



Milestones for marine life protection!

Two consecutive days in October brought exciting news—and major steps forward in our efforts to protect marine life on the BC coast.

First came an important change in federal direction regarding the **protection of endangered killer whales**. Last year, along with other groups represented by Ecojustice, we had sued Fisheries and Oceans Canada (DFO) for failing to protect the critical habitat of killer whales, and we had won that case—resulting in DFO re-drafting its recovery strategy for northern and southern resident killer whales.

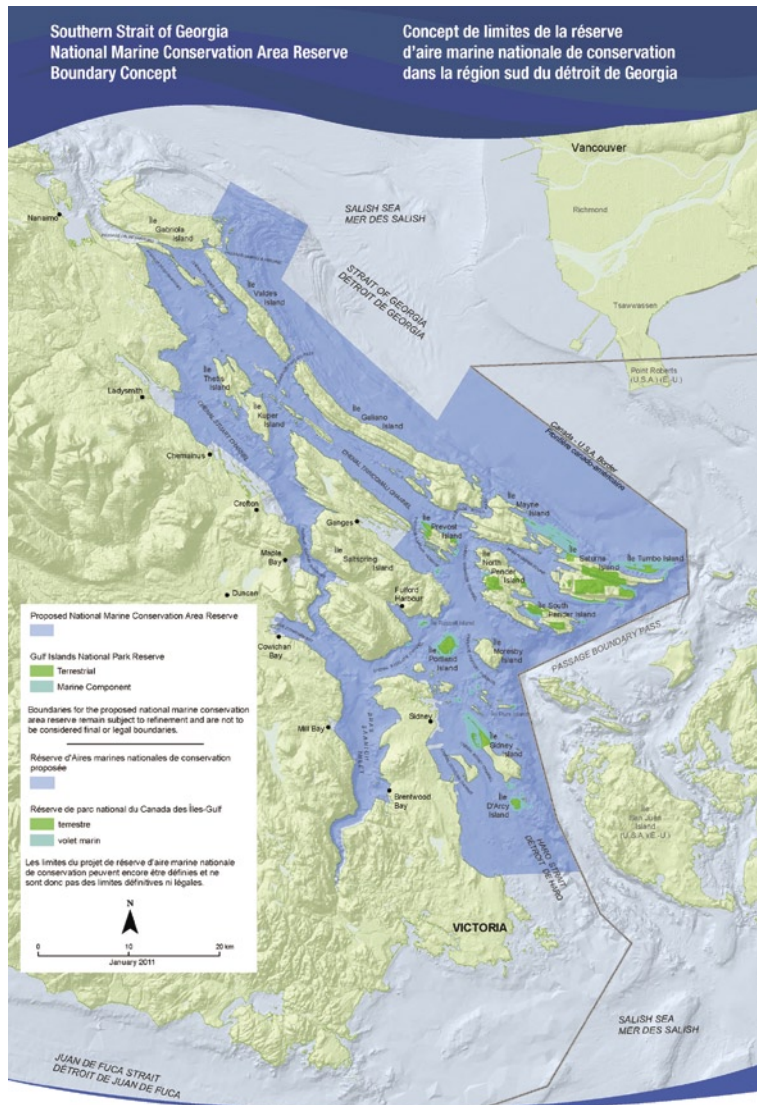
On October 12 the federal government released the new strategy, with some important changes. Prior to our legal case, “critical habitat” (habitat necessary to the whales’ survival and recovery) was defined only in terms of geophysical features—i.e. specific locations. The good news is that the revised strategy addresses the major threats facing killer whales, by including three key attributes in the definition of their critical habitat:

- *the availability of prey (Chinook and Chum salmon)*
- *lack of acoustic (noise) disturbance*
- *lack of chemical contamination.*

This changed definition is exactly what GSA had worked to win, and will be extremely important as DFO moves into the next stage—developing its Action Plan for orca recovery.

The second piece of welcome news came a day later, on October 13, and marked a major milestone in our long campaign to win a **National Marine Conservation Area** (NMCA) in the Southern Strait of Georgia.

Federal and provincial Environment Ministers Peter



Kent and Terry Lake announced a long-sought agreement between their two governments on seabed rights in the proposed NMCA. They also revealed the proposed boundaries of the area, which we were delighted to see had been expanded from the government’s earlier proposal. The new boundaries stretch from Haro Strait in the south to Gabriola Passage in the north, as had been urged by GSA and other conservation groups.

The announcement moves the NMCA process into its next stage, which will include negotiations with First Nations and community engagement throughout the expanded area.

Most importantly, it means that we’re one big step closer to benefiting from the protection offered by a NMCA—which, once it is finally created, could serve as the foundation for broader marine planning and protection of Georgia Strait.

NMCAs are a form of protection under the *National Marine Conservation Areas Act*, which was passed in 2002. They are intended to protect marine wildlife and habitat by establishing large, zoned ocean areas: managed to allow for multiple uses, but protected with environmental objectives.

Such protection is critical considering the increasing pressure on our fragile region’s ecosystems and iconic creatures such as the endangered southern resident killer whales. Recent polling shows that 70% of British Columbians feel that the Strait of Georgia needs more protection and 75% support the creation of an NMCA in our region. Clearly, communities care about the Strait, so the two announcements in October were good news for all of us around the region.

Strait Thoughts: The benefits of time

by Christianne Wilhelmson,
Executive Director



Recently I was on a panel at a “1% for the Planet” event, which was focused on how businesses can partner with the not-for-profit community to create change. I talked about GSA’s approach: involving communities in making change, understanding that each threat to the region’s environment has a solution, and being dedicated to bring about that solution to the benefit of everyone who lives here. But even more, I spoke about the fact that GSA’s successes have come from our willingness to commit to campaigns and programs for the long-term—because real change takes time.

From an organizational perspective, it’s tempting to put most of our energy into campaigns that can result in “wins” in a relatively short time frame. Short-term campaigns can be very focused, making them easier to support in terms of time and other resources. They can also bring considerable media attention and acclaim, which benefit the issue and the organization behind it. And of course, these campaigns can definitely make a difference.

But the major changes that GSA is working to win are not at all short-term: they’re about altering the way that we live with the waters of Georgia Strait, so as to ensure the long-term sustainability of the region. They’re about identifying and addressing what’s needed for our communities to flourish, economically and socially, while our ocean remains clean and healthy for the creatures and plants that call it home—and whose continued existence supports us in so many ways. This kind of long-term change is seldom the focus of media headlines; rather, it comes out of thousands of conversations with people, communities and their leaders—and that can take many years.

The good news is that this long-term effort pays off, because eventually, with enough of us adding our voices to the cause, **change happens**. We saw this last month in a long-awaited

announcement regarding the establishment of a National Marine Conservation Area in the Strait of Georgia—a day GSA has been working towards for many years—and in the release of an updated recovery strategy for resident killer whales, coming after our years of pressure and legal action to protect our endangered orcas (*page 1*). This new strategy, created thanks to our legal victory in December 2010 (reported in *Strait Talk*, spring 2011), means that the threats to these whales must now be addressed when protecting their critical habitat. That’s a win—for the whales and people of this region!

By contrast, the worrisome recent news that Infectious Salmon Anemia has been found for the first time in wild salmon here in BC (*page 10*) is a reminder that there are still many issues needing GSA’s ongoing attention. For more than 15 years we have been working to get farmed fish out of open netcages and into closed containment, to protect our precious wild salmon from the risk of disease transfer from farmed salmon. Clearly we must continue working to build a commitment among government officials and leaders to the changes that are so urgently needed. Similarly, we’ll need to keep working to ensure that the Capital Region’s commitment to sewage treatment is not undermined by those who would use federal or provincial funding delays as an excuse to keep polluting our collective waters with raw sewage.

Georgia Strait Alliance is the voice for this region on the issues—large and small—that must be tackled if we are to move our region’s communities to a more integrated way of living with these waters. Thanks to all our volunteers and supporters for your willingness to join with us in committing to the work for the long term. Although there’s much still to be done, our collective partnership means that the Strait is in very good hands—for many years to come.

What’s New in the Strait?

Efforts to restore the beleaguered marine environment of Howe Sound are paying off: this year **Britannia Creek** had spawning salmon for the first time in a century. Along with the efforts of streamkeepers and conservationists, Epcor’s water treatment plant, which in 2005 began cleaning up contamination from the long-closed Britannia Copper mine, has been important to revitalization. Sightings of grey whales, killer whales, white-sided dolphins and huge herring spawns are now occurring frequently in Howe Sound.

Trans Mountain Pipeline (owned by Kinder Morgan) and two of its contractors have pleaded guilty to pollution charges from a 2007 oil spill, caused when they ruptured the pipeline

during work on a sewer project and set off a 12-metre geyser of crude oil that showered homes and forced evacuation of 250 Burnaby residents. Sentencing is scheduled for November and it’s expected the companies will have to pay more than \$500,000 in penalties.

Pacific sardine and surf smelt are among 49 species in our local waters that have recently been flagged for special conservation attention, either by the BC, Washington, US or Canadian governments. Overall, according to SeaDoc Society, 113 species that live in our Salish Sea waters are now listed as **threatened or endangered**, or are candidates for listing in either the US or Canada—up from 64 species in 2008.

Port Angeles is planning to spend more than \$40 million over the next four years to eliminate **sewage overflows** into the Strait of Juan de Fuca, as required by Washington State’s department of Ecology. Similar to Vancouver, Port Angeles’ sewer system overflows 30 to 100 times each year when rains are heavy, causing waste to spill into marine waters before it can reach the treatment plant.

Pacific Seafood has asked for a 180-acre tenure for a proposed **net cage fish farm** in exposed, open waters on the Strait of Juan de Fuca 20 miles west of Port Angeles. The company wants to produce up to 5,000 pounds of steelhead or Atlantic salmon.

Comings and Goings

The past few months have been a busy time at GSA! We said good-bye to four temporary staff members and welcomed four new folks to the team.



Cheryl Onciul

Photo Rod Smith

We welcome **Cheryl Onciul** (left) as our new Grants Coordinator. Cheryl comes with a wealth of professional experience in non-profit sector fundraising and is a long-time supporter of GSA. We're delighted to have her aboard!

We also welcome **Kathleen Fenner** and **Sarah Schmidt**, (below) who will be part of our community mapping project team until the end of February (see page 5 for info about the project and what their work entails). Kathleen is a new face at GSA, while Sarah will be familiar to many

members as she has been a staff member in the past and a long-time volunteer. Both are welcome additions to our roster.



Kathleen Fenner and Sarah Schmidt

Photo Cathy Booler

We welcome our newest Board member, **Dave Macdonald** of Vancouver, elected at this year's AGM. You can read more about him on page 7.



Dave Macdonald

Photo Larry Agnew

Raffle Wrap-Up

A very excited **Mary Sinclair** of Nanaimo won first prize in our summer Celebrate the Sea Raffle: a base camp sea kayaking adventure for two in Kyuquot Sound, donated by **West Coast Expeditions**.



Donna Berthiaume (L) presenting the first prize to winner Mary Sinclair.

Photo Cathy Booler

Jean Wyenberg of Gabriola Island won the second prize, a beautiful, handcrafted gold ring with a raised eagle design, donated by **Darren Blaney**.

George Heyman of Vancouver won third prize, a two-person tent and \$100 gift certificate donated by **Mountain Equipment Co-op**.

Congratulations to all our winners, and a big thank you to our generous sponsors and to everyone who bought raffle tickets to support GSA's work.

Summer students **Kelly Sims** and **Heather Coupland** have moved on from our staff roster but are still working with us as volunteers. Kelly is now back at Dalhousie University pursuing a MA in Urban Planning, while Heather, a UVIC student, is in Norway working on her MBA.

UBC intern **Jenn Burt**, who was briefly part of our community mapping project team, went on to do another internship at CPAWS and has now graduated from her studies.

David Field worked on our Salmon Aquaculture campaign for seven months and was based in our Vancouver office, helping to increase our visibility on the Lower Mainland. He and his family are planning a move to Ontario.

We'll miss the energy, enthusiasm and insights that all of these folks brought to GSA and wish them good luck in their future endeavours.

Send an 'ocean of love' this Season

When you send Season's Greetings to your friends and family this year, send cards that express an ocean of love... and your love of the ocean!

GSA has produced a beautiful set of four **Seasonal** cards, each with an inspiring (non-denominational) quote, and the proceeds will help us protect the local waters depicted on the cards.

We also offer a set of four **Wildlife** cards featuring west coast creatures. These are blank inside so you can personalize your own seasonal message, or use them throughout the year.

Photographers who volunteered their striking images include GSA co-founder Laurie MacBride (EyeonEnvironment.com), wildlife photographer Isabelle Groc (Tidelife.ca), GSA staff member Michelle Young, and biologist Ernest Keeley.

The back of each card has information on the place or species featured. Each set of four cards is only \$8 plus shipping and handling, or you can purchase 4 sets of 4 for just \$25 (whatever combination of sets you wish).

For full details, including images, see www.GeorgiaStrait.org/cards. Order online, or by phone (250-753-3459), or email (gsa@GeorgiaStrait.org), or use the form that came in this newsletter. Only a limited number of card sets are available so act now to order your own.

We wish you happy holidays!



Everything has beauty, but not everyone sees it.

Confucius

In all things of nature there is something of the marvelous.

Aristotle



This year, give an uplifting gift to friends and family, and to the Strait—a GIFT MEMBERSHIP

Why not give a **GIFT MEMBERSHIP** to Georgia Strait Alliance this holiday season? It's a positive and enduring gift that will:

- **focus on solutions,**
 - **work with communities around Georgia Strait on what matters most to them, and**
 - **help to protect marine wildlife in our region—from nudibranchs to salmon to orcas!**
- Your gift memberships will help GSA connect with those who care, and your friends and family will enjoy becoming part of our vital and growing community, working together for a common cause.
- Your gift memberships can provide practical support for GSA—helping to grow our membership, reach more people around the region and promote lasting solutions for a healthy coastal region.

- **map wildlife species, the threats they face, issues, solutions and community-based projects in an online, interactive atlas—making it easy for people to add information, see opportunities, link up with others and get involved in protecting and restoring our region's coastal environment,**
- **provide important information to local and regional governments and key decision-makers, and work with them to expand marine protection in our region,**
- **give more people the tools and information needed to take action to achieve real change on important issues like salmon farming, oil tankers, pollution and marine habitat loss in our region.**

To send gift memberships to people who, like you, care about a healthy and vibrant sea—please fill out the form in this newsletter and return it to us, or go to www.georgiastrait.org/giftmembership. Because membership in GSA is by donation rather than a set fee, with a single donation you can give multiple gift memberships. GSA will send a card to each of the recipients to let them know about your thoughtful, proactive gift and to welcome them as new members of GSA's growing family.

Happy Gifting Season!

Cathy & Donna, from the Nanaimo office

Making Marine Conservation Central

by Rebecca Adams

Reflecting on the past year, we are thrilled to see how far our community mapping project has come and thankful for all the support and encouragement we've received along the way. The online interactive map (www.mapping.uvic.ca/gsa) is not only Google powered, it's people powered too!

Many thanks to our summer students **Heather Coupland** and **Kelly Sims** and UBC intern **Jenn Burt**, who, with refreshing creativity and enthusiasm, contributed greatly to this project. They collected data, helped to improve the functionality of the online map, and helped to plan for the future of the project. All three of these amazing women are continuing to contribute to and promote GSA and the mapping project as volunteers!

Last Spring, with 500 sites already plotted on the map, and still so much more information to be added, it became apparent that we needed to upgrade our online mapping tool. With the expertise and guidance of **Charles Burnett** and his staff at GeoMemes (www.geomemes.com), and training at the Google Earth Outreach Workshop in Vancouver*, we have been working on ways to overcome some of the technical issues we've been experiencing with the online map.



Graphic by Rebecca Adams

As a result, we will soon be launching a new version of the online map, which has grown to become a virtual atlas of Georgia Strait's communities. The new map will be more user-friendly, and able to handle new information as the project continues to grow and evolve. Keep your eye on our website for details!

As our map continues to grow and change, we are very pleased to welcome our new Job Creation Program interns, **Sarah Schmidt** and **Kathleen Fenner**, who will be with GSA until the end of February, helping to enrich the map and deepen our connection with the region's communities.

Sarah and Kathleen are leading our Community Engagement Project, which will focus on developing and using our Georgia Strait Protection Principles and online map to facilitate stronger relationships between local governments, organizations and the people who live around Georgia Strait. Sarah and Kathleen will be participating

in various events and hosting workshops, and they want to connect with you about what concerns you and what you value in your community. Watch our website for dates and details.

The Georgia Strait Protection Principles will form a set of guiding statements to help ensure that marine conservation is treated as a priority in community visioning processes and eventually—through bringing these Principles to local governments and engaging with them—that marine conservation is central in official community planning processes in our region.

In the end, our goal is to ensure that as we build and strengthen our region's communities, all of our actions help build a healthy Georgia Strait.

**Learn more about Google Earth Outreach and its work with Canadian non-profit groups at: <http://google-latlong.blogspot.com/2011/10/google-earth-outreach-and-canadian-non.html>*

PCBs headed for marine park?

by Cathy Booler

Earlier this year BC's Environment Minister accepted the *HMCS Annapolis*, an old military ship, as a gift from the Artificial Reef Society of BC (ARSBC). The plan is to dump the vessel in **Halkett Bay Marine Park** at Gambier Island to create a reef for divers—despite opposition by local residents, and the earlier rejection of the ARSBC's application by Fisheries and Oceans Canada (DFO).

This fall Ecojustice asked Environment Canada, on GSA's behalf, why the agency is now forgoing the need for an Ocean Disposal Permit to sink this ship, as required under the legislation on ocean dumping (which Environment Canada itself oversees). We also wonder why our provincial Environment Minister is actively promoting a controversial recreational

activity in a park, rather than focusing on protecting the marine environment.

GSA has been working to stop the dumping of old military ships since 1992. Pollution from chemicals, asbestos and other toxins aboard these ships are among our concerns. In recent years another serious issue has come to light: elevated levels of PCBs found around these ships—along with the lack of government will to address this problem.

We have learned from a reliable source that Environment Canada conducted a number of tests on ships sunk previously by the ARSBC, and found alarmingly high levels of PCBs in marine life on the hulls. PCBs are highly toxic chemicals that persist in the environment, getting more and more concentrated as they move up the food chain.

To our knowledge no further PCB testing has been done. The ARSBC was made aware of the tests as early as 2002 but dismissed them. Subsequently the group was asked several times to take valid biological samples but said it lacked the funds. DFO, to its credit, has asked for funds to test for PCBs, but appears to have been blocked by the Department of National Defence.

It's worth noting that the Bush Administration cited the ARSBC's sinkings here in BC as justification for bypassing Environmental Protection Agency regulations when they sank the *USS Oriskany*, a naval aircraft carrier, off the Florida coast in 2006. PCB levels around that ship are now alarmingly high.

You can follow this issue and find more info at: www.GeorgiaStrait.org/artificialreefs.

AGM combines business and fun

Georgia Strait Alliance's 2011 Annual General Meeting was held in Vancouver on June 18, and included the election of new Board members and presentations on the highlights of the past year. After the meeting, about 25 members and friends took part in a three-hour scenic cruise of English Bay and Burrard Inlet aboard the *MV Someday*. As you'll see from the smiles, great fun was had by all!

Photos by Larry Agnew



Matthew Kirchner (L) retired from our Board after serving as a Director for almost seven years. In appreciation of his hard work and tremendous support, he was awarded a Lifetime Membership, presented by President Brent England and Executive Director Christianne Wilhelmson.



A new Board was elected. Seen here (L to R): Don Bulmer, Anne Murray, Dave Macdonald, Melinda Skeels, Brent England. Dave was elected for his first term; Don, Anne, Melinda and Brent entered the 2nd year of their term. The other returning and re-elected Board members are missing from this photo (see full list and bios next page).



Christianne Wilhelmson, Jerry McCall, and Board member Shaena Lambert



We weren't the only people touring the harbour that day, and checking out the commercial ships at anchor!



EJ Hurst and Jenn Burt



Michelle Young and Rebecca Adams



John Webber, Jean-Michel Hanssens, and Anne Kerr



Lindsay Richards and Liam Agnew



Advisory Council member Dr. Larry Dill



Lisa Winbourne and Cheryl Onciul



EJ Hurst with Board members Anne Murray and Brent England

GSA Board of Directors

Brent England (*President*) lives in Saanichton and is a Chartered Accountant with a degree in Marine Biology. He is a boater, SCUBA diver and member of the Power & Sail Squadron's teaching core.

Melinda Skeels (*Vice President*) is an associate with a North Shore law firm focusing on aboriginal and environmental law. An avid sea kayaker, Melinda grew up on Bowen Island, attended university in Victoria and now lives in Vancouver.

Frank Tester (*Secretary*) is a UBC Professor with degrees in environmental design, social work and geography. He works on social and environmental issues in Nunavut and has co-authored several books on Inuit social history and written about BC environmental issues. He lives in Vancouver and has a small farm on Denman Island.

Darren Blaney is on the Steering Committee of the Coast Salish Gathering and is a Director of the First Nation Technology Council. He served 12 years on Homalco First Nation's Council including six years as elected Chief, where he was a big supporter of GSA's Salmon Aquaculture campaign.

Stan Boychuk is a consultant who lives in Victoria. Previously he was Executive Director of the Clayoquot Biosphere Trust and President of the Canadian Biosphere Reserve Association and before that he lived in the Yukon where he worked on aboriginal issues and human resource management and was involved in numerous organizations.

Don Bulmer is a Certified Financial Planner with extensive experience in estate and charitable gift planning. A Portfolio Manager and Senior Wealth Advisor, he believes strongly in giving back to his community and is involved in many charitable organizations. He lives in Vancouver and enjoys skiing, marathon running, and spending time with his family at their boat-access cabin on Indian Arm.

Shaena Lambert is the author of two books of fiction, including one that was a finalist for the Rogers Writers Trust Fiction Prize and the Ethel Wilson Award and was chosen by *The Globe and Mail* as a best book of the year. She grew up in Horseshoe Bay and lives in Vancouver.

Dave Macdonald is a Certified Management Accountant who helps small businesses and entrepreneurs develop sustainable practices. He's an avid cyclist and founding partner of a local electric bicycle company, and is also on the Board of the Passion Foundation, working with young women to foster education and self-worth. He lives in Vancouver.

Anne Murray is Vice-President, Community and Environmental Affairs for Vancouver Airport Authority, an Adjunct Professor for SFU's School of Resource and Environmental Management and a Director of the YVR Art Foundation. She lives in Vancouver and enjoys cycling, canoeing, hiking, camping and travelling.

Clean Marine BC UPDATE

by Lisa Winbourne

Our Clean Marina program is gathering steam with more facilities expressing interest each month. We can't quite believe it ourselves, but it's been three years since the very first "eco-rating" of a marina in BC, **Westport Marina** in Tsehum Harbour.

Westport's Ken Gowan was keen to undergo a re-audit as soon as their three-year Clean Marine BC certification expired, and we are pleased to announce that as a result, Westport has received a new "Three Anchor" eco-rating.

We would also like to commend the **White Rock Harbour Board**, who enrolled in our program just this spring, and after being put through their paces, were awarded a "Three Anchor" rating this summer. Congratulations on meeting the Clean Marine BC criteria in such a short timeline!

The word is spreading among marinas. The latest to enroll in the program and make the commitment to 'greening up' their operations are:

- **Okeover Harbour Authority**
- **Porpoise Bay Harbour Authority**
- **Victoria International Marina**

What does enrolling in the *Clean Marine BC* program mean? A marina receives a detailed clean marina handbook to guide them in identifying their needs and taking specific actions to green up their operations, policies and facilities. They also sign onto the *Clean Marine BC* policy, demonstrating their commitment to employees and customers. Once they feel they are ready, they undergo the independent eco-audit to earn their "Anchor" rating.

Is your marina in our program? If not and you'd like more information please check out our website and contact Lisa Winbourne (cmbc@georgiastrait.org).



The pier at White Rock, leading to the White Rock Harbour Board marina which was awarded with a "Three Anchor" eco-rating this summer in our Clean Marine BC program.
Photo courtesy White Rock Harbour Board

SPREADING THE WORD

Over the summer our *Clean Marine BC* program was ably represented at numerous Island and Mainland events by our enthusiastic summer students, Kelly and Heather. They did an incredible job disseminating the latest in excellent information from GSA and helping to spread the good word about clean marinas and green boating.

Do you have an event coming up that you'd like us to attend? Wherever possible, we are happy to talk to your yacht club, boat show audience or your marina. Contact Lisa at cmbc@georgiastrait.org if there's somewhere you think we should be. You can also follow Clean Marine BC news at our new Twitter address: @CleanMarineBC.

Green Boating tidbits

- Canadian electric boat builder, Tamarack Lake Electric Boat Company won the acclaimed 2011 Mansura award in London England, described as the 'Nobel Prize of Green Boating' for its innovative 10-passenger, 22-foot "Loon"™.
- Montreal area technology firm LTS Marine has partnered with US-based Nautique Boats to produce the world's first high performance, 100% electric ski boat. The Ski Nautique E is equipped with two automotive electric motors and when fully charged can attain speeds of 60 km.

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Also available online at www.GeorgiaStrait.org as a PDF with live links.

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and information, see
www.GeorgiaStrait.org

Tankers in Georgia Strait: a citizen's primer

by Mike Richards

Enormous amounts of information have been hitting the media over recent months about the proposed Enbridge pipeline from the Alberta Tar Sands to Kitimat and the oil tanker traffic it would generate. By contrast, there's been little attention given to oil tanker traffic here in the Strait of Georgia—either currently happening or what's proposed.

Oil tanker traffic has been quietly increasing at an alarming rate here in our region, with little or no public consultation. In 2003, there were 12 tankers transits of Georgia Strait; in 2010 this had increased to 71.

In our summer issue of *Strait Talk* we gave you an overview of the situation here in our part of the world. Since then we have been looking more closely at the issue and have turned up some interesting information. Here's what we've found out.

Proposed increases would bring the volume of oil shipped to approximately 450,000 barrels per day by 2016. This translates to around 288 crude oil tanker transits, annually, through Burrard inlet and the Strait of Georgia, including the fragile shorelines of the Gulf Islands.

To reach this volume, two specific projects will need to be completed:

- *The dredging of the Second Narrows in Burrard Inlet to allow for bigger tankers (Suezmax class tankers: up to 275 metres long).*
- *The construction of a twin to the current Trans Mountain pipeline to allow for an increase of more than double the current pipeline capacity.*

Kinder Morgan, the owner of the Westridge terminal where the tankers are loaded with crude oil, recently applied to the National Energy Board (NEB) to have firm service agreements with their shipping clients. In the same application they applied for a reallocation of pipeline capacity, to increase the marine terminal component by over 50%. (The GSA/Ecojustice submission in response to this application is at: www.GeorgiaStrait.org/NEBsubmission.) We are awaiting the NEB's decision on the application; watch our website for an update.

The reality on clean-ups

We have a very professional oil spill response organization here in BC, but if the spill is large enough they simply don't have the capacity to handle it on their own. The 2010 Auditor General's report points out that our own Coast Guard is also not ready for a big spill.

What may surprise many, including those responsible for oil spill clean-ups in Canada, is that recently, US spill response organizations were advised by their lawyers to no longer respond to an oil spill in Canada, as there is no immunity for non-Canadian responders under the *Canada Shipping Act*.

The Pacific States/BC Oil Spill Task Force's 2011 report on response capability in the transboundary area lists 17 pages of recommendations to various agencies, response organizations and industry, to improve spill response. Most of those recommendations have not yet been implemented and some may never be.

Even if we had an adequate capacity to respond to a spill, the reality is that a clean-up rarely starts immediately and most



An Aframax tanker in Kitimat—the same class of tanker already making frequent transits of Georgia Strait. The even larger class of Suezmax tankers may soon be travelling through our local waters.
Photo courtesy WCEL

spills have a very low recovery rate (according to independent experts, sometimes only 10% if we're lucky).

Also, risk analyses done to date are either out of date, don't cover the whole transit through the Strait of Georgia and the islands of the Salish Sea, or simply don't consider the full ecological, social and financial consequences of a large spill here in our region.

Tar Sands Oil Coming our Way

Crude oil from the Alberta Tar Sands has to be modified for extraction and shipping. Little is known about exactly how this modified oil interacts with the marine environment in a spill and what the specific clean-up challenges will be.

Currently most of this modified crude oil goes to refineries in the US, but plans are to increase the Asian market share.

Two separate proposals are being considered right now, elsewhere in North America, and either could have a major impact on our region. If regulators decide to reject the Northern Gateway (Enbridge) pipeline on BC's North Coast, or the Keystone XL pipeline (Alberta to Texas), one unfortunate result would be increased pressure on Burrard Inlet as a tar sands crude shipping port.

What's Needed

Communities around the Strait are growing increasingly concerned as the facts about oil tankers here in our region come to light. GSA's work on this important issue continues. We recently had an article published in *BC Shipping News* magazine and we will be making a presentation to the Pacific Coast Marine Review panel in the new year.

GSA's stance (which was echoed by a resolution passed by the Union of BC Municipalities in September) is that before we can allow any further increases in crude or modified crude oil tanker traffic through Burrard Inlet and Georgia Strait, **there must be a comprehensive public consultation** to determine if all those who live, work and play in this region are willing to take the risks involved. We also believe that a **comprehensive risk analysis is desperately needed**, to determine not only the probability of a major spill, but also the true ecological, social and economic consequences.

To keep up to date on this and other issues, follow on Twitter: @MikeGSA or @GeorgiaStraitBC, or you can email me at mike@georgiastrait.org.

Closed containment taking off

by Ruby Berry

As recently as three years ago, many academics, government and industry officials were ridiculing the very idea that salmon could be raised effectively in closed containment, as GSA had been urging since 1996.

Fortunately, some entrepreneurs, engineers and innovators understood the opportunity that closed containment could bring, and this understanding, along with the ongoing pressure GSA and our partners have brought to bear on the salmon aquaculture industry, has had a dramatic impact.

Now, far from being considered just wishful thinking on the part of environmentalists, closed containment is a fast-growing new industry and a viable alternative to open net pen salmon farms.

There are now numerous companies growing salmon in a variety of closed systems. Many more are in the planning stage, fine-tuning the technical details, and others are under construction. From locally-run/owned to large scale commercial operations, this industry is about to come into its own in a big way.

One BC company that GSA has been following for many years, **Agrimarine** (based in Campbell River), will see their first harvest of Chinook salmon grown in floating solid wall tanks in March. They're also growing salmon and trout in tanks in a lake in China, where, as at their BC farm, fish waste is collected and used as fertilizer.

Most of the other operations are land-based, recirculating systems. Smaller scale facilities are proliferating in a number of communities interested in local economic development and regional markets; examples include **Sweet Spring** in Washington State and the **Namgis First Nation's** demonstration project on northern Vancouver Island.

Larger scale commercial facilities, geared to acquiring a share of the commodity market for farmed salmon, are in various stages of development in Denmark, China and the US, and several are planned for coastal BC.

It is exciting to see the diversity of closed containment systems that are under development: varying sizes and designs, incorporating factors such as renewable energy, waste recovery, by-product reuse and "aquaponics" (use of the fish waste water to grow vegetables).

Three commercial-scale research facilities are working to fine-tune the technology and determine the most effective and economical growing environments. One of these, the **Freshwater Institute** in West Virginia, is raising two strains of Atlantic salmon to market size, looking at variables such as length of daylight, amount of feed needed to produce each pound of marketable fish (which appears to be improved in closed containment), swimming speeds, water quality and densities.

The key to healthy, fast growing fish and economical production is water quality. Economic viability depends on having a high volume of quality product, which is achieved by raising fish in a high density—and this in turn relies on having clean water. The higher the water quality, the more healthy fish can be grown.



Closed containment tank at Middle Bay, near Campbell River.

Photo courtesy Agrimarine

Evidence is increasingly showing that when fish are grown in higher densities in tanks with appropriate current flow, they are able to follow their natural tendency to swim in schools, which means less bodily damage, less aggressive behaviour, and better overall health. The densities of some of the fish in these trials are well over 80 kg/cubic metre; by contrast, density in open net pens is only about 45 kg/cubic metre.

Ironically, BC salmon farmers, who (with the notable exception of Agrimarine) have vigorously refuted the possibility of closed containment for so many years, are now claiming to be the experts and global leaders in this technology, since this is how they grow most of their smolts and some broodstock—yet at the same time, are still insisting that closed containment will never make money. Their arguments are becoming more feeble as time and technology move forward.

The market is more than ready for salmon grown in safe closed containment, and in a seafood-hungry world, suppliers and retailers are clamouring for this product. Many retailers have already made a commitment to stop carrying unsustainable seafood within a specified time frame, and are eager to stock products they can be proud to carry. Soon, they'll be able to offer consumers an acceptable alternative to wild fish: salmon grown in closed containment, that pose no threat to the marine environment or the health of wild salmon runs.

And the industry said it couldn't be done!

Please see our list of current closed containment facilities at: www.GeorgiaStrait.org/ClosedContainmentFacilities.

You can contact me at ruby@georgiastrait.org.

Looming ISA crisis

by Ruby Berry

A recent finding here in BC may mark the beginning of a tragic story—which could easily have been averted.

High concentrations of fish in open net pens provide the perfect conditions for breeding disease among fish. That's why for years, GSA has been concerned about the potential for

continued right

Looming ISA crisis cont.

diseases to be passed from farmed fish to wild Pacific salmon, similar to the way sea lice infection has already occurred. One particularly worrisome disease, which could be deadly to herring as well as wild salmon, is Infectious Salmon Anemia (ISA), a viral infection endemic to Atlantic salmon.

Since 1999, when the disease first appeared in New Brunswick fish farms, GSA has been urging government officials to take action to prevent ISA in BC. Among our appeals was a January 2009 letter to the BC Premier and Fisheries and Oceans Canada (DFO) urging immediate prohibition on importation of live farm salmon broodstock, milt and eggs to BC. But instead of taking these preventive measures, salmon farmers and government regulators have repeatedly assured us that the transfer of such diseases to wild Pacific salmon species was not possible (just like they told us in the past that farmed salmon would not escape—or that if they did, would not survive or reproduce in our rivers—and that sea lice transfer would not be a problem for wild salmon.)

Now the “impossible” appears to have happened: earlier this fall, Simon Fraser University professor Rick Routledge and biologist Alexandra Morton announced that two Sockeye smolts from Rivers Inlet had tested positive for a strain of ISA, and a few weeks later, another case of ISA was reported in Fraser River salmon. Although still unclear, it’s possible this is the same strain that has been found in every area of the world with open net pen salmon farms, and which was responsible for the disastrous losses of the Chilean salmon farm industry in 2007.

Although aquaculture industry spokespeople have reported no cases of ISA in their farmed fish, the Cohen Inquiry has uncovered evidence, since 2006, of fish with symptoms consistent with ISA.

Predictably, officials from the aquaculture industry are suggesting the virus found in BC may have originated from wild salmon. Yet just weeks before the finding of the first ISA infection, DFO pathologist Dr. Christine MacWilliams had told the Cohen Inquiry:

“If ISA were detected here, I would presume it came from a break in

Cohen Inquiry: *what does it all mean?*

by *Christianne Wilhelmson*

After a year of oral hearings and nearly 2000 exhibits, the Cohen Inquiry into the Decline of the Fraser Sockeye has finished the public part of its work. We must now wait until June 2012 before we can see what recommendations Justice Cohen will put forward based on all he’s heard and learned.

With GSA’s standing at the Inquiry, as part of the Conservation Coalition represented by Ecojustice, we have had the unique opportunity to see the inner workings of the Inquiry. We’ve also been able to help formulate the Coalition’s official recommendations (see our press release and official submissions to the Inquiry: www.GeorgiaStrait.org/salmoninquiry).

So what does it all mean?

If we were to summarize all the evidence it would come to this: there is no one smoking gun that caused the decline of the stock in 2009; rather, salmon populations in BC are suffering from death by a thousand cuts—and those who are supposed to be responsible for salmon protection are shirking their responsibility.

The Inquiry revealed that the threats to salmon are real and come from a broad range of sources: chemical contamination or outright loss of their habitat, climate change, potential disease transfer from salmon farms, and many more. Each puts pressure on the species, and as one pressure point weakened the stock, another might have been the trigger for the decline. Which threat did what is likely impossible to identify.

That said, what is abundantly clear is that the federal government, through the aegis of the Fisheries and Oceans Canada, is not doing its job. It underfunds DFO’s Science Branch, so that government scientists do not have the means or mandate to examine the threats (for example, to research the cumulative impacts of pollution on salmon, or of disease from salmon farms).

DFO’s dual mandate—to promote the aquaculture industry while at the same time protecting our oceans—is at best contradictory in light of the threats to wild salmon from open net cage salmon farms. Add to this, senior managers who are moved into new positions on what seems like an annual basis (meaning the loss of accountability and of invaluable knowledge within DFO), a Wild Salmon Policy which has not been fully implemented, and understaffed on-the-ground units who are losing their power to enforce conservation laws—and you have a deadly mix for salmon and our ocean ecosystems.

As we wait for Justice Cohen’s final report, we can only hope that he has listened well to the many voices, including ours, that so clearly stated that the problem is systemic, and that he puts forward strong recommendations for change. Otherwise, this Inquiry will become just another exercise in creating words to collect dust on the shelf—while our oceans and our communities pay the ultimate price.

biosecurity, either at a farm level or through international transport. I would not presume it’s coming from wild fish in BC.”

Elected officials in Washington and Alaska are taking the news of the ISA found here in BC very seriously—calling for immediate measures to assess the risk and stop the spread of the deadly disease,

in order to protect the Pacific Northwest’s coastal economy and jobs. Judge Cohen reacted almost immediately, requesting documentation regarding the findings, but recommendations from his inquiry will not be available until June 2012. What action—if any—will be taken by our own leaders remains to be seen as we go to press.

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