Aomori Delegation to Maine

September 6-13, 2011

Energy Fisheries Food Friendship

2011 Aomori Delegation to Maine
Outline

September 6 – 13, 2011

Participants:
1. Yukio Yageta, Deputy Director General, Bureau of Strategic Tourism and International Affairs
2. Fumiyoshi Tanaka, Deputy Counselor, International Affairs and Trade Division
3. Keita Jin, Managing Director, Jin Fishing Net Co., Ltd.
4. Hiroaki Sugiyama, Representative Executive, Mutsu Kaden Tokki Co., Ltd
5. Keiko Kaltenbach, Assistant, Mutsu Kaden Tokki Co., Ltd
6. Hirotada Nanjo, Assistant to the President & Doctor of Science, North Japan Research Institute for Sustainable Energy, Hirosaki University
7. Shinichi Kashiwazaki, President, Kashiwazaki-Seika Co., Ltd
8. Zachary Bass, Coordinator for International Relations, International Affairs and Trade Div.
9. Yasunori Kitagawa, Administrative Staff, International Affairs and Trade Div.

Aomori UNESCO Association (Joining the delegation on September 9)

1. Akihiro Shiotani – Director General, Aomori UNESCO Association
2. Hajime Uchiyama – Executive Director, Aomori UNESCO Association
3. Katsuko Sasaki – Auditor, Aomori UNESCO Association
4. Tetsuko Kudo – Director, Aomori UNESCO Association
5. Tadaaki Wajima – Member, Aomori UNESCO Association
6. Toyomi Nishizuka – Travel Attendant JTB Tokyo

Major Accomplishments (Please refer to following pages for a more detailed explanation)

Fisheries Group
-Firsthand observations of oyster and mussel aquaculture operations.
-Held an explanatory session about Aomori prefecture's scallop aquaculture industry to Maine aquaculture operators and fishermen. (Among the attendees present, made contact with an individual interested in starting scallop aquaculture operations and it was agreed on to continue sharing information about these efforts further).

Energy Group
-Professor Nanjo of Hirosaki University's North Japan Research Institute for Sustainable Energy reached an agreement with the following research bodies to pursue cooperation research agreements.

1. University of Maine - Advanced Structures & Composites Center and Offshore Wind Laboratory (Director, Dr. Habib Dagher)

2. University of Maine - Maine Tidal Power Initiative (Dr. Michael "Mick" Peterson & Dr. Gayle Zydlewski)

(Agreements are presently in the works between the two universities).

Foods Group
1. A tasting event was held resulting in invaluable feedback and information that will be provided to the producers of these food products in Aomori.
2. Thanks to an introduction from a chef present at the tasting event, Mr. Kashiwazaki, president of Kashiwazaki Seika was able to meet and discuss business with Mr. Sogen, the person in charge of the area including Maine from trading company Daiei. In their meeting they agreed to:
3. Have Kashiwazaki Seika provide product samples for test marketing. (Black garlic, sliced dried daikon, and sliced gobo/burdock root – which have already been sent to Daiei).
4. Mr. Kashiwazaki will visit Daiei's headquarters in New York when he comes for a trade show in January 2012.

Maine Delegation Fisheries Group Report

Locations: Portland (9/7), Richmond, Hallowell, Gardiner & Walpole (9/8), Damariscotta, South Thomaston & Bath (9/9)

Members: Keita Jin, Managing Director, Jin Fishing Net Co., LTD, Hiroaki Sugiyama, President, Mutsu Kaden Tokki & Keiko Kaltenbach, Vancouver Sales Rep., Mutsu Kaden Tokki.
Fumiyoshi Tanaka, Deputy Counselor, Aomori Prefectural Government (9/7), Yukio Yageta, Deputy Director General, Aomori Prefectural Government & Zachary Bass, Coordinator for International Relations, Aomori Prefectural Government (9/8-9)

Hosts: Hugh Cowperthwaite, Fisheries Project Director and Dick Clime, Working Waterfront Access Protection Program Administrator (Coastal Enterprises Inc.), Chris Davis (Pemaquid Oyster Farm & Maine Aquaculture Innovation Center).

September 7 (Wed)

1. Gulf of Maine Research Institute Visit (9:45-10:45) http://gmri.org/index.asp

-Chief Innovation Officer Alan Lishness and Vital Signs Program Manager Sarah Kirn explained the role and work of the institute.

-The Gulf of Maine Research Institute primarily studies ocean life in the Gulf of Maine, its ecosystem and preservation, and its future development and interaction with the people who live and work in and around the Gulf of Maine.

-The institute places a particular emphasis on educating youth from ages 10 to 14 about the Gulf of Maine. A half-day education program is available and approximately 40% of schools in the state participate in this program.

-With regards to research, the institute places importance on communication with fishermen and as a general rule aims to maintain neutrality in its work.

-The institute's policy is to survey marine life not on a species population base but rather on an ocean depth base.

-In May of 2010, the institute decided catch allotments for 13 species from 11 ports.

-In order to promote responsible fishing practices, resource management and preservation, the institute's Gulf of Maine Responsible Harvested Program certifies approved seafood dealers and restaurants within the state which meet the program criteria.

-Q1: Is scallop aquaculture being done in Maine?
A1: Not yet in Maine. However there are plans to carry out scallop aquaculture experiments in Maine. There are reports of scallop aquaculture being conducted in neighboring Massachusetts. Mussel and oyster aquaculture are already practiced in Maine.

2. Ocean Approved Visit (11:00-11:45) http://www.oceanapproved.com/

-Presentation and explanation about Ocean Approved by Tollef Olson (Owner/President) & Paul Dobbins (Owner).

-Ocean Approved is the first company to carry out kelp aquaculture in the United States, and handles the culture, processing, freezing, and sales of their product.

-Maine is home to approximately 5,600km of intricate coastline (spread out along a length of approximately 400 kms in diameter) and a clean natural environment, making it an ideal place for kelp cultivation. The 2010 harvest volume was 50,000 kg, of which 98% was wild harvest. Most of the labor is manual.

-Ocean Approved cultures 3 different types of kelp (Sugar Kelp *Saccharina latissima,* Horse Tail *Laminaria digitata* and Winged Kelp *Alaria esculenta*) that is raised about 2 meters below the ocean surface and is ready for harvest in approximately 124 days.

-Seaweed is not dried, however it is cut and then frozen. The profitability ratio for kelp is high.

-Ocean Approved was founded in 2006, and up until last year they were primarily focused on research and development, but starting this year they are focusing more on sales.

3. New Meadows Lobster Pound Visit (1:15-1:45) http://www.newmeadowslobster.com/

-Tour and overview by owner Peter McAleney

-Approximately 10% of their lobster sales are exported to Japan.

-New Meadows believes in holding lobsters as naturally as possible, therefore the longest amount of time they will hold a lobster is 2 days. If they are unable to ship a lobster during that time they will return it to the ocean.

-Egg bearing Female lobsters cannot be kept for resource management reasons (one female lays approximately 5,000 eggs at a time). Lobsters too small and too large must also be returned to the ocean (Minimum lobster size has a carapace or body shell length of 3 ¼ inches. Maximum lobster size has a carapace or body shell length of 5 inches. Lobsters are measured from the extreme rear of the eye socket, along a line parallel to the center line of the body shell, to the rear end of the body shell. In order to be a "keeper", this length must be at least 3 ¼ inches but no longer than 5 inches)

-The highest number of lobsters exported go to France and Germany. Lobsters were previously exported to China but are currently not.

4. ISF Trading Visit (2:15-3:30) http://www.seaurchinmaine.com/index.html

-Tour and explanation by Atsushi "Attchan" Tamaki, President, the group was also introduced to the Office Manager Lan Gao.

-ISF Trading's primary operation is in exporting products that are not traditionally consumed in the area and had been previously discarded as bycatch by local fishermen. Their primary products are

sea urchin, sea cucumber, hagfish, and shark.

-Mr. Tamaki first came to Maine as a chef until he started his business 26 years ago. He says he was surprised at how abundant sea urchins were when he came to Maine and how they were not being utilized and decided to start his business. He also decided to do the same thing with sea cucumbers. He also ships matsutake mushrooms which are not so popular in the US and about one third of his matsutake is exported to Japan.

-Sea urchin exports to Japan all go through a company in Mutsu City, Aomori, Futatsumori Shoten and the brand name "Fresh Sea Urchin from the North Sea" The stockholder share ratio is 4 to 1.

-Sea cucumber meat and skins are processed separately. Most of the workers in his factory are immigrant laborers. A great deal of labor could be saved if the work could be mechanized. After hearing that Mr. Sugiyama would be visiting Maine, Mr. Tamaki wanted to meet with Mr. Sugiyama and discuss the possibility of creating a machine to help reduce labor in this process.

-With regards to scallops, scallop meats are the only portion of the scallop that is eaten in the US, unlike in Japan where much more is consumed (ovary, mantle, gills, etc). This has to do with the regulation of the fishery for biotoxin concerns (toxins accumulate in the viscera of the scallop). In fact, it is prohibited by law in Maine to harvest or sell any other part of the scallop other than the meat. Mr. Tamaki is also interested in trying to find business opportunities using scallops sometime in the future.

5. Nancy J Lobster Boat Visit (3:40-4:05)

-Tour of the vessel given by owner Frank Strout and his son Taylor.

-Taylor works at the Gulf of Maine Research Institute while also helping his father lobster on the side.

-Q1: How much does one lobster trap cost?
A1: About $50.
Q2: How many lobsters are usually caught in one trap per harvest?
A2: We had checked this previously using a camera and found that even if 10 or so lobsters went into the trap, only about 1-2 get trapped, with about 80% of lobsters escaping.

(It is important to note that only traps which make it relatively easy for lobsters to escape are used. Lobsters can be cannibalistic, especially in tight spaces. Maine law requires "escape vents' to be in every trap.)

6. Harbor Fish Market Visit (4:10-4:30) http://www.harborfish.com/market/

-Shellfish such as oysters, mussels, and scallops were being sold. Only scallop meats are sold.

-Scallops were being sold at approximately $18 a pound (0.5kg), in Japanese yen it would be something like 270-300 yen per 100 grams.
-Lobster, salmon, and sea bass were also being sold.

7. Browne Trading Market Visit (4:10-4:30) http://www.brownetrading.com/
-In addition to scallops and other shellfish, they were selling sea urchins (from ISF Trading).
-They also sell other products besides seafood, including vegetables like tomatoes, cheese and other dairy products, wine and other alcohols.
-Japanese sake was also being sold, including sake from Nigata prefecture, and Nanbu Bijin, a sake from neighboring Ninohe in Iwate prefecture was being sold for $58 (approx. 4400 JPY) for a 720ml bottle.

September 8 (Thu)

1. Shucks Maine Lobster Visit (9:30-10:30) http://www.shucksmaine.com/

-Tour with owner John Hathaway.

-Shucks uses high pressure technology to process lobster and has been expanding their product sales every year for the past 5 years since they started business.

-There are 6,000 people with lobster licenses in Maine, including recreational licenses. Licensing is required by the state of Maine and is primarily a seasonal fishery although some people fish year round.

-Shuck's primary processing season runs from July to December. During this time, they process about 6 tons of lobster a day.

-Their high pressure extraction technology uses 2,722 atmosphere of hydrostatic pressure to quickly kill the lobster and as a result the meat is easily extracted from the shell (uncooked).

-Fresh (raw) lobster meat is sold frozen in various sized packages to meet various consumer demands.

-Demand for live lobster peaks in December due to the export of lobster to Europe for Christmas, making prices prohibitive, so the factory does not operate at this time of the year.

2. Maine Aquaculture Association Visit (11:30-12:30) http://www.maineaquaculture.com

-Executive Director Sebastian Belle gave an overview of aquaculture in Maine and the role of the Maine Aquaculture Association.

-In the United States depletion of food resources is becoming a serious issue. Food prices have increased sharply in the past 20-30 years. Seafood prices have stayed at relatively high levels, and in the future aquaculture will be necessary in order to provide a stable supply of seafood, however at present, aquaculture only makes up a small portion of seafood consumed.

-Maine is home to one of the premier aquaculture industries in the US, and the industry here raises oysters, mussels, salmon, cod, and halibut.

-Aquaculture is a heavily regulated industry in the US and Maine, and a major issue is how to make it profitable while also minimizing the environmental impacts.

-Seaweed, sea urchin and sea cucumber culture is expected to

become more important in the near future.

-Maine Aquaculture Association has 90 members (mostly businesses). Roughly 85% of people/ businesses in the industry are members.

-With regards to scallop aquaculture, experiments have been done in the past at two different sites, however both of these were not successful. There is however a large domestic demand for scallops, and the association feels that scallop aquaculture has much potential.

-New beneficial approaches to aquaculture like co-culture or integrated multi-trophic aquaculture are promising and experiments are likely in the future.

-A geodesic dome shaped fish pen for fish farming that was developed in Maine is being exported. This dome pen can be easily rotated in the water exposing different parts of the pen to the open air and sun to dry and kill growth, effectively minimizing biofouling and maximizing water and nutrient flow.

3. Brooks Trap Mill Meeting (Darling Marine Center 3:30-4:00) http://www.brookstrapmill.com/

- Garth Hersey, associate of Brooks Trap Mill met with delegates and gave an overview of their business operations.

-Brooks Trap Mill manufactures and sells lobster traps, selling about 40 to 50 thousand traps a year. They have been in the business for over 50 years and are the primary producers of lobster traps in the area.

-They also produce several nets and equipment for oyster and mussel aquaculture.

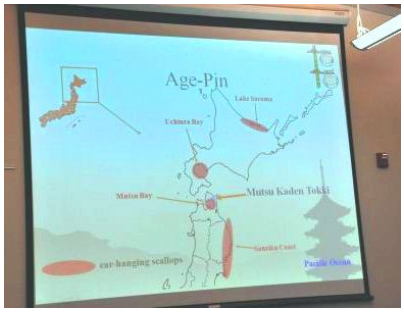
-Brooks Trap Mill is centered in South Thomaston, with smaller stores in Portland and Bath.

-They import up to 30 containers a year of raw materials from China used to build lobster traps.

-Towards the end of the meeting, both Mr. Jin and Mr. Sugiyama presented about their companies and they were both interested in Brooks Trap Mill's products that they agreed to Garth Hersey's invitation to meet again the next afternoon and tour the business.

4. Presentation for Maine Aquaculture Fishermen (Darling Marine Center 4:00-5:30) http://www.dmc.maine.edu/

-Mr. Jin and Mr. Sugiyama gave presentations about scallop aquaculture and their companies' equipment to the 12 attendees present, who were involved with aquaculture in Maine.



-Faculty member of the Darling Marine Center and a specialist on scallop aquaculture, Dana Morse was also present. Dana had visited Aomori approximately 12 years ago as part of a delegation to explore Aomori's fisheries industries (primarily scallop aquaculture).

-There were many questions asked by attendees about scallop aquaculture and the delegates felt that

there was a strong interest in the subject.

-One of the attendees, Andy Mays from Mt. Desert Island, Maine joined the delegates for dinner with his son to talk more about scallop aquaculture. Andy is interested in raising scallops in the future and is currently experimenting with scallops at Dana Morse's experimental aquaculture lease site. According to Andy, he has been able to collect wild scallop spat that looks promising.

September 9 (Fri)

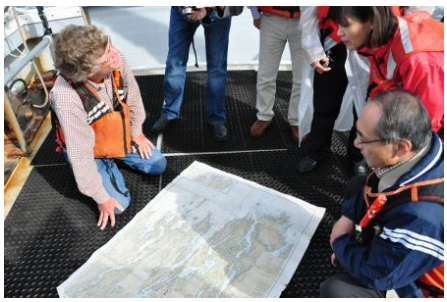
1. Presentation about Aomori's Fisheries Industries and Tohoku University's Research Center for Marine Biology at Asamushi (Darling Marine Center 8:00-9:30) http://www.dmc.maine.edu/

-Presentation was given by Yukio Yageta about the Fisheries Industries of Aomori Prefecture. Zachary Bass translated and presented about Tohoku University's Research Center for Marine Biology at Asamushi. Present was Dr. Kevin Ecklebarger, Director of the Darling Marine Center and 13 student and faculty members.

-Chris Davis, who visited the Research Center for Marine Biology at Asamushi in 2010, provided attendees with a detailed overview of the research operations and specialties of the faculty at the center.

-Many attendees actively asked questions about scallop aquaculture, and Mr. Sugiyama and Mr. Jin answered many of the technical questions.

2. Pemaquid Oyster Company, Inc. http://pemaquidoysters.com/ & Pemaquid Mussel Farms Visit http://www.pemaquidmussels.com/home(Damariscotta River – Clark Cove near the Darling Marine Center for Pemaquid Mussel Farms and Pemaquid Oyster Company's holding stations & Pemaquid Oyster Company's oyster sites upstream accessed from Schooner's Landing in Damariscotta 9:00-12:00)



-Site visit of oyster and mussel aquaculture sites, hosted and guided by company representatives, Chris Davis, Carter Newell (President), Jeff "Smokey" McKeen (Sales).

-Patrick Keliher, Acting Department of Marine Resources Commisioner, and Jon Lewis, Aquaculture Environmental Coordinator Dept. of Marine Resources also joined the delegates in the site visit.

-Pemaquid Oyster Company is a company which raises oysters for food and was started in 1986. Pemaquid Mussel Farms has been practicing hanging rope culture from rafts since 2007.

-Maine has a bounty of protected bays and estuaries due to its complex coastline and a high tidal differential. Conditions make Maine a very suitable place for carrying out aquaculture.

-Both operations were located on the Damariscotta River, a brackish water river with a relatively high salinity (similar to sea water). Its freshwater tributaries carry lots of nutrients and sediments to this brackish water region, making it ideal oyster habitat.

-However, Maine is also a popular vacation destination with summer homes and vacationers that feel strongly about preserving the natural beauty of the landscape and oppose large scale and easily visible aquaculture operations, presenting unique socially dynamic challenges that are different from those in Japan.

-Perhaps having to do with the visibility and landscape preservation issues, the style of oyster aquaculture was different from Japanese operations, here smaller less noticeable floating/submersible oyster cages were used, unlike the large scale rafts used in Japan. These cages are used for intermediate grow-out, after which oysters are bottom seeded on the river bed.

-Including landscape preservation and environmental concerns, aquaculture in Maine is significantly more strictly regulated in Maine than it is in Japan.

<Oysters>

-This operation ships many 2 year old oysters (probably cocktail oysters), which have a comparatively reduced risk of losses due to biotoxins, however there were also larger jumbo oysters harvested as well.

-Oyster spat is raised every winter in hatcheries. Mussel spat is naturally collected.

-This operation included an intermediate grow-out at one site, followed by a ground culture being conducted at another nearby lease site. Ground culture harvest yields approximately 6 million oysters, a return of approximately 80% of those “seeded” at the ground culture lease site.

-Harvested oysters are stored at Clark’s Cove before shipping. The cove is located closer to the estuary of the river, and the water is clearer, allowing oysters to clean themselves of sand etc before shipping. This site was also visited by the group.

-This mix of ground culture and storage facilities allow for shipment of oysters throughout the year. It should be noted that the surface water here freezes in the winter, so the importance of using cages that can be easily submerged deeper into the water

column as needed was noted.

-The cleaning and sorting equipment used was made in the USA and recently added to the operation last year, saving a great amount of time & labor on tasks that used to be done manually.

<Mussels>

-Mussel aquaculture is hung from ropes. Spat was being collected during our visit (summer is the spat collection season).

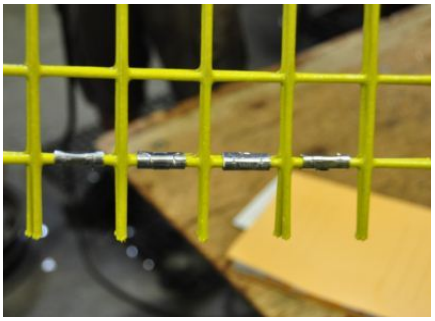
-Collected spat are attached to a rope using a cotton mesh (sleeve) which decomposes after several days. Using the mesh saves labor and increases the lifespan of the ropes. Mussels are grown for 1-2 years before harvest. 1 raft can raise approximately 36,000 kg of mussels in a growth cycle.

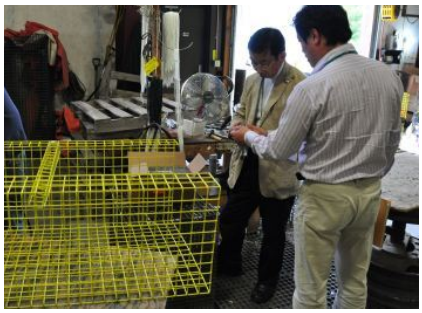
3. Brooks Trap Mill Visit (Thomaston 2:00-4:00) http://www.brookstrapmill.com/

- Hosted by Garth Hersey, associate of Brooks Trap Mill the group visited the factory/assembly area, inventory/warehouse, and aquaculture related inventory, and retail shop.








-The central part of the factory was an old lumber mill. Brooks has the skills and technology to meet the varieties of needs of lobster fishermen and therefore has an almost virtual monopoly on the lobster trap market with very stable business operations.

・A power tool used for attaching metal clips that fasten the wire frames together when building traps was of particular interested to Mr. Sugiyama. According to him, a similar tool doesn't exist in Japan so he purchased one from Brooks Trap Mill and brought it back with him to Japan.

-At the end of the visit the group was also introduced to Mark Brooks one of the owners of the company.

Maine Delegation Energy Group Report

Places: Portland (9/7), Wiscasset and Orono (9/8), Eastport (9/9)
Group Delegates: Dr. Hirotada Nanjo, Special Assistant to the President, Hirosaki University
Yukio Yageta, Fumiyoshi Tanaka (SMCC Training Facility only) & Zachary Bass (9/7), Yasunori Kitagawa (9/8-9)
Hosts: Don Hudson, Peter Arnold, Dale McCormick, Sue Inches

September 7 (Wed)

1. Maine Wind Power Working Group Meeting hosted by MASSAC (Maine International Trade Center 9:45-12:20)

A - Presentation about Maine's Renewable Energy Resources

-Presentation given by Annette Bossler, Managing Director of Invest in Maine (MITC)
-In Maine, like in Aomori, a considerable amount of energy is used for heating. Maine's reliance on fossil fuels is high, and high energy demands make Maine's energy costs the 9th highest in the US.
-Current wind power electric output in Maine is approximately 32 MW, which is approximately similar as Aomori (30 MW in 2009).
-A dramatic increase of offshore wind power generation is planned.

B - Ocean Renewable Power Company Meeting
-Presentation given by Christopher R. Sauer, president and CEO of ORPC about tidal power generation systems.
-The Gulf of Maine and the Bay of Fundy have enormous tidal differentials (up to 7-9 meters in the Gulf of Maine, and up to 15 meters in the Bay of Fundy) which can be utilized for generating electric power.
-Average costs for tidal power is currently 48 cents per kwh, and compared to other renewable in Maine, solar is 30 cents, and onshore wind is 20 cents. ORPC predicts in the next few years that this cost will lower to be competitive with other renewable within the state.
-It is important to note that in the USA, electric power generating companies and distribution companies are separate, making the cost of electricity generation to differ from state to state.

C - Professor Nanjo's Presentation (Tsugaru Strait Power Generation and Small Wind Turbine Generation)
-Presentation given by Professor Nanjo.
-With regards to the small wind turbine generation, attendees were interested in the project because the climate of Maine and Aomori are very similar.

2. Weatherization Training Facilities Visit (Southern Maine Community College, 1:30-3:30)
-Presentation given by John Brautigam, director of Sustainable Energy Alternatives Center.
-This facility is the first of its kind on the East Coast, and was built with government funding. Maine has many older homes and a harsh cold climate in the winter, making heating costs increasingly higher.
-This facility was created to provide training on how to increase air tightness of buildings in order to improve the energy efficiency of homes. Trainees aim to grasp the flow of energy throughout the building, detect where energy leaks are, and how to fix them.
-Trainees included students, as well as contractors and other professionals involved in home construction and improvement, contributing to the local home construction and improvement industry.

-The plan is to have weatherized all of the homes in Maine by 2030.
-Solar PV panels and solar thermal panels were installed on the outside of the center, allowing research on new energy sources to be carried out at the center as well.

September 8 (Thu)

1. Chewonki Foundation (9:00-10:30)
   -Lead by Don Hudson, president emeritus of the foundation and also a delegate to Aomori in 2010.
   -The foundation was established in 1962 and is a NPO that is involved in education programs dealing with environmental issues.
   -Roughly 40,000 persons a year participate in their educational programs.
   -The Chewonki Foundation is located on a large 400 acre (1.6km^2) grounds on a peninsula in Wiscasset with multiple facilities. The delegates visited two of these facilities on the grounds.

Geothermal Installation (Environmental Education Center)

- Director Willard Morgan and Peter Arnold gave an explanation of the facility.
- The facility is heated and cooled with a heat pump using a stable temperature of around 10 degrees Celsius from a depth of 30 feet, approximately 9.1 m)
- The cost savings are large, and when installed in an ideal environment, an installation cost return can be made in about 2 to 5 years.

Solar Heat and Power Installation

   -Christopher Straka, CEO of Ascendant Energy Company gave a explanation about the installation. (The Chewonki Foundation allows their facilities to be used for demonstration/verification tests and research in a measure to support businesses that are working on solutions to environmental concerns.)
   -Roof installed panels have two layers, the surface containing solar PV cells, and below it piping that heats water.
   -A waste water heat recovery system is also installed, making it a very energy efficient installation.

(Note) In the car ride, Dale McCormick explained the Feed in Tariff system that Maine is planning to adopt, that will promote renewable energy by having a set price for power generated from renewable sources.

2. Onshore Wind Research Lab at the Advanced Structures and Composites Center of the University of Maine (12:00-16:00)

A - Center Visit

   -Before the facilities tour, delegates met with center director, Dr. Habib Dagher.
   -Explanation by Jake Ward, assistant vice president of the University of Maine.
   -The Advanced Engineered Wood Composites Center was founded in 1996 with a grant from the National Science Foundation. It has since broadened its areas of research, as is now the

Advanced Structures & Composites Center and Offshore Wind Laboratory (the acronym AEWC is still maintained).

-The center has received global recognition for their contributions in developing cost-effective superior composites used in construction.

-The center focuses on investigative research on global standards and using this research to contribute back to local economic development.

-Approximately 5% of the center's operations are funded by the University, with all other costs funded externally. They receive research requests from domestic and international enterprises as well as development orders from the US military.

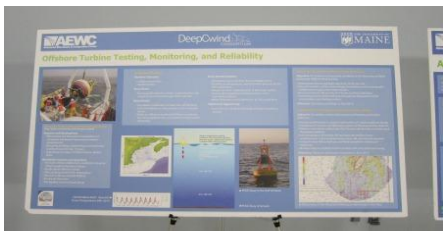
- (Comment from Dr. Nanjo) A research laboratory of this scale can only be found on a corporate research level. This bold approach by an academic institution is something that can be done in the US, but not easily in Japan.

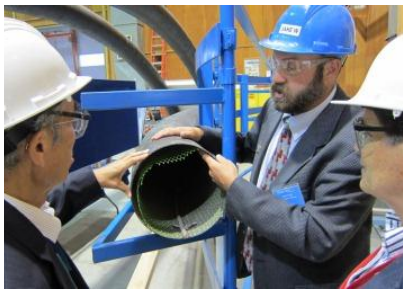
-A local newspaper was also present to cover the visit by delegates.












B - Presentation by Dr. Nanjo (Tidal Power Generation and Small Scale Wind Turbine Generation)

-Dr. Nanjo explained the work done to survey the tidal power resources of the Tsugaru Strait and its potential, as well as the situation involving opposition from local fishermen which has currently prevented further investigation into this potential.

-Dr. Nanjo also made a presentation about the use of small turbine power generation and their unique use in cold-climate areas to power additional road lighting in low-visibility blizzard conditions.

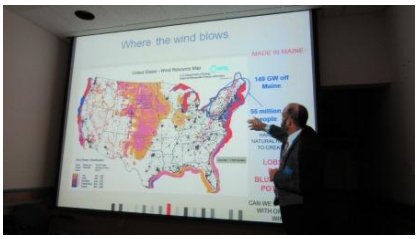
-Dialogue regarding renewable energy on the whole, challenges for research and development (how much society recognizes and is aware of these projects, demonstrations of feasibility, etc.) was also exchanged.

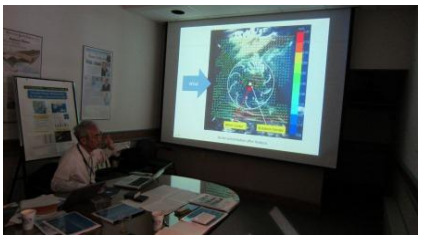
C - Presentation about Offshore Wind Power

-Explanation by Jake Ward, assistant vice president of the University of Maine.

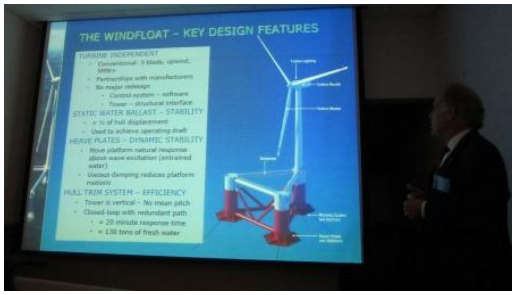
-Maine has a very cold climate, making it one of the top fossil fuel consumption regions in the USA. Maine is currently working on a 20 year plan to promote the usage of renewable energy.

-Maine has a long coastline which enjoys steady winds, making offshore along with onshore wind power generation and its use very promising for Maine.





-In the spring of 2011, they have been doing studies with models of 1:50 scale. Starting in 2012 they will continue research using 1:3 scale models, and in 2014 or 2015 plant to start research with full sized models.



-Offshore wind is very promising, and if it takes off, it will not only reduce carbon dioxide emissions, but also create jobs for the local economy.

-Environmental impact studies are being carried out by a team of faculty members from the UMaine's School of Marine Sciences.

- Questions from Dr. Nanjo

Q1 How is management of coastal waters handled on the governmental level?

A1 The state manages waters from the shore to 3 miles offshore. The federal government manages waters beyond 10 miles offshore, and the waters in between these are managed jointly by state and federal government.

Q2 My research on tidal power generation at Oma (in Aomori) has been on hold due to opposition from local fishermen. What you have done at the University of Maine is take a cross-sectional research approach, including environmental impact studies from your departments of marine sciences, and I find it to be a great reference for my work. I am interested in learning more about the project overall.

A2 We have had similar challenges in Maine. We have been proceeding with our work under the idea of sharing both the resources of fishing grounds and wind power. With regards to this project's marine science research component, Dr. Gayle Zydlewski (picture right) has been instrumental in leading the impact studies. We will contact her and share your work at Oma with her.

D - Presentation about Offshore Wind Power Generation Facilities

-Explanation given by Robert West, managing director of Principle Power Inc.

-Introduction of the "windfloat" type installation developed by Principle Power Inc.

-Principle Power Inc.'s floats are currently being built for a project in Portugal. Floats are to be set in location offshore at the end of the month. When completed, this project will be the second offshore wind installation in the world.

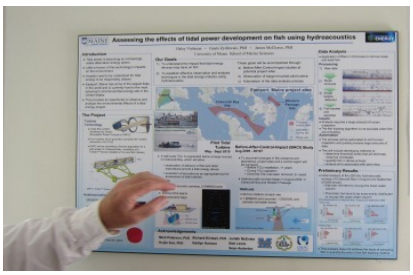
-If there are any future opportunities for offshore wind development in Japan, Principle Power Inc. would appreciate it that their work be introduced and shared with others.

E - Regarding Affiliations between Institutions

(University of Maine) Maine and Aomori share many similarities, both in climate and economy. Dr. Nanjo's research is of extreme interest to us, and we believe that it would be extremely beneficial for us to share information and collaborate on research and development projects. We would like to proactively consider forming such an affiliation between our institutions, however should we make a proposal based on Dr. Nanjo's research?

(Aomori Prefecture) Dr. Nanjo's North Japan Research Institute for Sustainable Energy is involved with not only small wind turbine power generation and tidal power, but other projects including geothermal, biomass, and fuel



cell systems, etc. For future information exchange and exchange between faculty and students, there are probably many possibilities for areas of collaborative research. Considering this, it may be better to not limit ourselves to one theme such as small turbine wind power generation, but rather employ an all-encompassing theme like "promotion of renewable energy."

(University of Maine) Understood. Well then we would like to consider something along those lines.

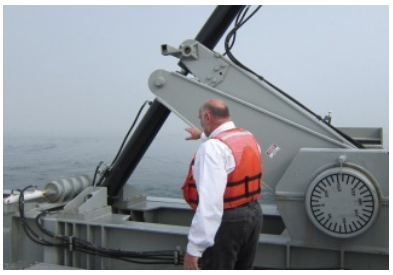
- In moving towards future affiliation(s), Jake Ward, assistant vice president from the University of Maine and Dr. Nanjo of Hirosaki University agreed to prepare and serve as contacts between the two institutions.
- The next day the University of Maine communicated that they were interested in pursuing an affiliation with Dr. Gayle Zydlewski's and her research with Hirosaki University. It was agreed upon that they would share information and consider such a proposal.

September 8 (Thu)

1. Ocean Renewable Power Company - Eastport Office Visit (8:30-11:30)

-Presentation by Bob Lewis, Director of Operations Planning

-Eastport is the easternmost city in Maine. With a tidal differences up to 25 feet (8 meters), and because of this its port does not freeze in the winter, despite its high north latitude location. In the 18th century, the area flourished due to its sardine fishery and cannery. However, with a decline in the industry, the population dropped sharply, and the primary source of income for the local economy has since become tourism, however it has also been in decline. Now, tidal power generation promises to create new jobs in the area.



-For these reasons, the ORPC has been able gain the understanding of the local government and residents, including fishermen, for their operations.

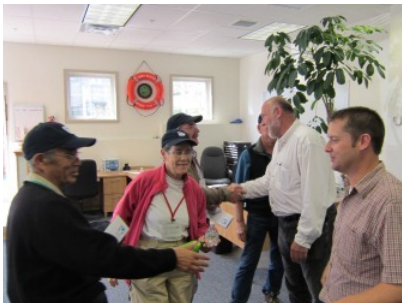
-A team from the University of Maine's School of Marine Sciences carried out environmental impact studies which found that nearly all of the fish were observed to be aware of the turbine and avoid it entirely. (The team which carried out the studies is lead by previously mentioned Dr. Gayle Zydlewski).

2. Tidal Power Generation Site Visit

-This site is currently a verification test to provide power to a nearby coast guard facility. (Charging a battery offshore and then bringing it to the Coast Guard station).

-(Dr. Nanjo's comments) In our field tests, the tuna at Oma were not harmed, however we were unable to mitigate the staunch opposition of the fishermen. However, the situation may be changing, nobody knows how long they will be able to maintain the Oma Tuna brand (the most premier tuna brand in Japan), and how things will play out with the Oma Nuclear Power Plant that was under construction when the Fukushima nuclear accident happened.

With all of this, there may be a chance for new developments in the future, if I can explain the possibilities of tidal power generation as a new industry to the region, citing this example in Maine. Additionally, this project matches with my ideal vision of renewable energy, in which small scale power generation on the local level are used on the local level. For all of these reasons this visit has proved extremely meaningful for me.

Maine Delegation Foods Group Report

Location: Greater Portland Area, Maine
Delegates:

Delegates: Shinichi Kashiwazaki, President of Kashiwazaki Seika. Yasunori Kitagawa (9/7), Fumiyoshi Tanaka (9/8-9)
Hosts: Former MASSAC Chair, Lisa Adams, Tom Morse, Yaeko Collier (Translation on 9/7), Kaoru Phillips (Translation on 9/8), Risa Heersche (Translation on 9/8-9/9), Yoko Aoshima (Translation on 9/9), Janet DiBiase (Taste of Aomori Preparation on 9/7), David Clough (9/10 – Thanks Maine Reception)

September 7 (Wed)

1. Portland Farmers Market (9:30-10:00)
   -Open-air market surrounded by office buildings downtown that is held on Wednesdays each week by local farmers and food producers.
   -On the day of our visit it there were many people at the market even though it was rainy. Garlic was slightly expensive, but we observed that consumers were interested in buying products made locally even if they cost a little bit more.
   -A great variety of foods, including organic vegetables, handcrafted cheeses and pickles.

2. Sun Oriental Market (10:15-10:45)
-Asian food store carrying a variety of imported products from Japan, China, South Korea, Vietnam, and India.
-Product samples brought from Aomori were shared with the store and asked to consider the possibility of carrying the products.

3. Rosemont Market & Bakery (11:00-11:30)
   -They have 3 stores, all of which are small scale. The stores are ideal for shoppers who live close by and can walk to the store.
   -Carries products that fit the theme of foods produced locally for local consumption. Many people in Maine are interested in eating locally, with a consciousness to buy products that in the long span are good for your health with low environmental impact, even if a little bit more expensive.
   -Product samples brought from Aomori were shared with the store and asked to consider the possibility of carrying the products.

4. Taste of Aomori（15:00-17:00 at Southern Maine Community College）
-This event would not have been possible without the great and comprehensive support and backing of the Maine-Aomori Sister State Advisory Council.
-Maine chefs, distributors, supermarket representatives, and other food industry affiliates gathered for this promotional event about food products from Aomori and completed market research surveys.
-Mr. Seiji Ando, a Japanese chef who attended the event arranged a meeting for Mr. Kashiwazaki with a representative from Daiei Trading Company the next day.
<Companies which contributed products>
Kashiwazaki Seika (Black Garlic, dried sliced daikon radish, dried sliced burdock root), Kanesa (Misotchup, granulated miso), Kamikita Nosankako (Stamina Gen Tare Japanese Barbeque Sauce), and PaSaPa Aomori (apple cider).












September 8 (Thu)

1. Hannaford Market (9:00〜9:45) Photography not permitted inside
   -Unlike in Japan, tomatoes (grown in Maine) were being sold on the vine.
   -Garlic grown in Maine was being sold but they did not have nagaimo yams.
   -They carried soy sauce and miso, along with other Japanese and Asian products (many Thai) however most of the Japanese products were from Kikkoman. They also had Kikkoman's yuzu ponzu sauce.
   -There were many Thai products- because Maine has many Thai people. We also found sukiyaki sauce.

2. Whole Foods (9:45-10:30) Photography not permitted inside
   -Maine and Massachusetts produced garlic was being sold, however they did not have nagaimo yam.
   -Scallops were being sold at $21.99 per pound, roughly 330 yen per 100 grams)
   -Selling safe and fresh foods is a key theme with Whole Foods, and they receive federal organic certification every year.
   -Whole Foods is highly supportive of selling Maine and local products as much as possible. They even had a "We Love Local!" corner in the store.
   -They had a powder that was made from a plant like burdock, and many different types of health teas.
   -In the beverage corner they had Kombucha (not the Japanese tea made from

kelp but the fermented beverage). It was very easy to drink and similar to apple vinegar.

3. Trader Joe's (10:45-11:45) Photography not permitted inside
   -Garlic made in Maine was being sold but they were not selling nagaimo yams. According to a representative, they change their product line seasonally.
   -The layout of the store was very unique. From the entrance aisles were arranged in a fan like pattern, allowing customers to gain a good idea of where products are located from the beginning.
-A little different from Whole Foods was that Trader Joe's places more emphasis on better values than local products.

4. Pen Mai Miyake (Japanese Ramen Restaurant) 12:00-2:15
   (Meeting with owner Mr. Miyake after lunch)
   -Mr. Miyake is from Sannohe town in Aomori, and moved to Tokyo when he was in middle school, and came to New York approximately 20 years ago. He has lived in Maine for the past 6 years. He opened up a popular sushi restaurant in Maine and just recently (2 months ago) opened up a ramen restaurant.
   -Yuzu is a popular Japanese ingredient/flavor that is being used in the US now. Aomori products could also take off if some famous chefs start using the products, all that is needed is some proper promotion and timing.
   -There are many Japanese people living on the west coast in areas like LA, however the east coast does not have as many Japanese people so it may take more time for products to take off.
   -If a food product has any health benefits you should definitely do your best to promote and advertise it as much as possible.
   -Contacting Daiei (a large Japanese company that handles and sells Japanese foods) will be very helpful. Mr. Miyake offered to cooperate in any way he can.
   -Mr. Miyake would like to use products grown in Maine as much as possible. Maine has a lot of land for agriculture, so if anyone from Aomori could come to help teach how to cultivate Aomori garlic or burdock root that would also be great.
   -Lisa Adams, former chair of MASSAC added that Miyake (the restaurant) was featured in the New York Times and is the most famous Japanese restaurant in Maine.

5. Native Maine (3:20-3:50)
   -70% of products are from all over the US, and 30% are imported.
   -Everyday they do business with about 60,000 pounds of products (about 30 tons), approximately 22 trucks worth.
   -They had previously carried black garlic.
   -They import products from the Europe, Asia (East Asian and India), and more countries across the globe.

6. Meeting with Daiei (Trading Company) (9:00-10:00)
   Meeting held at Japanese restaurant Benkei
   Mr. Yuji Sogen, Maine Sales Representative from Daiei
   Introduced by Mr. Seiji Ando, owner of Benkei who does business with Daiei

(Right: Mr. Ando)

   -Daiei is headquartered in New York, and has bases in 5 major cities across the US. They are mid-sized out of all the Japanese trading companies in the US, and have business dealings with restaurants and supermarkets.
   -Mostly deal in dried and frozen foods. They also carry Japanese sake.
   -Mr. Sogen comes to Maine approximately once every 2 weeks.
   -They deal most through Crown Trading Co., Ltd. located in Kobe, so up until now their products have been mostly from western Japan.
   -They carry dried sliced daikon radish made in Kyushu, however dried sliced burdock root is very unique and rare.
   -From looking at Mr. Kashiwazaki's pamphlets, Mr. Sogen was mostly interested in the sliced burdock root and

black garlic, saying that he has not seen either in the US before. He also thought that the suggestion to serve black garlic on cream cheese is a good idea.

-Mr. Sogen also recommended considering burdock root tea.

-Mr. Sogen said that he will suggest the products from Kashiwazaki Seika when he returns to his office. He said that he personally thinks that there is much possibility for the products, so it would be good to start with some test marketing, and asked Mr. Kashiwazaki to send him some samples. The next day Mr. Kashiwazaki instructed his staff in Japan to send samples to Mr. Sogen at Daiei.

-Mr. Sogen asked Mr. Kashiwazaki to visit Daiei headquarters in New York.

September 9 (Fri)

1. Walmart (9:00-9:20) Photography not permitted inside

-Major shopping store chain like the Japanese AEON or Ito Yokado, which sells groceries, clothing, and home amenities.

-Open from 8 am to 10 pm, starting significantly earlier than most Japanese supermarkets.

-There was a corner of Hello Kitty products from Japan and customers can also get flu shots in the store.

2. Royal River Natural Foods (9:50-10:20) Photography not permitted inside

-Carries natural and health foods.

-Had garlic from Maine and Argentina.

-Had products from all over the world, including Vietnam, Hong Kong, and Spain. From Japan they had Kikkoman soy sauce, doubanjiang, sesame salt mix, and umeboshi.

-There were many natural/health supplements that were garlic based.

3. Wealden Farm (10:30-11:30)

-Run and owned by a husband and wife. The husband primarily grows the produce while the wife is in charge of sales. Primarily sell their own crops but they also sell produce from neighboring farms (approximately 80 in total).

-They produce vegetables and garlic. The corn they sell is from another farm.

-The garlic they grow is from Italian and Czech cultivars.

-All crops are grown organically.

4. Brunswick Farmer's Market (11:45-12:00)

-Open air market that is held every Monday and Friday.

-Locally grown fruits and vegetables are for sale.

-They were also selling garlic, apples (Fuji), lobster, and kelp.

5. Now You're Cooking (10:30-11:30)
   -Carries a wide variety of cooking tools and equipment, including a great selection of over 500 wines and beer, tea, coffee, and spices. Many of the customers are serious chefs looking for the highest quality additions to their cooking.
   -Features a built in cooking studio in which classes, demonstrations, product promotion, and other events are held.
   -Wine tasting party was held with Maine oysters and mussels grown and provided by Chris Davis.

September 10 (Sat)

1. Thanks Maine Reception (2:00-4:00 at the Winter Street Church)

-This event was held in appreciation for generous funds raised by the people of Maine for the people of Aomori following the earthquake and tsunami of March 11, 2011.

-Guests participated in simple surveys providing valuable feedback about the products brought from Aomori.

<Companies which contributed products>

Kashiwazaki Seika (Black Garlic, dried sliced daikon radish, dried sliced burdock root), Kanesa (Misotchup, granulated miso), Kamikita Nosankako (Stamina Gen Tare Japanese Barbeque Sauce), and PaSaPa Aomori (apple cider).



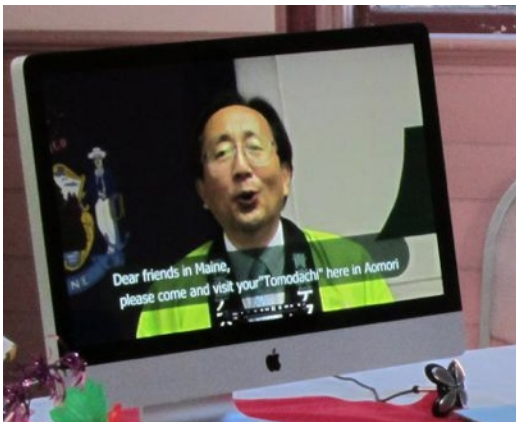











Dear friends in Maine,
please come and visit your "Tomodachi" here in Aomori


Thanks Maine!


青森

Maine Delegation Culture and Exchange Report

September 7 (Wed)

1. Welcome Reception (6:00-8:00)

Stephen MacDougall MASSAC Chair

Erin Sullivan
Legislative Policy Coordinator from Governor LePage's

Janine Bisaillon-Cary
President of Maine International Trade Center

Matt Laney, Vice President of the Japan America Society of Maine

Anne Pringle, President of Friends of Shinagawa

Deborah Patten, Director of the Bath-Tsugaru Sister City Program

Dep. Dir. General Yukio Yageta

Exchange of Gifts

Lisa Adams, Former MASSAC Chair

Self-Introductions by Delegates

September 10 (Sat)

5 delegates from the Aomori UNESCO Association joined the delegation on this day.

1. Bath Iron Works Visit (Bath, 10:00-11:00)



(Due to the sensitive nature of the facility, photography inside the site was prohibited so the photos have been taken from the river)

2. Maine Maritime Museum Visit (Bath, 11:00-12:00)



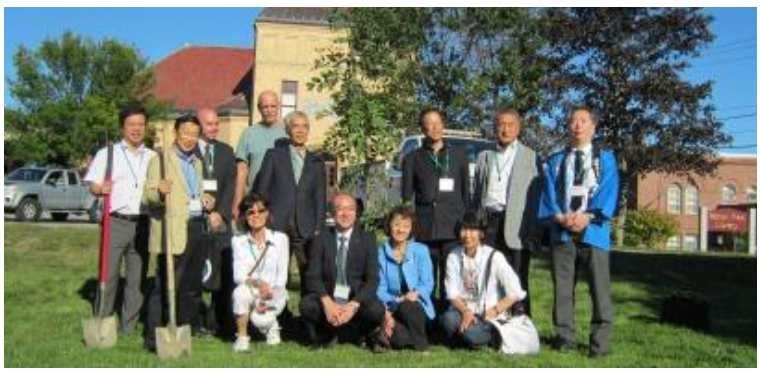


Display about Chesebrough Memorial in Shariki, Tsugaru City

The museum tour was followed by a lobster roll luncheon cruise through the bays surrounding Bath.

3. Memorial Tree (Ash) Planting at the Bath in the park in front of the Patten Free Library (4:15-4:30)



Shops all around town had welcome signs in Japanese

Commemorative photo in front of Bath City Hall

4. Aomori UNESCO Party (Solo Bistro, 7:00-10:00)

Kami-shibai presentation of the book

Singing Japanese folk songs

A copy of the book was presented

Aomori UNESCO Association Members

Kashiwazaki-san & Tom Morse

With Sachiko and David Clough

With Peter Arnold

September 11 (Sun)

1. Bowdoin College (Brunswick 10:00-10:30)

Campus tour given by alumnus Peter Adams (Translation by Naoto Kobayashi)

2. Edward Hopper's Maine Exhibit at the Bowdoin College Museum of Art (Brunswick 10:30-11:30)
Delegates enjoyed the works of famous American artist Edward Hopper created in Maine (Photography not permitted in the exhibit)



3. Sayonara Potluck Luncheon (Lisa Adam's home in Yarmouth 12:00-14:00)


Frmr First Lady Karen Baldacci
(Visited Aomori in 2005, 2007, and 2010)







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1- With Hugh Cowperthwaite (Fisheries Group Guide)
2- With Janet DiBiase (provided transportation, logistics, and hotel reservations)
3- With Don and Hilda Nicoll (Don was a former MASSAC Chair)
4- Gifts from MASSAC to Governor Mimura (Edward Hopper Exhibit Book and Signed Photograph of MASSAC Members)
5- Yasunori Kitagawa with Yaeko Collier (Yaeko has been involved with Maine-Aomori exchange since 1994)

4. Whirlwind Tour of Boston by Bus (4:00-9:00)