

# REGIONAL MANAGEMENT COMMITTEE

## DECISION PAPER

*Security Classification: Unclassified*

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### **Title: Prioritizing PSARC requests**

**Issue:** A process for soliciting and prioritizing PSARC requests is proposed. An effective process is required to set regional and national annual science advisory schedules and work plans for the Pacific Region.

**Background:** The Pacific Science Advice Review Committee (PSARC) is the formal science peer-review process for the provision of science advice in support of resource management decision making. The diversity of science requests has expanded beyond a traditional fishery management focus. Advisory products are now required to meet a variety of obligations:

- legal obligations (i.e. SARA)
- integrated oceans management under the Oceans Act
- implementation of Canada's Wild Salmon Policy
- implementation of the Precautionary Approach (PA)
- emphasis on ecosystem-based approaches to management
- science advice in support of habitat threats (i.e. CEAA)
- science advice in support of Aquatic Invasive Species threats
- science advice in support sustainable aquaculture

Currently, the annual process for soliciting PSARC requests is initiated by a call-for-requests from the PSARC Chair. In the last two years this has occurred prior the start of each fiscal year in time to guide business planning activities. The Regional Management Executive Committee (RMEC) is the committee responsible for setting PSARC priorities. In 2006, given the need to prioritize a growing diversity of requests, RMEC recognized that a strategic approach is needed to set PSARC priorities. This proposal describes a process for 1) soliciting and receiving requests and 2) prioritizing requests within and between sectors to inform cross-sector discussions on priorities by regional directors.

### **Soliciting PSARC requests:**

Priority setting is now formally linked to business planning and the capacity to delivery science advice. The PSARC Chair coordinates the process. The chronological steps in the proposal include:

1. A call-for-requests from the in PSARC Chair is sent to regional directors in early February each year to allow client sectors time to compile requests for the next fiscal year and beyond.
2. A description of the rationale and objectives including timelines for delivery is provided to the PSARC Chair by the regional director of the initiating sector using the *request for science information and/or advice* form (Attachment 1) before the beginning of the next fiscal cycle.
3. Science sector does an initial prioritization of requests based on the proposed framework described below to identify within and cross-sector priorities and the capacity of Science to deliver advice.
4. RMEC meets to finalize the list of PSARC requests.

**A framework for prioritizing requests:** A decision tree is proposed to help guide the prioritization process (Attachment 2). The purpose of the decision tree is to inform subsequent discussion by RMEC on regional science advisory priorities.

In the first step of the framework, requests are binned in triage fashion according to three broad categories: 1) obligatory requests with legal obligations and other highly sensitive requests, for example, as directed by the Minister); 2) non-obligatory requests prioritized according their impact on operational and strategic decision making; and 3) requests that are not within the mandate of DFO's peer-review process or are not scientifically feasible. These latter requests are acknowledged, but not considered further in this framework.

Annual requests for SARA-related advice fit into category 1. Requests for advice in support SARA have significant legal, operational and policy implications. The workload can be substantial, often unpredictable and comes with tight time lines. SARA-Science policy development is an active file and framework guidelines for conducting Recovery Potential Assessments (RPAs) have not been completed. Because of the legal implications, SARA requests are obligatory and trump non-obligatory requests. As deemed necessary, other requests with very broad policy or management implications could also fit into category 1.

In the second step, the remaining non-obligatory requests are ranked depending on their impact/profile. A separate rank is assigned for: 1)) short-term operational impacts and 2) longer-term strategic impacts to produce a 2-dimensional policy filter. The ranking process is guided by the following descriptors in order of importance:

Quadrant I - upper-right: high operational and strategic impact

- Significant benchmark assessment with wide-ranging, short term and long-term implications for resource management and policy implementation.
- Assessment with large scale economic implications, for example, major projects with large CEEA implications or international treaty obligations.

- Resource assessment decision framework for prioritizing assessment activities.

Quadrant II - lower-right: low operational, but high strategic impact

- Assessment of a new and innovative method without an immediate operational impact but with a clear application for the future.

Quadrant III - upper-left: high operational, but low strategic impact

- High priority status assessments for species, habitats and/or ecosystems at conservation risk and with a high potential to impact resource management.
- Assessment Framework has not been reviewed in the last five years. The implications have a high short-term impact on the assessment of status and decision making.

Quadrant IV - lower-left: low operational and strategic impact

- Assessment update based on a previously approved Assessment Framework that identifies the assessment methods, data streams and management reference points necessary to assess resource status and for management planning (i.e. routine IFMP support) and decision making.
- Requested advice already exists in a recent and relevant Advisory Document.
- Rationale for the requested advice needs to be considered with in a broader strategic context.

Each quadrant represents the position in a 2-dimensional policy filter (see Attachment 2). Non-obligatory requests with high operational and strategic impacts become arrayed in or near Quadrant I. These have the highest priority within this policy filter. By default, requests in Quadrant I would normally be completed before diverting resources to requests in other quadrants. Requests in Quadrant I include, for example, significant science inputs for WSP implementation such as methodologies for identifying Conservation Unit (CU) and CU status benchmarks. They may also include major projects impacting CEAA such as oil & gas development, hydroelectric or tidal energy projects with high economic and political profiles. At the other extreme, requests positioned in or near Quadrant IV have the lowest priority both in terms of short-term operational and long-term strategic impacts. This does not mean that requests in Quadrant IV would not get processed ahead of Quadrant I. Mitigating factors that could result in the processing of requests in Quadrant IV before higher priority requests include:

- Targeted external funding (i.e. Industry) is available for low-level operational requests that do not affect the ability to complete higher priority requests.
- A need to complete unfinished assessments and close the loop on the delivery of advice from previous requests.
- Opportunities exist to train staff and build expertise in conducting assessments.
- Expertise and capacity exist to process low priority requests and these do not impede completion of high priority work.
- Unforeseen, urgent requests.

Requests in Quadrant II and Quadrant III are also at opposite ends of the operational–strategic policy spectrum. Prioritizing among requests in these quadrants is less straightforward compared to requests in Quadrants I and IV. Requests in Quadrant II may have no immediate operational

value but could represent an important strategic investment for the future. Processing requests in Quadrant II ahead of Quadrant III however must be weighed against the short term urgency of operational requirements for advice.

In reality, the task of prioritizing requests for a given business cycle must also consider the capacity of science to deliver advice. Attachment 2 shows a simple example of a form to identify whether or not science capacity exists to process requests. Even within the obligatory requests (i.e. SARA), choices of what gets done first depends on the pool of internal/external expertise and level of funding in addition to the policy implications.

**A worked example:**

Regional salmon PSARC requests identified by FAM and Science for 07/08 are used to show how this framework could be used to prioritize requests. Under the triage system, there is one obligatory request to review an RPA for Okanagan Chinook under SARA. That project was funded in 2006/07 and will need to be PSARC reviewed in 2007/08. For non-obligatory requests, a rank was assigned to each of the operational and strategic policy dimensions based the descriptors provided above. The rank, the quadrant in 2-dimensional policy space, and the capacity to deliver the advice in 07/08 are listed for each request in Attachment 3. This is further illustrated graphically in Attachment 4. Note that Science has not finalized planning for 07/08 and therefore this is a mock exercise of how the framework could be applied. Nevertheless, there is a wide range of salmon requests from low to high operational and strategic impacts. Requests for other sectors 07/08 are listed in Attachment 5.

In this example, WSP-related requests (CU and benchmark methodologies) are a high priority because they have both significant operational and strategic impacts. A review of a Cultus Lake sockeye simulation model ranks next given the large impact of Cultus sockeye on harvest management and a policy to rebuild COSEWIC designated populations. A request aimed at improving our understanding of environmental change impacts on Fraser sockeye production and pre-season forecasting has moderately high operational and strategic implications. Requests for status assessments of Stuart basin sockeye and Lower Georgia Strait (LGS) Chinook have high operational impacts, but do not necessarily have high strategic implications. Routine pre-season forecasts, based on previously accepted frameworks, have a low operational and strategic priority.

The capacity to deliver salmon PSARC advice is determined by Science based on the inventory of available resources and competing assessment and research needs (Attachment 3 and 4). Science has not yet reviewed capacity issues needed to allocate resources to complete the assessments for 07/08. High priority requests for WSP implementation however are an obvious priority. Work on the WSP CU identification methodology is already assigned. There is less certainty about the ability to complete other projects at this time because business planning is not yet finalized. Routine salmon forecasts are an annual activity and work has been pre-assigned.

Other species and sector client requests would be processed in the same way. Obligatory requests would first be identified to determine the availability of expertise and resources. Feasible non-obligatory requests within each sector would then be prioritized within the policy and capacity filters. Cross-sector requests potentially would draw resources from different sectors depending

on the issue. These would need to be assessed using the same decision framework to determine how the request fits within the policy and capacity filters.

**Recommendation:**

Accept the proposed process and decision framework to prioritize request for science advisory products.

**Author:**

**Approved by:**

**Date submitted to RMC:** \_\_\_\_\_

**Attachment 1. REQUEST FOR SCIENCE INFORMATION AND/OR ADVICE**  
**Name of the regional Center of Science Advice**

**PART 1: DESCRIPTION OF THE REQUEST (to be filled by the Branch requesting Information/Advice)**

**Date (Initial submission to Science):**

<b>Directorate, Branch or group initiating the request and category of request</b>	
Directorate/Branch	Category of Request
<input type="checkbox"/> Fisheries and Aquaculture Management	<input type="checkbox"/> Stock Assessment
<input type="checkbox"/> Oceans and Habitat Management	<input type="checkbox"/> Species at Risk
<input type="checkbox"/> Policy	<input type="checkbox"/> Habitat
<input type="checkbox"/> Science	<input type="checkbox"/> Aquaculture
<input type="checkbox"/> Other (please specify):	<input type="checkbox"/> Ocean Action Plan
	<input type="checkbox"/> Other (please specify):

<b>Initiating Branch Contact:</b>	
Name:	Telephone Number:
Email:	Fax Number:

<b>Issue Requiring Science Advice (i.e., "the question"):</b>
<i>(Issue posed as a question for Science response)</i>

<b>Rationale for Advice Request:</b>
<i>(What is the issue, what will it address, importance, scope and breadth of interest, etc.)</i>

<b>Intended Uses and Potential Impacts of Advice within DFO:</b>
<i>(Who will be the end user of the advice, e.g., DFO, another government agency or Industry? What impact could the advice have on other sectors?)</i>

<b>Potential Impacts of the Advice on the Public:</b>
<i>(Who will be impacted by the advice and to what extent?)</i>

<b>Date Advice Required:</b>
Latest possible date to receive Science advice:
Rationale:

<b>Initiating Branch's Approval:</b>	
Approved by Initiating Regional Director: <input type="checkbox"/>	Date:
1) Send form via email attachment from initiating Regional Director to Centre for Science Advice Coordinator. Each region may have its own communication rules but the regional CSAs should be central in this planning process.	

**PART 2: RESPONSE FROM SCIENCE (to be filled by the Centre for Science Advice)**

<p><b>Criteria characterising the request:</b></p> <p><input type="checkbox"/> Science advice is requested (rather than just information)</p> <p><input type="checkbox"/> A sound basis of peer-reviewed information and advisory precedent already exists.</p> <p><input type="checkbox"/> Inclusiveness is an issue</p> <p><input type="checkbox"/> Advice on this or a similar issue has been provided in the past.</p> <p><input type="checkbox"/> Urgent request.</p> <p><input type="checkbox"/> DFO is not the final advisory body.</p> <p style="padding-left: 20px;"><input type="checkbox"/> CEAA process</p> <p style="padding-left: 20px;"><input type="checkbox"/> Other:</p>	<p><b>Constraints regarding the planning of a standard peer review/Workshop:</b></p> <p><input type="checkbox"/> External expertise required</p> <p><input type="checkbox"/> This is a scientifically controversial issue, i.e., consensus does <i>not</i> currently exist within DFO science.</p> <p><input type="checkbox"/> Extensive preparatory work is required.</p> <p><input type="checkbox"/> Determination of information availability is required (prior to provision of advice).</p> <p><input type="checkbox"/> Resources supporting this process are not available.</p> <p><input type="checkbox"/> Expected time needed for the preparatory work:</p>	<p><b>Other criteria that could affect the choice of the process, the timelines, or the scale of the meeting:</b></p> <p><input type="checkbox"/> The response provided could be considered as a precedent that will affect other regions.</p> <p><input type="checkbox"/> The response corresponds to a new framework or will affect the framework currently in place.</p> <p><input type="checkbox"/> Expertise from other DFO regions is necessary.</p>
<p><b>Recommendation regarding the advisory process and the timelines:</b></p> <p><input type="checkbox"/> Ad Hoc Process      <input type="checkbox"/> Workshop      <input type="checkbox"/> Peer Review Meeting</p>		
<p><b>Rationale:</b></p> <p><b>Advisory product expected:</b></p> <p><input type="checkbox"/> Science Advisory Report      <input type="checkbox"/> Research Document</p> <p><input type="checkbox"/> Proceeding      <input type="checkbox"/> Science Response Report</p> <p><input type="checkbox"/> Other:</p>		
<p><b>Date Advice to be Provided:</b></p> <p><input type="checkbox"/> Date specified can be met.</p> <p><input type="checkbox"/> Date specified can NOT be met.</p> <p>Alternate date, as agreed to by initiating Branch contact and Science lead:</p>		

**OR**

No Formal Response to be Provided by Science

**Rationale:**

- DFO Science Region does not have the expertise required.
- DFO Science Region does not have resources available at this time.
- The deadline can not be met.
- Response to a similar question has been provided elsewhere:  
Reference:

Additional explanation:

**Science Branch Lead:**

Name:

Telephone Number:

Email:

\* Please contact Science Branch lead for additional details on this request.

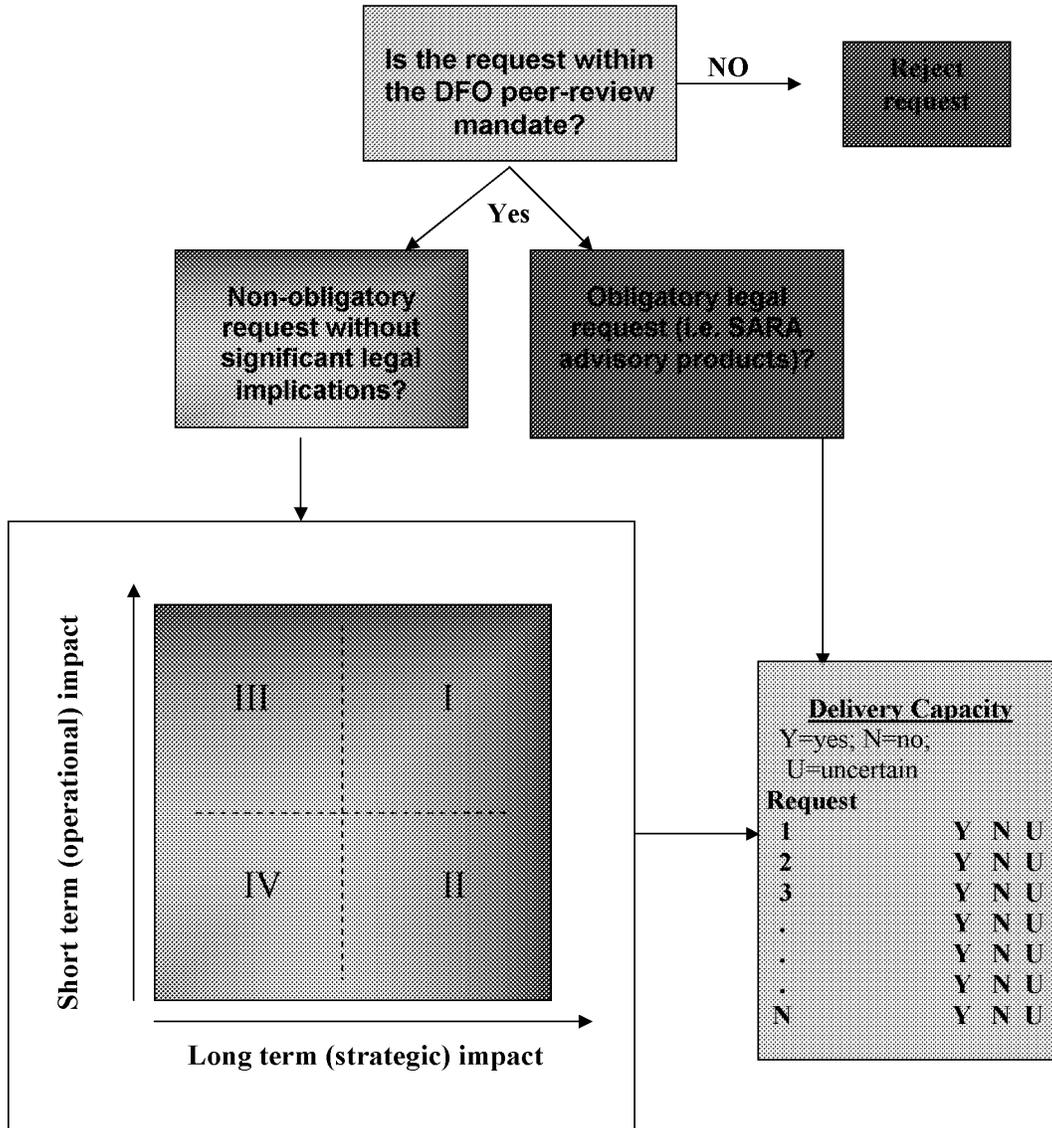
**Science Branch Approval:**

Approved by Regional Director, Science (or their delegate authority):

Date:

- 1) Please send form via email attachment to initiating Regional Director.
- 2) cc email to the Centre for Science Advice (CSA) Coordinator and the initiating Branch contact person.

**Attachment 2. Decision tree for ranking PSARC requests according to their impact/profile within key drivers.**

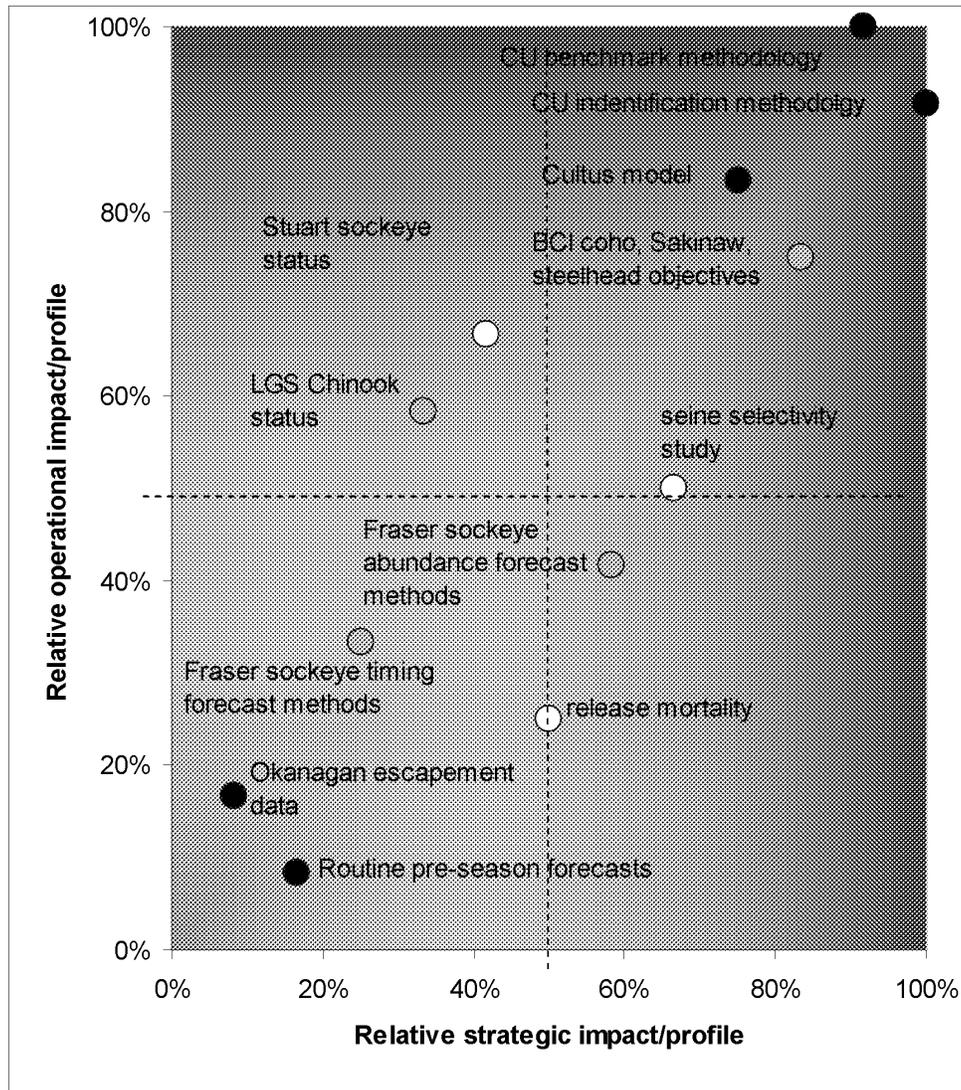


**Attachment 3. Example of non-obligatory FAM and Science salmon priorities within the operational-strategic policy and capacity filters.**

Issue	Rank score		Percent rank score		Capacity <sup>a</sup>
	strategic impact	operational impact	strategic impact	operational impact	
Methodology for the identification of Conservation Units	11	12	92%	100%	Y
Methodology for identification of Lower Benchmarks for Conservation Units	12	11	100%	92%	U
Measurable conservation objectives in data poor environment with high impact on Fishery Management decision making (e.g. BCI Coho, Steelhead, Sakinaw) - Potential NAP	10	9	83%	75%	U
Cultus sockeye simulation model	9	10	75%	83%	Y
Status of Stuart basin sockeye assessment	5	8	42%	67%	U
LGS Chinook status assessment	4	7	33%	58%	N
Selectivity of panels and knotless bunts for seines	8	6	67%	50%	U
Review of pre-season Fraser sockeye forecast methodology and implications of environmental impacts.	7	5	58%	42%	N
Fraser River sockeye run timing methodology framework	3	4	25%	33%	N
Review of salmon post-release mortalities	6	3	50%	25%	U
Okanagan sockeye escapement data review	1	2	8%	17%	U
Pre-season salmon forecasts.	2	1	17%	8%	Y

a: Y=yes; N=no; U=uncertain;

Attachment 4. An Example of how non-obligatory FAM and Science salmon PSARC requests are arrayed in a 2-dimensional operational-strategic policy filter. Each circle represents a single request. The axes are transformed from the rank order to percentages (see Attachment 2). Circles are colour coded to discern the capacity to deliver advice in 07/08 (● = yes; ○ = no; ◐ = uncertain).



**Attachment 5. Client sector requests for PSARC review and advice in 2007/08.**

<b>Requesting sector</b>	<b>Issue/species</b>	<b>Rationale</b>
Policy SARA-post COSEWIC	RPA - speckled dace	SARCEP funded in 06/07. COSEWIC="E". GIC sent back Status Report to COSEWIC for re-assessment.
Policy SARA-post COSEWIC	RPA - Nooksack Dace	SARCEP funded in 06/07. SARA Schedule 1 "T". SSC recommends COSEWIC designate at "E"
Policy SARA-post COSEWIC	RPA-Okanagan Chinook	SARCEP funded in 06/07. COSEWIC="T". Prepare science components of for incidental harm permitting and other scientific work to support pre-listing and/or emergency listing assessment
Policy SARA-post COSEWIC	RPA- Marbled murrelet	SARA Schedule 1 "T". Science components for incidental harm permitting (fishery impacts) required but delayed to allow CWS input with abundance estimates to assess status
Policy SARA-post COSEWIC	RPA – Morrison Creek Lamprey	SARA Schedule 1 "E". Critical habitat identification required for inclusion in action plans.
Policy SARA-post COSEWIC	RPA – Cultus pygmy sculpin	SARA Schedule 1 "T".
Policy	RPA - Basking shark	COSEWIC candidate and SSC recommends

<b>Requesting sector</b>	<b>Issue/species</b>	<b>Rationale</b>
SARA-post COSEWIC		COSEWIC designate as "E"
Policy SARA-post COSEWIC	RPA - Boccacio	COSEWIC assessment sent back by GIC.
Policy SARA-post COSEWIC	RPA – Misty Lake Sticklebacks (lentic/lotic)	SSC recommends COSEWIC designate at "T". Mostly provincial data
Policy SARA-post COSEWIC	RPA – coastal cutthroat trout	SSC recommends COSEWIC designate at "T". Mostly provincial data
Policy SARA-pre COSEWIC	Killer Whale (Southern Resident, Northern Resident, Transient, Offshore)	Status re-assessment, Framework for re-assessment not established but likely will require pre-COSEWIC review
Policy SARA-post COSEWIC	Longspine Thornyhead	SSC recommends COSEWIC designate as "T"
Policy SARA-post COSEWIC	Canary rockfish	SSC recommends COSEWIC designate as "T"
	Fraser eulachon status	COSEWIC candidate species
FAM	Annual herring assessment and recruitment	IFMP input

<b>Requesting sector</b>	<b>Issue/species</b>	<b>Rationale</b>
	forecasts. HCAM framework accepted in 06.	
Science	Evaluation of the impacts of reduced data quality on herring advice	Implications for assessment sampling costs
Science	Evaluation of the impacts of fisheries on herring spawning	
FAM	Herring risk assessment framework	PSARC (Sept 06 Advisory Doc) agreed the risk assessment is a priority. Before completion, however, the stock assessment model needs further development s it can be incorporated into the risk assessment
Science-FAM	Evaluation of herring stock structure in the Central Coast and impacts on stock assessment advice	Rationale to be developed in February.
Science-FAM	Shortspine thornyhead assessment framework	Not reviewed in last 5 years
Science-FAM	Dogfish	Not reviewed in last 5 years.
Science-FAM	Pacific Ocean Perch	Last reviewed in 2001. Industry Priority.
Science	Lingcod Assessment	4B last assessed in 2005. Coastwide last assessed in 2000.
FAM	Pacific cod Assessment	Industry priority due to bycatch impact and perceived stock increase. 3C/D last assessed in 2002, 5A/B and 5CDE last assessed in 2005.
Science	Silvergray rockfish assessment	Last assessed in 2002.
Science	Yellowtail Rockfish Assessment	Last assessed in 2002 however it was not accepted and sent back to Inshore rockfish working group. Last approved review was 1997.

<b>Requesting sector</b>	<b>Issue/species</b>	<b>Rationale</b>
Science	Sablefish	IFMP input. Last assessed in 2005 with agreement for assessment 3-yr rotation.
Science-FAM	QCI Razor clam framework assessment	Collaboration with Hiada-Gwaii. Rationale not fully developed.
Science-FAM	Sea cucumber assessment framework	IFMP input. Review experimental protocol information collected to date for Region.
Science-FAM	Aquaculture species risk assessment (part 2)	Rationale not fully developed.
Science-FAM	Methodology for the identification of Conservation Units	WSP implementation
Science-FAM	Methodology for identification of Lower Benchmarks for Conservation Units	WSP implementation
FAM	Measurable conservation objectives in data poor environment with high impact on Fishery Management decision making (e.g. BCI Coho Impact model, Steelhead, Sakinaw)	Potential NAP based on National priorities discussed at January 07 RAP coordinator meeting.
FAM	Status of Stuart basin sockeye	A Longstanding perceived Fraser sockeye conservation issue in the Region and FN client sector.
FAM	LGS chinook status assessment	A working paper was reviewed and rejected in May 06.
FAM	Selectivity of panels and knotless bunts for seines	Capacity delivery issue. A review has been on the books for 2 years
FAM	Review of pre-season sockeye forecast methodology and implications of environmental impacts.	Framework completed in October 05 but request follows from poor forecasting performance for some stocks in recent years.
FAM	Fraser River sockeye run timing methodology	Method not reviewed for 10 years. Used in PSC pre-

<b>Requesting sector</b>	<b>Issue/species</b>	<b>Rationale</b>
	framework	season planning. Follows from poor forecasting performance in 2005.
FAM	Review of salmon post-release mortalities	New data available
Science	Okanagan sockeye escapement data review	Outstanding science request.
Science-FAM	Pre-season salmon forecasts. (SAR format)	Annual requirements for PST and IFMP (Fraser sockeye, WCVI & LGS Chinook, southern BC coho, Harrison/Chilliwack Chinook )
Science	Cultus sockeye simulation model	The model is the basis for harvest management and policy choices on freshwater rebuilding options
Oceans	Bowie Seamount MPA experimental design.	Identify an experimental design for the proposed Bowie Seamount MPA enabling research into interactions of the Seamount's trophic assemblages, and effects of fishing on its assemblages and habitat.
OHEB - Fisheries and Aquaculture Management	Assessment of Puntledge River Summer Chinook.	Assessment of mortality factors leading to poor survival of summer Chinooks (i.e. seal predation)
OHEB-Oceans	Potential impacts (severity and scale) by fishing gear type on corals and sponges	In the context of developing a coral and sponge conservation strategy for Pacific Region DFO, Summarise gear types that potentially impact sponge/coral and characterize the potential impacts (severity and scale). What are the potential direct and indirect impacts by gear?
OHEB-Oceans	Habitat values for aquatic species fish and sponge/coral concentrations/bioherms/reefs	Is there evidence that particular life stages of fish or other marine animals are dependent upon or

<b>Requesting sector</b>	<b>Issue/species</b>	<b>Rationale</b>
	found in Pacific Region.	supported by sponges and corals?
OHEB-Enhancement	Carrying capacity for salmon (by individual species, with chum, coho and chinook of major concern) in the Georgia Strait	What is the appropriate study design to determine the carrying capacity for salmonids (by individual species, with chum, coho and chinook of major concern) in the Georgia Strait? What are the implications of hatcheries?
OHEB-Enhancement	Tracking genetic interactions between hatchery and wild salmon	What is the appropriate study design (how to determine what stocks to compare, numbers of samples needed, numbers of years needed, type of DNA analysis needed) for tracking genetic interactions between stocks?
OHEB-Enhancement	Stock status of coho salmon in streams in the Georgia Basin and including Lower Fraser River	The survival rate of coho stocks in the Georgia Basin has declined since the late 1980's, resulting in a major reduction in catch. Survival for the last two years, 2002 and 2003 broods, have been generally the lowest on record. An assessment of the overall stock status is long overdue.