

LATE COUNCIL MEETING AGENDA

July 9, 2013 at 7:30pm

George Fraser Room, Ucluelet Community Centre
500 Matterson Drive, Ucluelet, BC

ADOPTION OF MINUTES: None	
CORRESPONDENCE: None	
INFORMATION ITEMS: None	
REPORTS: LR-1 Japan Love Project and Marine Debris Program Karla Robison, Environmental and Emergency Services Manager LR-2 New Zoning Bylaw No.1160, 2013 Patricia Abdulla, Building and Planning Manager	
LEGISLATION: None	



REPORT TO COUNCIL

MEETING DATE: JULY 9, 2013 FILE NO:

FROM: KARLA ROBISON, ENVIRONMENTAL AND EMERGENCY SERVICES

SUBJECT: HIGH-LEVEL OVERVIEW OF UCLUELET'S MARINE DEBRIS PROGRAM + SUMMARY OF THE JAPAN LOVE PROJECT DEBRIS CLEAN-UP EVENT AND VISIT FROM JAPAN CONSULATE + UPDATE ON THE SIGNATURE JAPANESE BIOFOULING SPECIES AND POSSIBLE JAPANESE LUMBER ITEMS + 1 YEAR NOAA MONITORING RESULTS AND TREND ANALYSIS + FUNDING – THE NEXT STEP FOR UCLUELET`S MARINE DEBRIS PROGRAM

Recommendations:

It is recommended that Councils reviews this report which summarizes the following marine debris initiatives:

- High-level overview of Ucluelet's Marine Debris Program;
- Summary of the Japan Love Project marine debris clean-up event and visit from Japan Consulate;
- Update on signature biofouling species and possible Japanese lumber items;
- Year 1 monitoring results and trend analysis for Ucluelet's National Oceanic Atmospheric Administration (NOAA) monitoring survey; and
- Funding – the next step for Ucluelet's Marine Debris Program.

It is recommended that Council supports formal thank you letters from the District of Ucluelet to those involved with assisting and supporting the May 18-19, 2013 marine debris clean-up event and Ucluelet's Marine Debris Program.

Purpose:

The purpose of this council report is to provide a high-level update on Ucluelet's Marine Debris Program along with a summary of the marine debris clean-up event that took place on May 18-19, 2013 with the Japan Love Project and members from the Vancouver Japan Consulate. The report provides details on the signature biofouling species and possible Japanese lumber items local residences and volunteers from Ucluelet's Marine Debris Program are finding. Furthermore, this report provides a 1 year synopsis on Ucluelet's NOAA accumulation monitoring survey results and the next step for Ucluelet's Marine Debris Program.

Summary:

In summary, the Environmental and Emergency Service Department would like to thank Council for taking the time to review of this report. It is much appreciated that Council considers supporting thank you letters to the parties involved with the May 18-19, 2013 marine debris clean-up event and to participants that have supported Ucluelet's Marine Debris Program. The participants are outlined below.

- Local community volunteers:
 - Stephen Holland, Ingrid Pongratz, Marcie DeWitt and Oyster Jim
 - Jamie's Whaling Station
 - Tom and Judy Schmidt
- Pacific Rim National Park Reserve (PRNPR)
- Japan Love Project
- Japan Consulate General Mr. Seiji Okada
- Journalist Judith La Lachapelle

Background:

On March 11, 2011 a magnitude 9.0 earthquake struck northern Japan. The subsequent tsunami washed an estimated 5 million tons of debris into the sea. There is an estimated 1.54 million tons of debris floating towards the coast line between Alaska and California. The beginning of the main bulk of debris has begun to arrive to the West Coast and is expected to continue to make landfall for years to come. Marine debris is a long-term issue as for decades plastics and other anthropogenic materials have been discarded into the ocean, which has ecological, health, safety and economic impacts.

Ucluelet's Marine Debris Program Outline

Ucluelet's Marine Debris Program was initiated March of last year and consists of the following initiatives:

- NOAA shoreline accumulation monitoring program
- Clean-up programs (local, visitor, Vancouver Aquarium, international students, Japan Love project, military, etc.)
- Response and recovery planning
- Regional task group (First Nations, jurisdictions, communities)
- Specialized clean up teams
- Aquatic invasive species monitoring and reporting (National Science Foundation Rapid Response Research Program)
- Collection and analysis of Japanese lumber + restoration project/memorial
- Public education - info sessions, presentations, website, etc.

- Local representation for the Federal-Provincial Japanese Tsunami Debris Coordinating Committee (TDC) – Science and Monitoring, and Debris Management Planning Teams

Japan Love Project Marine Debris Clean-up Event and Visit from Japan Consulate

The Japan Love Project is a group of volunteers supporting the recovery of the March 11, 2011 earthquake/tsunami through fundraising and beach clean-up activities.

On March 10, 2013 the Environmental and Emergency Service Department coordinated a marine debris clean-up and anniversary memorial event for the second year anniversary of the March 11, 2011 Japan earthquake/tsunami. At this event there were approximately 30 members from the Japan Love Project. As a follow up to this event, the volunteer group returned to Ucluelet on May 18-19, 2013 with twice as many volunteers to continue to aid with debris removal from Ucluelet's beaches and surrounding shores.

The Environmental and Emergency Service Department coordinated the marine debris event that took place along accessible shorelines from Ucluelet to Long Beach. The clean-up also took place along the shores of Turret and Brabant Islands, which are two islands located in the PRNPR (part of the Broken Island Group). An agreement was made with PRNPR to obtain access to remove debris in the Park for the two day event.

Jamie's Whaling Station provided boat services to the two islands and local volunteers Stephen Holland, Ingrid Pongratz, Marcie DeWitt and Oyster Jim assisted Karla Robison, Environmental and Emergency Service Manager, to coordinate the Japan Love Project volunteers over the two days.

During the two day event, Japan Consul General Mr. Seiji Okada participated in the debris clean-up activities on the Turret and Brabant Islands. During the second day clean-up on Brabant Island, Mr. Okada found a very unique antique Japanese table.

During the clean-up weekend, Mr. Okada, Mayor Irving, Mayor Osborne and Robison met to discuss Ucluelet's Marine Debris Program and the broader debris issue. At this meeting, Robison provided a detailed power point presentation on the subject, which has been requested to be sent to the Consulate Headquarters in Tokyo. Robison has been asked by the Vancouver Japan Consulate to present Ucluelet's Marine Debris Program at a reception event in Vancouver on July 30, 2013.

Appendix A contains a variety of photos from the 2 days and Appendix B is a detailed summary of the clean-up event.

Journalist Judith Lachapelle with La Presse wrote a story about the May 18-19, 2013 clean-up event and the overall issue of tsunami debris in North America. The story was published in both the La Presse newspaper and special iPad edition on June 8,

2013. To view the entire story go to the App Store and search for ‘La Presse’ and download (look for the Saturday edition in French: Samedi 8 juin 2013). Appendix 3 is the PDF version of the story and the url to the story is <http://www.lapresse.ca/environnement/pollution/201306/10/01-4659753-le-long-voyage-des-debris-du-tsunami.php>.

Signature Biofouling Species and Possible Japanese Lumber Items

A variety of possible Japanese lumber fragments from the earthquake/tsunami have recently (since March 2013) been found by local residences and volunteers from Ucluelet’s Marine Debris Program. Stephen Holland, volunteer from Ucluelet’s Emergency Committee and Marine Debris Program, has taken the lead on researching the post and beams arriving on our beaches, verifying these items are in fact from the Japan March 2011 tsunami, and constructing a website to share this information with the public.

Attached to the possible Japanese post and beam lumber fragments are signature Japanese biofouling species. Robison is currently working with Dr. James Carlton, Professor of Marine Science at Williams College in Williamstown, Massachusetts on his National Science Foundation (NSF) Rapid Response research program for Japanese Tsunami Marine Debris (JTMD). So far Robison and volunteers have found Mediterranean mussels, Rose barnacles and Thatched barnacles (see Appendix D - inventory for signature Japanese biofouling species found in Ucluelet and surrounding area).

Dr. Carlton has entered these discoveries - the first pieces of recognized JTMD material with probable Japanese species to be recognized in British Columbia, and the first JTMD wood to land in North America with living Japanese biofouling - into his official NSF register. This research has been shared with citizen and state tsunami-monitoring groups in AK, WA, OR, CA, and HI. Dr. Carlton felt that the lumber research is of huge value, as it may reveal that similar wood has been (and will be) washing ashore in the States, but is being overlooked due to lack of identifiable markings.

A live Mediterranean mussel was on display at the Ucluelet Aquarium for a few weeks prior to spawning and dying. Robison will be sending some of the biofouling specimens to Marine Science Center at OSU in Newport, Oregon for genetic and isotope analyses, and the inventory and findings will also be shared with the Federal-Provincial Japanese Tsunami Debris Scientific and Monitoring Team. Robison has kept a few of specimens for public information sessions.

Year 1 Monitoring results and Trend Analysis for Ucluelet’s NOAA Monitoring Plot

Due to the difficulty to distinguish tsunami debris from typical marine debris, the District of Ucluelet initiated a 1 km shoreline monitoring survey at Wyndansea Beach

in June 2012. The monitoring survey is part of a NOAA Marine Debris Program shoreline monitoring project (<http://marinedebris.noaa.gov/tsunamidebris/monitoring.html>) and its purpose is to determine marine debris trends over time.

The shoreline survey conducted is an *Accumulation Survey* which conveys a debris deposition rate (# of items/unit area/unit time), where all materials are collected, weighed and inventoried. The monitoring plot in Ucluelet is unique in that it is the largest monitoring site in the province of British Columbia and is the only site where accumulation surveys are conducted on a monthly frequency. The Ucluelet Secondary School (Grade 11 and Grade 12 geography and sustainability students) have been assisting with the monitoring plot on a continuous basis. See Appendix E for the first year monitoring results and trend analysis for Ucluelet's accumulation monitoring survey.

Funding – The Next Step for Ucluelet's Marine Debris Program

In March 2013, the Government of Japan graciously offered funding to the Canadian Government to assist with tsunami debris clean-up efforts. The Federal Government directed the \$1M donation to the Provincial Government of British Columbia and those funds have been provided to the Ministry of Environment (MOE). This ministry is currently rolling out a funding application document to assist coastal communities with tsunami debris cleanup activities. This application process should be finalized in coming weeks. The next step for Ucluelet's Marine Debris Program is for Robison to continue to prepare a series of proposals to the MOE. Funding is required to move forward on planned and recommended initiatives.

Additional Information

For additional background information regarding details in this report, please visit the websites outlined below.

- For more information regarding Ucluelet's Marine Debris Program please visit <http://www.debris-ucuelet.com>.
- For more information about the Japan Love Project please visit <http://japanlove.ca/>.
- Additional information about tsunami debris can be located at the Ministry of Environment's website <http://env.gov.bc.ca/epd/tsunami-debris/index.htm>.

Karla Robison, BNRSc.

Environmental and Emergency Service Manager

Appendix A. Photos of the May 18-19, 2013 Marine Debris Clean-Up Event

Outlined below are a variety of photos from the May 18-19, 2013 marine debris clean-up initiative with the Japan Love Project and members from the Japan Consulate.



Figure 1. Safety briefing held at the Ucluelet Community Centre. A detailed safety talk took place prior to the marine debris clean-up event. Volunteer waivers were reviewed and signed by all parties involved.



Figure 2: Consul General Mr. Seiji Okada and Mrs. Okada on Jamie's Whaling Station Zodiac - heading to Turret Island in the Broken Island Group.



Figure 3. Clean-up at Wickaninnish Beach in PRVPR – coordinator for this area was Stephen Holland.



Figure 4. Possible Japanese lumber item found by Japan Love Project volunteer at Wickaninnish Beach in PRVPR. Discovery was assisted by Stephen Holland.



Figure 5. Two Rose barnacles located on a small plastic bottle at Turret Island. This discovery will be registered in the NSF research program.



Figure 6. Japan Love Project and Japan Consulate members walking to the first debris catchment beach that was cleaned on Brabant Island.



Figure 7. Japan Love Project and Japan Consulate members removing debris on the second debris catchment beach that was cleaned on Brabant Island.



Figure 8. Japan Consul General Mr. Seiji Okada finding a Japanese table on Brabant Island.



Figure 9. Group photo of Japan Love Project members, local volunteer Stephen Holland and Environmental and Emergency Service Manager Karla Robison.

Appendix B. Japan Love Project Marine Debris Clean-up Event - Detailed Summary**Florenzia Beach - Coordinator Ingrid Pongratz**

May 18 - South Florenzia

- 6 volunteers cleaned half way to the point; end point was demarcated by yellow band tied to overhanging trees on beach
- Mostly shards of hard plastic; 1/4 garbage bag of Japanese debris was brought back to UCC; 3 bags, plus iron rods were left at top of hill, under sign 'marine debris'

May 19 - North Florenzia

- 7 volunteers cleaned from end of stairs to south to river
- The area was mostly clean, not too much found within log pilings
- Many logs had signs of human workings, they originate from logging activities
- The group found a location of about a million small hard plastic shards in low lying area behind log pile
- There as very little from Japan - a plastic bottle which was returned to the UCC

Coombers Beach, River Mouth - Coordinator Marcie DeWitt

May 19 - Coomers Beach, River Mouth

- Stephan took the majority of the group to the north side of the trail, while the rest of the group (15 volunteers) went to the river mouth.
- The group covered the section from trail head south to sand dune, in around and across the river.
- The group retrieved 10 bags of plastic waste, Styrofoam, lighters and other common waste from driftwood piles.
- The group discovered and flagged 3 tires and rims, one sink and 2 large pieces of wood debris with markings matching Japanese building techniques.
- This was a worthwhile section to remove debris.

Coombers Beach North - Coordinator Stephen Holland

May 19 - Coomers Beach North

- Stephen took 15 students north from the stairway and the others went south across the shallow river.
- There was not much debris but the group cleaned about a mile and Stephen found some Japanese lumber to show the students.

Wickaninnish Beach - Coordinator Stephen Holland

May 18 - Lot C and Northward

- Stephen took the group of about 15 students started at Lot C where the debris bin is located.
- The group found a lot of small debris among the driftwood close to the parking lot where people picnic. The group then moved north along the sand dunes, where there was little debris.
- Stephen found several Japanese-style post and beam material, mostly ones he had seen before, which he used to teach the students about clues to look for.
- The group covered perhaps a mile of beach, and then brought bags back to the bin.

Broken Islands - Coordinator Karla Robison

May 18 - Turret Island

- Clean-up on Turret Island was with Japan Consul General Mr. Seiji Okada, Mrs. Okada, Satomi Yoshino and Brian Wende from the Japan Consulate, Japan Love Project Coordinator Hana Yokota and 5 other Japan Love Project members.
- The group removed debris around the campsite and approx. 400m along the shoreline north of the campsite beach. Multiply bags were filled primarily with plastic and Styrofoam fragments and were removed from the site and taken to Ucluelet for recycling.
- Large buoys, floats and Styrofoam too large to bag and fit into the boat were placed above the high tide zone for Parks employees to pick up (see figure 10).

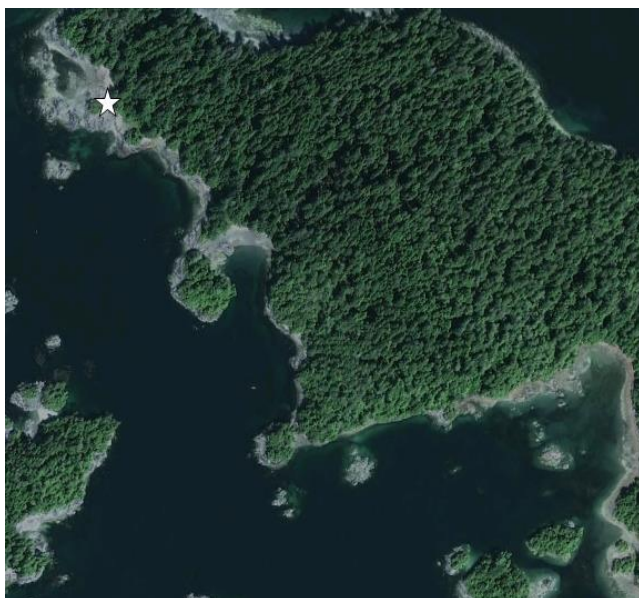


Figure 10. Turret Island - area where debris was removed was along the shoreline in the image above. Debris pick-up required at N 48°54.030' W 125°20.676' (see star for location).

- Two small Rose barnacles were found on a small plastic bottle on the beach by the campsite and washroom facilities.
- On the way back to Ucluelet, the group viewed debris along the shores south east of Ucluelet towards Mussel Beach. Large pieces of Styrofoam and plastic debris items could be seen along the shoreline from the boat.

May 19 - Brabant Island

- Clean up on Brabant Island was with Japan Consul General Mr. Seiji Okada, Mrs. Okada, Satomi Yoshino and Brian Wende from the Japan Consulate, Japan Love Project Coordinator Hana Yokota and 6 other Japan Love Project members.
- The group removed debris along two debris catchment beaches on Brabant Island.
- Large buoys, floats and Styrofoam too large to bag and fit into the boat were placed above the high tide zone for Parks employees to pick up (see figure 11).



Figure 11. Debris was collected and placed above the high tide zone at N 48°56.222' W 125°18.893' for Parks employees to pick up (see star for location)

- An approx. 400m beach area to the east of the coordinates also had removed. These items were taken in the boat to Ucluelet for recycling.
- On the way back to Ucluelet, the group viewed debris along George Fraser Island. Large pieces of Styrofoam, rope and plastic debris items could be seen along the shoreline of this island from the boat.

Appendix C. La Presse Article on the May 18-19, 2013 Marine Debris Clean-Up Event

Publié le 10 juin 2013 à 15h27 | Mis à jour à 16h05

Le long voyage des débris du tsunami



ILLUSTRATION : JUDITH LACHAPELLE, LA PRESSE




JUDITH LACHAPELLE
La Presse

 Suivre

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PARTAGER

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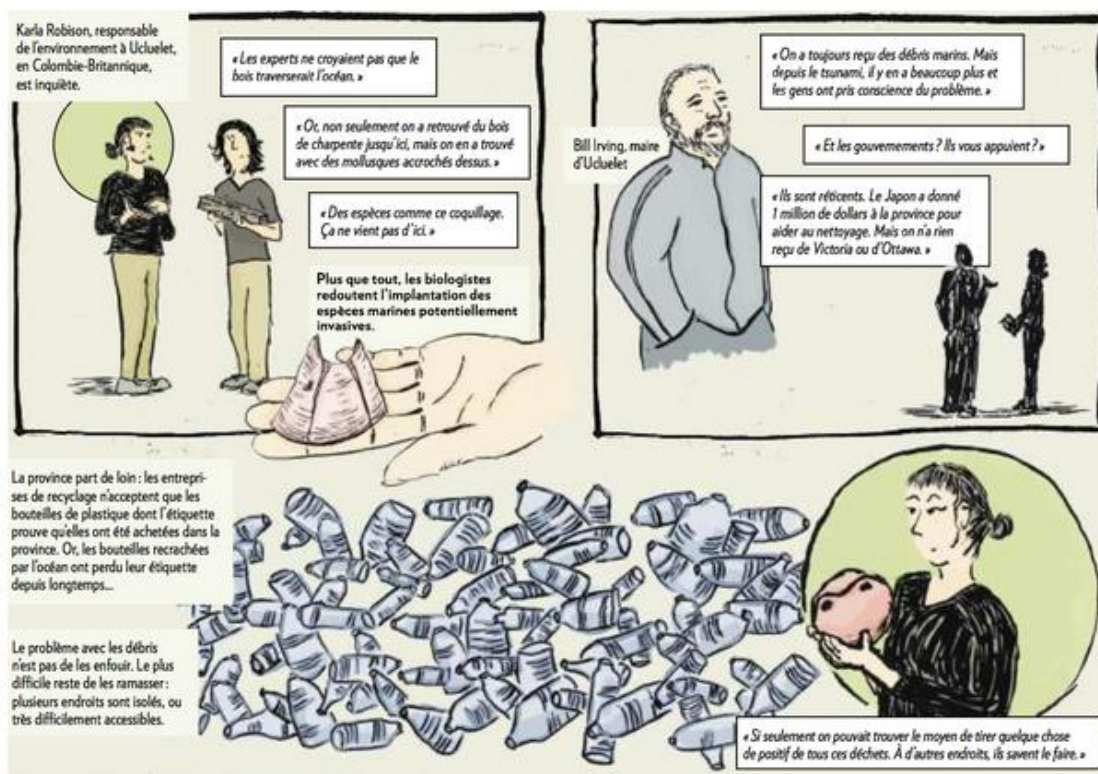
Deux ans après le tsunami du 11 mars 2011 au Japon, l'océan n'a pas fini de digérer la catastrophe. De l'Alaska à Hawaii, en passant par la Colombie-Britannique et la Californie, des débris du tsunami échouent, chaque jour, sur les rives nord-américaines du Pacifique. Un désastre silencieux, qui laisse les communautés côtières démunies devant l'ampleur de la tâche de nettoyage.

Plus de 8000 km séparent le Japon de la Colombie-Britannique. Mais l'écho du tsunami, qui a tué 16 000 Japonais en 2011, résonne encore sur les plages canadiennes. À Ucluelet, petite ville côtière de l'île de Vancouver, les autorités évaluent que, depuis deux ans, de quatre à six fois plus de débris marins échouent sur les rives de la péninsule. La même observation est faite sur toute la côte nord-américaine du Pacifique.

Les débris du tsunami ne sont pas plus dangereux que les autres débris marins. Ils ne sont pas radioactifs et sont généralement de petite taille. Dans la grande majorité des cas, il est impossible de déterminer avec certitude l'origine des déchets retrouvés sur les plages.

Mais comme tout ce qui flotte sur l'eau, surtout le plastique et de la mousse de polystyrène, ces débris mettront des siècles à se dégrader. La styromousse s'effrite, le plastique se fragmente, le tout finit par se mêler à la nature... et par se retrouver dans l'estomac des animaux.

Les communautés qui vivent le long du Pacifique se sentent dépassées par l'ampleur de la tâche. Le Japon a versé 6 millions de dollars au Canada et aux États-Unis pour aider à nettoyer la côte. Une aide bien accueillie par les citoyens, qui ne manquent pas de souligner du même souffle l'inaction de leurs propres gouvernements...



Cliquez avec le bouton droit de la souris pour agrandir l'image

Cliquez avec le bouton droit de la souris pour agrandir l'image
Un scénario qui se répète ailleurs

Les débris du tsunami ne se déplacent pas en «nuage» ou en «masse» - il n'est pas possible de prévoir leur itinéraire. Bien souvent, ce sont les tempêtes qui les jettent sur le rivage. Une chose est sûre: on en retrouve partout sur les plages du Pacifique, de l'Alaska à Hawaii. Et les débris continueront à s'y échouer pendant encore de nombreuses années.

Alaska: la nature moins sauvage

Chris Pallister, de l'organisme Gulf of Alaska Keeper, organise des corvées de nettoyage depuis 12 ans sur quelques-uns des 4000 km de la côte. «À certains endroits, nous avons compté 100 fois plus de déchets que lors des années précédant le tsunami.»

Pourquoi est-il important de nettoyer la côte? «Quand le plastique se dégrade, il relâche des composés toxiques dans l'environnement qui entrent dans la chaîne alimentaire. Lorsqu'il y a des tempêtes, le vent pousse vers les lacs les déchets qui se trouvent sur la plage. Les saumons coho que nous avons analysés dans un lac sont contaminés avec des phtalates de débris de plastique.

«Mais nous avons du mal à obtenir du financement. S'il s'agissait d'une marée noire causée par une pétrolière, les gens crieraient au scandale. Le Japon a donné 5 millions de dollars pour le nettoyage de toute la côte Pacifique nord-américaine. Nous n'avons rien reçu du gouvernement fédéral.

«C'est triste de voir que les Japonais, avec tout ce qui leur est arrivé, sont malgré tout plus préoccupés par le nettoyage de nos plages que la population américaine en bas du 48e parallèle...»

Côte ouest américaine: petit poisson, grosse menace

Le 22 mars, de drôles de poissons rayés ont été trouvés dans le fond d'un bateau rouillé, sur une plage près de Long Beach, dans l'État de Washington.

Les biologistes ont trouvé leur nom: *Oplegnathus fasciatus*. Ou *ishidai*, en japonais. Ils seraient les premiers vertébrés à avoir survécu à la traversée du Pacifique à bord d'un débris du tsunami.

Oplegnathus fasciatus est inconnu dans les eaux américaines. Les autorités ont aussi examiné leurs compagnons de voyage, une cinquantaine d'espèces d'algues et de mollusques non indigènes et qui présentent une menace potentielle pour l'écosystème de la région.

Rien ne dit que ces voyageurs auraient survécu longtemps dans les eaux froides américaines. Mais cette découverte a tout de même ébranlé les scientifiques, qui ne croyaient pas que les débris puissent potentiellement bouleverser les écosystèmes de la côte.

Allen Pleus, un spécialiste des espèces aquatiques invasives, a comparé les débris du tsunami à des «Arches de Noé». Les gros débris sont plus faciles à repérer et à «nettoyer» des espèces potentiellement invasives. Mais qu'en est-il des petits débris? «Si on met ensemble tous les petits débris qui transportent des organismes vivants, ils représentent une menace comparable ou possiblement plus grande que les plus gros objets.»

Hawaii: les débris invisibles

Face à l'inévitable, Hawaii répond au désastre de la façon prévisible: en organisant des corvées de nettoyage. Après tout, les plages souillées, c'est mauvais pour le tourisme.

Les corvées, c'est bien, dit l'océanographe Nikolai Maximenko, de l'International Pacific Research Center à Honolulu. Mais c'est insuffisant. «C'est comme donner un antibiotique à un patient fiévreux, sans tenter de savoir de quelle maladie il souffre.»

Le 11 mars 2011, explique-t-il, le Pacifique Nord a avalé presque autant de déchets qu'il en reçoit en une année complète. «Deux semaines après le tsunami, nous avons perdu la trace des débris.»

«Chaque année, il y aurait environ 10 millions de tonnes de plastique jetées dans les océans. On enlèverait environ 10 000 tonnes des plages chaque année. Où est passé 99% du plastique? Nous ne le savons pas.»

Les océanographes reluquent les profondes fosses océaniques où pourraient s'accumuler, lentement mais sûrement, des tonnes de plastique.

«Le plus frustrant pour moi est qu'il n'y a toujours pas d'argent consacré à la compréhension du phénomène des débris marins», soupire Nikolai Maximenko.

«Nous tentons de régler un problème de déchets du XXIe siècle avec des solutions du XIXe siècle.»

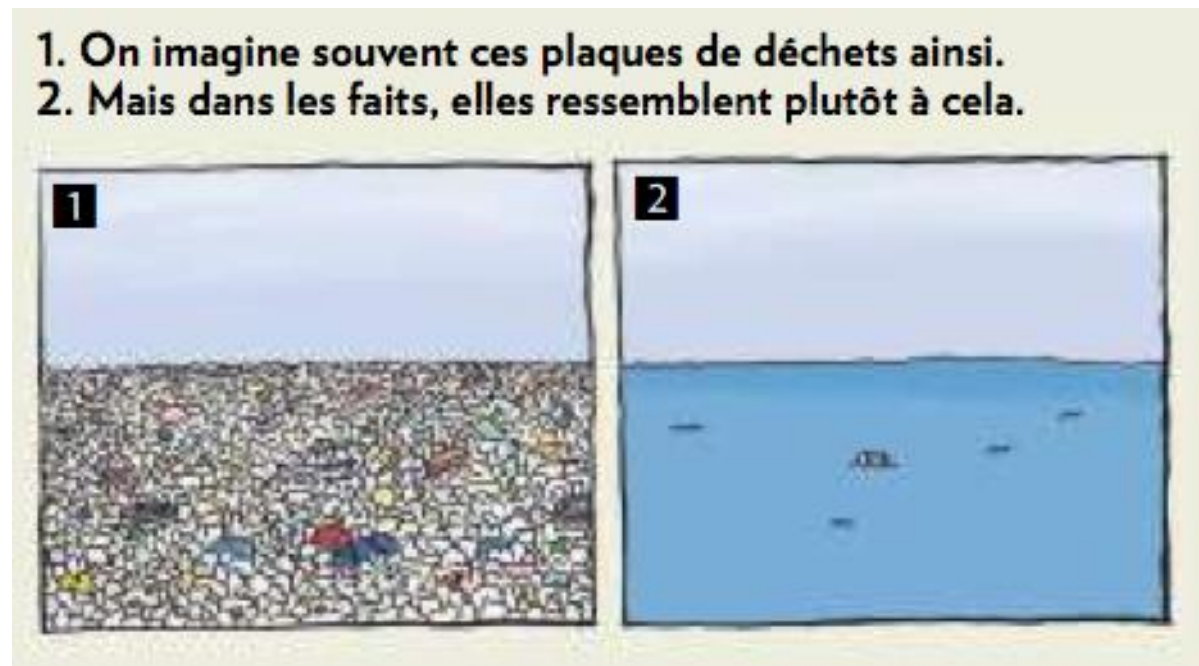
Plaque de déchets du Pacifique: tragédie plastique

Une partie des débris du tsunami ira inévitablement s'ajouter à l'une des deux grandes «plaques de déchets» qui se sont formées dans le Pacifique.

Ces immenses plaques sont nées d'un phénomène naturel. Les courants océaniques créent une zone de convergence au milieu de l'océan, comme l'eau qui s'écoule par le drain de la baignoire, avec la mousse qui se retrouve au centre.

Sauf qu'aujourd'hui, ces vortex n'hébergent pas que des algues ou des bouts de bois éjectés des courants marins, mais aussi quantité de matières imputrescibles. D'où l'appellation frissonnante qu'on leur a donnée: les continents de plastique.

Malmené par la mer, le sel et le soleil, le plastique abandonné se fractionne en milliards de confettis.



C'est en prélevant des échantillons d'eau que les minuscules fragments colorés apparaissent.

Faut-il craindre que les animaux marins confondent plastique et plancton?

«Il y a plus de 660 espèces marines qui sont connues pour avoir ingéré des plastiques», dit François Galgani, océanographe à l'Institut français de Recherche pour l'Exploitation de la Mer. «On sait aussi que certaines espèces d'oiseaux, comme l'albatros, confondent le plastique avec une proie.»

«Mais ces oiseaux meurent-ils "à cause" du plastique dans leur estomac, ou simplement "avec" du plastique dans l'estomac? Ça, on ne sait pas.»

Par contre, un autre phénomène les inquiète.

«Depuis peu, on sait que certains organismes vivants, dont des bactéries pathogènes pour les espèces marines, peuvent se fixer sur des plastiques.»

Des insectes, par exemple, pondent leurs oeufs sur ce qui flotte autour d'eux. Plus il y a de débris, plus ils pondent. Plus ils pondent sur des matériaux résistants, plus les oeufs pourront voyager et coloniser d'autres écosystèmes.

«Les plastiques sont stables, durables, et ils circulent dans le monde entier, dit M. Galgani. Le transport des plastiques en mer, c'est l'une des causes probables de la multiplication des invasions.»



Appendix D. Inventory for Signature Biofouling Species Found in Ucluelet and Surrounding Area

Inventory of Signature Biofouling Specimens - Ucluelet's Collection

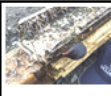







Uc #	Identification		Date & Beach	GPS	Med Mussel	Pelagic barnacles	Thatched barnacles	Rose barnacle	Boring worms	Comments
	Dr. Carlton				<i>Mytilus galloprovincialis</i>	<i>Lepas anatifera</i>	<i>Semibalanus cariosus</i>	<i>Megabalanus rosa</i>		
	1	JTMD-BF-44	23-Mar-2013 NOAA 2	48.956160 N 125.588785 W	1 dead	< 15 cm	0	0	some	Mussel to be sent to Oregon lab
	2	JTMD-BF-45	8-Apr-2013 Wick	49.036144 N 125.693919 W	2 dead	< 1 cm	0		?	Mussel to be sent to Oregon lab
	3	JTMD-BF-46	8-Apr-2013 Flor N	48.999451 N 125.634922 W	1 live, found by T&J - went to aquarium	< 1 cm			?	Lived 3 weeks, then preserved in jar and used for the DOU info sessions
	4		8-Apr-2013 Flor N					1 shell, not crowded growing conditions		Found on sandy beach, broken but little wear. For now, we are keeping this shell for our public info sessions.
	5	JTMD-BF-53	22-Apr-2013 Wick	49.014967 N 125.674042 W	many dead mussels in mortise holes approx. 10	< 1 cm			?	8 shells will be sent to Oregon lab
	6					< 15 cm				Dovetail notched post with long metal bracket
	7								Many holes, tunnels ~1cm	Beam with dovetail tenon
	8		18-May-2013 Turret Island	48.905674° N 125.352318° W				2 shell on sm bottle		For now, we are keeping this shell for our public info sessions.

Figure 12. Inventory of signature biofouling species found in Ucluelet and surrounding area from March 2013 to present.

Appendix E. Ucluelet’s NOAA Monitoring Results and Trend Analysis

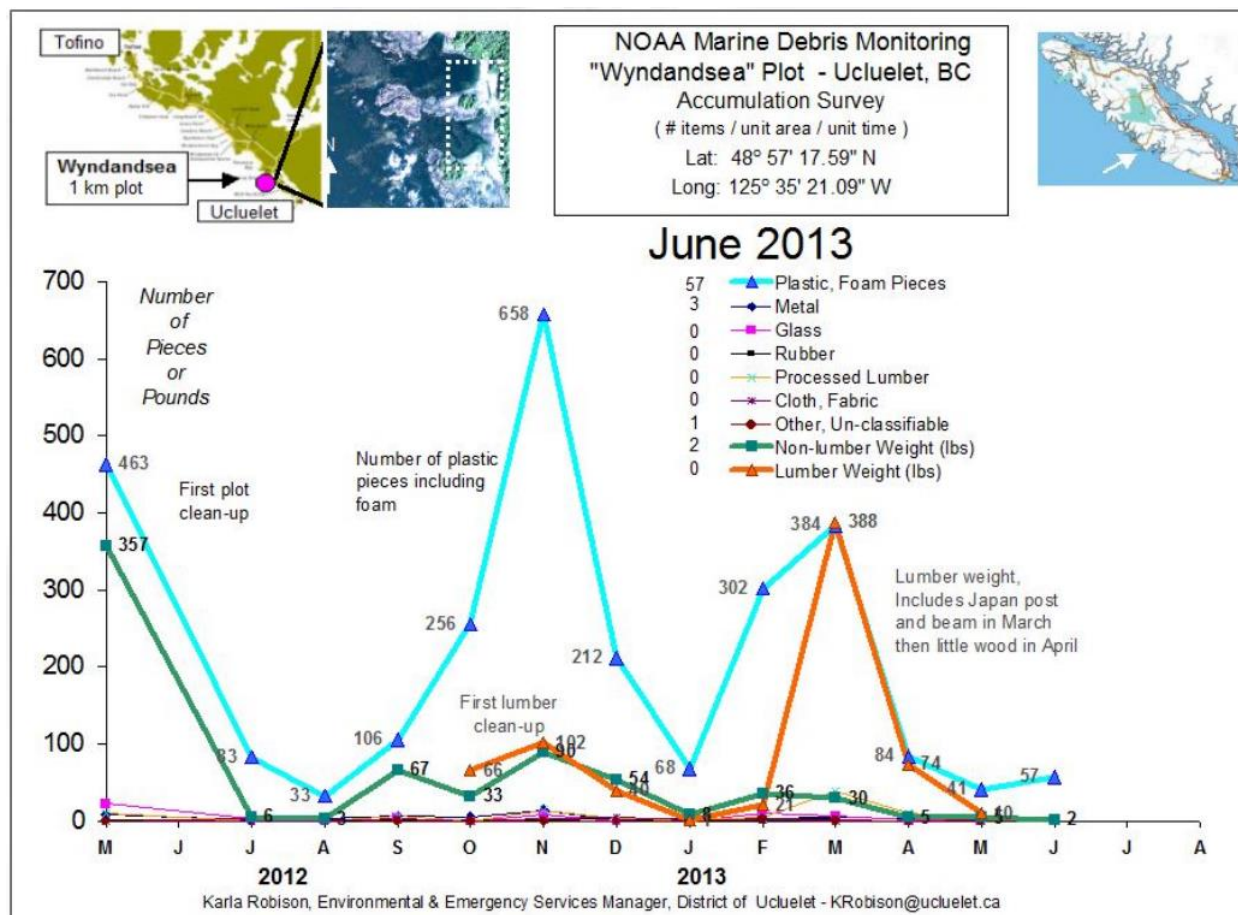


Figure 13. First year NOAA monitoring results for Ucluelet’s NOAA monitoring survey.

Trend Analysis

Over the last 12 months a small portion of the debris items collected at the 1 km NOAA survey area have been identifiable from Japan and other Asian countries. The majority of the items collected have been plastic pieces and Styrofoam. It is impossible to identify the origin of this material.

The monitoring plot peaked in November 2012 and almost doubled the baseline information collected in June 2012 when the survey was initiated. This spike may reflect what the University of Hawaii models predicted, which was that very high leading edge windage (4 - 5%) material will approach the west coast of North America the winter of 2011-2012.

Wind along the coast of British Columbia during the fall and winter months is generally from the south, which leads to down welling conditions and onshore transport of surface waters. Onshore transport favours deposition of debris along the

coast. During the fall and winter months of 2012, Ucluelet and the surrounding area received strong winds from the south and south east. The monitoring results during these months may reflect down welling and onshore transport of surface water.

Around January 2013, Ucluelet and the surrounding area were in transition of arctic cold fronts moving south and warm fronts moving north, which may have created a mid-winter gap in storm events. This may be reflected in the monitoring results as there was a drop in debris in January 2013.

In March 2013, Ucluelet saw a second peak of debris material. These data may also reflect the University of Hawaii models which predicted that moderate leading edge windage (2%) approaches the west coast of North America the spring and summer of 2012. This peak may also reflect the late winter storm activity the coastal area received.

During the months of March and April 2013, many pieces of lumber arrived showing unmistakable signs of Japanese construction techniques and Japanese metric measurements, which fit the pattern of Japanese posts and beams. A post and beam structure was discovered at the monitoring site in March 2013. Surrounding beaches received many posts, beams and lumber items in March and April 2013.

In the spring and summer months, wind along the coast of British Columbia are generally from the north, which leads to upwelling and offshore transport of surface waters. Offshore transport will help to protect our coast from debris. Ucluelet has recently received strong North West winds, which may be a reflection of lesser debris items accumulating at the monitoring plot in April, May and June 2013.

The Environmental and Emergency Service department will continue to monitor the NOAA survey as scientist predict that low windage debris will arrive gradually the first half of 2013 and will continue for several years. Scientists predict the debris will peak in British Columbia in March 2014 and will remain present along this coast for 5 years.



REPORT TO COUNCIL

MEETING DATE: JUNE 25, 2013 **FILE NO:** 3900 ZONING BYLAW; BYLAW #1160

FROM: PATRICIA ABDULLA, MANAGER OF PLANNING

SUBJECT: **NEW Zoning Bylaw #1160**

Recommendation:

1. Council consider approval of the following recommendation:
 - a) **THAT** Zoning Bylaw No. 1160, 2013 be given First Reading
 - b) **THAT** Council direct staff to proceed with the referral process noted within the body of this report
 - c) **THAT** Council direct staff to report back on the referral process in mid August and bring appropriate amendments forward (if any) for consideration of Second Reading and referral to Public Hearing.

Purpose:

To provide Council with the draft Zoning Bylaw No. 1160 for consideration and for First Reading.

To provide Council with a Summary Report of the Zoning Bylaw and Referral Process.

Summary Report

The last time the Ucluelet Zoning Bylaw was officially updated was in 1999 under Bylaw #800. Since that time there have been several amending bylaws to Bylaw #800. It is customary, from time to time, to consolidate all the amending bylaws into a new bylaw instead of relying on unofficial consolidations. The updating of the Zoning Bylaw has incorporated corrections related to format, clerical oversights and omissions. With a new Official Community Plan adopted in 2011, it was also a convenient time to review and update the Zoning Bylaw. The review undertook to:

- Modernize and Update the Bylaw
- Reduce overlaps and inconsistencies between provisions
- Reconcile competing provisions
- Clarify a number of existing regulations and how they interact with other existing regulations

- Clarify the distinction between principal uses, secondary uses and accessory uses
- Consider changes in provincial legislation (e.g. Community Care Facilities)
- Create greater consistency in regulations so that zone-by-zone variations are clearly discernible
- Update and clarify mapping, including adding comprehensive development (CD) plans that were part of staff reports but not previously included in the bylaw
- Add "2013 Update" section to the preamble of CD Update CD zones to reflect the allocation of uses for portions that have already been built, thereby clarifying what uses and density remain and where such development may occur.
- Clarify the CD density bonusing provisions including highlighting remaining amenities.

Overall, the results of the review and new proposed Zoning Bylaw will simplify future interpretation, increase certainty and understanding of the document.

Consultation Process

The public consultation process for the Zoning Bylaw is, by legislation, less onerous, but in practice not dissimilar to that of an Official Community Plan. It is desirable to give property owners, community members, business operators, adjacent communities and others an opportunity to review the bylaw. Copies of the draft bylaw will be available at the District Office for review and may be requested for a photocopying fee. The District will place an ad in the Local Newspaper over several weeks, place the draft bylaw on the District Webpage, and Notify homeowners through the District Newspaper which is placed in each homeowner's mailbox. A formal referral will also be sent to:

- Alberni Clayoquot Regional District
- Yuułu?il?ath First Nations (YFN)
- Ministry of Transportation
- Ministry of Environment
- Ministry of Fisheries and Oceans

Staff have spent considerable time over the past year and a half in reviewing this lengthy document with the desire that a sound, clear and functional bylaw could be presented for adoption. A thorough historical and legal review coupled with the public consultation process helps ensure that this bylaw will be sound for years to come.



Patricia Abdulla,
Manager of Planning

Attached for Council as a separate document due to size constraints.
Reference copies available for public with Agenda copies for evening meeting
Available for viewing at Front Counter – District Hall
Available on District Webpage to view or download.

**DISTRICT OF UCLUELET
Bylaw No. 1160, 2013**

A bylaw to divide the District of Ucluelet into zones and to provide for regulations governing the use of land, buildings, structures, off-street parking and loading, landscaping and screening.

WHEREAS the Local Government Act, Section 903, authorizes a local government to enact bylaws respected zoning and the governing of land use;

AND WHEREAS the Local Government Act, Section 903, also authorizes a local government to exercise these powers in a single bylaw;

NOW THEREFORE the council of the District of Ucluelet, in open meeting assembled, enacts as follows;

1. This bylaw may be known and cited for all purposes as the “District of Ucluelet Zoning Bylaw No. 1160, 2013”.
2. The “District of Ucluelet Zoning Bylaw No. 800, 1999” and all its amendments, and previous zoning bylaws, are hereby repealed.