

1. **The Order directs EPA to include a variety of specific benchmarks -- for example, tasks and deadlines -- in the Response, including each of the tasks listed below.**

For each task, EPA requests Ecology's assistance with identification of a deadline, keeping in mind that (1) EPA envisions structuring the schedule that EPA submits to the court such that pursuit and completion of a TMDL could be triggered if benchmarks are not met, and (2) that the overall schedule must reflect a good faith effort to move expeditiously under the circumstances.

- **SRRTF completion of the "Comprehensive Plan" that identifies sources, and includes a source reduction strategy that addresses goals outlined in EPA's schedule (e.g. meeting in-stream water quality standard by 20XX). Note that Task Force meeting notes include a contractor report projecting completion of the contractor's source identification report by December 2016.**

The Washington NPDES permits establish the development of a Comprehensive Plan as a goal of the Task Force. The plan's purpose is to *identify actions* required to bring the Spokane River into water quality compliance for PCBs and meet water quality standards in the Spokane River.

The Task Force Memorandum of Agreement specifies a process that involves studying, developing and implementing an adaptive management plan. Specifically the Task Force will:

- Use consensus-based decision making to guide the efforts;
- Prepare a first workplan and projected five year conceptual work plan that clearly demonstrates a relationship to development of a Comprehensive Plan;
- Develop and review all documents related to a Comprehensive Plan;
- Submit a work plan with specific activities for the upcoming year on an annual basis.

The first workplan and projected five-year workplan contains 6 elements; all elements to be completed by 12/31/2016 (see link in footnote)<sup>1</sup>:

- Element 1: Technical Work (review existing data, identify data gaps, sample and test during the dry and wet season to address data gaps, identify a modeling tool, analyze and quantify PCB data sources, assess of Best Management Practices and develop of the Comprehensive Plan.
- Element 2: Develop Monitoring Plan.
- Element 3: Develop publicly accessible information clearing house.
- Element 4: Review Toxic Management Plans, Source Management Plans, and BMPs.
- Element 5: Develop strategy for reduction of point sources and non-point sources of PCBs.
- Element 6: Develop strategy and measures for public education.

The Task Force has remained on schedule since beginning its work in 2012, with the exception of the wet season sampling. To date, the Task Force has completed the following activities: review existing data, identify data gaps, sample and test during the dry season, and identify a modeling tool. The delay of wet season sampling occurred as a result of drought conditions.

We know that during wet weather the flow of water in the river increases, dropping PCB concentrations to below measurable levels<sup>2</sup>. The minimum measurable concentration of PCB in the river is 30 ppq, due to

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<sup>1</sup> <http://srtrtf.org/wp-content/uploads/2012/10/SRRTTF-Work-Plan-Milestone-Schedule-10-24-20121.pdf>

<sup>2</sup> [http://srtrtf.org/wp-content/uploads/2014/07/SRRTTF\\_Confidence\\_Testing\\_Results\\_2014\\_Jul16-2.pdf](http://srtrtf.org/wp-content/uploads/2014/07/SRRTTF_Confidence_Testing_Results_2014_Jul16-2.pdf)

variability in the measurement system. Dry season sampling in 2014 revealed three areas in the watershed needing additional study<sup>3,4</sup>:

- Barker Road to Trent Avenue Bridge;
- Green Street Bridge to Downtown Spokane; and
- Latah Creek during wet weather flows.

These areas represent newly identified data gaps. The Task Force needs more information to analyze, identify, and quantify PCB sources in these areas and then develop relevant BMPs.

The Task Force is on track to meet its original target date of December 2016 for completion of the Comprehensive Plan, but the Task Force needs more data to identify and quantify unknown sources. In addition, the process of addressing data gaps often brings new questions that require further information. Consequently, the Comprehensive Plan will need to be flexible and incorporate Adaptive Management principles to improve the understanding of PCB sources and expedite PCB reduction actions in the Spokane River.

- **Public notice of draft NPDES permits for Inland Empire, Kaiser, Spokane County WWTP, Liberty Lake WWTP, City of Spokane WWTP.**
  - IEP: 8/31/2016; 8/31/2021; 8/31/2026
  - Kaiser: 4/30/2016; 4/30/2021; 4/30/2026
  - City of Spokane: 3/15/2016; 3/15/2021; 3/15/2026
  - Liberty Lake: 3/15/2016; 3/15/2021; 3/15/2026
  - Spokane County: 8/15/2016; 8/15/2021; 8/15/2026
- **Public notice of the NPDES permit for Eastern Washington MS4 General Permit for stormwater (possibly with an order that contains specific requirements for the Spokane area).**

Ecology issued the Eastern Washington MS4 General Permit issued August 1, 2014. Ecology expects to provide public notice for the next permit by January 31, 2019.

Ecology does not believe specific requirements for the Spokane area are appropriate since a TMDL has not been established. If EPA believes specific requirements are appropriate, we need to understand what those requirements would be.

Both Ecology and Task Force members have made substantial investments in stormwater control. From 2010 – 2014 the Ecology contribution totals \$62,068,412 and the Task Force members contributions total \$10,444,400. See Attachment A.

- **Public notice of the NPDES general permit for fish hatchery discharges**
  - WAG137007 Spokane Hatchery: September 30, 2015<sup>5</sup>

<sup>3</sup> <http://srrttf.org/wp-content/uploads/2014/11/Workshop-Planning-Documents-Mass-Balance-and-Statistics-Session-Final-112414.docx>

<sup>4</sup> [http://srrttf.org/wp-content/uploads/2015/01/SRRTTF\\_MassBalance\\_Dilks\\_2015\\_02\\_04.pdf](http://srrttf.org/wp-content/uploads/2015/01/SRRTTF_MassBalance_Dilks_2015_02_04.pdf)

<sup>5</sup> From the Ecology website: Upland Fin-Fish Hatching and Rearing General NPDES Permit-  
[http://www.ecy.wa.gov/Programs/wq/permits/fin\\_fish/index.html](http://www.ecy.wa.gov/Programs/wq/permits/fin_fish/index.html)

EPA permitted facilities discharging to Spokane River (2008 General Permit) (public notice date unknown):

- WA0025280 Spokane Tribal Hatchery on Chamokane Creek
- WA0045004 Ford Hatchery on Chamokane Creek

- **Projected date for attainment of the existing numeric water column criterion for total PCBs (170 pg/L) on an average basis in each of the 303(d)-listed segments of the Spokane River.**

The projected date is 12/31/2026 following installation and optimization of the tertiary level treatment on the NPDES dischargers in Washington.

Confidence interval testing conducted in March 2014 indicates that during high flow conditions, the PCB concentrations are too low to measure. 30 ppq represents the estimated lowest concentration of PCBs that can be measured and discriminated from environmental noise.

The Task Force evaluated low flow conditions, which represent the highest expected concentrations of PCBs in the water, as part of a Synoptic Sampling event during the summer of 2014.

The data shows that the river is close to meeting the numeric standards during low flow. With the exception of the Post Falls location, the composite samples are below the Washington State Water Quality standard of 170 ppq for PCBs. The chart also contains a number of outliers that require more explanation (i.e., Hangman Creek sample on 8/20 is high, possibly due to stormwater; Post Falls composite sample has a value higher than the average of the single samples). The outliers (Hangman Creek and Post Falls composite) illustrate the technical difficulties of sampling for ultra low concentrations of PCBs in the water.

	8/12	8/14	8/16	8/18	8/20	8/22	8/24	Composite	Summary of PCB Concentrations in the River from
Nine Mile	156.5/197.4	192.8	178.6	171.5	227.9	97.4	83.9	135.8	
Hangman Ck.	64.1	66.2	67.1/73.2	52.5	2443.9	264.6	35.4	95.4	
Spokane Gage	162.8	162.7/144.0	302.8	203.0	158.2	399.0	86.1	137.2	
Greene St.	164.3	207.3	109.7	124.4/106.4	181.1	73.8	58.5	123.5	
Trent Ave.	167.5	116.9	151.5	399.0	157.5/171.9	94.6	120.3	110.9	
Barker Rd.	27.6	16.5	8.6	47.0	10.7	1.2/28.0	10.3	29.1	
Post Falls	53.4	9.1	22.1	19.3	16.7	19.2	16.7/9.2	227.3	
Coeur d'Alene	18.6	30.7	10.6	9.1	7.4	6.6	5.1	11.4	

**m 2014 Synoptic Sampling Event (ppq)**

- **Projected date for attainment of fish tissue values using the Washington State “criterion tissue equivalent” levels for PCBs.**

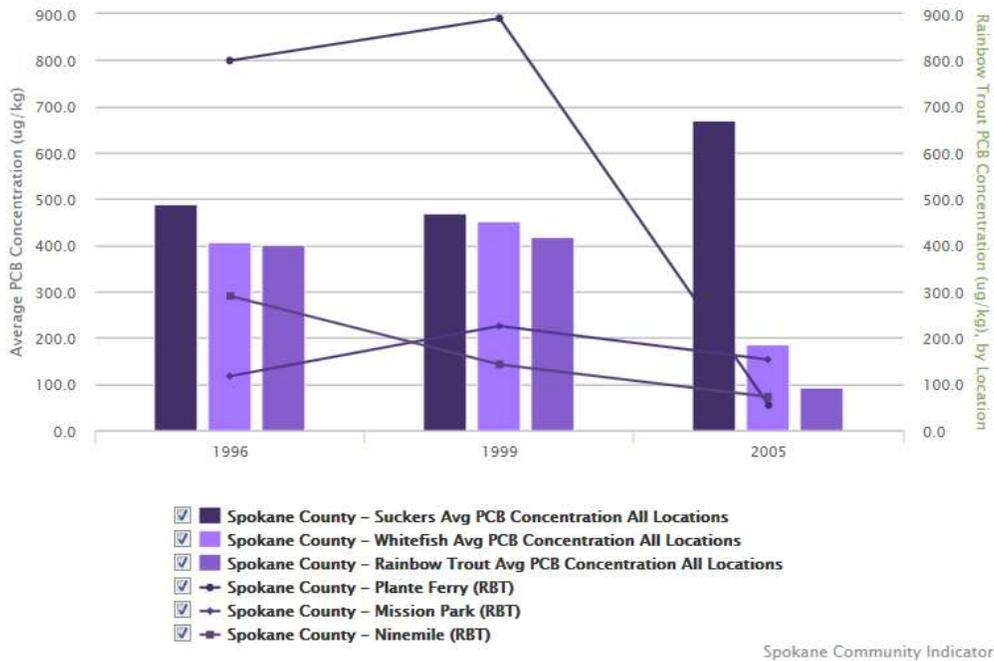
Ecology’s EAP program estimates that it could take “decades” for the river to achieve these standards.<sup>6</sup> Although the river is close to meeting the water quality standard, the complicated relationship between concentrations of PCBs in the Spokane River and fish is not well-understood and has been neither studied nor modeled.

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<sup>6</sup> Washington State Department of Ecology: *Quality Assurance Project Plan, Spokane River PCBs and Other Toxics Long Term Monitoring at the Spokane Tribal Boundary, 2015.*



4.1.10 Average PCB Concentration by Type of Fish and Location



PCB concentrations in Spokane River fish have significantly decreased since 1996.<sup>7</sup> Ecology's implementation of its Toxics Reduction Strategy, which includes removal of legacy sources of PCBs provides one explanation.<sup>8</sup>

Fish tissue monitoring is one part of a broader toxics strategy, and Ecology has committed to monitoring Spokane River fish well into the future.<sup>9</sup> The ecological relationship between PCBs in the water and concentrations in fish is complicated by time and space, along a river that has been segmented into a series of impoundments and

free flowing waters that are intimately connected with an underlying aquifer. The aquifer contributes 556 million gallons a day to the Spokane River and the river loses 464 gallons a day to the aquifer.<sup>10</sup>

• **Compliance schedule deadlines for installation of tertiary treatment at Inland Empire, Kaiser, Spokane County WWTP, Liberty Lake WWTP, and City of Spokane WWTP.**

IEP and Kaiser's existing permits have compliance schedule deadlines for installation of tertiary treatment:

- IEP 11/1/2018.
- Kaiser 1/1/2019.

Spokane County already has installed tertiary treatment, effective 12/01/2011.

- Liberty Lake WWTP 12/31/2020.
- City of Spokane WWTP 12/31/2020.

2. **Are there other benchmarks or forms of benchmark that Ecology recommends for incorporation into a "reasonable schedule" to measure the progress of the SRTTF?**

- City of Spokane CSO elimination: 12/31/2017.
- City of Spokane Membrane Filtration (tertiary treatment): 12/31/2020.

<sup>7</sup> Spokane Community Indicators: Environment. [http://www.communityindicators.ewu.edu/graph.cfm?cat\\_id=4&sub\\_cat\\_id=1&ind\\_id=10](http://www.communityindicators.ewu.edu/graph.cfm?cat_id=4&sub_cat_id=1&ind_id=10)

<sup>8</sup> Spokane River Toxics Reduction Strategy. <https://fortress.wa.gov/ecy/publications/summarypages/1110038.html>

<sup>9</sup> Freshwater Fish Contaminant Monitoring Program : 2012 Results. <https://fortress.wa.gov/ecy/publications/publications/1403020.pdf>

<sup>10</sup> [http://www.spokanecounty.org/data/utilitieswqmp/aquifer\\_atlas/Aquifer%20Atlas%20WEB%20res.pdf](http://www.spokanecounty.org/data/utilitieswqmp/aquifer_atlas/Aquifer%20Atlas%20WEB%20res.pdf)

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- NPDES Annual Toxics Management Report summary of toxics monitoring activities and draft action plan listing identified sources, potential sources suggested by data analysis and future source identification activities.
- City of Spokane Integrated Clean Water Plan

In December 2014, the City finalized its Integrated Clean Water Plan. The plan, based on EPA's, *Integrated Municipal Stormwater and Wastewater Planning Approach Framework (May, 2012)*,<sup>11</sup>

proposes a suite of actions intended to achieve a "cleaner river, faster." The actions include:

- CSO elimination program
- Cochran stormwater project completion
- Critical season membrane filtration
- Non-critical season membrane filtration

Of these actions, only the required actions of CSO elimination program and critical season membrane filtration have been funded. The estimated total capital cost committed to the river by 2020 is \$290,000,000. The estimated PCB removal benefit is just under 5 g/year once the CSO elimination program is complete, and just under 20 g/year, cumulative, once the critical season membrane filtration begins.

The City's lack of identified funding has hampered the implementation of a plan that will achieve a cleaner river faster. Without financial assistance, the City is unable to complete the Cochran Stormwater Project, one of the larger contributors to stormwater volumes. Nor will the river benefit from the additional benefits that non-critical season membrane filtration will achieve. If fully implemented, the Integrated Clean Water Plan will remove almost 30 grams/year of PCBs by 2022.<sup>12</sup> However, state and federal funding will be necessary for the City to fully implement its Clean Water Plan.

The City estimates that the life-cycle cost of PCB removal for the CSO reduction projects is \$23,710,000/gram.

- TSCA Regulatory Reform.

The ability of the Task Force and Ecology to achieve the water quality standard depends heavily on eliminating the inadvertent production of PCBs.

The Toxics Substances Control Act specifies 50 ppm as an allowable maximum concentration for inadvertently produced PCBs. These PCBs find their way into consumer products, where there are essentially unregulated. For water quality comparison purposes, 50 ppm is equivalent to 50,000,000,000 ppq.

Numerous studies reveal that inadvertently PCBs can enter the river through stormwater and sanitary sewer pathways. In 2014 the City of Spokane evaluated nearly 50 products that have the potential to reach stormwater. The study found PCBs in all but two of the samples in the parts per trillion to parts per billion range.

For water quality comparison purposes, one part per billion is 1,000,000 times greater than one part per quadrillion. Ecology is particularly concerned about the City of Spokane's findings for products intended to be used on or near roadways such as road paint (64.88 ppb), de-icer 3.574 ppb), and hydroseed (2,509 ppb).<sup>13</sup>

Spokane County, as part of its permit, is required to conduct track-down studies for PCB. The studies reveal more PCBs from residential than industrial flow. Further evaluation of the PCB congeners in the wastewater influent and effluent provide evidence that inadvertently produced PCBs enter the wastewater treatment plant from domestic sources.

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<sup>11</sup> *Integrated Municipal Stormwater and Wastewater Planning Approach Framework*, May, 2012.  
[http://water.epa.gov/polwaste/npdes/stormwater/upload/integrated\\_planning\\_framework.pdf](http://water.epa.gov/polwaste/npdes/stormwater/upload/integrated_planning_framework.pdf)

<sup>12</sup> City of Spokane, *Integrated Clean Water Plan: Final*, December, 2014.

<sup>13</sup> City of Spokane. *PCBs in Municipal Products*. March, 2015.

**Does Ecology have specific plans to change the individual or general NPDES permits mentioned above to reflect the work products of the Task Force?**

The focus of the Task Force is broader than individual dischargers. The Task Force broadly evaluates opportunities to remove sources of PCBs from the Spokane River watershed. If the Task Force develops work products that are appropriate to include in NPDES permits, Ecology would incorporate the work product into NPDES permits.

**a. How will the remand on the County permit affect Ecology's permit?**

Ecology has appealed this decision and is unable to determine at this time the near-future impact of the remand.

**b. Also, the WDFW (Washington Department of Fish & Wildlife) Spokane Hatchery had its feed sampled for PCBs in 2005; the concentration was 16.4 ng/g, or parts per billion (Table 4, Page 15 of this document: <https://fortress.wa.gov/ecy/publications/publications/0603017.pdf>). Does Ecology agree that this information should inform changes to the Hatchery GP?**

The Fin-fish General Permit is currently on schedule for issuance in February 2016.

Ecology does not agree that the 2005 information is sufficient for informing changes to the 2016 hatchery general permit.

- The data from this study is more than 10 years old and it is premature to assume that current sources of fish food contain the same level of PCBs as in 2005. The Task Force and Ecology have initiated two studies to better understand the impact of the Little Spokane Fish Hatchery operations on the Spokane River. One study (report scheduled to be issued early 2016) evaluates and verifies the status of the 1996 PCB listing on the Little Spokane River, with additional upstream source tracking. A second study focuses on the Little Spokane River Fish Hatchery evaluates more closely the inputs (feed, water, fish, eggs, other) and outputs (water, fish, other) of PCBs at the facility. Ecology plans to begin this study in FY 2015.
- The Food and Drug Administration regulates the content of PCB in fish food. The current standard is 2 ppm.<sup>14</sup> Ecology has no control over, nor does Ecology regulate this product. The FDA regulations contain numerous other allowable concentrations of PCBs that make attaining water quality standards difficult.<sup>15</sup> It would be difficult for Ecology to issue a permit that prohibits the use of FDA approved fish food. EPA should work with FDA to address the high levels of PCBs FDA allows in fish food.

**3. How long would Ecology need to complete a TMDL if a TMDL is initiated, assuming completion and delivery to the SRTTF of the Limno-Tech source identification report? The Order directs EPA to respond with a "definite endpoint"**

<sup>14</sup> 29 Code of Federal Regulations 109.30(6).

<sup>15</sup> (1) 1.5 parts per million in milk (fat basis).  
(2) 1.5 parts per million in manufactured dairy products (fat basis).  
(3) 3 parts per million in poultry (fat basis).  
(4) 0.3 parts per million in eggs.  
(5) 0.2 parts per million in finished animal feed for food-producing animals (except the following finished animal feeds: feed concentrates, feed supplements, and feed premixes).  
(6) 2 parts per million in animal feed components of animal origin, including fishmeal and other by-products of marine origin and in finished animal feed concentrates, supplements, and premixes intended for food producing animals.  
(7) 2 parts per million in fish and shellfish (edible portion). The edible portion of fish excludes head, scales, viscera, and inedible bones.  
(8) 0.2 parts per million in infant and junior foods.  
(9) 10 parts per million in paper food-packaging material intended for or used with human food, finished animal feed and any components intended for animal feeds. The tolerance shall not apply to paper food-packaging material separated from the food therein by a functional barrier which is impermeable to migration of PCB's.

**for completion, and thus we would like Ecology's views on how long it would take to complete a TMDL, assuming the initiation of the TMDL has been triggered.**

If PCB water quality standards are not met by 2026, or if the Task Force fails to make measurable progress towards achieving the PCB water quality standards, based on Ecology's previous experience with the DO TMDL, it would take Ecology approximately 6 years to complete a PCB TMDL. 2 years: data collection

2 years: modeling

2 years: public process

This estimate is based on previous experience with the DO TMDL.

Once a TMDL process initiates, current activities of source reduction and associated resources devoted to those activities will become secondary to the data collection and TMDL load allocation. The incentive to identify and reduce PCB sources, as well as develop Best Management Practices, would be deferred until after the TMDL is complete.

The inability to measure low concentrations of PCBs in wet weather conditions leaves a data gap that only modeling can fill. Past experience with the DO TMDL reveals a high litigation potential when modeling inputs have high levels of uncertainty, as with the Spokane River and associated aquifer.

The Spokane watershed is a complex mixture of governments, sovereigns, business interests, and the public. Reasonable endpoints for completion of a TMDL range of 2030 – 2035. Regardless of the timeframe, Ecology expects that little to no collaboration or source reduction activities would occur during that time.

**5. EPA requests Ecology's assistance to understand and explain the most significant BMPs that have been implemented since the Task Force began its work; and the impact of that work (for example, reduction in lbs of total PCBs over some time period), if determinable. EPA plans to invite the Task Force to provide that information as well, and EPA will share the Task Force's response with Ecology, if and when EPA receives it. We will be interested in Ecology's views on the Task Force's response.**

- State purchasing law, and local ordinances: The State of Washington, City of Spokane and Spokane County has passed "PCB-free" purchasing laws. These laws effectively prohibit the purchase of products containing PCBs, unless there are no other alternatives. The most significant impact of the state law is that it provides for the collection of more data regarding the prevalence and characteristics of PCBs in products purchased (directly or indirectly) by the state.
- City of Spokane CSO removals: The City of Spokane estimates that by 2017, the 3 grams PCB/year input from CSO stormwater overflows will be removed from the river.<sup>16</sup>
- City of Spokane removal of PCB contaminated sediments from storm drains
- City of Spokane Low Impact Development projects

Avista transformer removal: 9,600 transformers removed overall. Since 2011, we calculate that this effort has taken approximately 18 pounds of PCBs out of the distribution system in the Spokane River Watershed. (In addition, a bit over 10 pounds from the rest of the Avista distribution system.)<sup>17</sup>

- Kaiser clean up actions : 14.4 lbs of PCB removed since 2008 (9.7 for removal actions between 2009-2012).<sup>18</sup>

**Hydroseed Case Study**

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<sup>16</sup> City of Spokane, *Integrated Clean Water Plan: Final*, December, 2014.

<sup>17</sup> Email communication between Bruce Howard, Avista and Jim Bellatty, Ecology on 5/5/2015.

<sup>18</sup> Email communication between Bud Leber, Kaiser and Adriane Borgias, Ecology on 4/28/2015.

What is more significant than actual BMPs and grams removed is the Task Force's quick response to a potential source of PCBs. The following case study illustrates the benefit of the collaborative community problem solving that the Task Force uses.

In 2013, the **City of Spokane** received a grant from the **Department of Ecology** to analyze commonly used products for PCB. One hydroseed product was found to contain 2,509 ppb PCBs. This is a concern because hydroseed's prevalence and use to manage stormwater erosion. **Inland Empire Paper** proposed to work with the **manufacturers** to further understand the source of the PCB and develop a BMP for this product. **Washington's Departments of Ecology, Transportation and Enterprise Services** are working together to implement the state PCB-free law with this product. Sampling and testing of additional hydroseed products are currently underway. The results will inform the state purchasing process. Department of Transportation intends to use the results to define the construction specifications for hydroseed. Other local and state agencies adopt DOT's specifications, so **the benefits of the Task Force's work stretch beyond the Spokane River.**

## **Attachment A**

### **Stormwater Permit Holder Activities**

Stormwater is a significant contributor to the PCB loading in the Spokane River.<sup>19</sup> Prior to the 2010 to 2014 timeframe, local and state governments reduced the amount of stormwater entering the river. In 2008, Spokane County and the cities of Spokane and Spokane Valley published a regional stormwater manual that established stormwater design and management standards to protect water quality, natural drainage systems and down-gradient properties as urban development occurs. Also in 2008, Spokane County built two stormwater facilities (Browne Mountain, and Price and Wall) designed to capture, filter, and infiltrate stormwater.

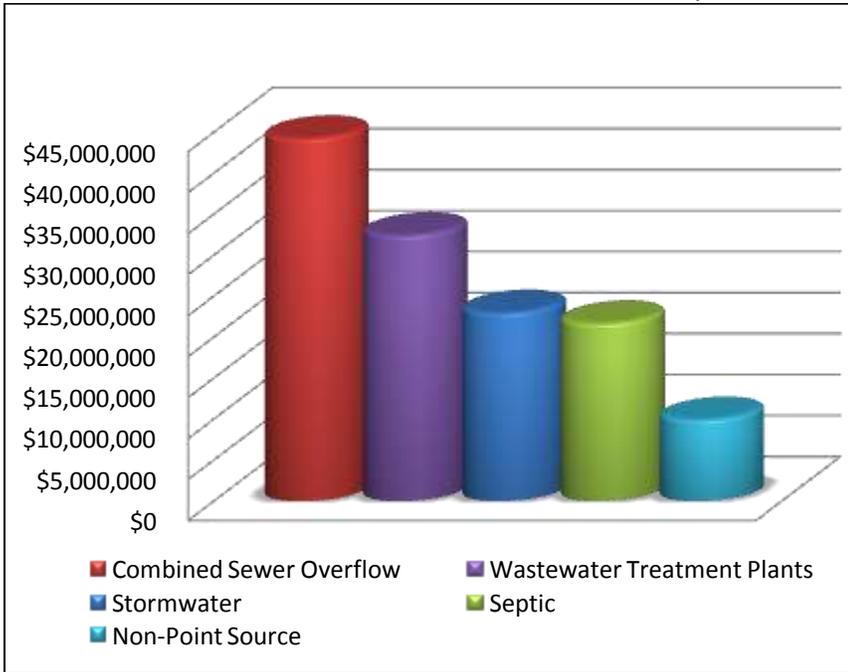
The Washington State Department of Ecology (Ecology) and the permittees have spent a significant amount of money towards stormwater and wastewater management--and the amount will greatly increase within the next several years. Understanding the amount of money various groups spend on activities indicates the dedication, or level of effort toward reducing PCB inputs and improving water quality.

Between 2010 and 2014, Ecology provided more than 126 million dollars toward water quality improvement in the entire Spokane basin (the Spokane River, Hangman Creek watershed, Little Spokane River watershed, and Lake Spokane). Ecology's funding includes grants, loans, and forgivable principle among five general categories to improve water quality (Figure 1):

- Reducing combined sewer overflows
- Upgrading wastewater treatment plants
- Treating and reducing stormwater
- Replacing or removing septic systems
- Installing nonpoint source best management practices

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<sup>19</sup> <https://fortress.wa.gov/ecy/publications/summarypages/1103013.html>



**Figure 1. Ecology funding in the Spokane watershed by project category.**

Table 1 provides a list of Ecology-funded stormwater related projects, which represents more than half of the direct state investment in water quality improvement:

Type	Recipient Name	Loan/Grant Agreement Title	Grants*	Loan**	Total	Category Totals
Combined Sewer Overflow	Spokane, City of	CSO 34-1 Project		\$3,478,000	\$3,478,000	8 projects \$44,244,957
	Spokane, City of	CSO 41 Control Facility		\$4,968,000	\$4,968,000	
	Spokane, City of	CSO Basin 10 Abatement Project		\$957,519	\$957,519	
	Spokane, City of	CSO Basin 20		\$4,521,400	\$4,521,400	
	Spokane, City of	CSO Basin 26 Control Facility		\$1,195,000	\$1,195,000	
	Spokane, City of	CSO Basin 33-2 Control Facility		\$4,270,800	\$4,270,800	
	Spokane, City of	CSO Basin 34-2 and 34-3 Control Facilities		\$20,719,000	\$20,719,000	
	Spokane, City of	CSO Basins 38-39-40 Control Facilities		\$4,135,238	\$4,135,238	
Stormwater	Spokane, City of	Cannon Hill Pond Retrofit		\$277,000	\$277,000	
	Spokane, City of	Hazel's Creek Downstream Conveyance LID Demonstration Project	\$183,710	\$1,428,960	\$1,612,670	
	Spokane, City of	River Runoff Reduction Phases 1 and 2		\$1,372,800	\$1,372,800	
	Spokane, City of	Summit Low-Impact Urban Retrofit Project		\$1,848,985	\$1,848,985	

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Type	Recipient Name	Loan/Grant Agreement Title	Grants*	Loan**	Total	Category Totals
	Spokane, City of	Summit-Nettleton (formerly Bridge Avenue) LID project	\$342,000		\$342,000	18 projects \$17,823,455
	Spokane, City of	Wet Weather Integrated Strategic Planning		\$5,220,000	\$5,220,000	
	Spokane, City of	Cochran Basin River Runoff Reduction & stormwater conveyance	\$2,000,000	\$5,100,000	\$7,100,000	
	Spokane, City of	Phase II Stormwater Pass-through Grant Program	\$50,000		\$50,000	
<b>Total:</b>					<b>\$62,068,412</b>	
* Includes grants and loans with forgivable principle but amounts do not include recipient's required match						
** Loans are repaid by recipients						

**Table 1. Ecology stormwater funding in the Spokane watershed FY 2010-2014.**

Ecology supplies only some of the money used to improve water quality in the basin. For example, grant amounts shown in Table 1 do not include the recipient's required 25 percent match. Many other entities also contribute towards water quality improvement such as, businesses (which do not qualify for Ecology funding), the Washington State Conservation Commission, landowners and ratepayers, Washington State Department of Commerce, the State of Idaho, etc. In addition, loan recipients must pay back the loan.

Table 2 provides a list of non-Ecology water quality improvement funding. Not accounted for in Table 2 are in-kind contributions, such as the volunteer by businesses, agencies, and citizens working towards achieving water quality standards. This participation is at the heart of the collaborative effort, which leverages funding across the watershed for maximum benefit.

Type	Entity	Activity or Project Name	Expenses 2010-2014	Funding Source	2010 - 2014 Category Totals
Combined Sewer Overflow	City of Spokane	CSO Basins 38-39-40 Control Facilities	\$2,000,000 \$1,836,500	PWTF Utility Rates	\$ 6,466,800
	City of Spokane	CSO Basin 10 Control Facility	\$653,200	Utility Rates	
	City of Spokane	CSO Basin 34-2 and 34-3 Control Facilities	\$627,300	Utility Rates	
	City of Spokane	CSO Weir Modifications	\$1,349,800	Utility Rates	
Stormwater	City of Spokane	Lincoln SURGE	\$1,131,500	Utility Rates	\$3,977,600
	City of Spokane	Broadway SURGE	\$362,200	Utility Rates	
	City of Spokane	14 <sup>th</sup> and Lindeke Stormwater Improvements	\$236,200	Utility Rates	
	City of Spokane	16 <sup>th</sup> Ave from Chestnut to Inland Empire Way	\$147,200	Utility Rates	
	City of Spokane	SVI Stormwater Improvements	\$61,200	Utility Rates	
	City of Spokane	Kendall Yards Stormwater Tank	\$128,600	Utility Rates	
	City of Spokane	Summit-Nettleton (formerly Bridge Avenue) LID project	\$197,200	Utility Rates	
	City of Spokane	Hazel's Creek LID Demonstration Project and	\$693,600	Utility Rates	

Type	Entity	Activity or Project Name	Expenses 2010-2014	Funding Source	2010 - 2014 Category Totals
		Third Detention Pond			
	City of Spokane	Street Tree Inventory	\$250,000	Utility Rates	
	City of Spokane	Vactor Waste Decant Facility	\$769,900	Utility Rates	

**Table 2. Non-Ecology stormwater funding spent by category.**

Ecology regulates the Washington State Department of Transportation (WSDOT), City of Spokane, City of Spokane Valley, and Spokane County under its municipal stormwater permit program.

**WSDOT** has its own NPDES Municipal Stormwater Permit, which became effective on April 5, 2014 and expires in 2019. WSDOT has already inventoried discharges within their right-of-way inside the NPDES Phase II coverage area, which is essentially Interstate 90. The work included looking for illicit discharges to the system and identifying potential nutrient sources. No illicit discharges were identified. WSDOT will be surveying newly reconstructed sections of highway within the Phase II area for any new discharge points.

The City of Spokane, City of Spokane Valley, and Spokane County have coverage under the Eastern Washington Phase II Municipal Stormwater Permit. The most recent permit became effective on August 1, 2014 and contains actions to address stormwater nutrient pollution in response to the dissolved oxygen TMDL. The permit expires in 2019 at which time Ecology will reissue the permits.

The City of Spokane is working to reduce its discharges to the Spokane River and Hangman Creek, and the City of Spokane Valley and Spokane County are working to eliminate their stormwater discharges. For example, Spokane County completed their Liberty Lake Outfall Elimination Project in 2014. These actions represent reductions in PCBs entering the river through stormwater.

The **City of Spokane** used EPA’s Integrated Planning Framework<sup>20</sup> to develop its *Integrated Clean Water Plan*. The plan comprehensively addresses CSOs, stormwater, and wastewater treatment plant upgrades in order to achieve Spokane’s primary goal of “a cleaner river faster.”<sup>21</sup> The plan prioritizes projects that have a positive environmental impact to the river, using cost-effective and innovative approaches, and holistic integration with other infrastructure projects<sup>22</sup>.

The *Integrated Clean Water Plan* proposes major stormwater management facilities for the Cochran Basin. Management of stormwater from Cochran Basin will reduce PCB inputs to the river from about half of the City’s stormwater. (see more information below). The City has also holistically integrates stormwater management into its infrastructure upgrades. The City prioritizes stormwater reductions to the MS4 or CSO systems whenever a street construction project is designed-- thus reducing PCBs discharged to the river. A few examples can be seen along Lincoln Street between 29<sup>th</sup> and 8<sup>th</sup> Avenue, High Drive, Broadway Avenue, Kendall Yards Olmstead Green, and Crestline. The city plans to test the effectiveness of porous pavements in several projects on City streets and in parking lots as well as traditional swales and storm gardens in numerous projects.

The City of Spokane’s NPDES permit also includes conditions for their *combined sewer overflows* (CSOs). A CSO occurs when a combination of storm water and sewage exceed the capacity of the sewer system and flows into the Spokane River. The CSO Elimination Program reduces inputs of PCBs to the river through that pathway.

<sup>20</sup> [http://water.epa.gov/polwaste/npdes/stormwater/upload/integrated\\_planning\\_framework.pdf](http://water.epa.gov/polwaste/npdes/stormwater/upload/integrated_planning_framework.pdf)

<sup>21</sup> City of Spokane, *Integrated Clean Water Plan: Final*, December, 2014.

<sup>22</sup> More information and a copy of the plan can be found at <https://my.spokanecity.org/publicworks/wastewater/integrated-plan/>

The City and Ecology agreed on a plan to reduce the frequency of CSOs<sup>23</sup>. The agreement allows for one overflow per outfall per year on a 20-year moving average for each of their 22 CSO outfalls. *The City must meet this performance standard by December 31, 2017.* Through mid-2014, the City installed eight CSO control facilities, modified seven weirs, and removed four outfalls.<sup>24</sup> The City has real-time information on the CSOs and monthly and annual reports online at the website above.

The **City of Spokane Valley** finalized their 2014-2019 Stormwater Capital Improvement Plan in May 2013. The plan provides a framework for designing and constructing projects to reduce stormwater based on identified needs, problem areas, or permit requirements. The City of Spokane Valley anticipates spending \$12,970,000 by 2019 on stormwater projects.<sup>25</sup>

In 2014 **Spokane County** set in motion a plan to replace approximately a mile of concrete stormwater channel on Country Homes Boulevard. What was once concrete is now an elaborate system of bio-infiltration swales, rain gardens, and a subsurface pipe that treats the stormwater and reduces pollutants. Spokane County is also in the midst of constructing a decant facility that will treat waste from street sweepers and vector trucks used to clean out storm drains. The County's decant facility will be similar to the City of Spokane's completed decant facility. These facilities help improve water quality by properly treating and disposing material, nutrients, and other pollutants that would otherwise be flushed into the storm drain system and into the river.<sup>26</sup>

Although not required by a permit, the **Liberty Lake Sewer and Water District** (LLSWD) takes an active role in reducing pollutants from stormwater. Under RCW 57.08.005(10), the LLSWD has the authority to provide for the reduction, minimization, or elimination of pollutants, including those contained in stormwater. The LLSWD conducted a stormwater management study in 1985 and later developed a Stormwater Management Plan in 1998. The LLSWD has established stormwater control and treatment requirements for development on private and public lands within the district boundaries that owners of those properties shall comply with during planning and construction on their property. In accordance with the LLSWD's Stormwater Resolution 26-13, a Stormwater Permit application form shall be completed by the owner and shall be accompanied by an engineered Stormwater Management Plan as well as an Erosion and Sediment Control Plan.

In 2013 Ecology published the *Eastern Washington Low Impact Development Guidance Manual*. The manual was a collaborative product of Spokane County, Ecology, the Washington Stormwater Center, Washington State University, and the Eastern Washington Phase II Municipal Stormwater Permittees. The purpose of the manual is to provide stormwater managers, site designers, and design reviewers with a common understanding of low impact development (LID) goals, objectives, design of individual practices, and flow reduction and water quality treatment that are applicable to eastern Washington.

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<sup>23</sup> See the City's 2013 Combined Sewer Overflow (CSO) Plan Amendment for more information:  
<https://my.spokanecity.org/publicworks/wastewater/cso/>.

<sup>24</sup> Hendron, L. 2014. Spokane River Dissolved Oxygen TMDL Implementation Advisory Committee Annual Meeting Point Source Reduction Update. City of Spokane. Presentation for the Spokane River Dissolved Oxygen TMDL Annual Meeting. April 15, 2014. <http://www.spokaneriver.net/wp-content/uploads/2014/03/Lars2.DO-TMDL-Annual-Meeting-Spokane-Update-Lars-15-Apr-2014.pdf>

<sup>25</sup> To view the plan, visit: [http://www.spokanevalley.org/filestorage/124/243/956/489/2014-2019\\_Stormwater\\_Capital\\_Improvement\\_Plan\\_\(Summary\\_Report\).pdf](http://www.spokanevalley.org/filestorage/124/243/956/489/2014-2019_Stormwater_Capital_Improvement_Plan_(Summary_Report).pdf).

<sup>26</sup> More about Spokane County's stormwater reduction efforts can be viewed at:  
<http://www.spokanecounty.org/stormwater/content.aspx?c=2451>.