PROCEEDINGS OF THE NATIONAL SCIENCE NEEDS WORKSHOP FOR THE AQUATIC CLIMATE CHANGE ADAPTATION SERVICES PROGRAM (ACCASP)

December 14-16, 2011 - Ottawa

M.-C. Fortin

Fisheries and Oceans Canada
Ecosystems and Oceans
Science Sector

National Capital Region
200 Kent Street
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CONTEXT

Ecosystems and Oceans Science Sector is launching a $16.5 million five-year climate change program funded under the $148.8 million Government of Canada climate change adaptation initiative announced by the Minister of the Environment in November 2011. The objective of the **Aquatic Climate Change Adaptation Services Program (ACCASP)** is to bring climate change considerations into the mainstream of decision-making in the delivery of programs and policies of the Department. The adaptation science program will be managed nationally by a secretariat in the Oceanography and Climate Branch and delivered regionally.

A national DFO Science needs workshop was held in Ottawa, December 14-16, 2011 to discuss the coordination, completion and delivery of the Science-related components of the ACCASP. This workshop follows the ACCASP Clients needs workshop, held at the same venue, December 12-14th 2011. The Science needs workshops work will build on information acquired from the Clients needs meeting. A number of Science experts attended both meetings.

OBJECTIVES

The Science needs workshop's objectives were to:

- Plan for the risk assessment component;
- Plan for the competitive funding program;
- Discuss the ACCASP governance structure, and;
- Discuss outreach and communication strategy.

1. INTRODUCTIONS AND PROGRAM OVERVIEW

The meeting began with a presentation by Jim Hamilton, DFO Science: **Highlights from long-term monitoring in the Northwest Passage with implications for a new Arctic ice/ocean observatory,** as part of the ADM Lecture series.

After Dr. Hamilton's presentation, Helen Joseph, Director of Fisheries and Oceans' Oceanography and Climate Branch (Science Sector) welcomed participants to the Aquatic Climate Change Adaptation Services Program Science Needs Workshop (Appendix 1 – Agenda). A total of 37 experts from DFO Science (NCR and from the regions) and Policy and Science Outreach, as well as Natural Resources Canada, participated in the 2½ day-long meeting (Appendix 2). The workshop consisted of presentations, plenary discussions and breakout group discussions. These proceedings, organised according to the workshop agenda, capture summaries of the presentations and highlights of both plenary and breakout group discussions. The workshop presentations and related documents can be found on DFO's GCPedia Climate Change website at the following link, thanks to the help of Matthew Surch: http://www.gcpedia.gc.ca/wiki/Climate_Change_at_Fisheries_and_Oceans_Canada#Resources .

PRESENTATION:
Overview of DFO's ACCASP and funding - Helen Joseph, Science, DFO
H. Joseph's presentation provided an overview of the ACCASP program. This new program is designed to, through science, address departmental sector risks and vulnerabilities to climate change impacts by increasing understanding and providing the tools to respond accordingly. Four Large Aquatic Basin climate change adaptation risk assessments, which will incorporate Science and Socio-Economic assessments as well as client/sectoral needs, will be completed in the first few years of the program. An annual call for proposals for two funding envelopes will be sent out to DFO Science and Sectors. The two envelopes are to 1) increase understanding of the Impact of Climate Change, and 2) the development of Adaptation Tools. A breakdown of program funding for the next four years as well as a draft outline of the ACCASP's governance structure were presented.

Discussion on the ACCASP Operational and Management (O&M) Funding

- Need to clearly define the two funding envelopes and define key terms such as Tools and Pilot Projects
- Multi-year vs single year funding for projects: decided on single year funding for the first round of funding, but encouraged proponents to include in their proposals what they would propose to do in years to come should they receive multi-year funding
- Start to think now about how to bring all the projects completed and information gathered in the first four years of the program into a coherent synthesis in year five.

Discussion on ACCASP Governance Structure

- This is a Science process being informed by Clients' needs; this needs to be reflected in the governance structure
- Need to include weekly CC adaptation call group in governance
- Who will be responsible in the Regions for bridging between clients and Science?
    - There will be an ACCASP full time equivalent (FTE) in every Region (first year only 1 FTE in C&A). They can help coordinate within the Region and connect between NCR and Region. What will their other roles be?
- Will likely create a risk assessment working group, as well as a technical review committee for competitive fund project evaluation. These need to fit it in the governance structure.
- S-E component must be integrated into the governance structure
- The ACCASP governance structure could be modelled after the International Governance Strategy (IGS) structure.

2. RISK ASSESSMENT FRAMEWORK

PRESENTATION:
Socio-Economic (S-E) Analytic Support for Aquatic Climate Change Adaptation Services Program - David Collister, Economic Analysis & Statistics, DFO
The purpose of the presentation was to a) describe the socio-economic analytic support that Economic Analysis & Statistics (EAS) will be providing to ACCASP; and b) provide recommendations on how to manage socio-economic input into the Large Aquatic Basin risk assessments. Two key areas of support are expected to be: analysis and advice on the socio-economic risks, impacts and cost-benefit of climate change for DFO program activities; and development of the socio-economic "evidential basis" for policies, strategic planning and legislative/regulatory activities that are recommended by the Program. Recommendations for the risk assessments included that: regional economic analysts should be integrated into each Large Aquatic Basin working group to allow for efficient work planning at the regional level; and EAS will provide national support and guidelines to ensure national consistency in the evaluation of risks of socio-economic impacts of climate change for the Large Aquatic Basins. Short-term objectives of EAS will be to provide socio-economic analysis for the Risk Assessments of the four Large Aquatic Basins that have been identified by ACCASP (work to be completed by March 31, 2012).

Discussion

- Discussed future challenges in merging Science-based Projections and Impacts analyses and S-E analyses
- Important to have ongoing communications in the Regions and Nationally between Science and S-E and to develop a strategy to incorporate LAB S-E Risk Assessment into the LAB workshops

- Suggested that in year four we may focus competitive funding envelopes on S-E high risk areas/activities
- RA frameworks, both Science and S-E, could be built on the PAA, although the lifespan of the current PAA was questioned
- S-E and Science work will have to be considered together to evaluate overall risk.

3. LARGE AQUATIC BASIN RISK ASSESSMENTS (LABRAS)

PRESENTATION:

Atlantic Large Basin Risk Assessment: Michel Gilbert, DFO Science

The Risk Assessment (RA) on climate change impacts in the Atlantic Basin represents a zonal effort between four DFO administrative regions and covers the entire Atlantic coastal waters of Canada, including the freshwater basin of the Atlantic Coast and St. Lawrence upstream to Quebec City. A zonal management team has been set up to coordinate the production and delivery of the two science documents required in support of the RA As well, teams of scientists have been put together to coordinate and provide inputs for the Trends and Projection (T&P) and Impacts and Vulnerability (I&V) documents. In the first case, the document will focus on key physical and selected chemical variables and features, building on variety of sources and activities, including AZMP, AZOMP, CCSI, ERIs, as well as existing literature and projections scenarios. The I&V document will focus on biological components of freshwater and marine ecosystems in the Atlantic zone, as well as on non ecosystem components and activities (infrastructures, navigation). In completing the work associated with these documents, some particular issues will need to be addressed to ensure their consideration in the assessment, namely a zonal coordination of efforts dealing with non ecosystem impacts and vulnerabilities, the incorporation of freshwater issues, and links with other RAs (Great Lakes and Prairies, Arctic). Efforts are currently being made in the four Atlantic Regions to conduct regional client consultations in order to incorporate regional priorities into th Atlantic RA. A first zonal meeting is also currently being set up for Jan. 23-24 2012 at BIO, in order to ensure appropriate coordination between the two documents and develop work plans accordingly. It is also planned to hold a second zonal meeting in the spring of 2012 to facilitate the exchange of information between the T&P and I&V teams so that a common basis will be used for the production of a socio-economic analysis and in preparation for the RA meeting, scheduled in late Fall 2012.

Discussion

- Into what level of detail should the freshwater component of each of the non-freshwater LABRAs go? As freshwater is important for fish habitat management and Species at Risk (SAR), it needs to be addressed, although information may be difficult to find. These could be gaps identified in the RA. Will likely need to work with other groups, such as universities, provinces, interest groups, Hydronet, industry or other sectors within DFO.
- Suggested creating a national freshwater group to help each LAB address the freshwater components in their large basin.

PRESENTATION:
Pacific Large Basin Risk Assessment: Robin Brown, DFO Science
An overview of the approach for completing the Pacific Large Aquatic Basin risk assessment was presented. Projections for this PLAB will be based on the Global model CanESM2/CGM3 and the BC Regional Ocean Model and other Regional Climate (atmospheric) models. Historical trends have indicated that the decadal variability in environmental conditions is a key driver in ecosystem status, that the timing of events (phenology) should always be considered, and that the changes occurring in the freshwater environment will be significant and will affect the coastal ecosystems and salmon populations. Although sea level rise is not expected to significantly impact the larger Pacific region, it will have very important repercussions in a few very important areas. More work will need to be completed on understanding the effect of climate change in the Yukon River. Focus will also be on identifying tipping points, non-linear effects and recognising alternate stable states of the ecosystems. The results of the Cohen Commission will be considered during the development of the PLAB work, as will the work conducted under the PICES FUTURE Science Program (Forecasting and Understanding Trends, Uncertainty and Responses of North Pacific Marine Ecosystem).

Discussion

- Multi-decadal and decadal variability is very important for Pacific and Atlantic clients
- Regarding modelling freshwater:
    - Will use river flow and some indices of temperature, but unlikely to get into vertical profiling
    - Evapotranspiration is an issue in freshwater, however it is not the averages (modelled) that are important, but rather the timing and the extremes
    - Federal vs provincial jurisdiction of freshwater poses a real challenge
    - Important to engage clients regionally, but also important that the national coordinators engage their own people in the region – continual loop of communication.

PRESENTATION:
Freshwater Large Basin Risk Assessment: Gavin Christie, DFO, Science
This presentation outlined the approach to the risk assessment planned for the Freshwater large aquatic basin. For this exercise, the scope of the Freshwater large aquatic basin includes the Nelson and prairie drainages and the Great Lakes St. Lawrence drainage. Our approach will focus on these areas but will be inclusive of other freshwaters, such as the Hudson Bay drainages of Ontario. We will have strong liaison with the Arctic/MacKenzie assessment. We will be framing our assessment around the climate, limnos (lakes, rivers, and wetlands), and the biota. For each of these system elements, we will develop projections for key variables with models connecting system elements. Each of these system elements will connect to management sector responsibilities and will consider cumulative stressors on the full landscape. Our approach to projections of climate and physical/chemical environmental changes will be to assemble current literature to identify gaps and to acquire access to existing down-

scaled climate projections. Similarly, our assessment of impacts and vulnerabilities begins with evaluation of ecological effects and physical structure effects with identification of knowledge gaps and uncertainties. In both assessments, we will be dealing with a mix of quantitative and qualitative information over a range of spatial and temporal scales. We are engaging our internal Department clients to evaluate vulnerabilities to current management practices. Our efforts in the Freshwater large aquatic basin will involve engagement of a range of external partners within Canada and internationally who share management objectives.

Discussion

- Remains unresolved if the LABRA approach should follow an encyclopaedic approach (cover everything at a high level), or an exemplary approach (cover few things but in great detail)
- It would be beneficial for the four LABs to identify commonalities regarding needs (e.g., If one region is hiring a contractor to download North American Regional Climate Change Assessment Program (NARCCAP) data then perhaps other basins can benefit from expanding the geographic scope of the contractor's work to also include their region)
- There are national coordinators for each of the Prediction and Impacts work which can help identify commonality between regions and can look for synergies and efficiencies
- Discussion on which global and regional climate model(s) to use; agreement that there should be a degree of national coordination in the models, scenarios and methods used, which takes their differences into account; options for regional models include:
    - OURANOS
    - EC one, will be available soon, although not in time for the March deadline for the LABRA draft. Suggested we could use this model for updating the RA in years to come
- Agreed that the GCMs-coupled oceanic and atmospheric model would be a good starting point
- Consider using larger resources such as NOAA and USGS
- To focus our work we should look at what common client themes run across all four LABs (e.g., SAR) and after work on region-specific issues
- More thought will be given to the format of the documents produced by the LABs, with the objective of making then more manageable (e.g., producing executive summaries, summary documents, etc.)

PRESENTATION:

Arctic Large Basin Risk Assessment: Jim Reist, DFO, Science

The Arctic Large Basin covers a huge portion of the country and contains much of the country's freshwater resources. As such, the risk assessment work will be initially undertaken on 5 separate Arctic sub-basins, namely the Mackenzie River basin, the Beaufort Sea, the Archipelago, the Hudson Complex and the Baffin Bay/ Davis Strait. An integrated Arctic overview will be subsequently developed.

The rates of change in the Arctic, due to climatic change and other stressors, have been very rapid and significant over the recent past and are expected to continue into the future. Cryospheric change (e.g., sea ice) is perhaps the most significant intermediate effect of climate change in the Arctic, and with its many follow-on effects, will have important implications for the delivery of DFO activities.

Discussion

- The International Polar Year (IPY)-related information/data will come into play in our process
- Clients will be our best asset for selling the merits of the program when it come to funding renewal
- Arctic is data poor, but synthesis rich
- We should take example of the Intergovernmental Panel on Climate Change (IPCC) and clearly define our wording, suggested that we could adopt their language
- The University of Waterloo's Polar Data Catalogue collates information on the type of IPY data that exists; approximately 20% of the 52 IPY projects involved data collection by DFO. This data catalogue is searchable *: www.polardata.ca*

4. SUMMARY FROM ACCASP CLIENT NEEDS WORKSHOP (December 12-14, 2011): Helen Joseph, DFO, Science *(added to agenda-no presentation)*

COMPETITIVE FUNDING ENVELOPES

- Adaptation tools and pilot project proposals should follow a multidisciplinary approach, and include multidisciplinary working teams. We want the work to be relevant to more than one client/user—how one ecological question can serve multiple clients and linkages.
- When designing a project, evaluate if there is a continuum of policy and management processes already in place, in which this one proposed element is the missing climate change link/consideration. For example, look at what is missing in the chain in the fisheries stocking decision process.
    - Projects needs to fit into the continuum that eventually leads to management action—"end to end".
- Given the timeframe, proposals should build upon existing tools and information, further supporting the "missing link" in the end-to-end chain approach.
- Focus on projects that are applicable to many different scales (in time and in space).
- Tools proposed at the workshop touched on all three of DFO's strategic outcomes.
- Coastal zones are being recognised as transitional zones and important for our infrastructure. We should talk to NRCan as they are doing a coastal zone assessment. However, their geographic interpretation of coastal zones does not physically overlap with DFO's.
- Arctic was raised as an important area where we know the least but where changes will be the most significant.

- Fair bit of discussion on mapping (literature search and then mapping).
    - Should we be considering geospatial data management and presentation as part of this program?
- On the one hand we want to understand what climate change is doing to the system; on the other, we want to know how to adapt to it.
- Since the impacts of climate change are cumulative, our approach could also be cumulative—think of dealing with a number of problems at once.
- Look at leveraging projects by working off of what is already going on, providing more funding, and speeding up the process. Picking low hanging fruit will help us get early results.
    - Leveraging should be in the criteria (working with NRcan, EC, Health Canada, NGOs, provinces, etc.)

POLICY AND PROGRAMS

- Recognition of putting the idea of climate change into policy and program infrastructure (Habitat, SAR, Ecologically and Biologically Sensitive Areas (EBSA), Marine Protected Area (MPA) networks, etc.). Most effective to do this as the policy is being renewed or developed.
- The issue we have with the current program configuration is that the process by which Science will provide advice to the sectors—advice that will ultimately influence policy and management—although this is very slow. Meanwhile, other policy processes are underway that are in need of some faster insertion of climate change considerations. There needs to be a consistent integration of climate change adaptation consideration in ongoing policy development.
- Need to brainstorm on what different policies are currently being prepared/renewed.

COMMUNICATION

- Need to communicate, reach out and build up our constituency both internally at DFO, between F/P/T partners, and with the general public. Communication and dialogue were common threads discussed at the workshop:
    - Need to communicate inside the department, cross-sectorally, and up to senior management;
    - Involvement of stakeholders; and
    - Work required with corporate communications to see what we can say regarding climate change adaptation.
- When presenting Science and S-E analyses to client sectors, we need to acknowledge and explain uncertainty. The overarching message, however, is that **things will change**—we see trends in certain directions, we don't know exactly how this will play out, but we do know that the environment will be different.
- The group further discussed the need for outreach material, which could be partially fulfilled by the design of an external ACCASP website.

PROGRAM (ACCASP)

- Good recognition of mainstreaming climate change adaptation, aligning our program to the PAA, the idea of alignment.
- Need some early results, "quick hits".

- Nobody sees this as a five-year sunsetting program—considering long-term objectives will allow us to plan further into the future.

5. BREAK OUT GROUPS AND PLENARY DISCUSSION

The group broke out into Trends and Projections sub-group, Vulnerability and Impacts sub-group and a Management sub-group to discuss commonalities between the four LABs. The Management sub-group focussed on processes.

TRENDS AND PROJECTIONS (T&P)

- Key issue is national collaboration and cooperation
- Important to know what other LABs are doing to align work and reduce costs
- Need to revise level of effort on assessments at decadal and multi-decadal time scales
- As timescales are restrictive (T&P summary by April 2012), we are looking at improved T&P as an ongoing requirement for other components of ACCASP. The work commenced this year for the RA will need to continue in next FY
- The T&P will provide ongoing information to the Impacts and Vulnerability (I&V) work as it becomes available
- Need vertical liaising between T&P and I&V throughout process to ensure that both are working in parallel – discuss bottom-up vs top-down approach to ensure the T&Ps are generating the type of information needed by I&V

IMPACTS AND VULNERABILITIES (I&V)

- Need to develop a national pathways of effect framework, which will be reviewed by the I&V group, which will address biological, S-E and other issues, and under which regional issues can be housed
- Start with a global perspective (national) and as information becomes available drill down to LAB level
- This work will intersect with the sectors and their needs
- Will work on assessing cumulative effects
- Discussed if client priorities were going to be included directly in the I&V documents, or if the clients were producing their own “Needs” document. How will the clients’ views/priorities fit into the LAB work?
    - First step is to consult with the client to identify their regional and program needs
    - Include them in future consultations. At times, Science will have to anticipate what their needs will be, or help them start to think about them
    - Conversely, the clients can help realign Science as they work through these processes
    - National clients are interested in knowing what the regional client priorities are, and need to have this line of communication opened and maintained

- The overviews by the LAB I&V will reflect the history of consultation with clients

MANAGEMENT GROUP

- Updating the 2005 Climate Change Risk Assessment (INTERIS report)
  - When, how, who?
- Agreed that a national framework for developing the T&P and I&T reports is necessary, and could be peer-reviewed through a CSAS process
- Suggested having the 4 LABRA workshops in fall 2012 follow the CSAS process
  - Problem is that CSAS cannot be used on the S-E components of the process
- Objectives of these four LABRA:
  - Criteria for priority setting and funding
  - Mainstreaming CC adaptation
  - Produce State of the Basins Science and S-E Reports in the context of climate change adaptation
- If we use a RA tool, best to look within the department for existing tools and suggest using one that is Treasury Board endorsed.

PRESENTATION:

Risk and Risk Assessment Approaches - John Lark, Consultant, Coherent Advice

This presentation identifies the scope and nature for the new global standard of risk management CAN/CSA ISO 31000:2010. The presentation identifies the core aspects of the standard and how they can be applied. Risk attitude and Risk Criteria are presented and are discussed in the context of risk tolerance. In addition there is a description of ISO 31010 that is the global standard for risk assessment techniques. The presentation identifies when scenario analyses are appropriate and how they are conducted. The presentation touches on trade-offs and unintended consequences. Finally there is a discussion of "black swans" and blind spots. Blind spots are described and there is a discussion of how to implement risk management so they can be prevented.

6. PLENARY DISCUSSION ON FUNDING ENVELOPES: led by Karen Davison, DFO Science

ADAPTATION TOOLS FUNDING ENVELOPES (COMPETITIVE)

- Clients could lead proposals, but could benefit from Science support
- If Science applies for competitive funding (under both Adaptation Tools and Research Funding Envelopes), their proposal should be supported by clients; require client signature on form
- Suggested that we commission an inventory of existing CC adaptation tools.

COMPETITIVE RESEARCH FUNDING ENVELOPES (COMPETITIVE)

- To fund activities that are not LABRA-related, to identify and fill knowledge gaps.

RISK ASSESSMENT FUNDING ENVELOPE (NON-COMPETITIVE)

- Discussed the distribution of RA funding over the five years of the program
    - Could put more funds in RA in year two, and in years three to four put more in competitive funding pots
    - Could do smaller geographic scale RA in years three to five
- The RA funding envelope is for working on Projections and Trends and Impact and Vulnerabilities reports (including gathering data), running the four LABRA meetings (including the production of any documents leading up to the meetings), and research in years three to five to update RA information or fill gaps
- Discussed funding application templates.

For all funding envelopes will need to develop an application format and determine how and by whom the proposals will be evaluated.

7. DEPARTMENTAL CONTEXT

COMMUNICATIONS AND OUTREACH: Patricia Hunter, DFO Science Outreach

P. Hunter led a plenary session to discuss the internal and external communication needs of the ACCASP, including the elaboration of key messages. Internal key messaging includes:

- Marine and freshwater ecosystems will change, affecting the rules and assumptions our department and its sectors are working under
- ACCASP will provide advice to inform adaptive management and requires ongoing input from, and communication with, client sectors

It is important to remain high-level in all messaging as the program is still under development and to underline that the program will provide modest amounts of funding. We will have to check with corporate communication regarding how we can use certain terms, such as climate change. Furthermore, there can be no external CC adaptation pronouncements without EC's approval.

STATE OF THE OCEAN: Bill Crawford, DFO Science *(added to agenda)*
Dr. Crawford discussed the upcoming release of the National State-of-the-Oceans report that includes printed reports on the five DFO Large Ocean Management Areas, and a National Internet site. These are activities of the DFO National Centre of Expertise in State of the Ocean Reporting. In his opinion, it will be important to work at integrating the State-of-the-Oceans activity with reporting under ACCASP since both activities include consideration of trends, for example.

He raised questions about the future of this activity in a national sense and in the context of other work, since the Centre is due to wind down in March, 2012. He presented a vision as to how future State-of-the-Ocean reporting could include a

national overview with links to regional reports on the website. This would allow for regional differences in reporting style while presenting a national overview.

In addition, the future results of the ACCASP Risk Assessments could be linked to the State-of-the-Oceans work through website links. Dr. Crawford also raised the issue of the state-of-freshwater, where DFO might not have such a clear mandate, and indicated that it would be possible to begin such an activity in conjunction with the State-of-the-Oceans work.

PRESENTATION:
Foresight and Climate Change - Ruth Hawkins, DFO Strategic Policy-Foresight
Ruth Hawkins presented an overview of a foresight project being done in support of the Climate Change Adaptation Science Initiative. The purpose of the project is to articulate future scenarios for the impact of climate change on Canadian coastal areas, and assess these scenarios against DFO mandate, roles and responsibilities, and identify potential policy and/or science gaps and pressures. The presentation provided a brief overview of foresight processes and methodologies, including introduction of the 'aspirational futures' model, and the general structure of the proposed workshop.

Discussion:

- The climate change adaptation foresight report which will be developed during their meeting in March 2012 will be a foundational document for the ACCASP program.

Policy framework - Kate Ledgerwood, DFO Horizontal Policy
Policy framework's Horizontal Initiative was the "visible face" in moving the TB request through. They are currently working on a framework for coordinating across departments in the context of this program, the 1) knowledge and information, 2) the adaptation, and 3) the mitigation. This framework could be completed by March 2012.

Discussion:

- The expertise in the regions will be consulted in the development and implementation of the framework**.** Horizontal policy leads will want to participate in regional science and socio-economic working groups.
- It will be important to include climate change considerations into horizontal policies and acknowledge that climate change will be a common issue across departments.

PRESENTATION:
Climate Change Assessment Activities at Natural Resources Canada- Don Lemmen, Natural Resources Canada (NRCan), Climate Change Impacts and Adaptation
NRCan's new climate change adaptation program, Enhancing Competitiveness in a Changing Climate, is one of a suite of federal adaptation programs that received five years of funding through Budget 2011. Deliverables of the NRCan program include a number of science assessment products, at least two of which will benefit from direct

involvement of Fisheries and Oceans Canada. The first of these is an update to the 2008 assessment report "From Impacts to adaptation: Canada in a Changing Climate". The update, to be completed in 2013, will present a sector-based analysis with fisheries issues captured as part of a chapter on Food Systems and Food Security. The second is a Coastal Climate Change Sensitivity and Risk Assessment, to be completed in 2014. A scoping workshop for the coastal assessment, with representatives from NRCan, DFO, EC, TC, provincial and territorial governments as well as academia will be held in March 2012.

Discussion:

- Discussed how the DFO work can contribute to the NRCan work, and vice-versa. Suggested that DFO participate in NRCan's scoping meeting in March. There was a general consensus that we want to minimize the overlap between NRCan and DFO activities, increase the efficiency and efficacy of our activities by drawing upon each other's work and develop a plan for both departments to report on their results, both internally and externally. It is important that DFO continues to engage with NRCan on this initiative.
- Quebec is currently not participating in the roll-out of the NRCan program
- The NRCan assessment will also include qualitative Socio-Economic considerations. Permafrost is included in their scientific analysis.

8. CLOSING REMARKS - Helen Joseph, DFO Science

The primary task within this program is to mainstream climate change adaptation into priorities and policy decision-making.

A multi-disciplinary approach, be it for the risk assessments or the development of proposals for the two funding envelopes, is key.

The focus for funding proposals will be on projects that fill a gap in an already existing "end-to-end" chain, which ultimately leads to a change in the management of policy decisions.

There is a critical need for ongoing dialogue between the different sectors within the regions and the zones, between headquarters and the regions and zones, and between departments working under this initiative. Discussion should also go beyond the federal departments, and could involve piggy-backing onto other program consultation initiatives (provincial, consulting firms, etc.).

It is important to get involved while policies are being renewed or developed, as this is the key point where climate change adaptation initiatives can be integrated into policies.

Although this is a five-year program, we are positioning ourselves for renewal, and thinking of a longer-term perspective regarding the program's activities and objectives, while still producing some early successes.

As this program is still in its development phase, there will be some fluidity in activities and workplans. We are confident, however, that we have all the right pieces in place—it will simply be a matter of developing an approach for integrating all of these pieces. The risk assessment activities will be very important in year two of the program, but will continue into years three and four. The funding envelopes will continue throughout the program, although the focus will gradually shift from the understanding climate change envelope to the development of adaptation tool envelope throughout the life of the program.

Dave Gillis, Director General of the DFO's Ecosystem Science Directorate, addressed participants and thanked them all for their concerted efforts in the development and implementation of this program.

APPENDIX 1 AGENDA

SCIENCE PLANNING WORKSHOP
AQUATIC CLIMATE CHANGE ADAPTATION SERVICES PROGRAM (ACCASP)

Les Saisons Boardroom, Westin Hotel
December 14 – 16, 2011

ADM Lecture
Les Saisons Boardroom

11:00 – noon	*The Arctic – filling the information gaps*	*Jim Hamilton*

Wednesday, December 14, 2011

Noon – 13:00	Arrival and registration	
13:00 – 13:15	Opening Comments: Expectations for the Workshop	Helen Joseph
13:15 – 13:30	Introductions	

Program Overview **(Chaired by Helen Joseph)**

13:30 – 14:00	Overview of DFO's ACCASP & funding	Helen Joseph
14:00 – 15:00	Breakout groups to discuss O&M funding breakdown (Balance between risk/science/tool development; single year vs. multi-year, etc) Reporting back to Plenary	
15:00 – 15:15	Introduce Governance needs for ACCASP	Helen Joseph
15:15 – 15:30	**Break**	

Risk Assessment Framework **(chaired by Marie-Claude Fortin)**

15:30 – 16:00	Overview of Risk Approach	Paul Lyon
16:00 – 16:30	Socio Economic Considerations	David Collister

Large Basin Risk Assessments

16:30 – 17:00	Large Basin Risk Assessment: Atlantic	Michel Gilbert
17:00 – 17:15	Summary, end of day	Paul Lyon

Thursday, December 15, 2011

Large Basin Risk Assessments (cont'd) (chaired by Paul Lyon)

0:830 – 09:00	Large Basin Risk Assessment: Pacific	Robin Brown
09:00 - 09:30	Large Basin Risk Assessment: Freshwater	Gavin Christie
09:30 – 10:00	Large Basin Risk Assessment: Arctic	Rob Young
10:00 – 10:15	**Break**	
10:15 – 11:00	Break-outs and Reporting back – where we are with risk based assessments, issues and gaps	

Competitive Envelopes - 2012/13 and beyond (chaired by Karen Davison)

11:00 – 11:30	What we heard in first workshop about adaptation needs of DFO programs (i.e. client needs)	Karen Davison
11:30 – noon	Breakout groups on what is missing?	
12:00 – 13:00	**Lunch (not provided)**	
13:00 – 13:30	Reporting back	
13:30 – 17:00	Proposed Process for competitive envelopes: targeted themes, other inputs, draft criteria, governance, schedule Revisit schedule and process for 2012–13, Emerging priorities and gaps from risk assessments Overall program governance.	Helen Joseph
17:00 – 17:15	Daily summary	Helen Joseph

Friday, December 16, 2011

Departmental Context (chaired by Marie-Claude Fortin)

08:30 – 09:00	Communications and Outreach	Pat Hunter
09:00 – 09:30	Foresight	Ruth Hawkins
10:00 – 10:15	**Break**	
10:15 – 10:45	Policy Framework	Kate Ledgerwood
10:45 – 11:15	*Update on NRCan Updated Assessment and Coastal Assessment*	Don Lemmen
11:15 – 11:45	Plenary discussion	All
11:45 – noon	Final comments	Helen Joseph

APPENDIX 2- PARTICIPANT LIST

Sciences		Region	Région
1	Helen Joseph	National Capital Region	Région de la Capitale Nationale
2	Paul Lyon	National Capital Region	Région de la Capitale Nationale
3	Ann McMillan	National Capital Region	Région de la Capitale Nationale
4	Georgine Pastershank	National Capital Region	Région de la Capitale Nationale
5	Marie-Claude Fortin	National Capital Region	Région de la Capitale Nationale
6	Karen Davison	National Capital Region	Région de la Capitale Nationale
7	Jim Christian	Pacific	Pacifique
8	Robin Brown	Pacific	Pacifique
9	Kim Hyatt	Pacific	Pacifique
10	Bill Crawford	Pacific	Pacifique
11	Patricia Ramlal	Central and Arctic	Centre et Arctique
12	Gavin Christie	Central and Arctic	Centre et Arctique
13	Lisa Loseto	Central and Arctic	Centre et Arctique
14	Jim Reist	Central and Arctic	Centre et Arctique
15	Susan Doka	Central and Arctic	Centre et Arctique
16	Scott Higgins	Central and Arctic	Centre et Arctique
17	Michel Gilbert	Quebec	Québec
18	Denis Gilbert	Quebec	Québec
19	Marc Lanteigne	Gulf	Golf
20	Joel Chassé	Gulf	Golf
21	Daniel Caissie	Gulf	Golf
22	John Loder	Maritimes	Maritimes
23	Glen Harrison	Maritimes	Maritimes
24	Nancy Shackell	Maritimes	Maritimes
25	Charles Hannah	Maritimes	Maritimes
26	Atef Mansour	Newfoundland Labrador	Terre Neuve et Labrador
27	Pierre Pepin	Newfoundland Labrador	Terre Neuve et Labrador
28	Guoqi Han	Newfoundland Labrador	Terre Neuve et Labrador
29	Barry McCallum	Newfoundland Labrador	Terre Neuve et Labrador
Policy- Socio-Economic			
30	David Collister	National Capital Region	Région de la Capitale Nationale
Policy- Forecast			
31	Ruth Hawkins	National Capital Region	Région de la Capitale Nationale
32	Matthew Surch	National Capital Region	Région de la Capitale Nationale
Policy- Horizontal Policy and Priorities			
33	Kate Ledgerwood	National Capital Region	Région de la Capitale Nationale
Science Outreach			
34	Pat Hunter	National Capital Region	Région de la Capitale Nationale

Integrated Science Data Management			
35	Mathieu Ouellet	National Capital Region	Région de la Capitale Nationale
Natural Resources Canada - Climate Change Impacts & Adaptation			
36	Don Lemmen	National Capital Region	Région de la Capitale Nationale
Consultant			
37	John Lark	Coherent Advice-Ottawa	Coherent Advice-Ottawa