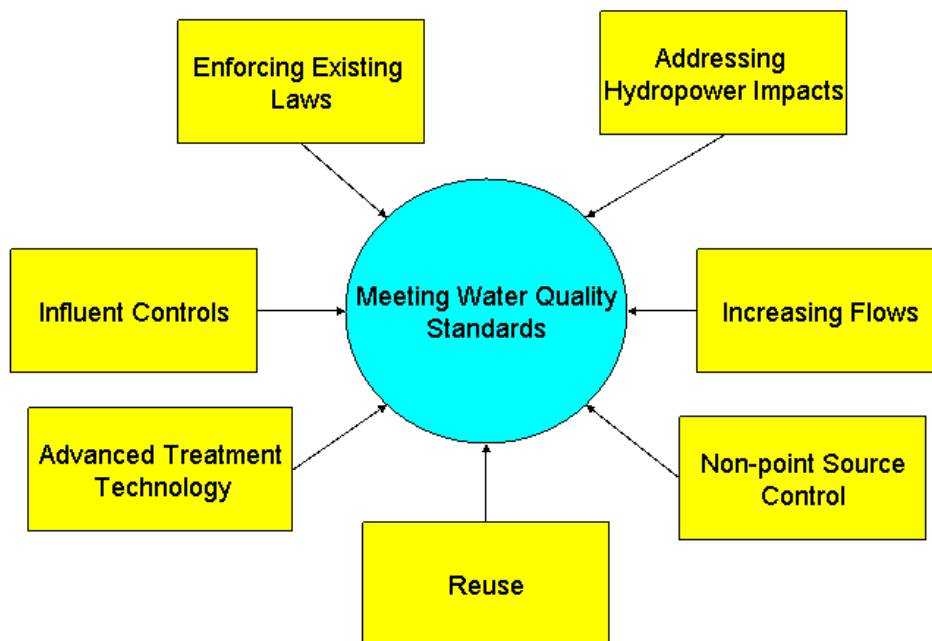


SUMMARY OF SIERRA CLUB'S SPOKANE RIVER RESTORATION SCENARIO FOR THE DISSOLVED OXYGEN TMDL COLLABORATIVE

The purpose of this document is to inform and provide structure for the development of a comprehensive and enforceable agreement for achieving the pollution reductions required by the TMDL. Specifically, it offers an implementation scenario framework for the finalization of the Washington Department of Ecology's Dissolved Oxygen (DO) Total Maximum Daily Load (TMDL) and implementation plan for the Spokane River. The final product must constitute a clear and earnest effort to restore healthy dissolved oxygen levels to the river.



A successful cleanup will include strategies from the following seven approaches:

- (1) influent control and reduction;
- (2) advanced treatment technology;
- (3) reuse and conservation;
- (4) non-point controls;
- (5) increases in stream flows;
- (6) enforcement of laws and ordinances; and
- (7) addressing hydropower impacts.

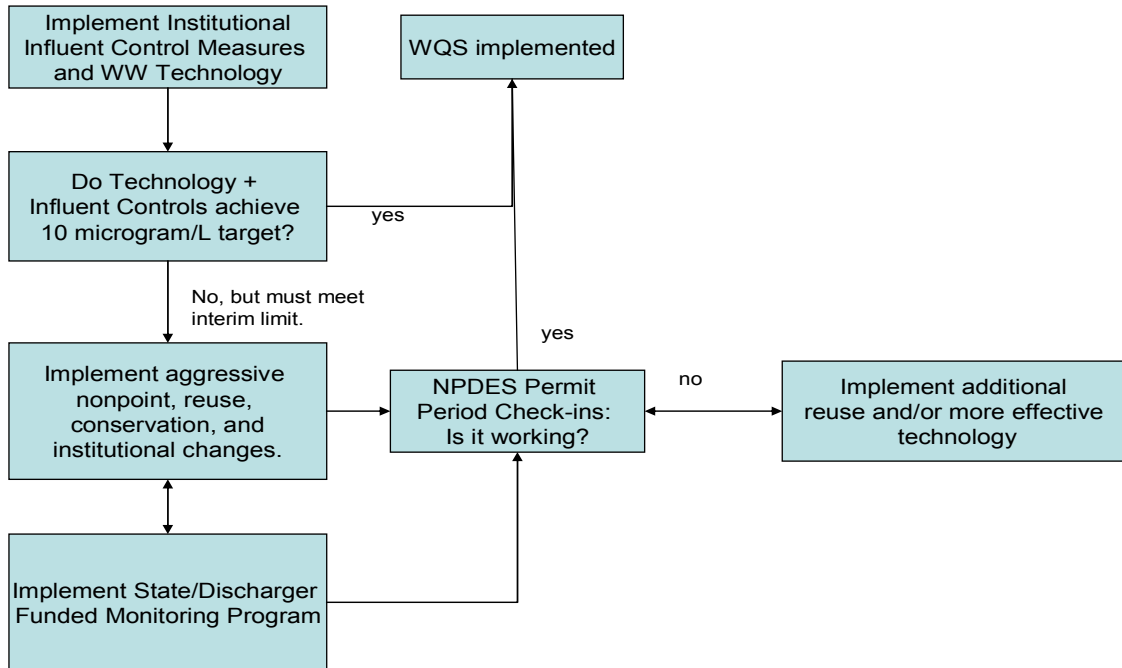
Under this scenario, the Sierra Club proposes that the dischargers to the Spokane River implement a three-phased approach similar to the phased approach set forth in Ecology's draft TMDL. This approach and the commitments of the parties will be reflected in the final TMDL, as well as a memorandum of agreement (MOA) between Ecology and the dischargers, and incorporated into the dischargers' NPDES permits.

In the first phase, the dischargers would implement a series of influent control measures, including the bans on the utilization of phosphorus in commercial/domestic dishwasher detergent and in domestic yard fertilizer, an assessment of industrial/commercial sources followed by an evaluation and revision of industrial pre-treatment programs, aggressive home/yard and industrial water conservation, and an education/incentive program focusing on domestic phosphorus influent reduction. These measures are intended to be near-term and would be implemented within the first 18 months of finalization of the TMDL.

The second component of phase one would be the evaluation and selection of wastewater treatment technology. As set forth in the draft TMDL, the ultimate target for this technology would be effluent that meets the 10 µg/L concentration standard. Based upon the preliminary data available from the City of Spokane WWTP's pilot, as well as the cursory data available from the Technology Workgroup's matrix, it appears that this target may be achievable. Regardless, the initial phase of technology must meet an interim concentration standard of 50µg/L utilizing appropriate averages as set forth in the individual NPDES permits. In the event that the selected technology fails to meet the ultimate TMDL target when coupled with the institutional influent control measures, the remaining phosphorus reduction balance (the "delta") will be addressed through a series of secondary actions.

The second phase of the scenario consists of identifying and designing a series of aggressive reuse, non-point, conservation, and institutional measures designed to address the expected delta in phosphorus reduction. Specific actions will be included in the completion of the detailed implementation plan (DIP), which will occur within 12 months of the finalization of the TMDL. The DIP will set forth a detailed schedule for implementing scenario actions, as well as effectiveness monitoring specific to each action.

The third phase of the scenario is implementation. Achievement of the final TMDL target must occur within approximately 20 years, in a manner consistent with the achievement of implementation milestones set forth in the MOA document. If planned implementation activities are not producing expected results (i.e., the achievement of the 10 µg/L target), Ecology or other entities will perform additional studies to better identify the significant sources of phosphorus input to the river system. They will then adopt more effective treatment technology and/or deploy more extensive water re-use or conservation programs in order to meet the target.



The specific approaches and strategies described below do not represent all the possible options for addressing dissolved oxygen, nor is it intended that the parties implement every action detailed below. Rather, it is intended that through the finalization of the TMDL, MOA, and DIP, the proper suite of actions is selected to ensure that the TMDL goals and compliance with state and tribal water quality standards are met.

APPROACH A. Influent Control and Reduction

Strategy: Water Conservation

Actions: Adoption of Municipal Water Conservation Programs

1. Each municipal discharger will adopt an aggressive water conservation plan to control both indoor and outdoor residential, commercial, and internal water use, as described below.
2. Each municipal discharger will enact ordinances requiring use of low-flow fixtures (toilets, washing machines, dishwashers, showerheads) in all new construction, ordinances requiring phased retrofit for existing residences and buildings (e.g., 10 years or when replacement needed, whichever comes first), and develop and funding rebate programs. Each discharger will develop and fund an incentive/rebate program to promote installation and use of low flow fixtures and appliances.

3. Each municipal discharger will develop a residential outdoor irrigation water use reduction program that includes establishing standards for watering lawns and gardens, penalties for overuse, technical assistance and rebates/funding for household installation and use of water efficient irrigation equipment.
4. Each municipal discharger will adopt an effective water rate structure designed to induce consumer water use, both indoor and outdoor.
5. Each municipal discharger will develop a program to audit internal water system leakage and internal water use (municipal buildings, etc.), and will install low-water fixtures and adopt operational controls to reduce system water use.
6. Each municipal discharger will establish a commercial water reduction program. This program will establish water consumption standards for categories of water use (e.g., restaurants, car washes), adopt ordinances to require water usage consistent with the standards, develop commercial water audit and technical assistance activities and schedules, and develop and fund rebate and incentive programs to replace commercial water use fixtures.
7. Spokane County will expeditiously adopt the conservation program discussed in the Spokane County Wastewater Facilities Plan (similar to the one conducted by the LOTT wastewater agency). This program would allocate a budget for in-home water conservation measures over a period of 2-3 years, with a focus on replacing toilet fixtures, shower heads, and clothes washers.

Actions: Integration with Washington’s new municipal water conservation law

1. Municipal dischargers in Washington will coordinate the adoption of a water conservation plan with the goal of setting and implementing requirements of the municipal water conservation law, RCW 70.119A.180. Absent timely regulatory guidance from the Department of Health, municipalities will move forward with their programs, but confer in advance with DOH to ensure ultimate consistency with state rules.
2. Each Washington municipal discharger will assess the economic benefit derived from reduction of water flow to the sewage treatment plant in relation to the expenses associated with wastewater services. This analysis will be developed and shared with all public water suppliers who serve households also served by the discharger for use in the “cost effectiveness” calculation required for water conservation planning under RCW 70.119A.180(4)(a)(A).

Action: Integration with the Rathdrum Prairie Groundwater Management Plan

1. Municipal dischargers in Idaho will coordinate the adoption of a water conservation plan with the water conservation planning requirements of the Rathdrum Prairie Groundwater Management Plan. Absent timely regulatory

guidance from the Idaho Department of Water Resources, municipalities will move forward with conservation planning and implementation, but confer in advance with IDWR to ensure ultimate consistency with state requirements.

Action: Coordination among dischargers and public water suppliers

1. Each municipal discharger providing sewer service to households served by a non-discharger water supplier will establish indoor residential water conservation standards for use by non-discharger water suppliers. For non-discharger water suppliers who decline to utilize these standards, municipal dischargers will establish an appropriate surcharge for households in those service areas.

Action: Adoption of industrial water conservation programs

1. Each industrial discharger will audit internal water use and adopt recycling technologies as an alternative to discharge. Industrial dischargers will undergo phased reduction of permitted effluent discharge as contemplated under the Clean Water Act NPDES program.

Action: Agricultural water conservation

1. Spokane County will establish standards for efficient agricultural water use designed to reduce soil erosion and nutrient runoff and thereby promote nonpoint source reduction in Spokane River tributaries. These standards will be incorporated into appropriate county codes. The County, working with the conservation district, will develop and fund a stepwise compliance program ranging from voluntary participation to enforcement.

Strategy: Pre-treatment

Actions:

1. Municipal dischargers will ensure adequate funding for their pretreatment programs to identify and regulate those non-domestic users who contribute phosphorus loading to WWTPs.
2. Ecology will work with the applicable governmental entities and industrial users to identify and implement appropriate phosphorus reduction processes applicable in various industrial settings. Although local governments may decide to create incentive programs to induce adoption of such pollution prevention strategies, it is the Legislature's intent that pretreatment costs be born by industries. *See* RCW 70.146.010.
3. Ecology and the municipal dischargers will develop a program of education and technical assistance for industrial, commercial, and institutional businesses that contribute phosphorus (and other nutrients) to WWTPs.

4. Municipal dischargers will enact ordinances amending pretreatment requirements and standards under their respective sewer codes to require all known, available and reasonable phosphorus removal and other pollution prevention measures by industrial/commercial users.
5. Municipal dischargers will amend sewer rates to provide incentives for compliance with phosphorus reducing pretreatment requirements and standards. For example, the standards could require the connecting customer to maintain a waste stream that is cost-effective and equitable to treat and will not cause WWTP violations or loss of nutrient load allocation capacity. This should be a condition of sewer service availability.
6. The TMDL participants will explore the potential for regional regulatory overlay for phosphorus reduction strategies for both domestic and commercial users.

Strategy: Household Phosphorus Elimination

Actions:

1. Each municipal discharger will enact an ordinance banning the local sale, distribution, and use of all soaps, dishwashing detergent, and fertilizer with phosphorus content greater than 0.5%.
2. Each municipal discharger will develop a program to reduce the use of garbage disposals and develop an education/incentive program to encourage the use of garbage disposal alternatives, such as home composting. Incentives could include free or low cost composting containers.
3. Each discharger and Ecology will encourage public support for the adoption of House Bill 2322 and other similar legislative efforts to ban phosphorus in consumer products.

Strategy: Infiltration & Inflow Control

Action:

1. Each municipal discharger will conduct an assessment of the relative contribution of I/I and, if reasonable, develop a program to eliminate/reduce additional influent associated with I/I. Actions could include: (1) manhole wall spraying; (2) insituform pipe relining; (3) manhole frame and lid replacement; and (4) disconnecting illegal plumbing, drains, and roof downspouts.

Strategy: Education/Incentive Program

Actions:

1. The dischargers and Ecology will develop education/outreach information on environmental impacts of phosphorus and household actions to reduce phosphorus discharges into WWTP or the river. Examples include stormwater drain marking programs.
2. The dischargers and Ecology will develop education/incentive programs to address other common sources of phosphorus, including:
 - Proper pet waste collection and disposal;
 - Proper yard management techniques;
 - Development of a river-friendly community carwash program.
3. The dischargers will develop a program to provide education and economic incentives for low impact commercial and residential development.

APPROACH B. Advanced Wastewater Treatment Technology for Existing Dischargers

Strategy: Advanced wastewater treatment selection

Actions:

1. Each discharger must conduct its own investigation, including on-site visits and pilot testing, to assess the ability of various treatment technologies to reduce effluent phosphorus, BOD, and ammonia concentrations to target levels. This includes analysis of technical, environmental, and economic feasibility as it applies to individual facility needs. Optimization of costs will play a role in all approaches. Feasibility and pilot studies will assist in determining what equipment, management techniques and operational procedures can yield the lowest cost per pound for treatment alternatives with the greatest environmental benefits.
2. Dischargers should investigate alternatives to conventional wastewater treatment systems and incorporate these into their engineering and design plans as appropriate.
3. The results of these investigations will be submitted to Ecology and made public. Ecology will solicit public input on the investigations prior to making a determination on AKART.
4. Ecology will, based on the investigations and input received through public comment, determine AKART for each discharger. Each discharger must implement advanced wastewater treatment that meets AKART requirements.

Strategy: Operational maximization

Action:

1. Each discharger will analyze methods to optimize current and future operations to maximize reductions of CBOD, ammonia, and phosphorus. Each discharger will incorporate optimizing methods into engineering plans, operations, and maintenance programs.

Strategy: Permitting

Actions:

1. Ecology will investigate permit conditions, such as rolling averages or other appropriate effluent limitations, which are flexible enough to provide incentives to encourage the adoption of advanced technologies.
2. Ecology will incorporate the applicable conditions of the TMDL MOA into the NPDES permits. Notwithstanding these conditions and the phased approach of this scenario, the discharge limits shall not exceed 50 µg/L utilizing appropriate averages as set forth in the individual NPDES permits.
3. An increase in the total volume of discharge shall not be allowed by existing wastewater facilities unless discharge meets the instream target of 10 µg/L or there are load allocations available from demonstrated and proven loading reductions in accordance with WAC 173-201A-450.

Strategy: New Spokane County/Regional Facility

Actions:

1. In order to save financial resources and improve infrastructure planning and decision making, regional planning authorities should conduct a study of the applicability and use of decentralized wastewater systems in Spokane County.
2. Consistent with the above described approach, the City of Spokane should work with developers, such as Kendall Yards, to encourage the use of state-of-the-art onsite treatment systems which could recycle treated water for onsite use and provide irrigation opportunities nearby.

APPROACH C. Reuse

Strategies/Actions: Feasibility studies

1. Each discharger will, within two years of completion of the TMDL, conduct a specific and detailed feasibility study of the potential for reclamation and reuse of its wastewater effluent. Studies will be conducted according to the outline set forth in Attachment O and will involve the public through education and outreach activities.
2. Ecology will conduct and publish a review of all water right holders in the Spokane River watershed to assess potential reuse customers.
3. Municipal dischargers will conduct and publish a review of all water utility customers to assess potential reuse customers.
4. The City of Spokane will specifically review the exceptional opportunities for reuse available within a short radius of the Riverside wastewater treatment facility including parks, playfields, federal facilities, cemeteries, golf courses, institutional properties (e.g., on Fort George Wright Drive) and the potential for delivering reclaimed water to the West Plains area via existing infrastructure.
5. Once reuse feasibility studies are complete, each discharger will move forward with programs to maximize construction of reclaimed water facilities and put reused water to use.

Strategy/Action: Regional wastewater facility

1. As an element of developing a wastewater facilities plan conforming to TMDL requirements, Spokane County will re-evaluate siting of the proposed regional wastewater facility plan in tandem with reuse feasibility considerations.

Strategy/Action: Integrated wastewater management

1. Where appropriate, each discharger shall consider development of decentralized wastewater facilities and integrated treatment/siting/reuse for large new developments (e.g., Kendall Yards, Hayden Canyon) or areas with special pollution concerns (e.g., Suncrest).

Strategy/Action: Providing regulatory certainty

1. The Departments of Ecology and Health will timely resolve policy and regulatory questions regarding reclaimed water projects in the Spokane region.

APPROACH D. Non-point Controls

Strategy: Coordination with Tributary TMDLs

Actions:

1. Ecology and the dischargers will, as contemplated in the draft TMDL, utilize the tributary TMDLs to resolve key technical non-point source questions (e.g., how much nutrient loading in the tributaries is human-caused versus naturally occurring; what are the primary sources of anthropogenic phosphorus loading) and participate in the development of the implementation strategies to reduce phosphorus and other pollutants contributing to the Spokane River dissolved oxygen problem.
2. Ecology will dedicate resources (financial and human) to expeditiously complete the tributary TMDLs.
3. Utilizing the available funding from the Chamber of Commerce, Ecology and the dischargers will develop and implement a Non-point Source Reduction Strategy using data gathered in the TMDLs, Shoreline Inventory processes, and other data/studies to identify critical source areas (specific stream reaches) for non-point pollution loading. With this information, the Strategy will prioritize those stream segments where remedial efforts would be most effective, and then identify the specifically applicable best management practices and other actions that are likely to be the most effective in reducing the identified non-point pollution loading.

Strategy: City & County Storm Water Drainage Systems

Actions:

1. Ecology will expeditiously finalize the stormwater NPDES permit for Eastern Washington and municipal dischargers (City of Spokane, Spokane County, and City of Spokane Valley) will implement the requirements of the permit.
2. Consistent with the terms of its NPDES permit, the City of Spokane will implement, in coordination with Ecology, additional inspection and maintenance measures to eliminate dry weather CSO events.
3. Municipal dischargers will include measures such as enhanced street sweeping and leaf pickup from areas where storm runoff originates.
4. Municipal dischargers will assess and implement a program to reduce or eliminate phosphorus in road deicers.
5. Municipal dischargers will develop a program to require the installation and

maintenance bio-infiltration swales and/or catch basins in key areas. Because of the protection such measures afford to the Spokane Valley/Rathdrum Prairie aquifer as well as the river, the dischargers should re-engineer as many existing dry wells as is practicable, and require these management practices for new drywells.

6. Each municipal discharger will assess and implement other restorative stormwater management strategies.

Strategy: Reducing Unregulated Septic Contributions to Phosphorus Loading

Actions:

1. Spokane County will aggressively proceed with the mandatory sewer hookups necessary to eliminate the remaining 14,000-plus septic systems that are a potential threat to the aquifer.
2. Until alternative treatment options are in place, Spokane County will assess and implement programs requiring state of the art phosphorus removal technologies for on site systems for multi-unit commercial/residential developments.

Strategy/Action: Using Local Land Use Ordinances to Control Non-point

1. Ecology and municipal dischargers will enforce existing laws and ordinances to prevent future non-point sources.

Strategy/Actions: Coordination with Non-point Reduction Funding Programs

1. Ecology, the dischargers, and conservation districts, will work to identify and obtain available federal funding to address non-point sources in the Hangman Creek and the Little Spokane River watersheds. These programs include the NRCS Conservation Security Program, the Conservation Reserve Program, the Environmental Quality Incentives Program, and other federal funding programs focused on landowner participation.
2. Ecology and the dischargers will work with conservation districts and farm organizations to ensure that growers in the tributary watersheds have completed the necessary steps for eligibility for future federal funding.
3. Ecology, the dischargers and other local governments and conservation districts will work together to pursue State section 319 to fund non-point source mitigation measures.
4. The dischargers will work with conservation districts and farm organizations to identify and obtain other non-point source funding, such as the Spokane County Buffer Initiative Program and the State Department of Natural Resource's Forestry Riparian Easement Program.

Strategy/Actions: Direct Funding & Monitoring

1. Each discharger will commit the funds and resources necessary to implement the Non-point Source Reduction Strategy. Based upon estimates prepared by the Conservation District in the Non-point Workgroup, the cost of full implementation of a non-point source program is \$30 to 41 million. These funds shall be utilized solely for on-the-ground projects directed toward reduction of sediment and phosphorus loading to the Hangman Creek and Little Spokane River consistent with the Strategy.
2. Ecology and the dischargers must develop a long-term non-point source monitoring program. The monitoring regime must be capable of detecting changes in water quality that would be attributable to non-point source remediation activities in the tributary watersheds.

APPROACH E. Increases in Instream Flows

Strategy/Actions: Spokane River Stream flow Restoration Program

1. Ecology will establish the Spokane River Stream flow Restoration Program (“Spokane River SRP”). The program will include a dedicated account to accept funds for purchase, lease and administration of trust water rights transactions to benefit the Spokane River. Ecology will solicit funding for the Spokane River stream flow restoration account during the legislative session and direct acquisition funding to the Spokane River SRP.
2. Ecology will include the Spokane watershed as part of the Washington Water Acquisition Program.
3. Each discharger will contribute start-up funds in the amount necessary to implement the Spokane River SRP and will make an annual contribution to the program. Each discharger will provide support, in the form of resolutions and letters to the state legislature, for the Spokane River SRP.
4. Each discharger will analyze its own water rights to determine to what extent those rights may be appropriate for placement into the Spokane River SRP. This analysis will be structured pursuant to a mutually agreed set of guidelines, will involve public input, and will result in a public document.
5. Each discharger will utilize the Spokane River SRP to capture the benefits of its water conservation and reclaimed water use programs by ensuring that “saved water” is placed into trust.

Strategy/Action: Stream flow Advocacy for Dam Relicensing

1. Each discharger will register official support for the Washington state-recommended minimum flow discharge from Post Falls Dam, as established through the WRIA 57 watershed planning process. This support will be in the form of a resolution of the governing board of each discharger and will be transmitted to the Federal Energy Regulatory Commission no later than the final deadline for comments on the draft Environmental Impact Statement for the Post Falls and Spokane River re-licensing projects. Copies will also be transmitted to the Department of Ecology to be made a part of the § 401 Certification record for the Avista relicensing process.

Strategy/Actions: Water Conservation & Stream flow Benefits

1. Each discharger (City of Spokane, Liberty Lake W&S, Post Falls, City of Coeur d'Alene) that also provides potable water to its customers will establish water conservation goals sufficient to ensure that growth in water demand projected for the next 20 years will require no additional pumping from the Spokane Aquifer and will instead be supplied under existing pumping quantities. See Water Conservation Chapter.
2. Each discharger that is not a public water supplier will assess its water use and establish reasonable and effective water conservation goals for its operations. Each discharger will determine whether development of a trust water right is feasible and if so, commit saved water to the Spokane River SRP.
3. Each discharger that accepts sewage from municipalities that are served by other public water suppliers will establish guidelines for water conservation goal setting and implementation, and require compliance with such guidelines as a condition for provision of sewage treatment services.
4. Spokane County will establish water conservation requirements for all public water suppliers and municipalities that are provided sewage treatment services from the new regional wastewater treatment plant. The County will require compliance with such requirements as a condition for provision of sewage treatment services.

Strategy/Action: Interstate Water Issues

1. Ecology will convene, and the dischargers will support, a bi-state meeting to discuss development of an interstate compact for allocation of the ground and surface waters of the Spokane watershed.

APPROACH G. Enforcement of Existing Laws/Ordinances

Actions:

1. Ecology and each municipal discharger will review existing pollution control authorities, including Shorelines Management Plans, Critical Area Ordinances, comprehensive plans, and other land use regulations, and dedicate needed resources to aggressively enforce such measures to address new and current sources of water quality degradation.
2. The County will include additional measures in their current Shorelines Management Plan amendments to address activities that lead to phosphorus inputs into the river, including conservation tillage, streamside fencing, and riparian buffer/ revegetation requirements.

APPROACH H. Hydropower Impacts

Actions:

1. Avista and Ecology will ensure that requirements of the § 401 certification and FERC license are implemented in a manner consistent with the goals of the Spokane River TMDL and MOA. Accordingly, Avista will coordinate with the dischargers and Ecology in the implementation of all license measures impacting Spokane River dissolved oxygen levels.
2. Avista, Ecology, and the dischargers, with participation of the Spokane Tribe, will assess short-term measures to ensure that discharges from Long Lake meet the Spokane Tribe's water quality standards.
3. Avista will study the long-term impacts of the continued "fill-in" of Long Lake Reservoir toward achievement of water quality standards and develop appropriate mitigation measures to reduce and/or eliminate such impacts, including operational measures and/or enhanced commitment to tributary non-point reduction measures.
4. Avista, Ecology, and the dischargers will study options to address in-reservoir dissolved oxygen levels, including the feasibility of in-reservoir aeration/oxygenation, operational measures, and other in-reservoir restorative technologies. Such measures should be utilized if monitoring data indicates that other approaches are not effective in meeting water quality standards.
5. Avista will support the adoption of the recommended minimum instream flow and will take appropriate action to amend or otherwise notify the Federal Energy Regulatory Commission of its support.