Low Estimate (10th Percentile), Middle Range (25th – 75th Percentile), High Estimate (90th Percentile).

	Extreme event	Baseline	2020s	2050s	2080s
Heat Waves & Cold Events	Number of days per year with maximum temperature exceeding				
	90°F	12	16 (19 to 25) 27	24 (31 to 47) 56	31 (38 to 77) 85
	95°F	2	2 (2 to 5) 10	3 (5 to12) 20	4 (7 to 28) 39
	Number of heat waves per year	1	2 (3 to 3) 4	3 (4 to 6) 8	4 (5 to 9) 9
	average duration	4	4 (5 to 5) 5	5 (5 to 6) 6	5 (5 to 7) 8
	Number of days per year with min. temp. ≤ 32°F	138	106 (108 to 116) 120	79 (86 to 100) 108	59 (65 to 89) 101
Intense Precipitation	Number of days per year with rainfall exceeding				
	1 inch	12	11 (12 to 13) 14	12 (13 to 14) 15	12 (13 to 15) 16
	2 inches	2	2 (2 to 2) 3	2 (2 to 3) 3	1 (2 to 3) 3

5. Elmira (Region 3). Full range of changes in extreme events: Low Estimate (10th Percentile), Middle Range (25th – 75th Percentile), High Estimate (90th Percentile).

	Extreme event	Baseline	2020s	2050s	2080s
Heat Waves & Cold Events	Number of days per year with maximum temperature exceeding				
	90°F	10	15 (17 to 21) 23	22 (26 to 41) 47	28 (33 to 67) 79
	95°F	1	2 (2 to 4) 7	2 (4 to10) 18	4 (7 to 24) 38
	Number of heat waves per year	1	2 (2 to 3) 3	3 (3 to 6) 6	3 (4 to 9) 9
	average duration	4	4 (4 to 5) 5	5 (5 to 5) 5	5 (5 to 6) 7
	Number of days per year with min. temp. ≤ 32°F	152	119 (122 to 130) 134	94 (100 to 114) 120	72 (79 to 103) 116
Intense Precipitation	Number of days per year with rainfall exceeding				
	1 inch	6	6 (6 to 7) 7	6 (6 to 7) 8	6 (7 to 8) 8
	2 inches	0.6	0.6 (0.7 to 0.9) 1	0.7 (0.8 to 1) 1	0.7 (0.8 to 1) 1

6. New York City (Region 4). Full range of changes in extreme events: Low Estimate (10th Percentile), Middle Range (25th – 75th Percentile), High Estimate (90th Percentile).

	Extreme event	Baseline	2020s	2050s	2080s
Heat Waves & Cold Events	Number of days per year with maximum temperature exceeding				
	90°F	18	24 (26 to 31) 33	32 (39 to 52) 57	38 (44 to 76) 87
	95°F	4	4 (9 to 18) 28	6 (9 to18) 28	9 (12 to 32) 47
	Number of heat waves per year	2	3 (3 to 4) 4	4 (5 to 7) 7	5 (6 to 9) 9
	average duration	4	5 (5 to 5) 5	5 (5 to 6) 6	5 (5 to 7) 8
	Number of days per year with min. temp. ≤ 32°F	71	50 (52 to 58) 60	37 (42 to 48) 52	25 (30 to 42) 49
Intense Precipitation	Number of days per year with rainfall exceeding				
	1 inch	13	13 (14 to 15) 16	13 (14 to 16) 17	14 (15 to 17) 18
	2 inches	3	3 (3 to 4) 5	3 (4 to 4) 5	2 (4 to 5) 5

7. Saratoga Springs (Region 5). Full range of changes in extreme events: Low Estimate (10th Percentile), Middle Range (25th – 75th Percentile), High Estimate (90th Percentile).

	Extreme event	Baseline	2020s	2050s	2080s
Heat Waves & Cold Events	Number of days per year with maximum temperature exceeding				
	90°F	10	14 (17 to 22) 23	22 (27 to 41) 50	27 (35 to 70) 82
	95°F	1	1 (2 to 4) 7	3 (3 to10) 18	3 (6 to 25) 42
	Number of heat waves per year	1	2 (2 to 3) 4	3 (4 to 6) 7	4 (5 to 8) 9
	average duration	4	4 (5 to 5) 5	5 (5 to 6) 6	5 (5 to 7) 9
	Number of days per year with min. temp. ≤ 32°F	155	123 (127 to 136) 139	98 (104 to 119) 125	77 (84 to 109) 120
Intense Precipitation	Number of days per year with rainfall exceeding				
	1 inch	10	10 (10 to 11) 12	10 (11 to 12) 13	10 (11 to 13) 14
	2 inches	1	1 (1 to 2) 2	1 (1 to 2) 2	1 (1 to 2) 2

8. Watertown (Region 6). Full range of changes in extreme events: Low Estimate (10th Percentile), Middle Range (25th – 75th Percentile), High Estimate (90th Percentile).

	Extreme event	Baseline	2020s	2050s	2080s
Heat Waves & Cold Events	Number of days per year with maximum temperature exceeding				
	90°F	3	5 (6 to 8) 10	9 (12 to 21) 26	12 (17 to 44) 57
	95°F	0	0 (0.1 to 0.9) 2	0.2 (0.6 to3) 7	0.8 (2 to 11) 23
	Number of heat waves per year	0.2	0.6 (0.8 to 0.9) 1	1 (1 to 3) 3	1 (2 to 6) 7
	average duration	4	3 (4 to 4) 4	4 (4 to 4) 5	4 (4 to 6) 6
	Number of days per year with min. temp. ≤ 32°F	147	116 (119 to 126) 130	96 (102 to 113) 119	78 (85 to 104) 114
Intense Precipitation	Number of days per year with rainfall exceeding				
	1 inch	6	6 (7 to 8) 8	7 (7 to 8) 9	7 (7 to 9) 10
	2 inches	0.8	0.6 (0.7 to 1) 1	0.7 (0.7 to1) 1	0.7 (0.8 to 1) 1

9. Indian Lake (Region 7). Full range of changes in extreme events: Low Estimate (10th Percentile), Middle Range (25th – 75th Percentile), High Estimate (90th Percentile).

	Extreme event	Baseline	2020s	2050s	2080s
Heat Waves & Cold Events	Number of days per year with maximum temperature exceeding				
	90°F	0.3	0.5 (0.8 to 2) 2	2 (3 to 6) 10	3 (5 to 19) 27
	95°F	0	0 (0 to 0.1) 0.2	0.1 (0.1 to 0.3) 0.6	0.1 (0.2 to 2) 6
	Number of heat waves per year	0	0 (0.1 to 0.2) 0.2	0.2 (0.3 to 0.7) 1	0.2 (0.5 to 2) 3
	average duration	3	3 (3 to 4) 4	3 (3 to 4) 4	4 (4 to 4) 5
	Number of days per year with min. temp. ≤ 32°F	193	159 (162 to 172) 177	131 (138 to 154) 161	107 (118 to 143) 156
Intense Precipitation	Number of days per year with rainfall exceeding				
	1 inch	7	7 (7 to 8) 9	7 (8 to 9) 10	8 (8 to 10) 11
	2 inches	0.8	0.7 (0.8 to 1) 1	0.8 (0.9 to 1) 1	0.8 (0.9 to 1) 1

Projections for temperature and precipitation are based on 33 GCMs and 2 RCPs. Baseline data are for the 1971 to 2000 base period and are from the NOAA National Climatic Data Center (NCDC). Shown are the low-estimate (10th percentile), middle range (25th to 75th percentile), and high-estimate (90th percentile) 30-year mean values from model-based outcomes. Decimal places are shown for values less than one, although this does not indicate higher precision/certainty. Heat waves are defined as three or more consecutive days with maximum temperatures at or above 90°F.

Glossary

Adaptation - The process of adjustment to actual or expected climate and its physical, social, or economic effects. In human systems, adaptation seeks to moderate or avoid harm or exploit beneficial opportunities. In some natural systems, human intervention may facilitate adjustment to expected climate and its effects. (IPCC/ClimAID)

Adaptive capacity - The ability of systems, institutions, humans and other organisms to adjust to potential stress or damage, to take advantage of opportunities, or to respond to consequences. (IPCC, derived from previous IPCC reports and MEA, 2005/ClimAID)

Climate - Climate in a narrow sense is usually defined as the average weather, or more rigorously, as the statistical description in terms of the mean and variability of relevant quantities over a period of time ranging from months to thousands or millions of years. The typical period for averaging these variables is 30 years, as defined by the World Meteorological Organization. The relevant quantities are most often surface variables such as temperature, precipitation and wind. Climate in a wider sense is the state, including a statistical description, of the climate system. (IPCC)

Critical Facilities - In the context of floodplain management, critical facilities are defined as facilities designed for bulk storage of chemicals, petrochemicals, hazardous or toxic substances or floatable materials; hospitals, rest homes, correctional facilities, dormitories, patient care facilities; major power generation, transmission or substation facilities, except for hydroelectric facilities; major communications centers, such as civil defense centers; or major emergency service facilities, such as central fire and police stations. (6 NYCRR Part 502.4(a)(17))

Ecosystem - An ecosystem is a functional unit consisting of living organisms, their non-living environment and the interactions within and between them. The components included in a given ecosystem and its spatial boundaries depend on the purpose for which the ecosystem is defined: in some cases they are relatively sharp, while in others they are diffuse. Ecosystem boundaries can change over time. Ecosystems are nested within other ecosystems and their scale can range from very small to the entire biosphere. In the current era, most ecosystems either contain people as key organisms, or are influenced by the effects of human activities in their environment. (IPCC)

Exposure - The degree to which elements of a climate-sensitive system are in direct contact with climate variables and/or may be affected by long-term changes in climate conditions or by changes in climate variability, including the magnitude and frequency of extreme events. (ClimAID)

Flood - The overflowing of the normal confines of a stream or other body of water, or the accumulation of water over areas not normally submerged. Floods include river (fluvial) floods, flash floods, urban floods, pluvial floods, sewer floods, coastal floods and glacial lake outburst floods. (IPCC)

Hazard - The potential occurrence of a natural or human-induced physical event or trend or physical impact that may cause loss of life, injury, or other health impacts, as well as damage

and loss to property, infrastructure, livelihoods, service provision, ecosystems and environmental resources. (IPCC)

Impacts (consequences, outcomes) - Effects on natural and human systems. Effects on natural and human systems of extreme weather and climate events and of climate change. Impacts generally refer to effects on lives, livelihoods, health, ecosystems, economies, societies, cultures, services and infrastructure due to the interaction of climate changes or hazardous climate events occurring within a specific time period and the vulnerability of an exposed society or system. Impacts are also referred to as consequences and outcomes. (IPCC)

Mean sea level - Sea level measured by a tide gauge with respect to the land upon which it is situated. Mean sea level is normally defined as the average relative sea level over a period, such as a month or a year, long enough to average out transients such as waves and tides. See Sea-level change. (IPCC SREX)

Percentile - One of the values of a variable that divides the distribution of the variable into 100 groups having equal frequencies, *e.g.*, ninety percent of the values lie at or below the ninetieth percentile, ten percent above it.

Representative Concentration Pathways (RCPs) – Scenarios developed by the IPCC that include time series of emissions and concentrations of the full suite of greenhouse gases (GHGs) and aerosols and chemically active gases, as well as land use/land cover. RCPs usually refer to the portion of the pathway extending to 2100. Four RCPs were selected from the published literature and are used in the present IPCC Assessment as a basis for the climate predictions and projections presented in the AR5. (IPCC, based on Moss et al., 2008 and Moss et al., 2010)

Resilience - The capacity of social, economic and environmental systems to cope with a hazardous event or trend or disturbance, responding or reorganizing in ways that maintain their essential function, identity and structure, while also maintaining the capacity for adaptation, learning and transformation. (IPCC, derived from Arctic Council, 2013)

Risk - The potential for consequences where something of value is at stake and where the outcome is uncertain, recognizing the diversity of values. Risk is often represented as probability or likelihood of occurrence of hazardous events or trends multiplied by the impacts if these events or trends occur. Used to refer to the potential, when the outcome is uncertain, for adverse consequences on lives, livelihoods, health, ecosystems and species, economic, social and cultural assets, services (including environmental services) and infrastructure. (IPCC)

Sea-level rise - Increases in sea level, globally or locally, due to (i) changes in the shape of the ocean basins, (ii) changes in the total mass and distribution of water and land ice, (iii) changes in water density, and (iv) changes in ocean circulation. Sea-level changes induced by changes in water density are called steric. Density changes induced by temperature changes only are called thermosteric, while density changes induced by salinity changes are called halosteric. See also Mean sea level. (IPCC SREX)

Sensitivity - The degree to which a system will respond to a change in climate, either beneficially or detrimentally. (ClimAID)

Storm surge - The temporary increase, at a particular locality, in the height of the sea due to extreme meteorological conditions (low atmospheric pressure and/or strong winds). The storm surge is defined as being the excess above the level expected from the tidal variation alone at that time and place. (IPCC)

Storm water - Storm water means storm water runoff, snow melt runoff, and surface runoff and drainage. (NPDES 40 CFR 122.26(b)(13))

Sustainability – A dynamic process that guarantees the persistence of natural and human systems in an equitable manner. (IPCC)

Vulnerability - The propensity to be adversely affected. Vulnerability encompasses a variety of concepts and elements including sensitivity or susceptibility to harm and lack of capacity to cope and adapt. (IPCC)

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Presentation Title: **Water Level Control on Lake Ontario and Plan 2014**
Presenter: **Frank Sciremammano, Jr, PhD, PE**

Outline

I. Great Lakes and Lake Ontario Hydrology
II. Outflow and water level control on Lake Ontario
III. Plan 2014
IV. Coastal Resiliency planning and funding

Summary

Implementation in January 2107 of a change in the regulation of outflows from Lake Ontario will result in more frequent, extreme high and low water levels than under the previous regulation regime. This change is projected to result in an annual average $2.5 million in damages to lakeshore property owners alone as well as additional damages to businesses and communities along the New York shoreline. Flooding that occurred along the Lake in 2017 highlighted the need for more resilient shoreline protection and public infrastructure. Several financial and regulatory hurdles must be overcome before this can be achieved.

I. Great Lakes and Lake Ontario Hydrology

The upper Great Lakes and surrounding watershed, consisting of Lakes Superior, Michigan, Huron and Erie, all drain to Lake Ontario. Lake Ontario, in turn, drains through the St. Lawrence River to the Atlantic Ocean. As a result of this cascading of flows down through the system, the outflows and water levels on Lake Ontario vary the most within the system, as illustrated in the following table:

	Water Level (in feet above mean sea level)	**Outflow** (in thousands of cubic feet per second)
Lake Superior		
Maximum	603.4	132
Average	601.7	74
Minimum	599.5	41
Range (feet)	3.9	91
Lake Michigan-Huron		
Maximum	582.3	238
Average	578.8	183
Minimum	576.0	106
Range (feet)	6.3	132
Lake Erie		
Maximum	574.3	280
Average	571.3	210
Minimum	568.2	118
Range (feet)	6.1	162
Lake Ontario		
Maximum	248.6	353
Average	245.2	245
Minimum	241.9	154
Range (feet)	6.6	200

Within each of the lakes, the hydrologic water balance is made up of inputs from precipitation on the lake surface, runoff and groundwater flows from the surrounding basin and inflow from the upstream lake while outflows consist of evaporation from the lake surface and outflow to the downstream lake through connecting rivers. All of these processes are highly variable and with very limited predictability. As a result, the water level on each of the lakes varies with both an annual cycle and longer term, larger amplitude fluctuations. The average annual fluctuation for Lake Ontario is approximately 1.8 feet.

Superimposed on the annual fluctuations are long-term, usually ten to twenty year, cycles of increased precipitation or drought that affect the entire Great Lakes basin. These long-term cycles generally result in much larger changes in water levels, as illustrated in the 6.6-foot historical range for Lake Ontario.

II. Outflow and water level control on Lake Ontario

The primary inflow to Lake Ontario comes from the upper Great Lakes via the Niagara River connecting Lake Erie to Lake Ontario and passing over Niagara Falls. This represents, on average, approximately 85% of the water supply to Lake Ontario with the remainder from the local drainage basin. Neither component of the net water supply is controlled and the total is highly variable on both short and long term time scales.

The outflow from Lake Ontario is through the St. Lawrence River. Originating at the northeastern end of Lake Ontario in the Thousand Islands area of northern New York, it flows just under 200 miles to Montreal and its confluence with the Ottawa River. It then continues for another approximately 850 miles to the Gulf of St. Lawrence in the Atlantic Ocean.

For over 300 years, there was the desire to by-pass or eliminate the large set of rapids in the St. Lawrence in northern New York in order to open up the Great Lakes to commercial navigation from the Atlantic Ocean. This became a reality in 1960 with the construction of the Moses-Saunders dam near Massena, New York and the locks and channels of the St. Lawrence Seaway.

Construction of this bi-national project was approved by the International Joint Commission or IJC. The IJC was created by the 1906 Boundary Waters Treaty between the US and Canada. Its charge is to review, approve and manage projects affecting the waters on or flowing across the border between the US and Canada. The Commission has six members, three US and three Canadian. On the US side, the commissioners are presidential appointees and generally turn over with changes in administration. To carry out its charge, the IJC has approximately 40 appointed boards dealing with boundary waters from Alaska to Maine.

The construction of the St. Lawrence power and seaway project allowed for the control of the outflow from Lake Ontario through the St. Lawrence, with much higher or lower flows possible than under the natural conditions with the rapids. Through outflow adjustments, the water level fluctuations on Lake Ontario could also be at least partially controlled.

In the 1956 Order of Approval for the project, the IJC specifically included goals for regulating the outflow. These goals, termed Criteria in the Order, included provisions to protect downstream Montreal, provide safe flows for navigation, provide adequate flows for power production and to try to avoid extreme high or low water levels on Lake Ontario. Specifically, the Criteria set a goal of limiting the Lake Ontario water level fluctuations to a four foot range with a maximum level of 247.3 feet and a minimum level

of 243.3 feet, both relative to mean sea level. The intent, as also stated, was regulate the flows "for the benefit of property owners on the shores of Lake Ontario in the United States and Canada so as to reduce extremes of stage…".

The Order of Approval for the St. Lawrence power and navigation project also created a "Board of Engineers", now called the International Lake Ontario-St. Lawrence River Board. Its original charge was to develop an operating plan for the outflows to meet the Criteria and other conditions of the Order of Approval. The Board is now charged with managing the system, again in accordance with the operating plan and the other provisions of the Order. The operating plan developed was called Plan 1958D and it was implemented in 1962. Later, the IJC granted the Board the authority to deviate from the outflows determined by the Plan in order to provide a benefit or benefits to some as long as it did not unduly harm any other interests.

The Board's ten appointed members, five from the US and five from Canada, managed the system in accordance with Plan 1958D and its deviation authority for approximately 55 years until Plan 1958D was replaced with Plan 2014 in January 2017. Operations under Plan 1958D were generally successful in keeping the Lake water level to within its four foot range goal except during a few extreme supply conditions, particularly those in the early 1960's, in 1973 and in 1993. As a result, the monthly average lake level had a total range of 6.2 feet over the regulation period.

III. Plan 2014

Within a few years of implementation of Plan 1958D various interests were calling for changes that would better serve their particular desires. Many times these changes would conflict with each other such as the desire for generally higher water levels for recreational boating, especially in the fall, and the call to lower the lake in the fall to protect riparian property owners from high late winter and spring high water. In addition, with each occurrence of extreme supplies and levels, high or low, there were calls to alter the plan to better deal with the fluctuating supplies. In the late 1980's and 1990's, environmental activists and agencies called for alterations in the operating plan to allow for more extreme water levels on the Lake, both high and low, with the goal of achieving better diversity in the wetlands bordering the Lake and the upper River.

In 1999 the IJC obtained funding from the US and Canadian governments to study whether and how the system could be better managed to balance the current demands of all the interests. With funding in hand, the IJC appointed a Study Board to examine the whole issue of outflow control on the St. Lawrence River. This Study acted in a transparent, open, and public way to develop guidelines and to come up with recommendations to the IJC, which were contained in a report delivered in March of 2006.

The Study recommended consideration of three plans:

Plan A+ - " The Economic Plan", which maximized economic benefits.
Plan B+ - "The Environmental Plan", which maximized environmental benefits

and

Plan D+ - "The Balanced Plan", which as the name implies, was balanced.

With completion of the study, the IJC announced a proposed new Order and Plan that consisted of a revised Plan D+ from Study (the balanced plan), renamed Plan 2008. The IJC stated at that time that:

> "Plan *(2008)* is an improvement with respect to environmental and overall economic benefits, and takes a more balanced approach to all interests."

The IJC further stated that:

> The environmental benefits of Plan B+ (environmental plan) are desirable, but implementation of Plan B+ is not possible "without unduly reducing the benefits and protections currently accorded to other interests."

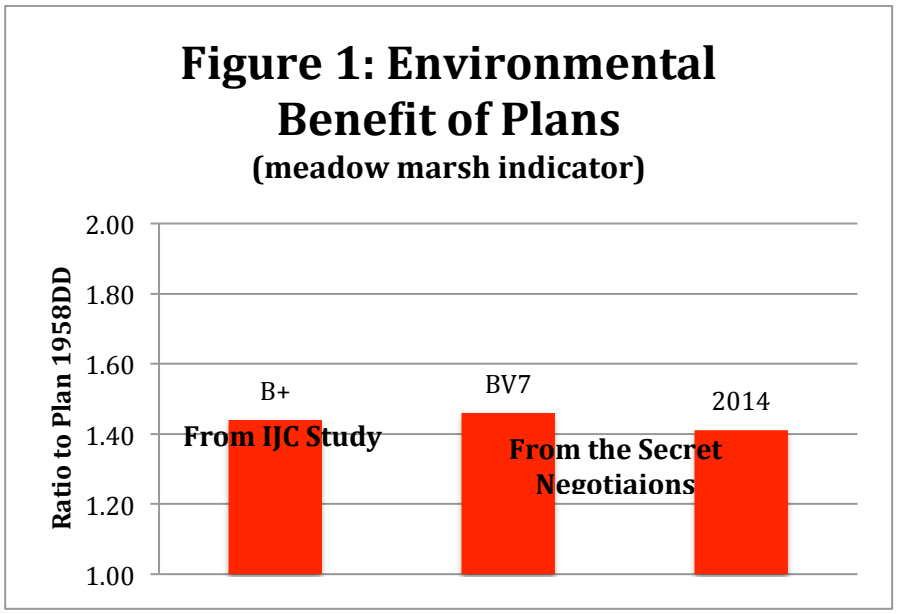
After holding public hearings, and facing demands from environmental groups and the NYS DEC that only the environmental plan would be acceptable to them, the IJC withdrew its proposal and formed a new, secret "Working Group" of government representatives only. Working in secret, this group recommended a new version of Plan B+, the environmental plan, which was termed Plan Bv7 for Plan B, version 7. After another round of public meetings by the IJC and further secret negotiations, the Working Group came up with Plan 2014, which is Plan Bv7 with a slight modification that added some protection against extreme water levels.

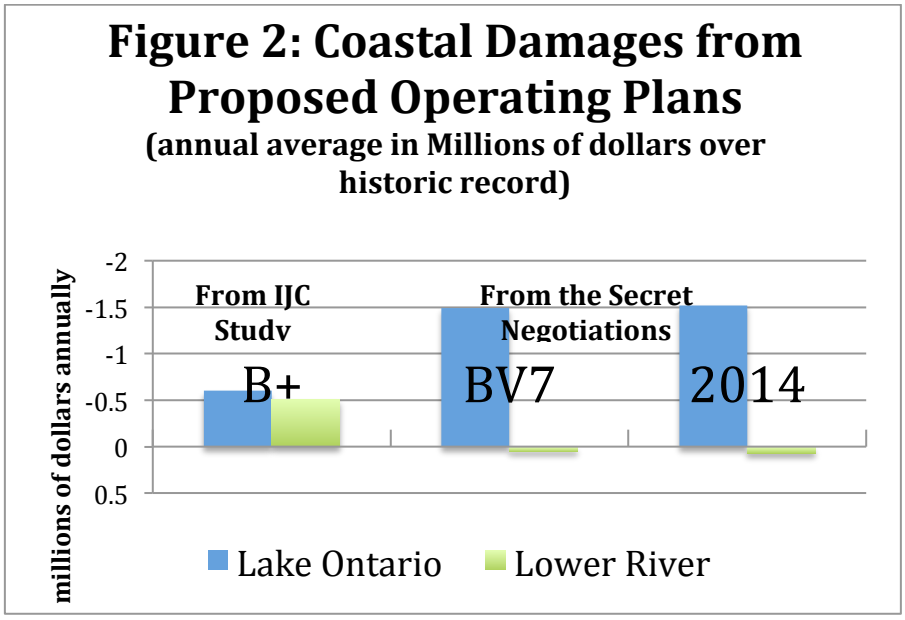
It is clear that Plan 2014 and its basis, Plan Bv7, are not one of the recommended plans from the IJC Study and, in fact, they violate three of the principle guidelines of the IJC Study.

Those guidelines stated that if damages result from any plan, they should not fall disproportionately on any one geographic area or interest group. Almost all the damages from Plan 2014 fall to the Lake Ontario shoreline. All other geographic areas and interests are held harmless or benefit. The guidelines also state that if damages are anticipated, mitigation and compensation measures should be in place prior to implementation. Plan 2014 has none. Finally, the guidelines state that any plan should be developed in an open process with wide public participation. Plan 2014 was developed in secret by a group that only consulted with environmental advocates.

When examining Plans Bv7 and Plan 2014, it is found that the environmental benefits are almost the same as the original Plan B+. However, the damages to the coastal areas of Lake Ontario are greatly increased. This resulted from the fact that the Province of Quebec stood by its commitment that its citizens in downstream areas of the St. Lawrence River should receive no less protection under any new plan than under the

previous plan of operation (Plan 1958D). As a result, all the damages were shifted to the Lake and, in particular, to the south shore bordering western New York. Apparently, the NYS government representatives, in particular the NYS DEC, participating as members of the secret Working Group were fine with this shift. The shift is clearly illustrated in the graphs in Figures 1 and 2. The environmental benefits remained the same during the secret negotiations while the damages to the Lake Ontario shoreline increased dramatically and those to the lower St. Lawrence River were eliminated.





With full knowledge of the damages to be expected, the IJC recommended approval of Plan 2014. With concurrence of the Canadian and US governments, the IJC adopted a new Order of Approval in December 2016 and implemented Plan 2014 in January 2017.

While the debate over Plan 2014 continues, it has been implemented and it will be very difficult to alter anytime soon.

IV. Coastal Resiliency planning and funding

As noted earlier, Plan 2014 allows for a much wider range in water level fluctuations on Lake Ontario, increasing the former four-foot target range to over seven feet including raising the maximum target level by over one foot compared to the previous target (248.46 feet versus 247.3 feet). It is also clear that Plan 2014 will not protect from even more extreme water levels, as promised by the IJC in promoting the Plan, as was clearly demonstrated several months after its implementation when the lake level reached an elevation a shade below 249. feet at the end of May 2017.

Thus, it is clear that operations under Plan 2014 will result in more extreme water levels, both higher and lower, than have been planned for or experienced in the past. And while no funding for compensation or mitigation was included in the Plan, the need to provide more resilience for lakeshore properties, waterfront businesses and lakeshore communities' infrastructure is evident. The high water event of 2017 alone is expected to result in damages in excess of $100 million.

Improvements to provide better resiliency should include better shoreline protection structures, redesign and replacement of recreational boat launches, replacement of fixed docks at marinas with floating dock systems, sealing and/or moving sewer and water utilities and support structures and buying out and relocating residences located in particularly vulnerable locations. These measures apply equally well to the Lake Ontario communities and downstream areas of the St. Lawrence River.

Other measures could include navigational dredging in critical sections of the St. Lawrence Seaway and downstream near the Montreal Harbor, increased capacity to handle high flow rates through or around the various hydroelectric plants along the St. Lawrence River, and the relocation of water intakes and sewage outfalls in the St. Lawrence River.

The obstacles to these potential changes are both financial and regulatory. As an example, one of the best ways to provide better shoreline protection along the Lake is to replace existing, undersized vertical gabion or concrete structures with sloped, rip-rap revetments. The cost of this can easily exceed one thousand dollars per linear foot of shoreline and the regulatory hurdles can be formidable. The regulatory hurdles result from the fact that the combination of desired maximum height and slope will often result in a structure that extends well beyond the regulatory mean high water line, established as elevation 247.3 feet by both New York State and Federal agencies. The NYS DEC and the Army Corps of Engineers, both with approval authority for lakeshore protection structures, have severe limits on the occupation or placement of fill in areas beyond the mean high water line for two reasons. Such placement removes bottom habitat along the shoreline and also results in the occupation and use of public underwater land by an

adjacent riparian owner. These are both discouraged and/or prohibited by current regulation and policy.

Similar regulatory and financial hurdles apply to the other measures that could be utilized to make the entire system more resilient and better prepared to handle future extreme conditions.

As for now, New York State is providing limited grants and compensation to both businesses and individuals that suffered damages due to the 2017 flooding along the Lake Ontario and St. Lawrence shorelines. However, there is no stipulation that this funding be used to provide improved resiliency and not just a replacement in kind of what was damaged in the first place.

Hopefully, the damages from the 2017 flooding will not just result in more debate about Plan 2014, but will move both the New York state and Federal governments toward providing solutions to better prepare for the inevitable extreme water levels that will come in the future.

Ethical Use of Social Media in the Practice of Law

Presenter:
Nicole L. Black, Esq.

THE DAILY RECORD

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Legal LOOP

Lawyers and social media in 2017

Social media has been around for more than a decade. At first lawyers ignored social media, but over time, as it infiltrated our culture, they sat up and took notice. Today, more lawyers than ever use social media. Some use it for networking and marketing, while others interact online to showcase their expertise or gather valuable evidence and information to support their practices, among other reasons.

By NICOLE BLACK
Daily Record Columnist

Regardless of how or why lawyers use social media, the statistics from the 2017 American Bar Association's Legal Technology Survey Report show that, generally speaking, the number of lawyers using social media has increased year over year, which is in line with the increase in the use of social media by the general population as a whole.

For starters, the use of blogs by law firms is increasing, with large firms leading the way. 71% of firms with 500 or more attorneys maintain at least one blog (compared with 60% in 2016, 58% in 2015, and 62% in 2014), as do 71% of firms with 100-499 attorneys (compared with 52% in 2016, 53% in 2015, and 47% in 2014). Mid-sized firms with 10-49 attorneys were next at 38%, followed by small firms with 2-9 lawyers at 25%, and solo law firms at 15%. The practice areas within firms that were most likely to maintain a blog were employment and labor law at 33%, personal injury law at 32%, and litigation at 31%.

When it came to lawyers who personally maintained a blog for professional reasons, however, the numbers were flipped. Solo lawyers led the way: 15% of solo lawyers blogged, followed by 11% of lawyers from firms of 2-9 lawyers, 11% of lawyers from firms of 100 or more attorneys, and 10% of lawyers from firms of 10-49 attorneys. Of those lawyers, 43% have had a client retain their services because of their blogging efforts.

Moving on to social media, 77% of lawyers surveyed indicated that their firms maintained a social media presence. And, 81% of lawyers reported that they personally used social media for professional purposes.

Interestingly, the age group of lawyers most likely to maintain a personal presence on social media was 40-49 years olds (93%), followed by 40 and under (90%), 50-59 (86%), and 60 or older (73%). Lawyers with the following practice areas were most likely to personally use social media: employment/labor (89%), personal injury (84%), litigation (84%), commercial law (82%), and contracts (81%).

The most popular social network used by lawyers for professional purposes was LinkedIn, with 90% of lawyers reporting that they maintained a profile. Next was Facebook at 40% and then Twitter at 26%. Two lawyer directories were included in the Report, Martindale and Avvo, with only 21% of lawyers reporting that they used each platform.

Of those lawyers who maintained a personal presence on social media, 27% have had a client retain their legal services directly or via referral as a result of their use of social media. Solo and small firms lawyers were the most likely to be retained due to their social media presence. Lawyers in firms of 2-9 lawyers came in first in this regard at 33%, followed by solo lawyers (32%), then lawyers from firms of 10-49 lawyers (22%), and finally lawyers from firms of 100 or more lawyers (18%).

All in all, this year's report provided lots of interesting data about lawyers' social media use. Whether you're a solo lawyer or are part of a much larger law firm, social media can be a valuable tool. My hope is that some of the statistics above will help guide you in making the best use of social networking. The trick is to use social media wisely, and ensure that the time you spend interacting online is both efficient and effective.

Nicole Black is a director at MyCase.com, a cloud-based law practice management platform. She is also of counsel to Fiandach & Fiandach in Rochester and is a GigaOM Pro analyst. She is the author of the ABA book "Cloud Computing for Lawyers," coauthors the ABA book "Social Media for Lawyers: the Next Frontier," and co-authors "Criminal Law in New York," a West-Thomson treatise. She speaks regularly at conferences regarding the intersection of law and technology. She publishes three legal blogs and can be reached at niki@mycase.com.

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WESTERN NEW YORK'S SOURCE FOR LAW, REAL ESTATE, FINANCE AND GENERAL INTELLIGENCE SINCE 1908

LegalLOOP

2015 Social Media Ethics Guidelines for NY lawyers (Part 2)

Last week, in part 1 of this series, I discussed the 2015 Social Media Ethics Guidelines (www.nysba.org/FEDSocialMediaGuidelines), which had just been issued by the Commercial and Federal Litigation Section of the New York State Bar Association.

I explained that the 2015 edition updates the inaugural guidelines, which were released March 2014, and include two new sections on Attorney Competence and Using Social Media to Communicate with a Judicial Officer. Additionally, new subsections have been added which address: 1) Lawyer's Responsibility to Monitor or Remove Social Media Content by Others on a Lawyer's Social Media Page; 2) Attorney Endorsements; 3) Retention of Social Media Communications with Clients; and 4) Maintaining Client Confidences and Confidential Information.

By NICOLE BLACK
Daily Record Columnist

I also noted that while this comprehensive set of guidelines was drafted by a very knowledgeable group of lawyers, some of whom I know personally, and offers insightful and practical advice regarding the issues presented when lawyers interact online, I wasn't convinced that separate guidelines were warranted for social media interaction. It's always been my position that social media should be treated no differently than any other type of communication since online conduct is simply an extension of offline conduct.

That being said, this particular document provides useful advice for New York lawyers seeking to interact online — with two caveats. I addressed the first one last week and shared why I thought that the newly added Guideline 2D, which addresses the responsibility of lawyers to monitor and remove problematic attorney endorsements found on social media, placed an undue burden on lawyers to monitor the vast and ever-changing assortment of online lawyer profiles and social media sites.

The other section with which I disagree is the committee's recommendation in Guideline 4B relating to an attorney's ethical obligations when seeking to connect with an unrepresented party on social media in order to obtain evidence. In this section the committee cites NYCBA, Formal Op. 2010-2 (2010) and concludes that "In New York, there is no 'deception' when a lawyer utilizes her 'real name and profile' to send a 'friend' request to obtain information from an unrepresented person's social media account … In New York, the lawyer is not required to disclose the reasons for making the 'friend' request."

I would argue that the issue is not that black and white in New York. The New York State Bar Association Committee on Professional Ethics addressed this issue tangentially in Opinion 843 in 2010. In it, the committee concluded that lawyers may view publicly available information on social media relating to parties (there was no indication as to whether the parties referred to were represented by counsel).

Importantly, the committee opined the following conclusion regarding the viewing of public social media pages: "A lawyer who represents a client in a pending litigation, and who has access to the Facebook or MySpace network used by another party in litigation, may access and review the public social network pages of that party to search for potential impeachment material. As long as the lawyer does not 'friend' the other party or direct a third person to do so, accessing the social network pages of the party will not violate Rule 8.4 (prohibiting deceptive or misleading conduct), Rule 4.1 (prohibiting false statements of fact or law), or Rule 5.3(b)(1) (imposing responsibility on lawyers for unethical conduct by nonlawyers acting at their direction)."

In other words, the committee implied that "friending" a party to a lawsuit could be unethical. For that reason, I believe that it is currently unclear whether it would be ethical for New York lawyers or their agents to "friend" a party to litigation without

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providing more information, such as the underlying reason for the interest in connecting, which is what all other jurisdictions that have addressed this issue thus far have concluded. So, I would suggest that it would be prudent for lawyers to err on the side of caution and provide all relevant information to unrepresented parties when attempting to view information on their social media profiles that is behind a privacy wall.

Nicole Black is a director at MyCase.com, a cloud-based law practice management platform. She is also of counsel to Fiandach & Fiandach in Rochester and is a GigaOM Pro analyst. She is the author of the ABA book "Cloud Computing for Lawyers," coauthors the ABA book "Social Media for Lawyers: the Next Frontier," and co-authors "Criminal Law in New York," a West-Thomson treatise. She speaks regularly at conferences regarding the intersection of law and technology. She publishes three legal blogs and can be reached at niki@mycase.com

THE DAILY RECORD

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Legal LOOP

NYSBA nixes Avvo Legal Service marketing fees

Lawyers and marketing: It's always been a rocky road, and internet-based marketing tools have only added new areas of uncertainty for lawyers seeking to advertise their services online. Not surprisingly, as online marketing services have become increasingly common, so too have the ethical opinions addressing whether online marketing tactics are ethically compliant. Two of the latest opinions on this topic were handed down by the New York State Bar Association in early August, Opinions 1131 and 1132. I'll be writing about Op. 1132 this week (online: http://www.nysba.org/ethicsopinion1132/) and will address Op.1131 in the near future.

In Opinion 1132, the NYSBA Committee on Professional Ethics addressed the issue of whether a lawyer may pay a marketing fee to participate in Avvo's Legal Services under the current fee payment scheme. The committee explained that Avvo is an online lawyer directory that provides ratings for lawyers and also allows lawyers to pay a fee to be included in the group of lawyers offered up to consumers who want to discuss a legal issue with an attorney. The committee explained that "Avvo allows clients to choose from among all of the lawyers in a geographic area who have listed themselves as practicing the field of law in which the client wants legal services."

Once a legal consumer chooses an attorney, any legal fees collected by Avvo are then paid to that attorney and a legal marketing fee is then billed to the attorney by Avvo. The marketing fee varies depending on the cost of the legal services provided.

By NICOLE BLACK
Daily Record Columnist

After describing the fee structure, the committee moved on to consider the ethical issues presented by Avvo's overall operation and noted that many aspects of Avvo's online directory and marketing services arguably trigger a number of different ethical rules, including attorney advertising rules, scope of representation issues and confidentiality issues. However, the committee decided that it need not address those issues since it had ascertained that its answer to the question posed by the inquiring attorney—whether the New York ethics rules permit lawyers to pay Avvo's marketing fees—would be dispositive.

Next, the committee turned to the issue of whether paying marketing fees to Avvo was ethical. The issue to be determined, according to the committee, was whether the marketing fees constituted an improper payment for a recommendation as set forth in Rule 7.2(a):

A lawyer shall not compensate or give anything of value to a person or organization to recommend or obtain employment by a client, or as a reward for having made a recommendation resulting in employment by a client… .[Emphasis added].

The committee examined Avvo's online format and marketing scheme concluded that Avvo was in fact recommending lawyers to potential legal clients:

(T)hrough Avvo's description of its rating system, Avvo is giving potential clients the impression that a lawyer with a rating of "10" is "superb," and is thus a better lawyer for the client's matter than a lawyer with a lower rating. Avvo is also giving potential clients the impression that Avvo's eligibility requirements for lawyers who participate in Avvo Legal Services assure that participating lawyers are "highly qualified"…We do not believe that a bona fide professional rating alone is a recommendation. But, even assuming that Avvo ratings are "bona fide professional ratings," we believe the way Avvo describes in its advertising material the ratings of participating lawyers either expressly states or at least implies or creates the reasonable impression that Avvo is "recommending" those lawyers.

Based on this determination, the committee concluded that New York lawyers could not ethically use Avvo's marketing services: "A lawyer paying Avvo's current marketing fee for Avvo Legal Services is making an improper payment for a recommendation in violation of Rule 7.2(a)."

Not surprisingly, Avvo took issue with this conclusion. For Avvo's perspective, you can read their response to this opin-

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ion online: https://tinyurl.com/avvo-response-nysba.

So that's the Avvo opinion, But as I mentioned earlier, the NYBSA also recently addressed other legal marketing issues in Op. 1132. Stay tuned for an article in the near future where I'll tackle that opinion.

Nicole Black is a director at MyCase.com, a cloud-based law practice management platform. She is also of counsel to Fiandach & Fiandach in Rochester and is a GigaOM Pro analyst. She is the author of the ABA book "Cloud Computing for Lawyers," coauthors the ABA book "Social Media for Lawyers: the Next Frontier," and co-authors "Criminal Law in New York," a West-Thomson treatise. She speaks regularly at conferences regarding the intersection of law and technology. She publishes three legal blogs and can be reached at niki@mycase.com.

Monday, June 29, 2015

THE DAILY RECORD

WESTERN NEW YORK'S SOURCE FOR LAW, REAL ESTATE, FINANCE AND GENERAL INTELLIGENCE SINCE 1908

LegalLOOP

2015 Social Media Ethics Guidelines released (Part 1)

My good friend Scott Malouf, a Rochester attorney who also aids other lawyers in using social media as evidence, recently advised me that the Commercial and Federal Litigation Section of the New York State Bar Association had just released its 2015 Social Media Ethics Guidelines (www.nysba.org/FEDSocialMediaGuidelines/).

The 2015 edition updates the inaugural guidelines, which were released March 2014, and includes two new sections on Attorney Competence and Using Social Media to Communicate with a Judicial Officer. Additionally, new subsections have been added which address:

1) Lawyer's Responsibility to Monitor or Remove Social Media Content by Others on a Lawyer's Social Media Page; 2) Attorney Endorsements; 3) Retention of Social Media Communications with Clients; and 4) Maintaining Client Confidences and Confidential Information.

By NICOLE BLACK
Daily Record Columnist

This comprehensive set of guidelines was drafted by a very knowledgeable group of lawyers, some of whom I know personally. It offers insightful and practical advice regarding the issues presented when lawyers interact online.

That being said, I've consistently written in past articles that I don't believe that social media should be treated any differently than any other type of communication since online conduct is simply an extension of offline conduct. Given my position on this, I don't necessarily agree that a separate set of guidelines specifically addressing social media is necessary.

But, if there is going to be a set of guidelines adopted by the NYSBA in the near future, this comprehensive document is certainly the one to consider adopting. It provides an extensive overview of New York ethics decisions on a vast assortment of social media-related issues, including attorney advertising and solicitation, mining social media for evidence, and researching jurors using social media.

For the most part, I agree with the advice provided. There are, however, two conclusions/recommendations with which I take issue. In this article I'll address the first and will address the second next week.

First, there's the newly added Guideline 2D, which addresses the responsibility of lawyers to monitor and remove problematic attorney endorsement found on social media. In part, this section provides: "A lawyer must ensure the accuracy of third-party legal endorsements, recommendations or online reviews posted to the lawyer's social media profile. To that end, a lawyer must periodically monitor and review such posts for accuracy and must correct misleading or incorrect information posted by clients or other third-parties."

And in footnote 25, the following directive is added: "Lawyers should also be cognizant of such websites as Yelp, Google and Avvo, where third parties may post public comments about lawyers."

In my opinion, this section imposes a nearly impossible burden on lawyers to be aware of and to monitor social media sites and online profiles which they may not have had a part in creating, and over which they may not have any control. Not only are lawyers purportedly responsible for monitoring the content of the profiles they and sites they created, but according to this section they also must be cognizant of other sites where profiles have been created on their behalf and must monitor not only their profiles, but also comments made elsewhere on those sites that relate to the attorney's services.

The time required to monitor this information and regularly conduct searches on these sites will be substantial. And even more time will be required to stay abreast of the vast numbers of online attorney directories and business review sites, which number in the thousands, with new ones popping up every day.

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THE DAILY RECORD

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I would argue that this particular section places an undue burden on lawyers, most of whom are busy trying to keep their heads above water and their law practices out of the red in the midst today's competitive legal landscape. I believe they should only be responsible for monitoring content on profiles that they've claimed, not those over which they arguably might have control should they choose to take the step of claiming their profiles.

Another recommendation in the guidelines that I take issue with relates to mining social media for evidence, so tune in next week for more on that.

And, in closing, I would like to emphasize that although I'm providing constructive criticism about a few aspects of the guidelines, the document as a whole is an impressive piece of work and provides valuable insight and guidance for New York lawyers on how to ethically use social media in their practices.

Nicole Black is a director at MyCase.com, a cloud-based law practice management platform. She is also of counsel to Fiandach & Fiandach in Rochester and is a GigaOM Pro analyst. She is the author of the ABA book "Cloud Computing for Lawyers," coauthors the ABA book "Social Media for Lawyers: the Next Frontier," and co-authors "Criminal Law in New York," a West-Thomson treatise. She speaks regularly at conferences regarding the intersection of law and technology. She publishes three legal blogs and can be reached at niki@mycase.com.

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Legal Loop

New York Bar on ethically using online legal marketing services

The internet has changed our lives, for better or for worse. It's become an integral part of our culture, affecting the way we receive information, shop for goods and services, and interact with our peers and colleagues.

Because so many people spend so much time online, the internet offers businesses a vast array of methods for reaching target audiences in an affordable and efficient manner. It is, however, a relatively new frontier and one that is changing all the time. For that reason it poses challenges for people seeking to market their services online who are part of a highly regulated profession, like lawyers. That's why over the past decade, ethics committees across the country have often grappled with the thorny ethical issues presented when lawyers seek to market their services online.

One of the most recent opinions issued by the New York State Bar Association's Committee on Professional Ethics is the latest in a long line of opinions from New York and other jurisdictions that address many of the issues lawyers face when marketing their services using the internet.

At issue in Op. 1131 (online: http://www.nysba.org/ethicsopinion1131/) is whether and under what circumstances a lawyer may pay a for-profit company (Service) for leads obtained online. The committee explained that it was opining on the general issue of whether a lawyer may pay an online lawyer

By NICOLE BLACK
Daily Record Columnist

matching service a monthly fee or a fee for each referred potential client and that its conclusion was not intended to cover every factual permutation that may exist in regard to referral websites of this type.

At the outset, the committee concluded that the Service's website is an advertisement since it was "a communication 'on behalf of' a lawyer 'about' the lawyer's services for the 'primary purpose' of retention of the lawyer.'" As such, it was required to comply with Rule 7.1(h), which provides that "[a]ll advertisements shall include the name, principal law office and telephone number of the lawyer or law firm whose services are being offered."

According to the committee, compliance with this rule could be achieved "by providing a link to either (i) a list of all participating attorneys with the required contact information or (ii) a list of all participating attorneys who fall within the geographic and practice area parameters that may be set by the potential client, along with the required contact information."

Next the committee turned to the functionality of the Service's website and whether it passed ethical muster. The committee concluded that the Service could avoid ethical pitfalls related to referral fees and solicitation issues by implementing certain necessary procedures. Specifically it would be ethical for a lawyer to participate in a marketing scheme of this type as long as "(i) the lawyer who contacts the potential client has been selected by transparent and mechanical methods that do not purport to be based on an analysis of the potential client's legal problem or the qualifications of the selected lawyer to handle that problem… (and) (ii) the service does not explicitly or implicitly recommend any lawyer…"

Finally, the committee concluded that if the potential client matched to a lawyer consented to a phone call, the lawyer could call that individual without triggering any solicitation issues.

Although this opinion does not apply to a specific online service, the general principles set forth in it provide helpful guidance to New York lawyers seeking to take advantage of online lawyer matching websites. Also useful is the accompanying opinion (which I wrote about a few weeks ago), Op. 1132 (online: http://www.nysba.org/ethicsopinion1132), which provides additional information for lawyers seeking to market their services online using Avvo and similar services.

The bottom line is that it is possible for lawyers to ethically market their

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services online using third-party websites. The trick is to fully understand how each service works, so that you can assess your ethical obligations in light of the guidance handed down thus far.

Nicole Black is a director at MyCase.com, a cloud-based law practice management platform. She is also of counsel to Fiandach & Fiandach in Rochester and is a GigaOM Pro analyst. She is the author of the ABA book "Cloud Computing for Lawyers," coauthors the ABA book "Social Media for Lawyers: the Next Frontier," and co-authors "Criminal Law in New York," a West-Thomson treatise. She speaks regularly at conferences regarding the intersection of law and technology. She publishes three legal blogs and can be reached at niki@mycase.com.

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Legal Loop

NYSBA issues updated social media guidelines for lawyers

I've always believed that social media use by lawyers should be treated no differently than any other type of communication by lawyers. After all, online interactions are simply an extension of offline interactions, and the medium doesn't change the message. For that reason, it has pained me to see so many ethics committees issuing so many opinions over the years on the many perceived nuances of online communication by lawyers.

Many of these opinions are simply unnecessary and constitute knee jerk reactions to a new way of interacting. And many are based on faulty reasoning grounded in the assumption that online communications are somehow different than those occurring offline and thus warrant the application of new, more stringent standards. Others, however, necessarily address issues that are unique to online communications. One good example is opinions that address the issue of whether the passive notifications received by LinkedIn users (who also happen to be jurors) which indicate that a lawyer has viewed their profile constitute impermissible juror contact.

Regardless of whether I agree with the sheer volume of opinions or their merit, the end result is that lawyers are left to their own devices when it comes to reviewing the many opinions and deciphering which types of online interactions are ethical. Navigating the maze of ethics opinions can be a difficult and overwhelming task and for that reason, some attorneys simply choose to forgo using social media altogether.

By NICOLE BLACK
Daily Record Columnist

That's where the recently updated "Social Media Ethics Guidelines," issued by the Commercial and Federal Litigation Section of the New York State Bar Association, come in.

These guidelines were first released in 2014 with the intent to provide lawyers with guidance in navigating the many ethical issues encountered when using social media in a professional context. The guidelines were revised in 2015 and, then, just two weeks ago, a newly updated version of the guidelines was released (online: http://www.nysba.org/SocialMediaGuidelines17/).

Some of the more notable revisions include:

- Attorney Competence (§ 1.A) reflects that 27 states have adopted some duty of technical competence.
- Maintaining Client Confidences (§ 5.E) offers information on how an attorney can respond to online reviews as well as services that offer to import contacts.
- Positional Conflicts (§2.E) is new and discusses DC Bar Ethics Opinion 370 regarding whether social media posts adverse to a client's interest may present a conflict of interest.
- The revised appendix describes social media terminology and some of the more popular social media platforms.

The newly added social media definitions are particularly useful, and I have to admit that although I've always considered myself to be more social media-savvy than most lawyers (having written a book on lawyers using social media), even I learned a few things after reading through the definitions.

So, if you haven't yet read the updated guidelines, make sure to set aside some time in order to do so. They provide a very useful, extensive roundup of how ethics committees across the country have approached lawyers using social media. The guidelines are a great resource that will serve as a handy reference guide for your professional online social media activities.

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Various Blog Posts

- Lawyers' Social Media Use In 2017
- LinkedIn For Lawyers: 5 Tips For Success
- Twitter 101 For Lawyers
- Facebook 101 For Lawyers And Law Firms
- Blogging 101: 5 Tips for Lawyers