
PART I - ADMINISTRATIVE

Section 1. General administrative information

Title of project

Independent Scientific Advisory Board

BPA project number: 9600500

Contract renewal date (mm/yyyy): 10/1999 **Multiple actions?**

Business name of agency, institution or organization requesting funding

Columbia Basin Fish and Wildlife Foundation

Business acronym (if appropriate) CBFWF

Proposal contact person or principal investigator:

Name	<u>Kathie Titzler</u>
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NPPC Program Measure Number(s) which this project addresses

3.2B, 3.2C.1, 3.2D

FWS/NMFS Biological Opinion Number(s) which this project addresses

n/a

Other planning document references

The ISAB fulfills the recommendation for the creation and implementation of a Salmon Advisory Panel as described in the NMFS Proposed Snake River Salmon Recovery Plan, March 1995, III.0.1.b. Specifically, NMFS established the ISAB to review the implementation of the Proposed Recovery Plan for Snake River Salmon and other actions implemented pursuant to the ESA.

Short description

Provide independent scientific advice and recommendations on issues related to regional fish and wildlife recovery programs under the Northwest Power Act and the Endangered Species Act.

Target species

Section 2. Sorting and evaluation

Subbasin
Systemwide

Evaluation Process Sort

CBFWA caucus	Special evaluation process	ISRP project type
Mark one or more caucus	If your project fits either of these processes, mark one or both	Mark one or more categories
<input checked="" type="checkbox"/> Anadromous fish <input type="checkbox"/> Resident fish <input type="checkbox"/> Wildlife	<input type="checkbox"/> Multi-year (milestone-based evaluation) <input type="checkbox"/> Watershed project evaluation	<input type="checkbox"/> Watershed councils/model watersheds <input type="checkbox"/> Information dissemination <input type="checkbox"/> Operation & maintenance <input type="checkbox"/> New construction <input type="checkbox"/> Research & monitoring <input checked="" type="checkbox"/> Implementation & management <input type="checkbox"/> Wildlife habitat acquisitions

Section 3. Relationships to other Bonneville projects

Umbrella / sub-proposal relationships. List umbrella project first.

Project #	Project title/description

Other dependent or critically-related projects

Project #	Project title/description	Nature of relationship
8907201	Independent Scientific Advisory Board Support	BPA-DOE contract to pay for Dr. Charles Coutant's ISAB services.

Section 4. Objectives, tasks and schedules

Past accomplishments

Year	Accomplishment	Met biological objectives?

1996	Review of the FWP. NPPC Report 96-6 by the Independent Scientific Group: Return to the River.	
1997	Completion of 8 Reviews requested by NMFS and the Council including reviews of downstream passage for salmon, PIT Tag research, NMFS Waiver of Dissolved Gas Standard, ecological impacts of BiOp flow provisions on Hungry Horse and Libby resident fishes.	
1998	Completion of 8 Reviews requested by NMFS, the Council, and Congress including review of the Corps Capital Construction Program, PIT tag workplan, and the Multi-Species Framework Scientific Principles.	

Objectives and tasks

Obj 1,2,3	Objective	Task a,b,c	Task
1	Provide scientific review and recommendations to NWPPC as described in the FWP	a	evaluate the fish and wildlife program on its scientific merits every two years,
		b	identify critical uncertainties that should be the focus of research efforts under the Council's program
		c	oversee the development of an experimental design to test fundamental hypotheses regarding mainstem passage
2	Provide scientific review and recommendations to NMFS as provided in the Proposed Recovery Plan	a	review the scientific and technical issues associated with efforts to improve anadromous fish survival through all life stages, based on adaptive management approaches
		b	develop guidelines and procedures for peer review of research and proposals
		c	provide technical review of research proposals
		d	review and provide advice on priorities for conservation and recovery efforts including research,

			monitoring and evaluation
		e	provide specific scientific advice on topics when needed for recovery and conservation
3	Provide Independent Scientific Peer Review and Advice to the Region	a	Conduct reviews requested by Tribes, Fish and Wildlife Agencies and Congress and submitted by NMFS and NPPC
		b	Conduct reviews that the board itself generates with approval of NMFS and NPPC
4	Operate the ISAB (CBFWF)	a	prepare and administer contracts with individual members of the ISAB for their services
		b	provide the administrative activities of the ISAB including administrative and logistical support

Objective schedules and costs

Obj #	Start date mm/yyyy	End date mm/yyyy	Measureable biological objective(s)	Milestone	FY2000 Cost %
1	1/1996				35.00%
2	1/1996				35%
3	1/1996				13%
4	1/1996				17%
				Total	100.00%

Schedule constraints

Reviews mandated by Congress could interfere with ISAB reviews requested by NMFS and NPPC.

Completion date

The ISAB is an ongoing project. Its longevity and workload are determined by NMFS and NPPC.

Section 5. Budget

FY99 project budget (BPA obligated): \$663,705

FY2000 budget by line item

Item	Note	% of total	FY2000
Personnel	CBFWF admin. asst. and budget analyst	%4	24,073
Fringe benefits	CBFWF	%1	9,388
Supplies, materials, non-expendable property	CBFWF	%0	550
Operations & maintenance		%0	
Capital acquisitions or improvements (e.g. land, buildings, major equip.)		%0	
NEPA costs		%0	
Construction-related support		%0	
PIT tags	# of tags:	%0	
Travel	CBFWF	%0	250
Indirect costs	CBFWF Cost Pool Allocation - 12.8%	%11	77,569
Subcontractor	ISAB member services, travel and supplies (allocation to be determined)	%84	571,750
Other		%0	
TOTAL BPA FY2000 BUDGET REQUEST			\$683,580

Cost sharing

Organization	Item or service provided	% total project cost (incl. BPA)	Amount (\$)
n/a		%0	
		%0	
		%0	
		%0	
Total project cost (including BPA portion)			\$683,580

Outyear costs

	FY2001	FY02	FY03	FY04
Total budget	\$704,124	\$725,248	\$747,005	\$769,415

Section 6. References

Watershed?	Reference

<input type="checkbox"/>	General Accounting Office. 1994. Peer Review: Reforms needed to ensure fairness in federal agency grant selection. Washington D.C.
<input type="checkbox"/>	Independent Scientific Review Panel. 1998. Review of the Columbia River Basin Fish and Wildlife Program for Fiscal Year 1999 as Directed by the 1996 Amendment to the Northwest Power Act. NWPPC: ISRP 98-1.
<input type="checkbox"/>	McGarity, T. 1994. Peer review in awarding federal grants. High Technology Law Review. Vol.9:1.
<input type="checkbox"/>	Meffe, G.K., P.D. Boersma, D.D. Murphy, B.R. Noon, H.R. Pulliam, M.E. Soule, and D.M. Waller. April 1998. Independent Scientific Review in Natural Resource Management. Conservation Biology. Vol. 12, no. 2: 268-270.
<input type="checkbox"/>	National Research Council. 1989. Report review: guidelines for committees and staffs. Washington D.C.
<input type="checkbox"/>	Snake River Salmon Recovery Team. May 1994. Final Recommendations to the National Marine Fisheries Service.
<input type="checkbox"/>	

PART II - NARRATIVE

Section 7. Abstract

The Independent Scientific Advisory Board (ISAB) was established by the Northwest Power Planning Council (the Council) and the National Marine Fisheries Service (NMFS) to provide independent scientific advice and recommendations on issues related to regional fish and wildlife recovery programs under the Northwest Power Act and the Endangered Species Act. The ISAB is designed to foster a scientific approach to fish and wildlife recovery and to ensure the use of sound scientific methods in the planning and implementation of research related to these projects. NMFS and the Council request that the ISAB review specific projects, proposal, and plans. Thus, the extent and subject matter of ISAB reviews varies from year to year. Each review has a schedule for completion. In completing a review, the ISAB follows specific procedures and adopts recommendations by consensus. ISAB reports are submitted to and distributed by NMFS and the Council.

Section 8. Project description

a. Technical and/or scientific background

Independent scientific review is an established tradition in research and development programs in the United States and much of the world (Independent Scientific Review Panel 1998). The General Accounting Office and the Office of Science and Technology Policy have stressed the need to include peer review in the operating policies of federal funding agencies (General Accounting Office 1994). Independent scientific review on the federal level is broadly instituted (McGarity 1994). It is a

hallmark of the National Research Council in their efforts to provide scientific and technical advice on important national issues (National Research Council 1989). The National Institutes of Health and the Environmental Protection Agency also have well-established peer review programs.

Independent scientific review can help ensure that environmental decision and policy making reflect the best scientific knowledge of the day. Most environmental issues are burdened with historical momentum, economic implications, and cultural values that can dominate decision making in the absence of scientific information (Meffe 1998). The Columbia River Basin is a direct example. Federal, tribal, state, local and private economic interests pursue various fish and wildlife management plans under numerous legal mandates. A multitude of economic and cultural values is directly impacted by implementation of recovery measures. Independent scientific review can help decision-makers separate scientific variables from those other issues. In the Columbia River Basin, the magnitude of scientific research undertaken and uncertainties remaining is staggering. Independent scientific review can identify where there is consensus or disagreement among scientists and help focus implementation and research. In addition, independent scientific review helps assure the public that decisions are made with the benefit of the best available science which helps allay the public's fears that government agencies, environmental groups, and industries are simply promoting their own interests (Meffe 1998).

In *Snake River Salmon Recovery Team: Final Recommendations to the National Marine Fisheries Service*, May 1994, III.D., the team states, “[t]here will always be scientific debate, but where there is peer review and objective analysis, it should be possible to reach a scientific basis for decisions.” The creation and continuation of the ISAB recognizes this need for independent scientific advice to our decision-makers. For the past two years, the ISAB has responsively and efficiently provided this advice to the Council, NMFS, Congress, and the region.

b. Rationale and significance to Regional Programs

The Council and NMFS established the ISAB to provide independent scientific advice to the region through measures described in the Council's FWP and NMFS's Proposed Recovery Plan for Snake River Salmon. FWP measure 3.2B calls for the creation of an independent scientific group to examine the scientific underpinnings of the FWP and to evaluate the program as a vehicle to achieve the Council's goals and those of the Northwest Power Act. Measure 3.2C calls for the group to identify and revise over time key uncertainties associated with the program and its measures. In 1995, the Council created the Independent Scientific Group to implement this programmatic review.

Also in 1995, NMFS provided for the formation of a Scientific Advisory Panel in its Proposed Recovery Plan for Snake River Salmon. Section III.O.1.b, states that the establishment of a Scientific Advisory Panel is essential to ensure that the best science is clearly understood and used in the recovery process. This was consistent with the Snake River Salmon Recovery Team's recommendation to create a Salmon Oversight Committee. The recovery team's recommendations emphasized the need for a scientific oversight group to ensure that Columbia Basin fish and wildlife management works

efficiently, to promote relevant science and to maintain the region's focus on long-term recovery success.

FWP measure 3.2D recognized that the Independent Scientific Group and the proposed Salmon Oversight Committee shared many features in common. Consequently rather than create two groups, NMFS and the Council created the ISAB to avoid gridlock over scientific uncertainty, circumvent unnecessary additional research, and resolve conflicting advice and opinions on recovery issues and measures. Because of the ISAB's dual nature, it plays an important role in developing a basinwide framework that integrates the specific recovery requirements of NMFS actions under the ESA with the broader goals of the Council's FWP to mitigate for losses associated with the hydroelectric system.

A major contribution of the Independent Scientific Group, with further refinement by the ISAB, is *Return to the River*. In the report, the Independent Scientific Group developed a conceptual foundation based on the premise that an ecosystem with a mix of natural and cultural features can sustain a broad diversity of salmon populations in the Columbia River Basin. The ISG named this ecosystem "normative," which means an ecosystem where specific functional norms or standards that are essential to maintain diverse and productive populations are provided.

The "normative" concept and other findings of the ISAB have provided some of the underpinnings for the region's multi-species framework effort that will be used to inform NMFS's 1999 decision and the Council's forthcoming FWP amendment process.

c. Relationships to other projects

ISAB participation by Dr. Charles Coutant is funded separately through BPA Project Number 897201. This is necessary because Dr. Coutant's employer, the Department of Energy, requires a separate funding mechanism. The difference between Dr. Coutant's project and this project is solely administrative.

The ISAB has a complimentary relationship with the Independent Scientific Review Panel (ISRP). The ISRP was created in September 1996 through the first and only amendment to the Northwest Power Act. The amendment called on the Council and the ISRP to increase the scientific scrutiny through which fish and wildlife recovery projects are prioritized for implementation and to broaden the Council's review of projects to include ocean conditions and cost effectiveness. The ISRP includes scientists nominated by the National Research Council and appointed by the NWPPC. Initially, eight members of the ISAB were selected to serve on the ISRP – in FY99 the groups share five members. Because of this overlap of membership and mission, the ISAB was instrumental in the development of the ISRP.

The ISAB and ISRP each provide unique services to the region. NMFS, the Council, and the region request specific ISAB reviews that tend to focus on highly politicized scientific issues, the framework of the Council's FWP, and aspects of the NMFS recovery plan. The ISRP's mandate is more specific. The ISRP evaluates the scientific soundness of individual proposals as they relate to the FWP. The ISRP also analyzes how these proposals collectively and individually benefit fish and wildlife.

When the scope of ISAB and ISRP reviews are similar, the reviews are coordinated to better ensure a consistent message and to avoid duplicitous effort. For

example in FY98, the ISRP deferred making final evaluations on hatchery proposals until the ISAB completed its efforts to assist in the Council's Comprehensive Review of Artificial Production. In FY99, the ISAB and ISRP are combining efforts with regard to the ISAB's Biennial Review of the Fish and Wildlife Program and the ISRP's Retrospective Review of prior year expenditures incurred through the FWP. For FY99, the ISRP's charge has been expanded to include a review of the US Army Corps of Engineers, Lower Snake River Compensation Plan and Bureau of Reclamation fish and wildlife projects in the Columbia River Basin funded by BPA (reimbursables). Because the ISAB conducted a review of the Corps Capital Construction Program in FY98, several ISAB members will act as Peer Review Group members for the ISRP and assist the ISRP in its review of the Corps program.

In addition to the ISRP, the ISAB is involved in two other independent scientific review groups: the Scientific Review Team (SRT) and the Ecological Work Group (EWG). The Council, in consultation with the ISAB, created these groups to augment the ISAB and to allow time for the ISAB to complete its other ongoing reviews. The SRT provides scientific peer review for the Comprehensive Review of Artificial Production. It includes four ISAB members and two additional scientists who have extensive experience in artificial production. The ISAB assists the SRT in its review and provides review of SRT documents when appropriate. Its efforts will be complete in FY99. The EWG assists in the scientific review and development of various recovery alternatives for the Columbia River Basin Multi-Species Framework Process. It includes three members of the ISAB and three additional scientists who have expertise in ecosystem studies. The ISAB provides oversight and review of the EWG's efforts.

Administration of the ISAB, ISRP, SRT, and EWG is well coordinated. For example, to save on travel time and costs, the groups hold meetings on consecutive days.

d. Project history (for ongoing projects)

Most Recent ISAB Project Reports and Technical Papers

Each of the reports listed below respond to the ISAB's primary objectives and particular tasks described in proposal section b. For example, *Return to the River* addresses Council tasks I.a-c; *ISAB 97-6: Review of the NMFS 1997 Draft of the Snake Recovery Plan* addresses NMFS task II.a,d, and e. A summary of the results is included for several of the reports to give an idea of the impact ISAB reviews.

NPPC Report 96-6 by the Independent Scientific Group: *Return to the River*.
Prepublication Copy (September 10, 1996)

ISAB 97-1: Review of the National Marine Fisheries Service's "1996 Annual Report to the Oregon Department of Environmental Quality" related to Waiver of Dissolved Gas Standard (January 6, 1997)

ISAB 97-2: Review of a Research Proposal for Inclusion in the 1997 Smolt Monitoring Program: Comparative Survival Rate Study of Hatchery PIT Tagged Chinook (January 13, 1997)

ISAB 97-3: Ecological impacts of the flow provisions of the Biological Opinion for endangered Snake River salmon on resident fishes in Hungry Horse and Libby systems in Montana, Idaho, and British Columbia (March 4, 1997)

This report helped the Council prioritize actions within the recovery plan.

ISAB 97-4: Review of Proposal: Lake Pend Oreille Fishery Recovery Project (March 7, 1997)

ISAB 97-5: Review of a Draft Programmatic Environmental Impact Statement: Impacts of Artificial Salmon and Steelhead Production Strategies in the Columbia River Basin (April 1, 1997)

NPPC Report 97-15: Downstream Passage for Salmon at Hydroelectric Projects in the Columbia River Basin: Development, Installation, Evaluation (October 1997) by Richard R. Whitney, Lyle D. Calvin, Michael Erho and Charles C. Coutant.

ISAB 97-6: Review of the August 8, 1997 Draft of the Snake River Salmon Recovery Plan (December 29, 1997)

ISAB 97-7: Review of NMFS “1997 Draft Annual Report to the Oregon Department of Environmental Quality” Related to Waiver of Dissolved Gas Standard (December 22, 1997)

ISAB 98-1: Review of the 1998 Workplan for the Comparative Survival Rate Study of Hatchery PIT Tagged Chinook (January 6, 1998)

This report resulted in an improved study design.

ISAB 98-2: Response to the Questions of the Implementation Team Regarding Juvenile Salmon Transportation in the 1998 Season (February 27, 1998)

ISAB 98-3: 1997 ISAB Annual Report (April 13, 1998)

ISAB 98-4: First Report: The Corps Capital Construction Project Review. The Scientific Basis for Juvenile Fish Passage Improvements in the Federal Columbia River Power System: John Day Extended Length Turbine Intake Screens and Bonneville Dam Bypass System Outfalls (June 9, 1998)

This report helped the Council arrive at a position on further investment in extended length screens.

ISAB 98-5: Recommendation for Stable Flows in the Hanford Reach during the Time when Juvenile Fall Chinook Are Present Each Spring (August 3, 1998)

This report helped focus regional attention on the problem of juvenile stranding.

ISAB 98-6: Review of “Development of a Regional Framework for Fish and Wildlife Restoration in the Columbia River Basin.” (August 31, 1998)

This report helped ensure a scientific basis for the region’s planning efforts.

ISAB 98-7: Review of the U.S. Army Corps of Engineers' Capital Construction Program, Part II.A. Development and Testing of Surface Bypass (September 29, 1998)

ISAB 98-8: Review of the U.S. Army Corps of Engineers' Capital Construction Program, Part II.B. Dissolved Gas Abatement Program (September 29, 1998)

These reports helped the region establish funding priorities and identify further uncertainties associated with fish passage. Specifically, the reports focus attention on the impacts that various passage options have on the full array of species and salmonid life history types that are present at the Corps projects.

Fiscal Year 1999 Reviews in Progress

Task 1: Comprehensive Review of Artificial Production in the Columbia River Basin (June 1999)

Task 2: Synthesis of Scientific Reviews Regarding Restoration of Fish and Wildlife in the Columbia River Basin (January 12th, 1999)

The ISAB is developing a synthesis of information generated from recent scientific reviews that relate to fish and wildlife recovery in the Columbia River Basin. These recent reviews include *Return to the River, Upstream, Wy-Kan-Ush-Mi Wa-Kish-Wit, An Assessment of Ecosystem Components in the Interior Columbia Basin and Draft Environmental Impact Statement*, and the NMFS Proposed Recovery Plan for Snake River Salmon. This report will identify areas of scientific consensus, disagreement, and uncertainties. The report will be a valuable reference tool for the Multi-Species Framework effort.

Task 3: Publication of Return to the River (Spring 1999)

Task 4: Review of PATH as a tool for NMFS 1999 Decision (Early Summer 1999)

Task 5: Final Review of Army Corps of Engineer Capital Construction Projects (January 12th, 1999)

Task 6: Ecological Work Group – Framework

The ISAB will assist in the scientific analysis of various fish and wildlife management alternatives that are developed in the Columbia River Basin Multi-Species Framework Process. The ISAB's involvement in the framework process and the amendment to the FWP will likely be an ongoing assignment in FY2000.

Task 7: ISAB Biennial Review / ISRP Retrospective Report (June 1999)

Years Underway

ISAB: 1996-present; ISG: 1995-1996; SRG: 1989-1994

Past Costs

The ISAB FY99 budget is \$663,705. ISAB costs were \$491,677 in FY98 and \$478,687 in FY97. Those costs do not include Dr. Charles Coutant's services, which add

approximately \$100,000 a year, see Project Number 8907201. In FY96, ISAB/ISG costs were approximately \$575,398.

e. Proposal objectives

ISAB Objectives and Tasks

In FY2000, the ISAB will continue to address the objectives which were developed to implement NPPC Fish and Wildlife Program measures 3.2B and 3.2C.1, and NMFS Proposed Recovery Plan task III.O.1.b. These tasks and objectives are part of the ISAB's Terms of Reference, August 1996.

The primary objectives of the ISAB are: to provide independent scientific advice and recommendations on issues related to regional fish and wildlife recovery programs under the Northwest Power Act and the Endangered Species Act, to foster a scientific approach to fish and wildlife recovery, and to ensure the use of sound scientific methods in the planning and implementation of research related to these projects. Although the exact projects, plans and programs that will be reviewed in FY2000 are not known at this time, the Council, NMFS, and the ISAB have identified the long-term tasks to meet these objectives:

I. The Council directs the ISAB to accomplish three major tasks that address issues related to fish and wildlife populations affected by operation and development of the hydroelectric system. These tasks include:

- a) Evaluation of the fish and wildlife program on its scientific merits every two years.
- b) Identification of critical uncertainties that should be the focus of research efforts under the Council's program.
- c) Oversight of the development of an experimental design to test fundamental hypotheses regarding mainstem passage.

II. NMFS is primarily interested in anadromous fish conservation and management. Its tasks for the ISAB include:

- a) Review the scientific and technical issues associated with efforts to improve anadromous fish survival through all life stages, based on adaptive management approaches.
- b) Develop guidelines and procedures for peer review of research and proposals.
- c) Provide for technical review of research proposals.
- d) Review and provide advice on priorities for conservation and recovery efforts, including research, monitoring and evaluation.
- e) Provide specific scientific advice on topics when needed for recovery and conservation efforts.

III. Tribes, fish and wildlife agencies and others may submit questions to the ISAB through the Council and NMFS. The ISAB may also identify questions. The coordinators and the ISAB periodically review these questions and decide which are amenable to scientific analysis, are relevant to the Council and NMFS's program, and fit within the ISAB's schedule and budget.

CBFWF Objectives and Tasks

IV. CBFWF Administration Support

- a) Prepare and administer contracts with individual members of the ISAB. Pay for their services and reimburse their travel expenses. Provide financial accountability for the funds.
- b) Provide the administrative activities of the ISAB including logistical support for meetings.

f. Methods

The ISAB developed and formally adopted a procedures policy that describes the ISAB's review methods. The objectives of these procedures are to: (1) ensure understanding by the ISAB of the scope and nature of the issues for which review is requested by the Council and NMFS, (2) ensure that those groups affected by the ISAB review are ensured of a complete and fair review of the issues, (3) ensure written documentation of ISAB recommendations that is available to those reviewed and others, (4) ensure that administrative and policy implications of the ISAB advice to Council and NMFS are left to those agencies, and (5) allow appropriate technical/scientific dialogue between the reviewed group and the ISAB through the Council and NMFS.

The ISAB's review procedures include:

1. Selection of the Review Team. The ISAB as a whole is responsible for the report, with a subcommittee of the ISAB generally assigned responsibility for detailed study and preparation of an initial draft report. When expertise is needed that is not represented on the Board, outside experts may be contracted to serve as temporary participants.
2. ISAB Preparation. The ISAB assesses the materials needed to carry out the requested review or analysis. The board obtains relevant materials.
3. Notification of Those Reviewed. The Council and NMFS appraise those being reviewed of the situation. The notification describes the request being made of the ISAB, requests cooperation in the review, lists the main materials that the ISAB has available for the review, and requests that additional relevant materials, if any, be provided. All volunteered materials are to be clearly marked for relevance (e.g., specific pages or sections of a report, specific sets of data, etc.) and include a relevant synthesis as part of the written transmittal.
4. Meeting Between ISAB and Individuals in Possession of Relevant Information. In some circumstances, but not all, a meeting with those having relevant information or those responsible for the project may be a fruitful way to speed communication and understanding. Such meetings are held at the ISAB's request.
5. Contacts During Conduct of the Assignment. The ISAB, its subcommittee, or members of the team may contact (by any suitable means) individuals relevant to the ISAB assignment for additional information or clarification. The ISAB initiates these

contacts; it is not appropriate for those being reviewed to seek to influence the ISAB or its members. Summary records should be kept of such contacts.

6. Report. All reviews or analyses conducted of the ISAB are to be completed by presentation of a written report, adopted by consensus, and submitted to the Council and NMFS. The report is to include reference to the specific request, procedures followed by the ISAB in addressing the request, background information on the issue, description of materials reviewed, a narrative of the analysis, conclusions and recommendations, a list of references cited, and (if relevant) appended comments or suggestions for the benefit of those being reviewed. The ISAB's advisory report is to Council and/or NMFS, not to the entity being reviewed or those affected by the review.

7. Comments on the Final Report. All comments on the completed ISAB report are to be directed to the Council and/or NMFS. The ISAB may be asked by Council/NMFS to respond to technical and scientific comments. If so, there is to be a formal letter of request, the ISAB responds to the Council and/or NMFS, and further dialogue with commentors is at the discretion of the Council and NMFS.

g. Facilities and equipment

The ISAB meets at the Council offices in Portland and NMFS facilities in Seattle. NMFS and the Council provide staff support. Members provide their own office space, computers, etc. The ISAB is coordinated electronically with email and standard word and data processing programs, provided by each member. This contract does not pay for the acquisition of facilities or equipment.

h. Budget

CBFWA prepares and administers contracts with individual members of the ISAB. ISAB members are paid an hourly rate for services. Time and tasks are recorded on a timesheet, which is submitted to CBFWA and Council staff for approval. Billable tasks must be officially approved by Council and NMFS. ISAB members are reimbursed for travel costs associated with board services pursuant to CBFWA's travel policy which is consistent with Federal Travel Regulations, 41 CFR 301 (1998). Budget allocation for each ISAB member is determined during the contracting process each fiscal year based on the member's previous participation, availability in the upcoming year, and role as an officer (if applicable).

Section 9. Key personnel

Appointment Procedures for ISAB Members

Members of the ISAB are appointed by the chair of the Northwest Power Planning Council and the regional director of the National Marine Fisheries Service (NMFS). NMFS and the Council are presently consulting with tribes to determine the appropriate mechanism for tribal involvement. These appointments are based on a set of

recommendations submitted by an ad hoc selection committee of senior academic scientists and the National Research Council. The recommendations are based on needed expertise, scientific accomplishment, and the ability to work independently as part of a multi-disciplinary group. The selection committee considers nominations submitted by regional agencies, the ISAB, fish and wildlife managers, tribes and interest groups. The selection committee also submits nominees.

ISAB Members through FY2000

Peter A. Bisson, Ph.D., a specialist on habitat issues at the Olympia (Washington) Forestry Sciences Laboratory of the U.S. Forest Service.

Daniel Goodman, Ph.D., an expert in ecological risk assessment at Montana State University in Bozeman.

Lyman McDonald, Ph.D., consulting statistician at Western Ecosystems Tech., Inc., Cheyenne, Wyoming, formerly a professor at the University of Wyoming.

Brian Riddell, Ph.D., an expert in international fisheries management at the Department of Fisheries and Oceans Canada, Nanaimo, British Columbia.

ISAB Members through FY1999

Charles C. Coutant, Ph.D., senior resource ecologist, Oak Ridge National Laboratory, Oak Ridge, Tennessee.

James A. Lichatowich, M.S., consulting fisheries scientist, Alder Creek Consulting, Washington, formerly assistant chief of fisheries, Oregon Department of Fish and Wildlife.

William Liss, Ph.D., a fisheries professor at Oregon State University in Corvallis.

ISAB Members Positions up for Re-appointment or replacement FY1998/FY1999

Philip Mundy, Ph.D., consulting fisheries scientist from Lake Oswego, Oregon, and former manager of fisheries science for the Columbia River Inter-Tribal Fish Commission.

Jack A. Stanford, Ph.D., a professor of ecology, University of Montana, and director of the university's Flathead Lake Biological Station.

Richard R. Whitney, Ph.D., ISAB Co-chair, consulting fisheries scientist, Wenatchee, Washington, formerly a professor in the School of Fisheries, University of Washington.

Richard N. Williams, Ph.D., ISAB Chair, population and evolutionary genetics, ecology. Graduate Affiliate Faculty, Aquaculture Research Institute, University of Idaho.

NMFS and NPPC Coordinators

Michael Schiewe, Ph.D., with the National Marine Fisheries Service's Northwest Fisheries Science Center in Seattle.

William Muir, research biologist with the National Marine Fisheries Service.

Willis E. McConnaha, M.S., manager of program evaluation and analysis for the Northwest Power Planning Council.

Erik Merrill, JD, Certificate in Environmental and Natural Resource Law.

CBFWF Contract Administration

Kathie Titzler, accounting degree and three years of contract management experience.

Section 10. Information/technology transfer

The ISAB presents its reviews and recommendation through reports and/or presentation to NMFS and the Council. NMFS and the Council distribute the ISAB's reports to the authors and sponsors whose projects were reviewed. The ISAB reports are made available to the public and are posted at the Council website, www.nwppc.org. Some are posted on the StreamNet and BPA websites, www.bpa.gov, www.streamnet.org. The ISAB chair answers questions from the press and makes presentations on ISAB findings to agencies, Congress, and educational institutions. Occasionally, an ISAB report is independently published. In 1999, the American Fisheries Society is publishing the ISG's report *Return to the River* and a related article in the AFS Fisheries Journal. Also in 1999, the Environmental Law Journal of the Northwestern School of Law at Lewis and Clark is publishing an article based on findings in *Return to the River*.

Congratulations!