

**FY 1998 PRIORITIZATION PROCESS DATA UPDATE FORM  
FOR ONGOING BPA FUNDED FISH AND WILDLIFE PROJECTS**

*DIRECTIONS: Project sponsors will receive one or more files on disk. The data form has been substantially modified since last year. For your convenience, the data provided last year have been uploaded into the closest related field in the new file structure. Because of the field changes, project sponsors will need to review and update their data and, if necessary, move it to fields that are more closely related to the information provided.*

*This electronic form is in MS Word format, which can be read by most word processing software. We hope this will streamline and simplify the process for you. We recommend that you make a back-up copy of these files before editing. After you have edited each file, please copy all project files from your agency on to a single disk and return to BPA in the enclosed mailer. The mailer is addressed, and a label for your new disk is enclosed. Mail responses on disk in the enclosed mailer to:*

*Catherine Hanan - EW  
BPA Fish and Wildlife  
P.O. Box 3621  
Portland OR 97208-3621*

*Please respond to each field by editing or entering data as needed, using your word processor. Your responses should show in **RED AREA** on your screen -- these files will be processed electronically, and any information not placed in **RED AREA** will not be read into the database. Please do not make formatting changes such as insertion of hard page breaks or removal of italics or red highlights, in this document, as we will be using the formatting marks to program movement of the data into the data base. Also, the data base does not read bold, italics, underlines, tabs or tables within the cell. Your answers need to be straight text. We hope to enhance our ability to handle more formatting by next year. The data provided in this form will be reprinted in report format (without the questions and explanatory material) and provided to the program review processes. It will also be downloaded to form the initial basis for a contracting document, for projects that are approved for funding. You don't need to alter the appearance of your printouts from this document. If you find you need additional fields in any tables, please copy and paste the existing table format directly below the copied table and edit it appropriately. Save your completed document in a PC floppy disk format (NOT Macintosh) in one of the following output formats:*

*Microsoft Word (version 2 through 6) (preferred)  
Wordperfect (up to version 5.1)  
Rich Text Format*

*Please fill out the form completely. If a particular portion of the form does not relate to your project, please enter N/A and a one sentence note on why the question does not apply to your project. Once the project is approved for funding, the information provided at the proposal/review stage cannot be altered. Prior to BPA contracting for approved projects, supplemental information on the specific tasks, personnel, and budget line items will be requested from the project \_\_\_\_\_'s sponsor.*

## SECTION 1: GENERAL PROJECT TRACKING AND CLASSIFICATION INFORMATION

**PROJECT NAME:** *Please keep it less than 75 characters, and do not include the contractor name or acronym in the title -- there are separate fields for contractor and for classifying projects as anadromous fish, resident fish or wildlife.*

**StreamNet: The Northwest Aquatic Information Network**

**PROJECT NUMBER:** Please **do not** change this number.

**8810804**

**PROJECT PROPOSER OR SPONSOR:** *Enter full business name* .

**Pacific States Marine Fisheries Commission**

**Enter Acronym for sponsor if applicable:**

**PSMFC**

**TECHNICAL CONTACT:**

**Stan Allen**

**TITLE:**

**Chief, Information Services**

**PHONE:**

**503/650-5400**

**MAILING ADDRESS:** *Please enter each component separately.*

**45 S.E. 82<sup>nd</sup> Drive, Suite 100**

City

Gladstone

State:

OR

ZIP

97027-2522

E-MAIL ADDRESS:

stan\_allen@psmfc.org

**SUB-CONTRACTORS:** *List other agencies or entities that will receive funding under this project, either through sub-contracts managed by the project sponsor or, where multiple agencies are involved as joint sponsors, through primary contracts managed by Bonneville. If another entity will be responsible for the long term maintenance of the project, identify them here. In the task description later in this form, note which tasks are to be performed by subcontractors.*

**Columbia River Inter-tribal Fish Commission (and, through CRITFC - the Nez Perce Tribe, the Confederated Tribes of the Umatilla, the Warm Springs Tribe, and the Yakama Indian Nation); Idaho Department of Fish and Game; Montana Fish, Wildlife, and Parks; Oregon Department of Fish and Wildlife; Shoshone-Bannock Tribes; U.S. Fish and Wildlife Service; and Washington Department of Fish and Wildlife**

**NPPC PROGRAM MEASURE NUMBER:** *Refer to the 1994 program as amended in 1995. NPPC staff will proof this field and correct if necessary. If your projects relate to more than one measure number, use a semi-colon between numbers.*

**3.2A, 3.3A through 3.3E, 7.6D, 10.5, 12.1 and 12.4**

**EXPLAIN BRIEFLY HOW THE PROJECT RELATES TO THE ABOVE PROGRAM MEASURE:**

**StreamNet prepares an annual salmon and steelhead status report to be used in the monitoring report called for in 3.2A. StreamNet is the successor to the Coordinated Information System called for in 3.3A. The project also maintains the anadromous fish data base called for in 3.3B and the bibliographic data base and document retrieval system called for in 3.3C. StreamNet is initiating the development of the habitat data base called for in 3.3D and a project tracking data base as called for in 3.3E. StreamNet is working to establish core stream survey features, in part to allow for the habitat objectives evaluation called fro in 7.6D. StreamNet manages bull trout distribution data used to evaluate species status**

and facilitates state-level compilation of other bull trout data. StreamNet is the regional source for the data used in evaluating hydropower as directed in 12.1, and is the official repository for data that is the foundation of the Councils Protected Areas Program, as described in 12.2.

**PROGRAM GOAL THE PROJECT ADDRESSES:** Check any that apply.

Supports a healthy Columbia Basin	X
Maintains biological diversity	{18}
Maintains genetic integrity	{19}
Increases run sizes or populations	{20}
Provides needed habitat protection	{21}

If the project does not directly address one of these goals, but provides management information or coordination, check one of the following fields:

Adaptive management (research or monitoring or evaluation)	X
Program Coordination or Planning	X
Other (Specify)	Project responds equally to both of the above. {24}

**FOCUS:** Check one major program category and one sub-category that most closely fits the project, so that we can group it with other similar projects for review purposes.

Anadromous Fish	{25}
Hydro Operations/Mainstem passage/Mainstem construction	{25A}
Habitat or Tributary Passage	{25B}
Production	{25C}

	<b>Operation &amp; Maintenance</b>	<b>{25D}</b>
	<b>Research, Monitoring, or Evaluation</b>	<b>{25E}</b>
<b>Resident Fish</b>		<b>{26}</b>
	<b>Habitat</b>	<b>{26A}</b>
	<b>Production</b>	<b>{26B}</b>
	<b>Operation &amp; Maintenance</b>	<b>{26C}</b>
	<b>Research, Monitoring, or Evaluation</b>	<b>{26D}</b>
<b>Wildlife</b>		<b>{27}</b>
	<b>Planning/Coordination</b>	<b>{27A}</b>
	<b>Habitat Protection/Enhancement</b>	<b>{27B}</b>
	<b>Operation &amp; Maintenance</b>	<b>{27C}</b>
	<b>Research, Monitoring, or Evaluation</b>	<b>{27D}</b>
<b>Basin-wide Program Coordination</b>		<b>X</b>
<b>Watersheds</b>		<b>{29}</b>
	<b>Assessment/Action Plan Development</b>	<b>{29A}</b>
	<b>Coordination</b>	<b>{29B}</b>
	<b>Project implementation</b>	<b>{29C}</b>

	<b>Research, Monitoring, or Evaluation</b>	<b>{29D}</b>
<b>Education</b>		<b>{30}</b>

**LOCATION:** *Identify the sub-basin, stream name and stream miles affected, and hydro unit, if applicable, or land area affected by the project, if applicable. Respond to two or more of these to identify land areas affected by the project. If the project is for coordination or other activities that do not yield biological benefits in a specific location, enter an x by office site only.*

<b>Sub-basin</b>	<b>{31}</b>
<b>Stream name</b>	<b>{32}</b>
<b>Stream miles affected</b>	<b>{33}</b>
<b>Hydro unit code</b>	<b>{34}</b>
<b>USGS Quadrangle Map Name</b>	<b>{35}</b>
<b>USGS Quadrangle Map Area</b>	<b>{36}</b>
<b>County</b>	<b>{37}</b>
<b>Township/Range Location</b>	<b>{38}</b>
<b>Latitude/Longitude or UTM</b>	<b>{39}</b>
<b>Number of acres affected by the project</b>	<b>{40}</b>
<b>Land Ownership (public or private)</b>	<b>{41}</b>
<b>Office site only ( Put an “X” if project is not affecting fish, wildlife, or habitat at a specific location)</b>	<b>X</b>

**SHORT DESCRIPTION:** *Describe the project in a short phrase (<250 characters). Give information that is not in the title. If possible start this field with an action verb (protect, modify, develop, enhance, etc.) rather than a noun (this project). Additional detail will be requested below -- this field is sometimes used in conjunction with the title and funding level, for*

reports that provide short listings or summaries of BPA-funded projects. To enable formatting on shorter reports we must limit the size of this field.

**Facilitate reasoned decision-making, evaluation, and interagency cooperation through the compilation, maintenance, and dissemination of regionally standardized spatial and tabular data critical to the implementation of the Program and other compatible state and regional efforts.**

**BIOLOGICAL OPINION ID:** *If the project relates to either the Kootenai Sturgeon Biological Opinion, the NMFS Hydrosystem Operations Biological Opinion, or other Endangered Species Act Requirements, enter the Action Number and Biological Opinion Title .*

**Snake R. Rec. Plan (0.3.a); Hydrosystem Operations Biological Opinion; Coho Biological Opinion**

**OTHER PLANNING DOCUMENTS:** *If the project is called for in the National Marine Fisheries Service Snake River Salmon Recovery Plan, or in Wy Kan Ush Me Wa Kush Wit, the Anadromous Fish Restoration Plan of the Nez Perce, Umatilla, Warm Springs and Yakama tribes, in U.S. Forest Service or Bureau of Reclamation land management plans, or in local area sub-basin or watershed plans, or in other planning documents, provide the name of the plan and reference citation where the need is identified.*

**NMFS Snake R. Rec. Plan: 0.3.a - “ Consolidate regional efforts to develop a coordinated information and data gathering system.” 1.1.a - “compile a comprehensive inventory and summary of historic and present habitat quantity and quality.”**

**NPPC Salmon and Steelhead Integrated System Plan: “Because the mission of the Program involves the use of data from many sources, the development of a coordinated information system is integral to SMEP.” (page 428)**

**TARGET STOCKS, POPULATIONS OR HABITAT TYPES:** *Identify each stock, population, watershed, or HEP target species affected by the project. (For fish projects, provide enough information to identify the sub-population -- e.g. Lostine River Spring Chinook). For fish projects, identify the life stage of the stock affected, and enter any of the following codes that apply to indicate the stock management approach. For wildlife projects, identify the HEP target species under target population, the habitat type, and the hydroelectric project the mitigation relates to. If data are downloaded in the first row, correct as needed to make sure one stock or population appears on each row.*

S	<i>Managing for natural production assisted by artificial outplanting</i>
A	<i>Production returning to hatchery or adult collection site, not intended to naturally produce; or using artificial production primarily for fisheries enhancement</i>
N	<i>Management intent to have naturally spawning fish without targeted artificial enhancement</i>
(P)	<i>Proposed listed species under ESA</i>

(L)	<i>Species listed under ESA</i>
E	<i>Species is extinct in subbasin</i>
?	<i>Questions</i>
d	<i>Disagreement</i>
W	<i>Contributes to rebuilding weak but recoverable native populations</i>
RSH	<i>Addresses resident fish substitution for areas that previously had salmon and steelhead but where anadromous fish are now irrevocably blocked by federally <u>operated</u> hydropower developments</i>
RSL	<i>Addresses resident fish substitution for areas that previously had salmon and steelhead but where anadromous fish are now irrevocably blocked by federally <u>licensed or regulated</u> hydropower developments</i>

TARGET STOCK/SPECIES	LIFE STAGE (if anad. fish)	STOCK MANAGEMENT CODE
anadromous salmonids	{46B}	{46C}
native resident salmonids	{47B}	{47C}
non-salmonid species at risk	{48B}	{48C}
{49A}	{49B}	{49C}

*(enter more rows as needed)*

**HABITAT TYPES:**

**Project manages and provides data on aquatic habitat including: 1) stream survey data, 2) USFS eastside project data, 3) water quality and quantity data, and 4) cultural development that might affect aquatic habitat.**

**HYDROELECTRIC PROJECT:** *If the project mitigates for damages caused by a particular Federal Hydroelectric project, identify which one.*

**Not applicable.**

**OTHER AFFECTED NON-TARGET STOCKS OR POPULATIONS:** Identify other fish stocks or wildlife populations affected by the project, and indicate whether the effects will be beneficial or detrimental.

Stock/population affected	Beneficial or Detrimental
{57A}	{57B}
{58A}	{58B}

**RELATED BPA PROJECTS:** List related BPA funded projects by number and describe the relationship to this proposal. If data are downloaded, correct as needed to make sure only one project number is listed in each row.

Project numbers	Relationships
This project combines two previous projects: 8801801 (CIS) and 8801803 (NED).	{63B}
{64A}	{64B}
{65A}	{65B}
{66A}	{66B}

**RELATED PROJECTS FUNDED BY OTHER ENTITIES:** List other related projects by title and funding entity and describe the relationship to this proposal.

Project title/funding entity	Relationships
{71A}	{71B}
{72A}	{72B}

**OPPORTUNITIES FOR COOPERATION:** Indicate potential or ongoing cooperation between projects, potential for shared equipment, etc.

**This project provides an excellent opportunity to encourage and facilitate cooperation among the various federal and state agencies, tribes, and other interests at both the watershed and regional levels. Data development and access are widely recognized common needs. Working cooperatively on data development and management has proven to create a foundation for the development of more extensive cooperative working relationships. StreamNet provides data services that can assist with a variety of interagency Fish and Wildlife Program projects, including PATH, IHOT, and others.**

## SECTION 2: HISTORICAL INFORMATION FOR ONGOING PROJECTS

*The following 5 fields are retrospective information for ongoing projects -- New proposals skip to Specific Measurable Objective*

**PROJECT HISTORY:** *Provide any background relevant to prioritization (e.g. historic costs if the activity was previously funded under other project numbers, cost shares received from other agencies, major non-biological products or conclusions.) There are separate fields later in this form for biological products, reports, and need for the project.*

**The overall goal of StreamNet is twofold: 1) to create, maintain, and enhance a high quality, regionally consistent set of data on fish and related aquatic resources that is directly applicable to regional policy, planning, management, and research, and 2) to provide data and data services in a timely, efficient manner, and in a format that meets the users' needs. Particular emphasis is placed on targeting data development and services to meet specific Fish and Wildlife Program implementation and monitoring/evaluation needs.**

StreamNet consolidates data compilation and management activities that were historically conducted through the Coordinated Information System and the Northwest Environmental Data Base. These projects were created by the Council to provide information necessary for Program implementation: CIS for anadromous fish productivity and management, NED regarding Protected Areas and stream-based biological and environmental factors. The rationale for consolidation is two-fold: to provide the region with one comprehensive, high quality package of fish and wildlife data products and services to address emerging Fish and Wildlife Program data needs, and to realize cost savings. Savings result from a combination of administrative efficiencies, elimination of redundancy, and increased focus on critical tasks. Additional out-year savings are likely as increased emphasis is placed on cost sharing with others needing these data. Savings within the Fish and Wildlife Program may be realized as StreamNet provides data services to other Program projects, thus decreasing overall costs of those projects.

**StreamNet provides the following services:**

**1. Data Development.** Each year StreamNet participants prepare a data plan that guides data development for the coming year. The project is involved with both adding current year data to existing datasets and acquiring new types of data. StreamNet prepares data exchange standards and formats to encourage regional standardization and facilitates data compilation consistent with these protocols.

**2. Products.** StreamNet's principal product is its database and accompanying electronic data delivery systems. StreamNet also prepares custom products for use by those involved in the protection and restoration of the region's aquatic resources. An annual report is prepared that depicts the status of salmon and steelhead in the Columbia Basin. Topical reports are prepared that focus on specific aspects of the data development effort.

**3. Library Services.** The StreamNet Library includes books, journals, technical reports, and newsletters relating to the aquatic resources of the Pacific Northwest, with special attention to anadromous fisheries in the Columbia Basin. The StreamNet library places particular emphasis on “grey” literature not available through standard libraries or reference systems.

**4. Data Storage and Delivery.** StreamNet utilizes state-of-the-art database and geographic information system (GIS) technology to compile and maintain aquatic resource data. StreamNet data can be provided as tables, charts, graphs, or maps and may be accessed through the Internet, a Distributed Access System, FTP, the StreamNet Library, and custom products prepared by StreamNet staff.

**5. Technical Assistance to Agencies and Tribes.** StreamNet-funded staff provide significant technical database, GIS, and data transfer support services to state fish and wildlife agencies. The project also helps provide information system capabilities to tribes in the Columbia Basin.

**6. Assistance to Watershed and other Fish and Wildlife Program Projects.** StreamNet can assist Fish and Wildlife Program-sponsored watershed projects by a) providing baseline information on fish production, distribution, and other factors, b) promoting development of data exchange protocol across watershed projects, c) tracking watershed planning and management activities, d) preparing custom data and map products for use by watershed project participants, and e) serving as a repository for data and reports prepared through watershed projects.

**7. Data Requests.** Over the past year StreamNet staff in the states and at the regional level responded to over 1700 requests for data and data services. Services were provided to state and federal agencies, tribes, regional authorities, and private groups.

**PAST OBLIGATIONS FOR THIS PROJECT NUMBER:** *Historic obligations are from BPA records. They will be displayed in the output report along with the other data from this form, but were not downloaded into this form because there is no need to verify or edit this data.*

**BIOLOGICAL RESULTS ACHIEVED:** *For ongoing projects, describe measureable biological outcomes (fish, habitat or wildlife) resulting from past project activities.*

This project provides support for a variety of policy, planning, management, and research initiatives associated with the Fish and Wildlife Program and ESA. It does not, in-and-of-itself, produce specific biological results. StreamNet supplies production trend, habitat, and other data that is directly applicable to management recommendations contained in the Operations Biological Opinion, the Coho Biological Opinion, and the Recovery Plan for Snake River Salmon. StreamNet anadromous productivity data can be used to evaluate whether Program projects are resulting in measurable gains for fish resources.

**PROJECT REPORTS AND TECHNICAL PAPERS:** *List all technical and scientific reports and project reports that have resulted from this project.*

Regularly scheduled progress reports are prepared by the contractor and sub-contractors. An annual Columbia River Basin Salmon and Steelhead Report is produced that graphically portrays salmon and steelhead production trends and other summary data of interest to managers and decision-makers. An anadromous fish production data system is updated

at least biannually, including documentation and a user's guide. Tabular and graphic information is produced on fish distribution, life stages, barriers, and other topics applicable to natural resource management. These products are packaged and made available through the Internet and, in the case of anadromous fish data, also through a stand-alone Distributed System (DS). Other products include a plan for future data enhancement, data exchange format documentation, stock summary reports, various topic specific reports and map atlases, and white papers that identify opportunities for interagency cooperation in data compilation.

**ADAPTIVE MANAGEMENT IMPLICATIONS:** *Describe how the knowledge gained from past activities and accomplishments of this project has influenced or should influence your approach to conducting this type of project, and/or how it has contributed or could contribute to adaptive program management. Provide recommendations or conclusions relative to how the biological, environmental, technological, or informational results of this project to date relate to broader program management.*

**The project is the primary source for regionally consistent fish and wildlife information and, as such, will play a critical role in evaluating the success of the various Fish and Wildlife Program activities. The project will also aid in the tracking of these activities.**

### SECTION 3: SUMMARY DESCRIPTION OF PLANNED PROJECT ACTIVITIES AND EXPECTED OUTCOMES

*The level of detail provided in this section should reflect a pre-proposal stage of planning, and should be sufficient to allow reviewers to ascertain the main tasks and products produced by the project. Additional detail on each project's design and tasks will be collected at the contracting stage. For reviews of ongoing projects, information from past statements of work will be made available. This section is generally broken down into questions about why the project is needed, how you will do it, what it will deliver, and how it will be monitored and evaluated. The questions are generalized to apply to many types of projects, answer in terms of the needs, methods, outcomes, and measurement approaches for your particular type of project, and enter N/A where the particular question does not apply to your project. Please read all questions in this section before starting your responses, and try not to repeat information in more than one response.*

**SPECIFIC MEASURABLE OBJECTIVES:**      *For future project activities, describe what the project intends to accomplish in biological, environmental, or information terms.*

**For this project, measurable objectives refer to delivery of data and other products, not to specific biological objectives. Specific goals and objectives are established by means of a 5-year data plan. Presently, the highest priorities for data development are:**

- 1. update existing anadromous fish trend data through the current year and fill data gaps,**
- 2. complete 1:100,000-scale coverage of anadromous and resident salmonid and non-salmonid sensitive fish species throughout the region, including anadromous fish blockages and historic range.**
- 3. prepare regionwide GIS coverages of habitat data, incorporating data compiled through federal land management analyses (e.g., Eastside Assessment), and other state and federal government-sponsored activities.**
- 4. establish mechanisms for compiling and distributing "core" stream habitat data regionwide,**
- 5. establish a project tracking database to include Fish and Wildlife Program and associated activities,**
- 6. establish a system for supplying data for Fish and Wildlife Program-sponsored watershed projects and for maintaining data prepared through these projects.**
- 7. respond to emerging data needs as defined by such entities as the Independent Science Group.**

**Other project priorities include 1) increasing the StreamNet Library's capability to meet the research and reference needs of the region's aquatic resource managers; 2) expanding the information exchange capabilities of the StreamNet web site**

to include interactive mapping, increased analytic capabilities for tabular data, and remote access to library materials; and 3) expanding the capability of the tribes to contribute to this cooperative data development program.

**BIOLOGICAL NEED:** *Describe the specific biological problems addressed by the project. Describe the present assumed performance or current trends of target populations or current conditions of watersheds or land areas affected by the project. For anadromous fish, focus on the life stage survival measure affected by the project. For wildlife, identify the needed habitat units (loss assessment). For resident fish projects, describe the needed survival change for the target stock.*

**Virtually every analysis of the Pacific Northwest fish issue calls for the preparation of regionally consistent and easily accessible data. StreamNet seeks to fill this need by providing essential baseline data on fish distribution, production, habitat, and management that is useful for regional policy, planning, management, and research activities.**

**SCIENTIFIC BASIS OR RATIONALE FOR PROJECT:** *Provide any of the following that apply for your project. If your project uses a new or experimental method, or is a research or monitoring project, please respond to all elements of the project rationale.*

**A. Identify any critical uncertainties or risks associated with project implementation and/or outcome. Uncertainties are factors that are beyond the control of the project that could affect the outcomes of the project. Risks are unintended project outcomes, such as damage to other stocks.**

**Uncertainties are of an administrative rather than biological nature. For example, it is possible that one of the participating agencies may choose not to continue to participate in the project. However, this is unlikely given past and current support by these agencies. If this were to occur the project would redirect its activities toward other high priority areas.**

**B. Identify any underlying assumptions that are implicit in your expectation of the project's success or outcomes. Include a description of changes or lack of change in environmental attributes not directly affected by the project.**

**The project plan assumes that agencies involved in primary and secondary data collection will continue these activities. For example, if state fish and wildlife agencies, tribes, and or federal land managers ceased collection of stream survey data, continued work in development of data exchange standards and data delivery mechanisms would be nonproductive. The project also assumes that agencies such as the Forest Service and Bureau of Land Management (and the states and tribes) will continue to share collected information with the larger regional community. One of the principal objectives of the StreamNet project is to provide a climate and the technical means that promote such interagency cooperation.**

**C. Identify the hypothesis to be tested by the project (for research projects or new survival or production methods). Explain the null and alternative hypotheses.**

**This project provides baseline data that can be used to evaluate a variety of management hypotheses, both for individual projects within the Fish and Wildlife Program and for the Program as a whole. The project itself does not test a scientific hypothesis, other, of course, than that it is possible for a variety of disparate groups to work together to productively produce regionally consistent resource data .**

**D. If alternative approaches to accomplishing this project's biological objectives were considered and rejected, describe them briefly and outline why they were not chosen, or cite a reference or plan in which such analysis was described.**

The data development model employed by StreamNet is a dispersed, cooperative effort among agencies. The alternative would be to compile data in-house or through consultants. What this would gain in efficiency would be more than offset by lack of detailed knowledge of the resource, lack of commitment by agency resource managers to provide data, lack of trust among agencies in the accuracy of the resultant product, and decreased opportunity for interchange of ideas among participating agencies.

**E. If the project focuses primarily on planning, assessment or coordination, explain why these efforts should be funded prior to investment in on-the-ground efforts to benefit fish and wildlife. What entities will be involved and how many coordinators will be funded under this project?**

The project provides a foundation of information that is useful in targeting areas for on-the-ground projects and for viewing such a project in the larger regional context. StreamNet can provide technical and data services to these projects and serve as a means for encouraging that data collected in these projects is made available to the larger community.

**METHODS:** Describe the project methodology (appropriate to the type of project). Explain how the project will be implemented and maintained. If the project focuses on assessment or planning, describe the approach to be used and the parties involved. If the project is research or monitoring, describe the experimental design, including justification of the sample size and power analysis, where appropriate. Identify any known limitations of the proposed methods.

The fundamental building block for this project is interagency cooperation in the collection, compilation, and dissemination of critical fish and wildlife information. The means for achieving this are 1) establishing agreement on the critical data needs, 2) development of regionally consistent data exchange formats, 3) establishment of effective communication links, 4) use of common data distribution mechanisms, and 5) providing necessary technological support.

**PROJECT DEVELOPMENT SCHEDULE:** Enter the date (month/year) the project will or did reach each phase of development. Project phases can overlap in time. For each phase that is not yet completed, describe major project tasks for which funding will be needed. Use a separate field for each task. If data were downloaded in the first field, correct as needed to make sure each task is in a separate line. Give a short phrase or one or two sentence description of the task, identify the completion date, and check if the task will be performed by a sub-contractor. Enter additional fields for more tasks as needed. Deliverables should be described in your response under expected outcomes, below.

<b>PLANNING</b>	
<b>Task:</b>	For a Program support project such as StreamNet planning is an ongoing activity. For this project, planning includes 1) consulting with others regarding their data development and delivery needs, 2) establishing objectives, 3) developing strategies for meeting these objectives, and 4) obtaining concurrence from agencies that will be involved in the activity. The products of planning activities are written strategy papers. Ultimately these are incorporated into the project's data plan which serves as the project's fundamental document. Important planning activities for FY 1998 include design of strategies for conducting a habitat assessment, incorporating stream survey data, incorporating estuary and ocean data, and enhancing technical capabilities, especially concerning

	<b>delivery of spatial data.</b>				
<b>Start Date:</b>	<b>ongoing</b>	<b>Completion date:</b>	<b>ongoing, though specific targets are set.</b>	<b>Subcontractor?</b>	<b>All sub-contractors are actively involved in planning activities though PSMFC often takes the lead.</b>
<b>IMPLEMENTATION</b>					
<b>Task:</b>	<b>Implementation involves development of 1) data, 2) data delivery systems, and 3) the StreamNet library. Implementation of data development strategies includes the design of data exchange formats, the establishment of procedures for compiling the data, locating the needed data, encoding the data into standard electronic format, providing references to the StreamNet library, and the encoding of references. Implementation of data delivery strategies includes programming, porting of data, testing of delivery systems, and preparation of documentation. Implementation of library strategies includes development of agreements with other libraries, acquisition of materials, and enhancement of library services.</b>				
<b>Start Date:</b>	<b>ongoing</b>	<b>Completion date:</b>	<b>ongoing, though specific targets are set for each activity</b>	<b>Subcontractor?</b>	<b>Sub-contractors often take the lead in the actual compilation of data.</b>
<b>OPERATION AND MAINTENANCE</b>					
<b>Task:</b>	<b>For StreamNet, operation and maintenance include 1) the regular update of data that is subject to change, as for example new data on anadromous fish productivity or water quantity and quality data, 2) regular maintenance and enhancement of the database and data delivery system, 3) ongoing operation of the library, including document cataloging, and 4) responding to data service requests by the region's resource managers.</b>				
<b>Start Date:</b>	<b>ongoing</b>	<b>Completion date:</b>	<b>ongoing, though specific targets are set.</b>	<b>Subcontractor?</b>	<b>Sub-contractors are involved in both updating data and operation of the library.</b>
<b>Project Completion Date:</b>			<b>Ongoing</b>		

**CONSTRAINTS OR FACTORS THAT MAY CAUSE SCHEDULE OR BUDGET CHANGES:**

*Examples include NEPA analysis, permit requirements, consent of other agencies, entities, landowners, or other affected parties, or other factors beyond the control of the project managers.*

**The only possibility for a budget change would be if regional decision-makers asked StreamNet to perform additional tasks that were not addressed in the budget . There are several factors that may require a change in schedule. These relate to both the nature of the data being compiled and the interagency nature of the project. Changing agency priorities could, for example, result in data that was anticipated to be made available being delayed. Likewise, agency personnel policies could cause a delay in hiring necessary staff. Another possibility would be abrupt changes in regional policy or planning needs that require a reallocation of resources to address emerging issues.**

**SUMMARY OF EXPECTED OUTCOMES:** *Describe your anadromous fish, resident fish, or wildlife project in terms of the biological, environmental, information or coordination results or outcomes it will produce. Answer any or all questions that apply to your project, by describing outcomes that directly result from the project. For each outcome, indicate the time frame within which it will be realized. Available data have been downloaded into the closest related field - please edit to match data to the new questions.*

- A. Describe the expected performance of target population or expected quality change in land area affected, after completion of this project.**

**Decision-makers and managers will have at their disposal necessary biological and management information for both targeting actions and evaluating their effectiveness. Participants in Fish and Wildlife Program activities will have an effective means to access applicable information and to store information collected through the activity. The public will have a means to learn about the region's aquatic resources**

- B. What is the present utilization and conservation potential of the target population or land area?**

**Not applicable; StreamNet could provide such data for other projects.**

- C. What was the assumed historic (reference status) of utilization and conservation potential?**

**Not applicable; StreamNet could provide such data for other projects.**

- D. What is the long term expected/desired utilization and conservation potential for the target population or target habitat type?**

**Not applicable; StreamNet maintains predictive data from Subbasin Planning.**

- E. What will the project contribute toward the long term goal?**

**Regionwide, consistent Information; Electronic Data Dissemination**

F. Describe any additional biological or environmental changes that could result indirectly from the project.

**StreamNet would have only a secondary effect.**

G. Describe physical products (miles of fence, number of tagged fish, land area acquired, etc.)

**Electronic data management and delivery systems; library materials and delivery systems.**

H. Describe environmental attributes directly or indirectly affected by the project (water temperature, flow, restriction of human uses of land, etc.)

**StreamNet will have only a secondary effect.**

I. Describe near term and long term changes assumed or expected for the affected environmental attributes

**Not applicable.**

J. Sedimentation reduced by x in reach y after z years, or h number of habitat units produced).

**Not applicable.**

K. Describe how you will assess the effects on project outcomes of critical uncertainties identified above.

**StreamNet is guided by a steering committee representing the agencies and tribes. Project participants report to the steering committee on a regular basis. Unanticipated changes are addressed and evaluated using the steering committee forum.**

L. Describe information products (monitoring, evaluation, or decision analysis) that the project produces.

**The StreamNet data system currently includes the following:**

**1. Geographic Referencing. StreamNet utilizes the 1:100,000 scale, EPA River Reach file for cataloging, geo-referencing, displaying, and selecting data using both tabular databases and geographic information systems (GIS). This system allows users to query for data by state, county, USGS cataloging unit, drainage basin, or stream name. Data can also be mapped using GIS technology.**

**2. Anadromous Fish. StreamNet includes detailed natural and hatchery production information for anadromous salmonids in the Pacific Northwest States. Long term time series data are available concerning adult escapement, sport and marine harvest, hatchery return and release, and hatchery and**

passage facilities. Information on species distribution, use type (spawning, rearing, migration) and migration barriers is also available. Work is in progress on age data, juvenile abundance, hatchery practices, and stock features and characteristics.

3. **Resident Fish.** Information on the distribution of native salmonids and other at-risk resident species is available for many watersheds. Our goal is to compile this information region-wide. Other types of resident fish information such as abundance trends, hatchery releases, and stock characteristics are added to StreamNet as they become available. The Montana portion of StreamNet maintains a comprehensive, state-of-the-art resident fish database.

4. **Aquatic Habitat.** StreamNet contains summary information on habitat quality, stream flow, and water quality data as well as information on land ownership patterns and other factors that influence habitat quality. StreamNet is working with the agencies and tribes to establish core stream survey variables and will soon be incorporating stream survey data collected by the agencies and tribes.

5. **Resource Protection and Restoration Projects.** StreamNet is in the process of compiling summary information on fishery mitigation projects that have been completed or are underway in the Pacific Northwest. Some of the data included will be project location, purpose, target species, and cost. Fish and Wildlife Program project tracking will occur in cooperation with BPA. Also planned is data on watershed planning and related activities. The project also maintains the records from the NPPC subbasin planing process and the data underlying the NPPC Protected Areas rule.

6. **Dams, Diversions, and System Operations.** StreamNet contains data on hydropower and other dams within the Pacific Northwest states. There are over 5,000 dams in this data set which includes physical characteristics, location, owner/operator, as well as licensing and power generation data. StreamNet is exploring the addition of irrigation diversion data and historical trend data on the operation of mainstem dams (flow, spill, smolt transportation, etc.).

7. **Bibliography.** The StreamNet bibliography, with key word search capability, has over 12,000 published and grey literature bibliographic citations.

**M. Describe coordination outcomes of the project.**

Interagency coordination is a primary benefit of compiling, managing, and disseminating data using an interagency model. . Data compiled through a collective process is far more likely to be accurate and defensible. Further, by working together to solve data needs the various agencies gain an understanding of the issues faced by each participant and are more likely to work cooperatively on related issues that transcend data management. StreamNet holds a number of interagency forums to explore common needs as, for example, a recent meeting on stream survey methods that will likely lead to further coordination on this topic.

**MONITORING APPROACH:** *Describe how the region should measure the project's biological or environmental outcomes. (Assume that BPA staff will monitor each project's task completion, product delivery and costs, and that technical progress will be reported in annual reports.)*

While this project does not have specific biological outcomes, StreamNet can provide data that will assist in evaluating overall biological effectiveness of Program components. The effectiveness of the project can be measured, both

**quantitatively in terms of electronic data and library materials, and qualitatively in terms of responsiveness to the data needs of the Program.**

**What provisions are in place, in this project or others, to monitor population status for the target stock, or to monitor the availability or quality of the habitat type targeted?**

**StreamNet is actively involved in acquiring data on both population status and habitat quality.**

**How will data be resulting from the project be analyzed and evaluated?**

**StreamNet's principal objective is data compilation and reporting. The project does not, as a rule, get involved in analysis and evaluation.**

**How will information feed back to management decisions related to this project?**

**The Council, NMFS, and other agencies with decision-making responsibility are consulted prior to preparing the annual data plan in order to ensure that the project is targeting the appropriate data needs. Contacts with these agencies continues throughout the year and custom data products are prepared for them as requested.**

**How could critical uncertainties affecting your ability to predict the project's outcomes be resolved? Identify any corollary or broader scale research needs that are not explicitly covered by this project.**

**The StreamNet steering committee collectively resolves project issues.**

**EVALUATION:** *How could the region assess the project's overall performance? List specific elements indicative of project success.*

**The principal means for assessing project effectiveness are 1) measuring performance against the annual work statement, and 2) consultation with representatives of the agencies and programs served by the project.**

**If new information becomes available about uncertainties affecting the project, how will it be incorporated into the decision process?**

**Project managers will prepare proposals for consideration by the steering committee. Council staff and other appropriate authorities will be consulted prior to making significant mid-course corrections.**

**How will the project increase public awareness of the region's efforts to protect, mitigate and enhance fish and wildlife?**

The project's web site provides an approachable and effective means to communicate with the public. An education function is being added to the StreamNet web site specifically to promote public education. This feature includes a fish management glossary, pictures and descriptions of fish, and other educational features. Maps also provide an excellent means to education the public. The web site includes numerous educational maps; other maps are produced to aid participants and agency officials in making public presentations. The annual salmon and steelhead report and the on-line database provide additional opportunities for public education by depicting rather complex issues in the form of easily understandable tables, charts, and graphs.

**SECTION 4: PROJECT COST PROJECTIONS**

**FUTURE FUNDING NEEDS:** *Forecasts should reflect the total BPA obligations requested for the project for each fiscal year 1998 through 2001. For ongoing projects, one or more contract modifications are done each year. Enter the total amount requested for BPA to obligate during each fiscal year (October through September) regardless of what month the operating year begins. Enter the portions of this total for each project development stage, each year. Cost estimates for the project should include services that have traditionally been provided by BPA -- in the future these will be accounted for with each project's costs. For example, include costs for NEPA analysis and engineering design in the planning stage. If you are uncertain about these costs, BPA staff can help with estimating them. If the project requires land acquisition, include both purchase and processing costs in the implementation stage, even if BPA will manage the land acquisition. Do not apply inflation factors to future cost estimates -- enter all costs in constant (1997) dollars. Consistent inflation factors will be applied in to all projects in assessing the future costs of the program.*

	<b>TOTAL FUNDING REQUIRED</b>	<b>%PLANNING</b>	<b>%IMPLEMENTATION</b>	<b>%OPERATION AND MAINTENANCE</b>
<b>1998</b>	<b>\$1,900,000.00</b>	<b>20</b>	<b>40</b>	<b>40</b>
<b>1999</b>	<b>\$1,800,000.00</b>	<b>20</b>	<b>40</b>	<b>40</b>
<b>2000</b>	<b>\$1,700,000.00</b>	<b>20</b>	<b>40</b>	<b>40</b>
<b>2001</b>	<b>\$1,700,000.00</b>	<b>20</b>	<b>40</b>	<b>40</b>
<b>2002</b>	<b>\$1,700,000.00</b>	<b>20</b>	<b>40</b>	<b>40</b>

**COST SHARING:** *If other entities are providing funds for the project in addition to the BPA funds requested above, identify the other funding source and dollar or in-kind amounts to be provided, for each year the project continues.*

	<b>Other Funding Source</b>	<b>\$ Funding</b>	<b>In-KindFunding</b>
<b>1998</b>	<b>unknown</b>	<b>unknown</b>	<b>by agencies, amount unknown but substantial</b>
<b>1999</b>	<b>{111D}</b>	<b>{111E}</b>	<b>{111F}</b>
<b>2000</b>	<b>{111G}</b>	<b>{111H}</b>	<b>{111I}</b>

2001	{111J}	{111K}	{111L}
2002	{111M}	{111N}	{111O}

**OTHER NON-FINANCIAL SUPPORTORS:** *List other individuals, agencies, or businesses that support the project or are involved in some way but are not providing direct or in-kind financial support.*

**All of the agencies with sub-contracts also provide significant in-kind contributions and are involved in data collection initiatives that provide data to StreamNet on a no-cost basis. Other organizations, including the U.S Forest Service, the Bureau of Land Management, the U.S. Geological Survey, the Environmental Protection Agency, and the National Marine Fisheries Service have all contributed funding, in-kind services, and/or significant databases to the project. It is anticipated that this will continue in coming years.**

**LONGER TERM COSTS:** *If the project is expected to incur costs beyond 2002, indicate the expected annual costs and note whether this is for continued implementation or for operation and maintenance.*

**Annual amount should stay constant, except for inflation and the potential demand for new forms of data.**

**Note:**

**It is anticipated that data will always be needed by the Program. At a minimum, annual production trend data for anadromous fish will need to be compiled in order to evaluate Program effectiveness. It is also assumed that new but as yet undetermined data demands will continue to emerge as the Program evolves.**

**1997 OVERHEAD %:** *Enter the markup share charged for indirect project costs and management.*

**15%**

**Indicate whether that percentage applies to total direct project costs or to a portion of direct costs:**

**Overhead applies to personnel, travel, and services and supplies. It does not apply to non-expendable equipment such as computers.**

**CONTRACTOR FTE:** *Indicate how many people are directly employed on this project with the primary contractor (not including administrative support funded through overhead charges).*

**5 people, total of 3 FTE.**

**SUB-CONTRACTOR FTE:** *Indicate how many people are employed with sub-contractors on this project (not including their FTE associated with overhead charges).*

**39 people, total of 27 FTE (distributed among 11 sub-contractors)**

## EXAMPLE DATA FORM EVALUATION QUESTIONS FOR ANADROMOUS FISH, RESIDENT FISH OR WILDLIFE

*With the exception of the Wildlife Work Group, the proposal reviewers have not yet determined what evaluation criteria will be used. The sections below provide examples of questions the decision makers may use to evaluate project proposals. In developing the questions in the preceding sections of this form, contributors were trying to solicit information that would be sufficient to evaluate most criteria that reviewers might identify.*

*Proposers should read each question and consider whether the answer is provided in their responses to specific fields in the form above. A data entry field is provide for supplemental information relative to specific evaluation questions at the end of each section (after Anadromous Fish, after Resident Fish, and after Wildlife.)*

### ANADROMOUS FISH EXAMPLE EVALUATION FACTORS

**Does the project contribute to survival changes necessary to rebuild naturally reproducing populations?**

*Key Responses: Target Stocks, Populations or Habitat Types, Specific Measurable Objective, Summary of Expected Outcomes.*

**Does the project contribute increased survival to adult returns?**

*Key Responses: Specific Measurable Objectives, Summary of Expected Outcomes, Monitoring Activity*

**Does the project enable achievement of utilization goals?**

*Key Responses: Summary of Expected Outcomes, NPPC Program Measure, Biological Opinion ID, Other Planning Documents*

**How many stocks are affected?**

*Key Responses: Target Stocks, Populations or Habitat Types, Other Affected Stocks.*

**Does the project provide essential information within a critical path decision making process for a specific measure (identify decision process documentation and conservation measure)? Examples: projects that resolve controversy or uncertainty over critical life stage survival measures, such as drawdown, transport or basinwide hatchery/natural fish interactions.**

conservation

**Does the project provide essential information within a critical path decision making process for a specific measure (identify decision process documentation and conservation measure)? Examples: projects that enable restoration in the context of meeting a utilization goal, such as selective fisheries and localized hatchery/natural fish interaction studies.**

utilization

**Does the project provide essential information to document the success of measures to meet conservation or utilization goals? Example: projects that monitor the effects of mitigation projects.**

*Key Responses: Management implications (for ongoing projects), Summary of Expected Outcomes, Monitoring Approach, Evaluation*

**Are the project's objectives and outcomes clearly defined, and is the project design likely to meet the objectives?**

*Key Responses: Specific Measurable Objectives, Summary of Expected Outcomes, Critical Uncertainties, Constraints or Factors that may cause Scheduling or Budget Changes, Methods.*

**Are costs shared with 15% or more from a non-BPA source of funds?**

**What proportion of direct cost goes for project management?**

**Are the costs of long-term maintenance of the project defined?**

*Key Responses: Budget; Cost Sharing, 1998 Overhead Percent; Long term costs*

**Is the project integrated with other actions affecting this and other life stages?**

**Does the project involve or encourage the formation of partnerships with other persons or entities which would increase benefits, eliminate duplicative activities, or reduce costs?**

**Does the project produce benefits for resident fish and/or wildlife?**

**Does the project serve multiple resource management purposes, e.g. anadromous fish restoration, water quality improvement, resolving critical uncertainties, education?**

**Is the project part of a coordinated regional plan?**

**Is the project part of a subbasin or watershed plan?**

*Key Responses: Related Projects, Opportunities for Cooperation, Cost Sharing, Other Supporters, Other affected stocks or populations,*

Fill in any supplemental information specific to anadromous fish project evaluation here:

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## RESIDENT FISH EXAMPLE EVALUATION FACTORS

**1. Project addresses specific Council Program measures.**

*Key Response: NPPC Measure Number*

**2. Projects developed to meet particular program measures must be consistent with management objectives of the agencies and tribes.**

*Key Response: Program Goal, Short Description, Other Planning Documents, Cost Sharing, Other Supporters*

**3. Project conforms to Council's prioritization process according to program measure 10.1B.**

*Key Responses: Specific Measurable Objectives, Summary of Expected Outcomes, Critical Uncertainties,*

**4. Project provides direct, indirect, or no benefits to anadromous fish and wildlife.**

*Key Responses: Target Stocks, Populations or Habitat Types, Other Affected Non-Target Stocks.*

**5. Biological objectives adopted, being developed, or none.**

*Key Responses: Specific Measurable Objectives, Biological Need*

**6. Project develops biological/integrated rule curves in storage reservoirs, contributes to the implementation or monitoring the effectiveness of biological/integrated rule curves, or collects data which will be used in the development of biological/integrated rule curves in storage reservoirs.**

*Key Responses: Specific Measurable Objectives, Project Rationale, Summary of Expected Outcomes.*

**7. Project protects, mitigates, or enhances fish populations that support important fisheries. Provides for an important fishery that does not target or adversely affect a weak but recoverable native stock (e.g., consumption, subsistence, cultural, recreation).**

*Key Responses: Target Stocks, Populations or Habitat Types, Specific Measurable Objectives, Project Rationale, Summary of Expected Outcomes.*

**8. Protects or enhances other non-target resident fish populations**

*Key Response: Other Affected Non-Target Stocks or Populations*

9. **Demonstrates that all "reasonable" precautions have been taken, based on best available science, to not adversely affect habitat/populations of native resident and anadromous fish.**

*Key Response: Methods*

Fill in any supplemental information specific to resident fish project evaluation here:

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## **WILDLIFE CRITERIA**

1. **Describe enhancement (development) plans and site potential.**

*Key Responses: Specific Measureable Objectives, Biological Need.*

2. **Beyond general community support, describe the extent to which the project will make use of matching funds, volunteers, donations, signed cooperative agreements or signed memoranda of understanding, (includes tribal lands if dedicated in perpetuity for wildlife mitigation and if credit is given to BPA for enhancements).**

*Key Responses: Other Funding Sources, Other Planning Documents, Other Supporters.*

3. **Identify the extent to which this project supports the occurrence of threatened, endangered status, and/or sensitive plant, fish and wildlife species. Sponsor must demonstrate the relationship of the proposed project to key life history attribute of the species; e.g., breeding, wintering, feeding, resting and migration.**

*Key Responses: Target Stock, Population or Habitat Type, Biological Need, Methods.*

4. **Does the project protect high quality, native or other habitat at the project site. Identify the extent to which this project is among the best representatives of this type for the target species. The intent of this question is to determine the quality of habitat of a site compared to other sites of the same type. Consider quality and extent of cover, key structural elements, species composition, water, food sources, human disturbance, etc.**

*Key Responses: Specific Measureable Objectives, Location, Methods, Target Stock, Population or Habitat Type.*

5. **Identify the extent to which this project is unique. This can be based the rarity of the site's key elements or on the project size (i.e. the whole drainage or an "ecosystem") or distribution and status of its key elements. For scoring purposes, protected is defined as public/tribal land owned and managed exclusively for, and accessible to, wildlife OR land which through zoning, regulation or voluntary measures is not in danger of a loss in habitat quality and is accessible to wildlife.**

*Key Responses: Biological Need, Methods.*

6. **Identify the number and types of habitat found on the project site.**

*Key Response: Target Stocks, Populations or Habitat Type.*

7. **Does the project provide riparian or other habitat that may benefit both fish and wildlife (for resident and anadromous fish.)**  
*Key Responses: Specific Measureable Objectives, Location, Target Stocks, Populations, or Habitat Type, Methods, Summary of Expected Outcomes.*
8. **How will the proposed acquisition or management of this site benefit or be benefitted by other protected lands. Protected is defined as public or tribal land managed exclusively for, and accessible to, wildlife OR land which through zoning, regulation, or voluntary measures is not in danger of a loss in habitat quality and is accessible to wildlife.**  
*Key Responses: Related BPA Funded Projects, Other Related Projects.*
9. **Describe how the overall site (core and key buffer tract(s)) can be managed over the long term and still protect the target species. Consider site size, location and buffers (to withstand surrounding human activities and invader species). A buffer increases protection of adjacent core site values by screening it from outside impacts and improving manageability. Target features surrounded by numerous protected and undeveloped acres tend to resist most threatening forces than features surrounded by developed acres.**  
*Key Responses: Specific Measureable Objectives, Methods, Summary of Expected Outcomes.*
10. **Discuss how this project addresses concerns over additions to public land ownership and impacts on local communities, such as reduction or less of local government tax base, special district tax base, or the local economic base; or consistency with local government or tribal governments' comprehensive plans.**  
*Key Response: Methods.*
11. **Identify the extent to which evidence (documented) shows that acquisition of this site is necessary to protect the site from an identified threat. Documentation is defined as (but not limited to): a letter, a picture, or a news article, which clearly shows the property is on the market for sale, rezoning or regulations are pending, property is being subdivided, or timber/mineral rights are for sale.**  
*Key Response: Biological Need.*
12. **Does this project use publicly owned land for mitigation, or management agreements on private or tribal land, while providing permanent protection or enhancement of wildlife habitat?**  
*Key Response: Location, Land Ownership.*

Fill in any supplemental information specific to wildlife project evaluation here:

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