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## **MEMORANDUM**

**TO:** Council Members

**FROM:** John Ogan

**SUBJECT:** Document summarizing the provincial review

At the August meeting I will be presenting the Council a letter that summarizes the provincial review process. The provincial review process spanned three years as the Council worked systematically through the 11 provinces and mainstem/systemwide group. The letter I present is intended to be a single document that knits together the Council funding recommendations made throughout the provincial review, and incorporate by reference the many documents that were approved by the Council to explain the basis for its funding recommendations. This summary document will be a part of the record demonstrating how the Council complied with the Act's requirements governing the Council's project funding recommendation role.

I will ask the Council to formally adopt this document as a summary of its project funding recommendation actions for the provincial review process applying to Fiscal Years 2001 through 2006.

This summary document does not include new funding recommendations or policy considerations. It adopts by reference documents approved previously by the Council during the provincial review process.

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August 12, 2003

## **Summary of Council Recommendations to Bonneville For Funding Direct Program Projects Throughout the Provincial Review Process**

### **Content and Organization of the Recommendations Summary**

The 1996 amendments to the Northwest Power Act (Act) direct the Council to make recommendations to Bonneville on how to expend its annual fish and wildlife budget. Beginning with Fiscal Year 2001, substantial changes were made to the project solicitation, review and selection process. The Council instituted a province-based -- the "rolling provincial review" -- in place of the unlimited basinwide solicitation and selection process used in Fiscal Year 2000 and prior years. Council Document 2000-6 (Part I) provides a detailed description of the provincial review format and the reasons for switching to this model. In short, rather than reviewing all projects throughout the basin each year, the provincial review format divided the solicitation and project review process along the lines of the 11 provinces described in the 2000 Program, added a mainstem/systemwide group, and provided for a more in-depth review of the projects in each province. The Council made three-year funding recommendations to Bonneville for each province and the mainstem/systemwide group. This province-based model allows for more thorough project review and project sponsor involvement, and better matches the subbasin-focused implementation strategy adopted in the 2000 Fish and Wildlife Program.

The Council recently completed the first full-cycle of the provincial review, with the entire process taking approximately three years to complete. The purpose of this document is to catalogue and organize in one place the many recommendations and findings that the Council made throughout the provincial review exercise. This is accomplished primarily by identifying and incorporating by reference the documents that were approved by the Council in each of the provincial reviews, and providing links to where they can be found on the Council website. This summary document builds upon those previously approved decision documents to fulfill the requirements of section 4(h)(10)(D) relating to Council funding recommendations.

Part I of this document references, and provides links to the province decision memoranda and tables. Part II of the document outlines the approach that the Council has employed since the Act was amended in 1996 to ensure that the projects it recommends for funding to Bonneville are cost-effective. Part III explains the way in which the Council responds

to the Act's direction to consider ocean conditions as it makes its project funding recommendations.

## **I. Council Project Funding Recommendations**

This provincial review process spanned three years. Over that period of time, the facts and circumstances that the Council was required to take into account as it deliberated on its funding recommendations certainly did not stay static. Considerations such as the state of Bonneville finances, ESA exigencies, scientific information, to name just a few, were dynamic during this time period. As a result, the Council fine-tuned the nature of the considerations that it employed in making funding recommendations to Bonneville as it worked through the provinces.

The specific considerations taken into account in each province (and in the Mainstem/Systemwide group) are documented in the Council recommendation letters, issue memos, and tables that were produced for each province identified below and incorporated herein by reference. However, while there was adjustment to meet immediate facts and circumstances in each province, at the larger programmatic scale, the touchstones for the Councils' project recommendation decisions remained fixed -- (1) significant reliance on the scientific findings of the Independent Scientific Review Panel; (2) significant reliance deference to the statement of management priorities provided by the fish and wildlife managers; (3) working within the budget articulated by Bonneville; (4) seeking to facilitate Bonneville's response to FCRPS Biological Opinion requirements while also maintaining past investments made in, and support of, the broader objectives of the Fish and Wildlife Program.

The Act requires the Council to take the project review reports of the ISRP into account, and to explain its reasons should it decide to depart from a recommendation of that group. For each of the provincial reviews, the ISRP issued a report offering both programmatic and project-specific recommendations. The Council's funding recommendations carefully considered the ISRP's advice and findings pertaining to the statutory review criteria. The Council rarely departed from the recommendations of the ISRP, and, even in the limited number of times that it recommended a project that did not fully satisfy the standards of the Panel, the Council would limit or condition its project recommendation in a manner that responded to the specific deficiencies that were noted. The Council's response to both programmatic and project-specific ISRP recommendations can be found in each of the province decision documents identified below.

### **A. Columbia Gorge and Inter-Mountain Provinces.**

The Columbia Gorge and Inter-Mountain provinces were the first two in the provincial review. The process proceeded simultaneously in each. The Council adopted funding recommendations for these provinces during its April 2001 meeting in Boise, Idaho. The funding recommendation document approved by the Council is dated March 28, 2001 and can be found on the Council website under the Fish and Wildlife menu, "Provincial Review" section (<http://www.nwppc.org/library/2001/2001-24.pdf>). The Council's recommendations for these provinces applied to Fiscal Years 2001 through 2003. In addition to making specific project funding recommendations, this document explained the approach used to ensure that it is making cost-effective funding recommendations and taking into account ocean conditions. The

Council's discussion of those topics is reproduced in Parts II and III of this document, as they applied to all of the Council's provincial review decisions.

#### B. Mountain Columbia Province

The Council adopted funding recommendations for the Mountain Columbia province in June 2001 at its meeting in Pendleton, Oregon. The adopted funding recommendations for this province can be found on the Council web site under the Fish and Wildlife menu, "Provincial Review" section ([http://www.nwppc.org/fw/province/mtncol/IssueSummary2001\\_1019.htm](http://www.nwppc.org/fw/province/mtncol/IssueSummary2001_1019.htm)). In September 2001, after the ISRP provided additional review and advice, the Council recommended that Bonneville fund another Mountain Columbia province project, the Salish and Kootenai Tribes' habitat restoration project. The funding recommendations for this province applied to Fiscal Years 2002 through 2004.

#### C. Columbia Plateau Province

The Council adopted funding recommendations for the Columbia Plateau province in November 2001. The adopted funding recommendations for this province can be found on the Council web site under the Fish and Wildlife menu "Provincial Review" section ([http://www.nwppc.org/fw/province/plateau/2001\\_1203Cover.htm](http://www.nwppc.org/fw/province/plateau/2001_1203Cover.htm)). The funding recommendations for this province cover Fiscal Years 2002 through 2004.

This decision document is of particular significance, as it was developed in response to more definite guidance from Bonneville on the annual fish and wildlife funding that it intended to make available in each fiscal year of the 2002 through 2006 rates period. Prior to this provincial review, Bonneville had not provided a specific budget figure that the Council should use in making its funding recommendations. It was during the time period in which the Council was developing its recommendations for the Columbia Plateau province that Bonneville informally, but directly, advised the Council that it should plan for an annual average of \$186 million in combined expense and capital spending in the 2002-2006 rate period. This information prompted the Council to develop funding allocations for the Columbia Plateau and all other remaining provinces, and to more specifically define the prioritization considerations that it would employ to fit its project funding recommendations within the province funding allocations. The Columbia Plateau decision document approved by the Council explains the basis upon which province-based funding allocations were established, and details the Council's considerations to prioritize within those allocations in order to fit its recommendations within the funding target announced by Bonneville.

#### D. Blue Mountain and Mountain Snake Provinces

The Council adopted funding recommendations for the Blue Mountain and Mountain Snake provinces during its April 2002 meeting in Boise, Idaho. The adopted funding recommendations for these provinces can be found on the Council web site under the Fish and Wildlife menu "Provincial Review" section ([http://www.nwppc.org/fw/province/blue/2002\\_0419Cover.htm](http://www.nwppc.org/fw/province/blue/2002_0419Cover.htm)). The funding recommendations cover Fiscal Years 2002 through 2004.

E. Estuary, Lower Columbia, Columbia Cascade, Middle Snake and Upper Snake Provinces.

With all primary participants -- the Council, ISRP, and project sponsors -- having gained experience and familiarity with the new province based format, and in order to expedite the completion of the first round of provincial reviews, these five provinces were treated simultaneously. The Council adopted funding recommendations for these five provinces in September 2002 at its meeting in Spokane, Washington. The adopted funding recommendations for these provinces can be found on the Council web site under the Fish and Wildlife menu "Provincial Review" section (<http://www.nwppc.org/fw/province/cascade/2003finalrec.htm>). The Council's recommendations for these provinces apply to Fiscal Years 2003 through 2005.

F. Mainstem/Systemwide projects group.

There remains a suite of projects and activities that do not fit neatly into the geographic boundaries of any one of the provinces established in the 2000 Program. Such projects tend to be research oriented with the investigation and results having application at a geographic scale larger than a province ("systemwide"), or they are projects that are implemented in the mainstem section of the river without any particular association on the adjacent province(s) ("mainstem"). In order to review such projects on the same basis as those in the "true" provinces, the mainstem/systemwide projects group were aggregated as a unique set for Council funding consideration as the final piece of the provincial review cycle. The Council adopted its funding recommendations for the mainstem/systemwide group at its June 2003 meeting in Boise, Idaho. The adopted funding recommendations for these provinces can be found on the Council web site under the Fish and Wildlife menu "Provincial Review" section (<http://www.nwppc.org/fw/province/mainstem/Default.htm>). The Council's funding recommendations apply to Fiscal Years 2004 through 2006 for this project group.

**Part II Determination that Projects Recommended Employ Cost Effective Measures to Achieve Program Objectives**

*The following discussion is excerpted from the April 2001 Council's Columbia Gorge and Inter-Mountain decision document. That document, produced as the first in the provincial review process, explained the Council's approach to cost-effectiveness review. The text below is modified from that original presentation only to make clear that the approach applied throughout the provincial review.*

Under the 1996 amendment to the Northwest Power Act, the Council must, in making its annual fish and wildlife project funding recommendations to Bonneville, "determine whether the projects employ cost effective measures to achieve program objectives." As noted in each of the years since this determination has been required, the legislation did not specify any particular approach to cost-effectiveness analysis. It does not require, for example, the use of a single measure of biological effectiveness as a basis for comparison among projects, nor the use of strictly quantitative analysis. Because of this, the Council has taken several steps over the years since this provision was added to the Act to understand the state of the art in natural resource economics and cost-effectiveness analysis to make the determination required by the Power Act.

With the help of Independent Economic Analysis Board (IEAB), the Council produced a discussion document "Methods of Economic Analysis for Salmon Recovery Programs" (July 30,

1997, Council Document No. 97-12), for the purposes of initiating the cost-effectiveness review in Fiscal Year 1998. The Economic Board reviewed the paper and supported the analysis and conclusions. The methods analysis concluded that several problems make it difficult for the Council to undertake a quantitative cost-effectiveness comparison among fish and wildlife projects using a single, quantified, measure of benefits to determine which projects produce the greatest benefit per dollar. The problems include the lack of agreement on measures of biological effectiveness; the fact that the complex life-cycle of anadromous and resident fish makes it difficult to isolate the biological effects of particular activities or to compare different biological effects of different kinds of projects; and the fact that in the prioritization process, different project sponsors provide different kinds of cost and economic information, which makes cost comparisons difficult.

Based on the methods analysis and the Economic Board's advice, to date, the Council has concluded that it could not undertake a quantitative cost-effectiveness comparison of the projects, primarily due to the inability to quantify the expected benefits of particular projects. Whether a more quantitative approach will be possible in future years is still not known. A quantitative cost-effectiveness comparison would require a far greater understanding of the biological effectiveness of actions than we have now.

In prior years the Council noted that a more quantitative cost-effectiveness determination would also require a better defined set of biological goals and objectives for the Council's Program to be able to make a quantified analysis of whether projects are cost effective in meeting "program objectives." That is, a clearer, more comprehensive Program framework could provide a sounder basis for establishing measures of effectiveness, perhaps allowing in the future for a multi-variable quantitative cost-effectiveness comparison of projects as described in the Council's methods paper. The 2000 amendments to the fish and wildlife program have made the first step of progress in crafting this more definite set of program objectives. This is the first of several efforts over the last year, discussed below, undertaken by the Council efforts to create a program and project selection process that increases the cost-effectiveness of the projects it recommends for funding.

#### **A. Council proposal to clarify program objectives**

In order to make determinations as to which project will be most cost-effective in meeting program objectives, it is necessary to have discreet and understandable program objectives. In previous versions of the fish and wildlife program, there was not a conceptual framework that permitted a clear understanding of the relationship between objectives at the smallest or site-specific scale or project level and the broader basin-wide or overall program levels. This confounded the ability to evaluate how any specific project or suite of projects proposed for implementation at a specific site or within a specific area responded to program level objectives.

The fish and wildlife program amendment concluded in 2000 begins the process of a comprehensive restructuring of the program around a conceptual hierarchical framework that includes related visions, objectives, and strategies at three spatial scales -- basin-wide, province, and subbasin. The 2000 amendments adopted this hierarchical framework for the program, and started the to fill in the substance of the vision, objectives, and strategies at the broadest scale -- the basin. Subsequent amendment proceedings are planned that will establish visions, objectives, and strategies at the intermediate province level and also at the subbasin level. Working from the smallest scale up, the framework of the program will provide for objectives at each subbasin that are consistent with

the objectives for the province in which it is located, and each province must have goals and objectives that are consistent with the basin wide goals and objectives.

Once the amendment process is completed, if successful, the Council will be evaluating proposed projects for their “fit” with visions, objectives, and strategies set out for each subbasin. Those that are most consistent for the subbasin plan will receive a priority for funding. Thus, the projects that best fit the subbasin level objectives will also be the best matches for the applicable province objectives as well as the basin level objectives. In this way, when looking across all of the projects taking place in each of the subbasins, the Council can be confident that they have the best fit collection of projects in each of the subbasins, all consistent with higher order objectives that have been designed to achieve the vision for the fish and wildlife program.

The Council expects the amendment cycle to do the complete restructuring of the program to adopt the substance of the province and subbasin level visions, objectives, and strategies may take several years. The 2000 amendments did make the critical first step in that the Council and region committed to this approach for the fish and wildlife program, and by filling in objectives at the basin level.

The Council does not intend to suggest here that the purpose of pursuing a more definitive framework and biological objectives for the program will ensure that a quantitative cost-effectiveness comparison can or will be completed for the annual project selection process after the program is amended. The challenges in quantifying expected benefits of proposed projects would remain even if the program objectives were clarified as planned. However, the Council does believe that more definitive program objectives, and the requirement for “nested” objectives at all three geographic scales will at least permit a much more transparent and rigorous qualitative review of the cost-effectiveness of projects proposed each year.

**B. Cost-effectiveness through project review, selection and management procedures -- continuing to refine and build upon strategies identified in the methods analysis.**

As highlighted in the past, there is more to cost-effectiveness than a quantitative comparison of the costs of alternative ways to achieve a single biological objective. Cost-effectiveness review may suggest procedures for project review, selection and management that emphasizes efficiency and accountability, making it more likely that projects funded will be effective and efficient, even if these changes cannot be reliably quantified. The methods analysis completed in 1997 recommended four strategies to help improve the cost-effectiveness of projects proposed for funding: (1) emphasizing the role of independent scientific review in increasing the cost effectiveness of the Council’s Program; (2) improving the level and nature of cost information provided; (3) evaluating the results of specific projects; and, (4) improving contract selection and management procedures. As in previous years, a description of what the Council has done and is doing to implement these strategies is the bulk of this year’s statement. The Council does believe that it has made significant progress on several of these four cost-effectiveness strategies in the fiscal year 2001 project selection and review process, and this is discussed below.

### C. Role of independent science review in cost-effectiveness review.

The purpose of the Scientific Panel is to provide an independent scientific assessment of the biological effectiveness of the proposed projects. The independent science review process has proven useful in raising questions about the effectiveness of certain types of projects, project management and funding priorities.

The provincial reviews that were completed and relate to Fiscal Years 2001 through 2005 (depending upon the province) included major improvements and changes in the way that science review of proposed projects is conducted. In the provincial review process, the science review was limited to a smaller set of projects in order to provide for a more thorough and detailed review. This enabled the ISRP to focus entirely on the limited number of proposals in each province, whereas before it reviewed 400 plus projects in a year. In addition, parties participating in the Council process developed additional contextual information in subbasin summaries to allow the Panel to understand how a project fit, or did not fit, with other activities and existing management objectives in each. Further, the new format included site visits where the ISRP actually went into the field to learn first-hand about the areas or projects that they were reviewing. Finally, the new format included a proposal presentation and defense component where the principle investigators of the proposals present their work, and the ISRP asks questions. The ISRP was very supportive of the new province based format. In its final report on projects in the Columbia Gorge and Inter-Mountain provinces the ISRP reported:

*This marks the end of the ISRP's duties in the first iteration of the provincial review process, and although the process can use some fine-tuning, the ISRP is enthusiastic about the new approach. The ISRP found the addition of subbasin summaries, site visits, project sponsor presentations, and a formal response loop to be a major improvement in the peer review process. (ISRP 2000-9, page 1).*

The ISRP reviewed each project that was proposed during the provincial review cycle, and provided project specific comments for each. The ISRP's rating system was very specific as to whether or not it found the project to meet the statutory review criteria. If the ISRP found the project wholly satisfactory, it rated it as "fundable." If the proposal was not judged to be satisfactory, it was rated as "not fundable," and where the proposal had deficiencies that precluded a "fundable" rating that the Panel considered relatively minor, it was rated "fundable with conditions." Regarding this last category, the Panel would explicitly describe the nature of the deficiency, and noted that the sponsor should remedy it when the specific project contract terms were agreed to with Bonneville.

The ISRP reviewed proposals and issued preliminary reports noting which projects needed to be improved and in what way. Project sponsors were provided an opportunity to respond to that report with and provide their explanations as to how they could respond to the deficiencies noted in the preliminary report. The ISRP then reviewed these responses, and rated the proposals a second time. In a great number of instances, this "fix-it loop" was able to improve marginal or deficient proposals into those that the ISRP found did meet the standards of the Act.



**D. Improved cost information/increased fiscal review of capital investments and operation and maintenance obligations.**

A second strategy recommended by the methods analysis has been to bring better cost information into the decision-making process. Council staff has worked with Bonneville, the managers and the project sponsors to develop and provide enhanced cost information about projects and about the Program allocations in general.

More important than the simple display of cost information for the total annual workplan or an entire project, however, continues to be increased scrutiny of the components of those costs and their long-term financial implications for the Council's Program. Consistent with the Council's recommendations in the past three fiscal years, the past year has seen increased fiscal scrutiny by the Council, Bonneville and others of both new and ongoing projects. Efforts of previous years in this area were built upon in the provincial review process, primarily by requiring more detailed budgeting information in project proposals.

In this provincial review format all projects were required to break its budget into four separate components: planning and design; capitol construction; operation and maintenance; and monitoring and evaluation. Further, objectives and tasks within each budget subcategory were required. Finally, sponsors were required to budget by task within each of the four budget subcategories. When the Council made its project funding recommendations to Bonneville, it recommended to Bonneville that it contract for the project on the basis of the work breakdown structure in the four phase proposals, and to administer the contracts on a going forward basis on that basis. This should ensure that projects continue to stay focused on the objectives and tasks approved by the Council at the level of effort approved for each task.

One of the methods to bring increased fiscal scrutiny in the interest of ensuring cost-effectiveness that has been developed by the Council since the amendment to the Act that continues to be critical is the "3-Step Review Process" that was developed in 1998 for new production initiatives. These projects tend to be some of the most capitol intensive in the program, and are also those that usually require several years to move from concept to operation. In order to bring budget discipline to these larger projects, and reduce the possibility that large investments are irretrievably committed at those early concept phases, the 3-Step process segments these proposals into three discreet phases. This segmentation facilitates a more transparent and discreet allocation among conceptual planning, preliminary design, final design and construction, and operational phases of these projects. Each step of the process requires Council approval and scientific review. Further, under this process, the Council approves funding only for the phase or step that the project is in, rather than for all phases as had sometimes been done in the past.

The 3-Step Review was originally conceived as an interim strategy and it set forth both the procedural and substantive elements for the review of artificial production proposals. The original documents adopting this review stated that it would be interim until the then ongoing Artificial Production Review (APR) being conducted was completed. The original belief was that the APR report and implementation plan would supercede the 3-Step Review process. That original thinking has turned out to be only partially correct. The APR does in fact add to and modify significantly the *substance* of the issues that need to be explored when artificial production projects are proposed. However, the APR recognizes that artificial production

improvement or reform will take time, and it recognizes that existing processes should be used as implementation vehicles for the reforms called for in the report. The fact of the matter has been that in the absence of a new process or implementation vehicle coming out of the APR, the Council has found the 3-Step Review design continues to be a very useful process design for considering these types of projects. Thus, as a matter of process, the Council continues to review artificial production proposals at a step 1 conceptual phase (Master Planning), a step 2 preliminary design phase, and a final step 3 final design proposal and construction phase. It is just that the APR dictates many of the substantive issues that are now considered in each of those steps.

A third strategy recommended by the Council's methods analysis is to evaluate the record of existing projects. To reiterate from last year, projects that have been ongoing for some time should have yielded measurable effects or have contributed concrete knowledge about fish and wildlife problems. A sampling of projects could be evaluated to determine what benefits they have yielded for the money expended. This exercise should introduce accountability into the process as well as provide a better understanding of how to specify measurable objectives in future project information sheets. On-going project reviews are essential for an adaptive management approach to Program design and implementation. During the provincial review cycle, the Council scrutinized a set of projects for concerns about effectiveness, questions about cost, or both. These included the predator control program, the fish passage center, tangle-net fishery support, select fisheries, and Streamnet to name a few. The Council then made use of the results of these reviews in making its funding recommendations this year.

Similar effort occurred during Fiscal Years 1998 through 2000-- the Council initiated reviews of several projects or program areas, reviews that resulted in (or may yet result in) better defined and more efficient projects and contributed to the Fiscal Year 2000 funding recommendations. The Council sought to ensure this year that the conditions or guidance that it had outlined in the past two fiscal years had been followed before it would recommend funding, even where the ISRP had rated a project as "fund" in the province review.

#### **E. General project decision rules used by the Council.**

The Council sought to employ general rules that required a high level of agreement that a project should be funded between the ISRP, and the fish and wildlife agencies and tribes as a requisite of a positive funding recommendation. This was especially emphasized in the case of proposed new projects. The Council believes that the reviews offered by these institutions overlap in part, but also address very different issues. That is, while the fish and wildlife managers and ISRP both have scientific and technical expertise, the reviews conducted by the fish and wildlife managers is particularly useful for a statement of a project's management relevance. Therefore, when the ISRP and fish and wildlife managers agree that a project should be funded as a priority, the Council can have confidence that it is scientifically sound and that it is also relevant to meeting the management objectives of those with fish and wildlife jurisdiction in the area.

What all of these activities add up to is that the Council's Fish and Wildlife Program, as implemented and funded through the set of projects, is being more closely scrutinized than before in terms of effectiveness, accountability, cost, and efficiency, although much still needs to be done. One result should be a Program that is more cost-effective, satisfying the direction of

Congress in the 1996 Power Act amendment. The Council makes this conclusion while recognizing that improvements in cost-effectiveness have not and cannot be quantified. As discussed in the first portion of this document, what is especially lacking is a satisfactory way of understanding and measuring the biological effectiveness of particular projects or of the Program as a whole, as well as a comprehensive and consistent framework of goals and objectives for the Program that could be based on a better understanding of biological effectiveness. The Council believes that it has made significant progress in this area in this provincial review cycle in advancing efforts to develop a multi-species scientific framework for the Council's Program and fish and wildlife restoration in the basin as a whole.

### **Part III Ocean Conditions**

The 1996 amendment to the Northwest Power Act instructed the Council to consider the impact of ocean conditions on fish and wildlife populations in making its recommendation regarding funding hydropower mitigation projects to the Bonneville Power Administration. The Council's initial policy response to this charge was adopted in an issue paper entitled "*Consideration of ocean conditions in the Columbia River Basin Fish and Wildlife Program*" (Issue Paper 97-6) (<http://www.nwppc.org/library/1997/97-6.htm>). This paper has continued to guide the Council's general response to the Act's direction to consider ocean conditions in its project funding recommendations.

Understanding how ocean conditions affect long and short-term variation in salmon populations has increased over the last several years. We now have a greater appreciation for the impact of the ocean on salmon abundance and the degree of variation in the marine environment. As species and as groups of populations (metapopulations), salmon, under natural conditions, are sufficiently productive to cope with the mortality they experience during that portion of the life cycle that takes place in the ocean. They deal with environmental variation throughout their life cycle by having a broad array of biological characteristics within and between populations. This variation provides different options for salmon to deal with environmental variability.

In addition, while the ocean environment may be difficult or impossible to influence through the fish and wildlife program, actions can be taken to improve water quality and habitat in the estuary and near-shore environments. These transition zones are critical to young salmon's survival. Consequently, because the two primary ways fish and wildlife managers can influence salmon survival in the ocean are through preserving life-history diversity in salmon and improving estuarine and near-shore conditions. With the assistance of the ISRP and projects sponsors, the Council has sought to consider the impact of ocean conditions on fish and wildlife populations in the provincial review process by:

1. Evaluating the impact of projects, strategies and the fish and wildlife program on salmon productivity and diversity; and
2. Evaluating the impact of projects, strategies and the fish and wildlife program on the conditions of estuarine and near-shore ocean habitats.

The expertise of the ISRP has been particularly relied upon to evaluate proposed projects for impacts on productivity and diversity. By mandate of the Act, the ISRP considers the consistency of each project with the 2000 Fish and Wildlife Program, which includes scientific principles that address the preservation of diversity and productivity. Therefore, impacts

diversity and productivity issues are considered to some degree for each project. Second, in response to both the 2000 Fish and Wildlife Program's increased recognition of the importance of the estuary and oceanic environment and the 2000 FCRPS Biological Opinion, more research and monitoring, and habitat protection and restoration is occurring in the estuary and near-shore ocean under this program than ever before. Projects aimed at estuary and ocean environments were recommended in the Lower Columbia and Estuary provinces, and in the Mainstem/Systemwide projects group.