

PACIFIC Currents

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Lightstation Automation

Lightstation automation — why does the Coast Guard insist on going ahead with it in the face of apparent widespread public opposition to the idea?

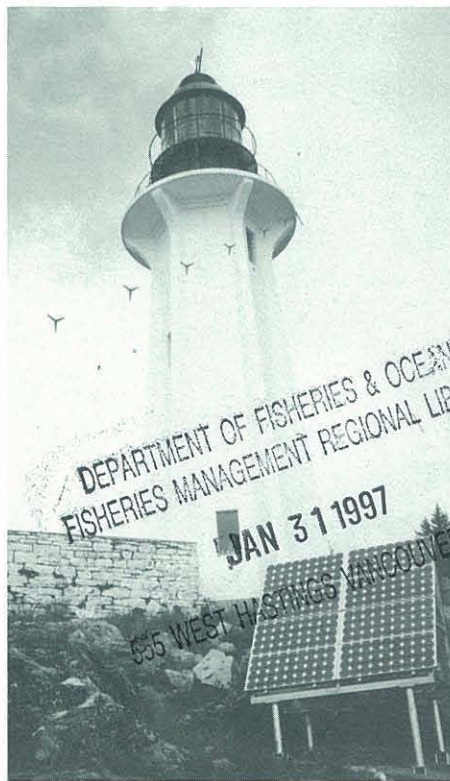
“Basically, it comes down to the need to accomplish two things — modernization and budget reduction,” explains Laureen Kinney, Acting Director of Marine Programs. “For Coast Guard, the process of modernizing its aids to navigation has been underway for some time. Now, with more readily available technology, the pace and potential for modernization has increased rapidly.”

We are all exposed to the process of modernization, at home and at work. Remember life before microwave ovens and dishwashers? Or at the office — think of fax machines. And would you ever consider going back to using a typewriter?

Unlike simply adding a microwave, it is more like a home renovation, leading to some pretty major upheavals, which are admittedly difficult. “The end result is improved marine safety, protection of the marine environment and reduced costs to the taxpayer,” adds Kinney.

There are many areas of Coast Guard responsibility which are not obvious to the general public. We all know that Coast Guard operates staffed lighthouses, but those 30 staffed lighthouses are only a small component of the nearly 2000 aids to navigation maintained and operated by Coast Guard.

Terry Weber, Superintendent, Navigation Aids, explains the system. “It has various components, a mixture of high tech and low tech. There are buoys, some with lights, some without, range markers, radio transponding beacons (racons), shore-based lights both major and minor, foghorns, Loran-C sites and the new DGPS sites. The 30 staffed lightstations belong to a group of 54 major lights. Now, about 12 of these never were



Solar panels at Point Atkinson Lightstation.

manned lighthouses. We usually have a foghorn at these major lights.”

When renovating and modernizing, most homeowners look to more energy efficient systems, which can be as simple as changing to fluorescent lighting, or using lower wattage bulbs. You use paints that are easy to apply, long-lasting, easy to clean, and less harmful to the environment. Modernization of the aids to navigation can be as simple as converting from diesel power to solar power, using lower power, long-life lamps and more efficient lenses in the lighted aids, environmentally friendly paints and easier to repair, lighter weight plastic buoys. Longer lasting mooring chains and high performance coatings on the buoys also mean less maintenance work for the ships crews, freeing up more time for SAR and C&P work.

Less expensive and more reliable technology is decreasing the cost of maintaining automated lightstations and electronic weather stations. New technology in

lights and foghorns has resulted in the solarization of the lights, foghorns, and fog detectors. These fully automated systems operate with backup battery power, backup

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lights and site alarms that can be remotely monitored and activated. They don't require daily on-site maintenance by lightkeepers.

"Even the staffed lightstations have been equipped with automated lights, fog detectors, fog horns and backup generators and backup lights," explains Weber. "They basically run themselves."

Traditionally, the lightkeeper's role has been to visually inspect equipment and make sure it is working, and provide routine maintenance such as cleaning and minor repairs to lights, foghorns and radio beacons. However, just as modern cars require less frequent tune-ups and oil changes, the installation of more modern and automated equipment over the last 25 years has resulted in a steadily decreasing requirement for labor-intensive maintenance.

While actually automating the lightstations may be relatively simple, the process of automation is complex. Planning has to begin two to five years ahead of the tentative date for automation of a lightstation to allow for the cost efficient scheduling of preparatory work.

"We have a number of things to consider, including budgets," says Kinney. "We carry out environmental and heritage assessments, prepare detailed engineering plans for buildings and towers, and prepare to remove fuel tanks. We also have to provide for site security."

As part of the planning process, proposals on how automated stations would work, and how essential non-aid to navigation services would be provided were developed and presented to a variety of user groups. The Pacific Marine Review Panel (PACMAR) which represents a number of users agreed with the Coast Guard that lightstations can be safely automated. A special subcommittee of PACMAR set up to review the issue of lightstation automation made eight recommendations to Coast Guard, including one stating that the cost of automation and enhancements should ensure significant (estimated at \$3.4 million dollars annually) cost-savings.

What about the other services from lightkeepers?

Over the years, the lightkeepers have taken on other duties unrelated to aid to navigation, including marine and aviation weather reporting, and limited assistance with search and rescue. In some cases lightkeepers have carried out scientific observations, wildlife observations and provided assistance to tourists as well. For example, at Sisters Islets, the keepers were providing water salinity and temperature readings. At Race Rocks, the station is part of a Provincial Ecological Reserve and the keeper provides scientific observations on a volunteer basis.

Many keepers contract to provide weather observations used by Environment Canada, and a few keepers respond to requests from the aviation and marine communities for real time weather information. In most cases, funding for these additional activities came from other government departments or organizations, making use of a presence at a particular location.

Over time, people have become used to receiving these other services, and in fact, expect them to continue.

"This is a concern. We have had to consider a number of alternatives, including technological solutions, and many of these are now being tested, or have been successfully put in place," explains Kinney.

For example, the salinity and temperature readings at Sisters Islets have been successfully automated and results to date show that the data provided is more accurate and more frequent.

For weather observations, the Coast Guard has installed automated weather stations that have been in use by Environment Canada for a number of years. These stations provide data 24 times a day to the Pacific Weather Centre, where the data is formatted and forwarded to the Coast Guard in a special bulletin for use on the Continuous Marine Broadcast (CMB).

Not all of these weather stations are located at lightstations, which, in some cases are not ideally situated for weather observations, but observations were provided because a keeper was there. At Point Atkinson, neither the keeper (when the station was staffed), nor the current placement of the automated weather station can give indications of the "Squamish" winds. To compensate for this, Environment Canada

installed an automated weather station at Pam Rocks.

Near Cape Mudge, at a site better suited for weather information, Coast Guard is installing an automated weather station, a wave measuring buoy and a special camera. Visibility reports will be available from these cameras through the new MAREP (Marine Weather Reporting) team at Comox. The camera may also provide some cloud data.

The new team is made up of experienced lightkeepers who have provided weather reporting services at other sites. This expanded MAREP service is in response to a PACMAR recommendation that the automated weather reports could be further enhanced by a human element.

"We've set it up so that the MAREP team would encourage all mariners, including fishers, commercial vessels and pleasure boaters to voluntarily participate in a Marine Weather Reporting program," outlines Kinney.

Total Cost Fixed Aids to Navigation (\$,000)

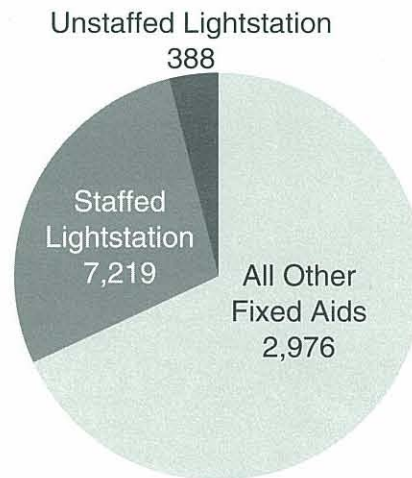


Figure 1 shows the cost breakdown for the maintenance and operation of 1332 fixed navigational aids. The lightstations represent 3% of this number, but take up a disproportionate amount (68%) of the total navigational aids budget. After de-staffing is completed in 1999-00, the cost of lightstations will have been reduced to 30% of the navigational aids budget. This will provide the same quality of navigational safety to the mariner at a fraction of the original cost.

“Aviators and mariners can also contact them for additional weather information, and they can fill in for automated weather data if it is unavailable.”

Sea state information (wave height and direction) will come from a series of wave rider buoys, some of which have already been providing data to DFO for approximately 10 years. Near Sandheads, Coast Guard, in conjunction with Public Works and Government Services Canada, will install wave measuring equipment on the ocean floor. Hourly reports from this system will be included in the Continuous Marine Broadcast.

Reliability

The aids to navigation system for which Coast Guard is responsible encompasses a variety of navigational aids, some of which are fixed, some floating, and automated, and includes lights, beacons, foghorns, racons, and buoys. The standard for reliability of all components of the aids to navigation system exceeds 99.9%. Each component complements, and in some cases, overlaps other components in the overall safety services network, which means that one buoy can be out of service for a week or longer without compromising safe navigation.

One of the biggest concerns about moving to fully automated lightstations has been the reliability of automated weather equipment. Over the past ten years, technology has improved the reliability and reduced the costs of automated weather observations.

The automated weather stations are, like lighthouses in the aids to navigation system, one part of a network which includes satellite pictures, weather buoys, airport, aircraft, ship and lightstation observations, radar information, provincial weather reporting systems, seasonal services from the B.C. Forest Service and the Ministry of Highways, and even numerical predictions from a super computer in Montreal. As with the aids to navigation system, the weather network is designed to have overlapping components so that the information is available in

more than one way and any missing bits of data are covered.

Remember too, that where an automated weather report replaces a lighthouse report, data is provided 24 times a day instead of 7 times a day. Current site reliability is around 90 to 95%—that is, each site transmits its observations to Environment Canada an average of 22 to 23 times each day. A reliability level of 30% would equal the existing level of service from lightstations i.e. 5 to 7 weather reports daily.

Part of the concern voiced by mariners reflects their growing dependence on these more frequent reports. In the past, automated sites were installed primarily to provide marine forecasters with additional data for their weather warnings and marine forecasts. One missing report was of little concern, and sending a repair technician out from Vancouver was in some cases, a low priority.

“What’s happening now is that mariners are relying on these sites for specific data to determine their fastest or safest routes, and whether they can make a crossing ahead of the weather,” explains Kinney. “We will soon be taking on maintenance responsibility for most of the automated sites as we have technicians available all along the coast. We can then respond quickly to high priority outages and reduce costs at the same time.”

Lighthouse automation is not an easy task. It represents one step in an on-going modernization of equipment that has been relied on for safe navigation throughout the centuries. It is also one area where the cost of Coast Guard services can be dramatically reduced with no impact on marine safety.

“Nonetheless, it’s undeniably a sad occasion for many,” says Kinney. “It’s the end of an era, a long and proud history of lightkeeping in Canada.”

*Micheline Brodeur
Communications Officer, Coast Guard*

Leadership for Environment and Development Canada

LEAD Canada is part of a unique international program started by the Rockefeller Foundation which seeks to identify tomorrow’s leaders and prepare them to manage the transition to a sustainable economy. The program is administered in Canada by the National Round Table on the Environment and the Economy with funding assistance from the International Development Research Centre (IDRC).

Each year, approximately 15 promising mid-career individuals are selected to participate in an intensive training program to build leadership skills and explore a variety of substantive environmental and development issues. Participants, called Associates, are encouraged to work cooperatively to develop solutions to complex environmental problems.

The program extends over a two year period. Associates undertake a self-directed course of study designed to complement their professional activities. During that time, they participate in two residential

training sessions in Canada which focus on increasing awareness of environmental and economic issues and on developing leadership skills, including conflict resolution, mediation and negotiation. In addition LEAD Associates from over 35 countries meet with their Canadian counterparts at three international sessions in Costa Rica, Thailand and Zimbabwe.

LEAD Canada is now accepting applications for its next training cycle which begins in June 1997. Applications are due March 1, 1997. If you are interested, contact:

LEAD CANADA
c/o The National Round Table on the Environment and the Economy
1 Nicholas St., Suite 1500
Ottawa, Ont. K1N 7B7
Tel: (613) 992-7189
Fax: (613) 992-7385
E-mail: lead@nrtee-trnee.ca

The Move The Move The Move

If you are at all observant, you will have noticed over the past few weeks that drastic changes are taking place at 555 W. Hastings. People are moving, offices are being stripped down to their last wires, half of the fourth floor is being renovated, and new office spaces are popping up everywhere. What is taking place? A rare archeological dig on the fourth floor? Preparations for the apocalypse (which is sure to happen in the year 2000)? Unfortunately, the motive of this move does not border on the paranormal (which would make for a far more interesting article), but the fact that the Coast Guard will soon be moving from its Burrard Street office into the Hastings Street location. With CCG relocating into one space with the DFO, room must be made for an additional 100 employees. Thus, the retrofit and renovation.

The buzzword of the "new" CCG/DFO office is change. Not only will cosmetic changes take place but a new office ideal will come into place. I spoke with John Downing, DFO Realty Officer about the upcoming renovations to the building. He told me that the Space Planning Working Committee has modeled the changes to workspace on the open-office concept. The Committee has representatives from all branches to ensure that employee concerns are addressed when making decisions about the new space.

The open-office ideal discourages the use of closed offices except where they are operationally necessary, and encourages workstations that are separated by screens or not at all. It also incorporates workstations where employees may "team" with others to work on projects, as well as "quiet space" and meeting rooms where some privacy may be had to do work or hold meetings. Downing says that this conceptual change along with task-lighting and some ergonomic work stations, are part of "trying to design a space that will work for the 90's and 2000 environment."

Anna Gunner-Johnson is in charge of space planning and co-ordination for the Pavelek Design Group which is overseeing the project. She maintains that the open office will address the two employee concerns that are most prominent. Those are the issues of lighting and air quality. Fewer enclosed spaces allow for increased air flow and more natural lighting. Currently, many of the windows are blocked by closed office space. With the new design of open stations, more windows will be 'unblocked', allowing more natural light into the work spaces. As well, additional storage will be created in



Deb Jago, Recreational Fisheries, in her new temporary "digs."

shelving and cupboards above workstations in order to create space for the increased number of employees.

"Functionality is the key issue in the redesign," said Gunner-Johnson in talking about the task of redesign. She also spoke about the cosmetic changes which will affect the overall feeling in the office as well. The new aesthetic of the office will take the form of warmer colouring with more earth tones. Greys and tans, which were the popular office environment colours in the 80's are being moved out in order to bring in "north-west" colouring that, in addition to creating a more pleasant workspace will help cut down

on glare.

There will also be more of the standard building upgrades. Seismic preparation will involve replacing existing interior glass with tempered glass as well as overall building upgrades that will help keep DFO/CCG

employees safe in their new office environment in the case of "the big one" (which will probably happen in the year 2000 as well). The freight elevator will be removed and columns will be erected within that space from below ground up through the third and fourth floor plate for better building stability. The HVAC system will receive new filters and the computer networks will be rewired. Within a year, the DFO/CCG space will be secure and complete, ready for all of its employees under one roof.

In the meantime, Recreational Fishing, Human Resources, Finance and Admin, Licensing, Small Craft Harbours, Mail and Records, the Library, and some of Science Branch have moved into various alternate spaces so that Phase One of the renovations can take place. The majority of those

moving are ending up on the 7th floor of the Spencer Building, a "swing space" provided by the landlord of the building. This temporary location is accessible through the Richards Street entrance. However, employees beware!! If you take a wrong turn when getting to the seventh floor, you could end up enrolled in a course to improve your secretarial skills. If this is not your objective, you should turn right at Trend College and proceed down the hall (there will be signage to assist the faint of heart). For the time being, you will find Human Resources, Small Craft Harbours, Finance & Admin, and Science in the Spencer Bldg. Licensing has moved down to the upper mall level across from Cookies of Course.

Here is a run down of the various phases of work being done and who is affected:

PHASE ONE:

Nov-Feb.

Licensing, Finance, Human Resources, Small Craft Harbours, Library, Recreational Fisheries, Mail/Records, some of the Science Branch

PHASE TWO:

March-May

DG's Office, Communications Branch, Operations, Meeting Rooms/Lunch Rooms

PHASE THREE:

June-August

Some of HEB, some of Program Planning, Coast Guard, Informatics

PHASE FOUR:

September-November

Some of HEB, some of SEP

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The "New" HEB

Habitat and Enhancement Branch (HEB) has a new regional organization and a new vision. Discussions on the direction that the new branch should take both ideologically and organizationally have been ongoing since the creation of HEB in late 1995. Having reached agreement on a vision of "healthy, diverse and sustainable fish habitats and stocks," for the branch, HEB is now proceeding with organizational changes required to meet a number of operational objectives which were established to provide a stronger focus on fish habitat management and on the production and conservation of fish.

Included within those objectives are:

- Net gain in the productive capacity of fish habitats and in the abundance of the fish and other organisms they support, while maintaining bio-diversity.
- Sustainable and harvestable fish production, natural and enhanced.
- Making development consistent with fisheries policies and objectives.
- Effective and consistent application of habitat enforcement.
- Leadership and innovation in managing aquatic ecosystems.
- Increased public awareness and community involvement in HEB programs.
- Improvement of DFO's credibility with its clients.
- Processes to measure success in achieving HEB objectives.

In January 1996, Branch Director David Griggs stated that HEB needed to "increase [our] field presence and enforcement effectiveness to achieve better compliance with habitat protection needs." The new organization calls for the re-alignment of HEB Area boundaries into the following six geographic areas.

- Yukon and Transboundary Rivers Area – comprises the Yukon Territory and parts of northwestern B.C. covered by the C&P Yukon Area. The Area Headquarters (AHQ) will be in Whitehorse.
- North Coast Area—comprises the coastal watersheds

from Smith Inlet to the Yukon border, as well as the Queen Charlotte Islands. AHQ will be in Prince Rupert.

Upper Fraser Area – comprises the upper Fraser river systems from the Yukon/NW Territories border to the Cariboo and the part of the north Clearwater sub-district which drains into the upper Fraser. AHQ will be in Prince George.

- Vancouver Island/Mainland Inlets Area – includes all of Vancouver Island and the mainland inlets from the western shore of Howe Sound to Smith Inlet. AHQ will be in Nanaimo.
- Fraser Thompson Area – comprises the Fraser and Thompson drainages upstream of Boston Bar, except the Prince George sub-district. AHQ will be in Kamloops.
- Lower Mainland Area – comprises the Fraser River drainage downstream of Boston Bar, Burrard Inlet and the western shore of Howe Sound. AHQ will be in New Westminster.

The existing Eastern B.C. unit will be converted into an Environmental Assessment Unit serving the whole of B.C. for major projects.

"The amalgamation of the Habitat Division of Operations Branch, SEP, the habitat and enhancement components of the Fraser River Action Plan, and the Habitat Action Plan into one regional Habitat and Enhancement Branch will allow a higher priority and focus to be placed on fish habitat management and on the natural and enhanced production of fish, an integral part of DFO's core conservation mandate," according to David Griggs.

HEB's headquarters organization is being overhauled as well. The new HQ organization will consist of a Policy Development and Co-ordination Division, a Program Planning and Information Division, a Biological and Engineering Support Division and a Planning and Finance Unit.

Implementation of the parts of the new HEB organization began in August 1996 and it is expected that the basic framework of the new organization will be in place by the end of the 1996/97 fiscal year.

continued from page four

Some of the Recreational Fishing staff are now located in the old Habitat section of HEB on the third floor. Confused? Well, don't worry because all the phone numbers will stay the same.

When all is said and done, the renovations will propel us into the realm of modern office design, hopefully creating an environment in which it is more comfortable to work. Ergonomic work stations will set the standard for new furniture, individuals will have more control over lighting, and the new colour scheme will create an office more pleasing to the eye. The changes are nowhere near as exciting as an archaeological dig, or the apocalypse (although some sources believe that either

could happen in the course of renovation), but they are a necessity to employee comfort and ability to work effectively.

If you are in need of more information about this project, contact Realty Mgmt. or your Branch Representative on the Space Planning Working Committee. In addition, the Triple Nickel News on the Intranet will be updated to keep all employees informed of the changes.

*Megan Adam
Information Officer, Communications Branch*

C O R E F L E E T

After months of discussion, and a great deal of hard work by the members of the "Core Fleet Committee", the composition of DFO's Pacific Region fleet has been determined.

The core fleet initiative was driven by the need to make major budget reductions (5.9M which represents approximately 20% of the total budget for the fleet) required for to meet departmental targets required as part of the federal government's deficit reduction program. Members of the Core Fleet Committee, a cross section of regional staff from all sectors and all levels, were given the onerous task of designing a fully integrated, multi-tasked and cost efficient fleet capable of providing acceptable levels of marine support to departmental programs and SAR coverage.

The core fleet concept hinges upon multi-tasking of both vessels and personnel, strategic deployment of vessels and resources, the acquisition of new, more capable vessels and equipment, a closer working relationship with the Coast Guard Auxiliary and joint planning of operations with the Department of National Defence to take advantage of DND presence in offshore waters and allow better program coverage.

Moving to a core fleet concept represents a radical departure from what has been the usual way of doing business. The "old" fleet consisted of a number of single purpose platforms - the grey fleet for Conservation and Protection, the white fleet for Science and the red and

white ships for Rescue and Environmental Response and Aids to Navigation. Because each ship was dedicated to a particular program, it wouldn't be unusual to have as many as four DFO vessels in an area - each carrying out work in support of individual programs.

"The bottom line is that we could no longer afford to run the fleet this way and still maintain an acceptable level of service," says Terry Tebb, Director of Operational Services for Coast Guard. "Multi-tasking, along with cross training, better use of technology and more effective partnerships is really the only way to go."

So what happens now? Reorganization of the fleet will necessitate the elimination of 80 positions. More than 100 people have indicated that they would be interested in EDI or ERI and the list of volunteers was to be finalized by November 15th. Staffing teams have been set up to proceed with staffing of remaining positions. Regional Director of Coast Guard Rick Bryant is leading discussions with the Coast Guard Auxiliary on redefining the role of the Auxiliary. Recommendations are expected in January. The fleet will begin operating under the new schedule in April, 1997.

"The last few months have been tough," admits Terry Tebb. "But the end result is a fleet that will be able to deliver its mandate at reduced costs. The members of the Core Fleet Committee are to be congratulated for a difficult job well done".

CORE FLEET 1996

COAST GUARD STATIONS

Point Henry
Point Race
Kestrel
Mallard
Tofino MLB/47
Bamfield MLB/47
Port Hardy MLB/47
Opsrey
Skua
SRN-6 (Hovercraft)

MAJOR VESSELS

Sir Wilfred Laurier
J.P. Tully
W.E. Ricker
Vector
Bartlett
Tanu
Gordon Reid

PATROL VESSELS

Arrow Post
Atlin Post
Chilco Post
Sooke Post
Robson Reef
Comox Post
Kitimat II

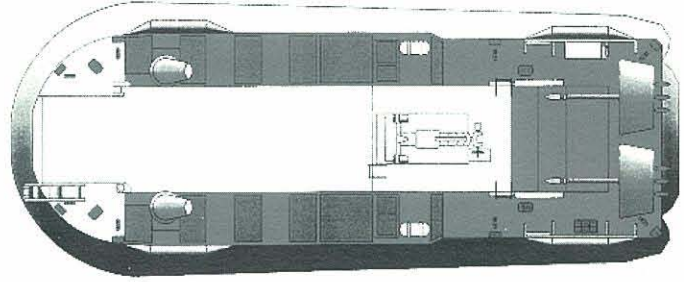
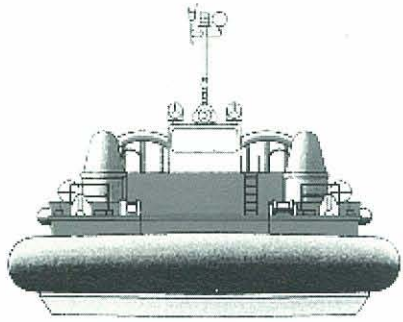
OTHER VESSELS

PENDER (barge)
Various launches used for hydrographic, science, marine navigation services and SAR work

NEW VESSELS

Five, 47-ft high-speed, all weather craft for Coast Guard Stations to be delivered between Dec. 1997 and Dec. 1999. New high-speed hovercraft to be delivered in May, 1998.

Γ DECIDED



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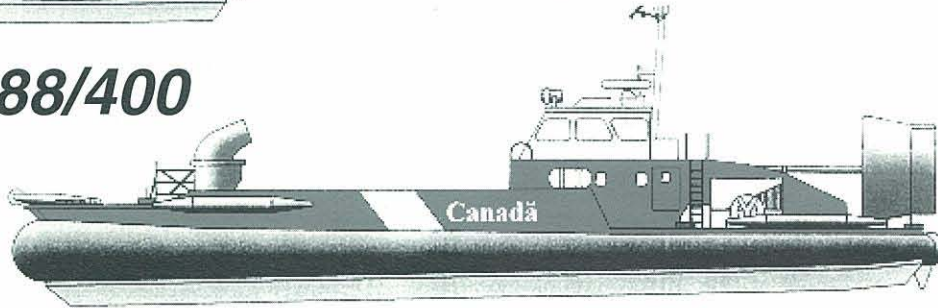


Chart Dealers Meet



CHS Pacific Region held the first of what will become annual meetings with Chart Dealers November 14, 1996 in Vancouver. The meeting was an opportunity for CHS personnel to meet with dealers/partners to present, discuss and exchange ideas regarding CHS products. The meeting was attended by representatives of the International Hydrographic Office who were joined by 33 individuals representing 23 companies in Pacific Region as well as California and Washington. Photo by David Fisher, Head, Sales and Distribution, CHS Pacific Region

DFO Orientation Package

A computer-based DFO Orientation Application is currently being implemented throughout the department as part of the DFO Transition Management strategy. This Human Resources initiative, in partnership with Informatics, is intended to:

- inform DFO employees about the department's mandate, structure and culture;
- provide employees with a comprehensive and updated list of available programs, services and contacts;
- orient employees new to DFO about the department;
- re-orient current employees; and
- enhance communication within DFO.

The information for this Orientation application was gathered from knowledgeable sources throughout the department. The Pacific Region data, for instance, was solicited through Branch Directors. We will have an opportunity to update our regional information at least once annually.

The application offers two levels of information—one through the Tour mode, and the other through the Reference mode:

In the Tour mode, which is intended to provide employees with a basic introduction to DFO, there are four sites to visit: the Welcome site introduces you to the department—its clients, its business, its services and its origins. The Work Environment site addresses your rights and obligations as an employee. A Location of Services site and a People site are also included.

In the Reference mode there are presently seven reference books which provide you with access to the following:

- Structure within DFO

- Regional Information
- Departmental Services
- Employee Rights and Obligations
- DFO Career Programs
- ON-Line Benefits (BEN)
- Leave Options and Flexible Work Arrangements

In Pacific Region, the DFO Orientation application is now available on the Coast Guard Information System (CGIS) and is part of the "Build 19" upgrade of the Office Automation Suite currently being installed for Regional Network users. A "Stand-alone" version of the application will be available in December for distribution to employees not on CGIS or the Regional Network. In addition, a "hard copy" of the DFO Orientation information will be available soon for employees at sites without computers.

The DFO Orientation application may ultimately be repositioned to a site on either the Internet or the Intranet.

It should be noted that due to the "build" of this application, it can take one or two minutes to load it on your computer from CGIS or the Regional Network. It may speed up the process if you have only one other "window" open.

Feedback on the DFO Orientation application can be conveyed to National Headquarters, as per the instructions you will see just before you log off of the application, or to me by E-Mail, phone (604) 666-6286, or fax (604) 666-2606.

*Hilary Valliant, Human Resources Development,
Human Resources Branch*

Pacific Regional Advisory Committee Update

The Pacific Regional Advisory Committee (PRAC) was created to provide an alternate path for DFO employees in Pacific Region to raise questions and concerns related to management of the human side of changes resulting from Program Review and the merger of DFO and Coast Guard. Creation of Regional Advisory Committees, and a National Advisory Committee, reflects recognition by senior management of the need to overcome the sense of isolation often felt between staff and management.

"Since its inaugural meeting in April, PRAC has focused its attention on highlighting issues and concerns being raised by staff and communication seems to be the key to many of the items raised," says Cam West, current chairman of the committee. "We direct these concerns to the appropriate manager and the Regional Executive Committee."

Examples of concerns passed on to senior management include uncertainty over the impact of budget reductions, reorganizations and the future direction of regional programs. When PRAC brought concerns over

the Coast Guard Core Fleet reorganization to the Regional Executive Committee, the Regional Director General followed through on a commitment to meet with PRAC as soon as the 1997/98 Budget Reduction Strategy was finalized to discuss implementation of the strategy. A request for more information on the reorganization of the Habitat and Enhancement Branch (HEB) was followed up with an update to HEB staff.

"Employee access to PRAC and awareness of the committees roles and objectives is another priority," according to Cam. To this end, a PRAC directory has been established on the Regional R:\ drive (R:\region\prac) and there is a PRAC page on the Regional Browser. A list of committee members and contact numbers can be found at both locations. Staff are encouraged to check the membership list to find out who their representative on the committee is and pass on any concerns they might have to that person.

PRAC meets every six to eight weeks.

The CIS Program Needs You

A bear charges a biologist as she walks a back country creek. A licensing clerk is verbally assaulted and physically threatened by an individual who wants, but is not entitled to, a fishing license. A DFO search and rescue team recovers the bodies from a pleasure craft that sank during heavy seas in Georgia Strait. These are all examples of traumatic events which can and do happen to DFO staff, in the normal course of their work, events which can result in Critical Incident Stress (CIS).

CIS is a term which describes the physical or emotional responses typically experienced after a trauma. Symptoms include such things as trembling, stomach upsets, flashbacks of the incident, and nightmares. These are normal reactions to the abnormal event or critical incident which can interfere with a person's ability to function during or after the event.

Without CIS support, these conditions can intensify over time and may develop into a more serious and chronic condition called Post Traumatic Stress Disorder (PTSD). Left untreated, this disorder can trigger drug and alcohol abuse, family violence, and increased absenteeism and stress leave. CIS and PTSD can be prevented if the individual involved is given timely support and information to deal with the feelings created by the trauma.

Since 1991, a CIS Program has been in place in the Pacific Region to support employees and spouses involved in critical incidents. The CIS Program has three main components—pre-trauma training, a 30 member CIS Peer Team, and the support of qualified Mental Health Professionals.

Pre-trauma training sessions are available for employees and supervisors. The training helps individuals recognize a critical incident and activate the CIS Program.

The CIS Peer Team is made up of employee and spousal representatives who, through similar experience and training, understand the reactions of those involved in a critical incident. As soon as possible after the incident, a Peer Team member makes contact pro-

viding CIS support and information. The Peer Team member also prevents secondary trauma—the reactions of those involved to the inappropriate comments, humour or criticisms of fellow employees, the department, outside agencies or the media. Even good natured ribbing about a bear charge may cause further hurt to an individual who, just the day before, was scrambling for their life to escape an enraged grizzly bear.

Trained counsellors are available to conduct CIS debriefing sessions when required. These debriefings allow each individual involved to explore their reaction to the incident in a safe, confidential environment.

The CIS Program is recruiting interested employees or their spouses to become part of the CIS Peer Team for a two year period beginning in April 1997. If you would like more information about the program or an application to join the Peer Team, contact

the Human Resources Branch at 666-6871. Applications must be received by January 24, 1997.

CIS PEER TEAM IS

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Fishing for Information

Tips on effective searches on the World Wide Web

In everyone's workplace, in many people's homes, the internet is affecting the way that we interact with each other, conduct business and do research. Now that the DFO has wired its employees, knowing how to use this technology well can help make our research work an easier task. However, the WWW can be a frustrating experience for users who don't know how to use search engines and other internet aids. Tracking down a piece of information without these devices is a lot like looking for a minnow in an ocean.

How is the World Wide Web organized?

The World Wide Web is a loose collection of documents put together by many different sources such as individuals, government or private institutions. These documents often contain text, sound, and image-based information and span thousands of topics. Because information on the Internet comes from so many different sources, cataloguing the net's content is not as simple as the archiving of a standard library or database. There is no dewey decimal system for the world wide web, no listing of set search terms, no single alphabetized directory for every topic available. Hence, search engines are an imperative tool to not only finding your way around the web, but finding the information that you need to complete projects and meet deadlines.

How do search engines function in a chaotic internet?

In broad terms, a search engine is "a web program that searches a database of web pages attempting to match key words supplied by the user". There are several methods by which search engines work. The most popular are "spider" engines such as Alta Vista or Lycos. These search engines employ a software program (the spider) that roams the Web by following links from page to page looking for new sites to add to the search engine's database. These engines are also known as crawlers or robots and are the predominant type of engine used. A second type of engine which is becoming more common because of its wide reaching ability is the "Meta" search engine which accesses ten to twenty other search engines through one form. This allows a maximum search with a minimum of effort. One of the better examples of this type of searching is Metacrawler (<http://www.metacrawler.com>). This search engine not only obtains much information, but ranks it in order of match priority. A third type of engine is one which works as a subject-tree. Yahoo is one such engine. Yahoo

obtains information when users register their web-page with them. Because of this narrow type of information retrieval, engines such as Yahoo are inadequate in documenting the WWW and will probably soon be a relic of the past.



Tips for effective searches: how to hook the information that you really need.

Define, define, define! Before you even sit down at the computer, decide what information you are looking for and generate a number of search terms that might aid in turning up the information you are looking for.

Know your search engine: What type of search do you want to do? If you feel that your topic may fit under a broad heading, a subject tree search would be in order on an engine such as YAHOO! However, if you are looking for narrower terms or reports of specific incidents, etc. you will want to do a content search using either a spider or a meta-search engine. There are also specific search engines that allow you to search by geographical location, person or other specifications. Make sure that the type of engine you are using fits with what type of information you are looking for.

Start broad, go narrow: The most effective way to search is to begin with the broadest possible search term and then narrow it down. Much of the information out there is listed under a variety of different headings and may not register with the narrowest term you have, so it is best to start with your broad topic and then work more search terms in as you go.

Keep notes while you surf: You may find something that interests you and then not be able to find it again. Make sure you add good pages to your "favourites" and keep a record of how you found your information.

Give yourself a break: Quite often a shortcut can be found when you begin with your broad searches. There are many people out there who have collected "links" on a variety of subjects. A couple of good examples of this are:

the BC Salmon Page at
<http://www.canfisco.com/bc-salm.html>
the Fish Links Page at
<http://www.spcramer.com/finder.htm>

These types of resources can make searching oh so much easier!

Revise, revise, revise: Can't seem to find what you are looking for? Its time to throw out your search terms and

SELECTIVE FISHING ON THE FRASER

Anybody involved with the B.C. salmon fishery, and probably many who are not, given the media attention devoted to fisheries issues in this region, would admit that it is a fishery fraught with problems. A major concern stems from the catching power of the fleet, which has made it extremely difficult to control harvest rates and the incidental catch of non-target species of salmon. A prime example of this can be found in the Fraser River, where large commercial fisheries for chum, pink and sockeye jeopardize the survival of weaker chinook, steelhead and coho stocks in some areas of the river. Because of conservation concerns associated with bycatch of these species, the number of gillnet fishing opportunities for fall chum in the Fraser have had to be curtailed.

The stock management strategy outlined in the Mifflin Plan (a.k.a. the Pacific Salmon Revitalization Plan) reflects the recognition that something must be done to address this problem before it is too late. Included in the strategy is a strong recommendation for the development of species selective fishing techniques and gear. Three separate initiatives undertaken by Aboriginal groups and commercial fishers on the Fraser were designed to do just that.

Mark Pretrunia is a commercial gillnetter who has fished on the Fraser River for 26 years. He came up with the idea of using a net which would tangle (i.e. catch) chum and other salmon by the teeth, lower jaw and fins rather than by the gills. This means that non-target species of salmon could be released from the net unharmed.

He first tested this concept in 1995, using an ooligan



Chum salmon caught in experimental tooth net.

net which has a mesh size of 1 3/8" That proved to be too small. This year's experimental fishery used a 3 1/2" mesh net using very fine twine which he had specially made in Japan. The net is the same depth as a conventional chum gillnet, but is only 100 fathoms long. The shorter length means that the time that the fish spend in the net is minimized, which in turn means that they are in good shape when released. The net is only out for 20 minutes

at a time. "You have to work the net continuously if you want to keep survival rates of non-target species high," according to Mark. It's not necessary to leave it longer."

Trials with the net took place at the end of October and into the second week of November in the Fraser just east of Annacis Island, close to the Patullo Bridge in New Westminster. Although incidental catch of non-target species over that time was very low, (as was the overall chum catch), the coho, steelhead and chinook caught in the net were all successfully released alive and appeared to be in exceptionally good shape. According to Marilyn Joyce, a Management Biologist with DFO's Fraser River Division, the net's ability to release fish which are in such excellent condition is encouraging.

In another experimental fishery further up the Fraser, the Katzie First Nation joined forces with the Fraser River Fishermen Society, a group of non-aboriginal fishers to test an environmentally friendly way of catching chum, this time using a beach seine. The beach-seine, a small mesh net, is circled out into the river and then pulled back to shore, coralling the fish at

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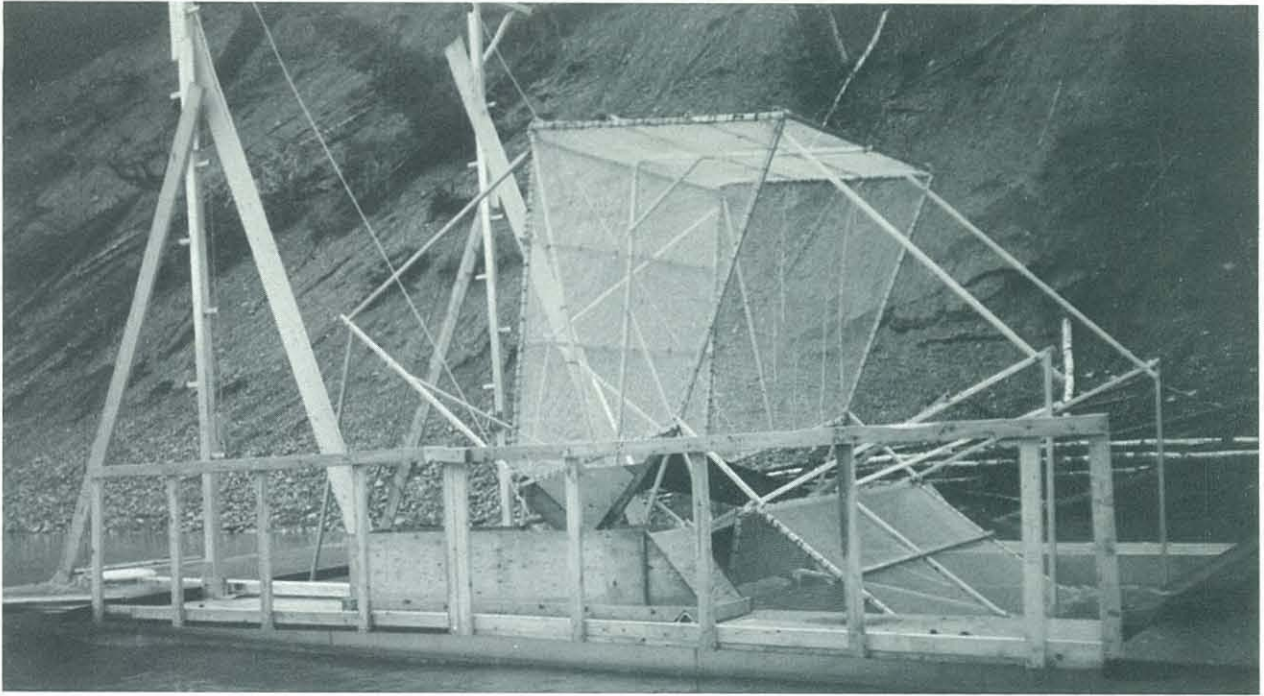
start over. Don't be surprised if you have to come up with several sets of searches in order to obtain the info you seek!

A Cautionary Note

While the WWW is an excellent resource that should be used and explored, it is important to keep in mind that not all of the information out there is credible. Because the information on the internet comes from a variety of sources it is important that before using info obtained from this medium — FACT-CHECK. If the source is at all dubious, try to cross-reference because there is little way of telling whether the information is useable or not unless you do.

Information retrieval on the WWW is still not an exact science, but it is improving. The best way to learn is to get out there and get your feet wet by experimenting. We're all learning new things everyday. The Internet appears limitless, but keep in mind that it is still a human-created pool, not an ocean. It is large and growing, but eventually it will become more and more manageable. It is an imperfect tool, but eventually will become an indispensable one that will be used with the frequency that we use the telephone today. In the meantime, HAPPY FISHING!

*Megan Adams
Information Officer, Communications Branch*



Lheit Lit'en fish wheel.

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the same time. The fish are alive and non-target species such as coho and steelhead can be released unharmed.

The fishery was conducted at Derby Reach near Langley, part of the Katzie First Nation's traditional territory. In spite of the fact that there weren't very many chum returning to that particular part of the river this fall, everybody who participated in the experiment remains enthusiastic and absolutely convinced that the beach seine technique is worth pursuing. "An added bonus," says Terry Glavin, a spokesman for the Katzie, "is that we had commercial fishermen, anglers, Indians and non-Indians all rolling up their sleeves and working together to do something for the fish. We were all pulling from the same net."

Still further up the Fraser, near Prince George, members of the Lheit Lit'en Nation recently installed a fish wheel at Stone Creek on the Fraser River. The idea for the fish wheel, the first of its kind on the Fraser system, was first broached to the band about four years ago by Barry Huber, Aboriginal Fisheries Coordinator in Prince George. Today, thanks to three years of collaborative work by Barry, the Nisga'a

Tribal Council, LGL Ltd. of Sidney, B.C. and the Lheit Lit'en Nation, there is a twelve foot high fish wheel in place in an area of the Fraser where there are considerable chinook conservation concerns. The fish wheel, which looks rather like a Ferris wheel, will allow accurate fish counts, stock and species separation (using DNA sampling) and selective harvesting without traumatizing the fish that are released.

"It's taken a long time to pull together but it was worth the effort," says Barry. I'm looking forward to seeing it in full operation next year."



Experimental beach seine fishery at Derby Reach.