MEMORANDUM

Project No.: 140129

June 22, 2015

To: Mike Hermanson – Spokane County Utilities

cc: Rob Lindsay – Spokane County Utilities

From: Carl Einberger, LHG, Aspect Consulting, LLC
Dan Haller, PE, Aspect Consulting, LLC

Re: **Summary of Policy Advisory Group Meeting #4 (6/17/15)**
Little Spokane Water Banking Feasibility Study

Background

Spokane County (the County), in conjunction with Stevens and Pend Oreille Counties, is evaluating the use of a water bank to address existing and potential regulatory constraints on existing and new water use, in Water Resource Inventory Area (WRIA) 55, the Little Spokane Watershed. Considerable uncertainty exists regarding the future legal, regulatory, and policy environment that regulation of water resources in WRIA 55 will be subject to. In response to this uncertainty, the County is pursuing a water banking feasibility study to explore options for providing more certainty to existing and new water uses in the basin.

As part of this process, the County has convened a Policy Advisory Group (PAG) to allow interagency and stakeholder coordination and evaluation of alternatives for water banking in the watershed. Aspect Consulting LLC (Aspect) has been engaged by the County to provide consulting services for the Little Spokane Water Banking Feasibility Study. Aspect has been coordinating and moderating PAG meetings for the County.

Prior to the PAG meeting, two documents were submitted to the PAG for review and consideration:

- Draft Little Spokane Water Bank Feasibility Study (June 9, 2015)
- Draft Memorandum, Appraisal Study – Pend Oreille Interbasin Transfer for Little Spokane Water Bank Seeding (June 16, 2015)

Both of these documents will be completed as final prior to July 1, 2015.

Overview of Meeting Agenda

The fourth PAG meeting for this Feasibility Study occurred on April 29, 2015, at the Riverside Fire Station (Spokane Fire District 4). The following agenda was covered in the meeting:

- Updates to Water Rights Evaluation
- Water Market Economic Analysis
- Summary of Pend Oreille Appraisal Study

- Water Right Application Status
- Review of PAG Preferences for Operational and Management Approaches
- Structural 0ptions for Water Banking and Tri-County Cooperative Approach
- Final Feasibility Study Completion

Aspect also prepared a PowerPoint presentation to guide the meeting discussion (attached).

PAG Attendees

A list of PAG members present at PAG Meeting #2 follows:

Mike Hermanson – Spokane County Utilities
Rob Lindsay – Spokane County Utilities
Todd Mielke, Spokane County
Karen Skoog, Pend Oreille County
Wes McCart, Stevens County
Erik Johansen, Stevens County Land Services
Keith Stoffel, Department of Ecology
Rusty Post, Department of Ecology
Ty Wick, Spokane County Water District #3
Susan McGeorge, Whitworth Water District
Ken Merrill, Kalispel Tribe Natural Resources Department
Gene St. Godard

Dan Haller and Carl Einberger of Aspect attended in their roles as the County's consultants on this project. Dan served as the moderator of the meeting, and Dan and Carl led portions of the meeting discussion.

Meeting Summary

Key topics addressed in the discussion are summarized below, and additional information can be found in the attached presentation:

- An update on the review of water rights in WRIA 55 that may be suitable for water bank seeding was presented. Three categories were used for ranking based on a screening-level of the review of the water rights:
    - High priority for further review
    - Medium priority for further review
    - Low priority for further review

  A total of approximately 10,000 acre-feet/year in water rights met the high priority category within WRIA 55, and additional details on subbasin totals were also discussed and are presented in the Feasibility Study.

- The water market economic evaluation was discussed. Data to support the analysis included pricing of water under emerging demands and examples of other transactions across the state. Three scenarios were reviewed:
    - Low Cost/Low Participation (public cost recovery based, voluntary program, no regulatory mitigation requirement, other than for existing interruptible rights)
    - Moderate Cost/High Participation (public cost recovery based, regulatory mitigation required for exempt wells and other new water rights)
    - High Cost/High Participation (for profit, regulatory mitigation required for exempt wells and other new water rights)
- The Pend Oreille Appraisal Study was discussed, including potential source and discharge options. Source options considered include groundwater or surface water, and discharge options include discharge at a wetland in the upper headwaters or discharge approximately 2.5 miles downstream. Background information on hydrogeological and hydrological considerations was presented, and project cost estimates were reviewed.
- Water right applications for a Pend Oreille watershed source were discussed. It is anticipated that two applications would be submitted: a groundwater application for 9,000 gallons per minute instantaneous withdrawal, and a surface water application for 20 cubic feet per second instantaneous diversion.
- Bank management and collaboration approaches to support cooperative approaches among Spokane, Stevens, and Pend Oreille Counties were discussed, including interlocal agreements, Watershed Management Partnerships, Boards of Joint Control, and contract law.
- PAG preferences and endorsements for water banking in WRIA 55 were discussed. These included:
    - Move forward with water bank development for WRIA 55.
    - Publically run, Tri-County bank management model preferred.
    - Water bank applicants should work with individual county planning and building departments to obtain mitigation certificates as part of other associated building permits.
    - A central bank accounting system is preferred.
    - Continue investigating use of Pend Oreille watershed (WRIA 62) water from either a groundwater or surface water source in the vicinity of Newport, Washington.
    - A groundwater source is the preferred choice if it is proven to be feasible.
    - Bank seeding from water rights purchases is recognized as a likely component of a WRIA 55 solution.

- Initial implementation should be a voluntary process to provide time to allow this new process to be integrated with functions in each of the counties.

- Consumptive use equivalents for bank management should be used, as this accurately describes instream flow impacts, and reduces cost.

- A water bank should adopt rules preventing speculation.

- The overall preference is for the bank should be managed as to a single point in the mainstem, such as the Dartford gage (i.e. 'one-bucket'); however Ecology has concerns about single point management and potential impacts to tributaries that would need to be addressed, or a more complex management scheme incorporated into the water bank. A better understanding of tributary groundwater/surface water interaction and habitat issues are needed to address this issue.

- County planning and building departments will need to be educated regarding management of the water banking process, and determinations of legal water availability, in addition to filing and recording of mitigation certificates.

- Potential impacts to county workloads and the general fund need to be quantified. A key factor in final bank funding, seeding, and management will be to address and mitigate fiscal liabilities and workload burden on county staff, with one option being an enterprise funding mechanism.

- The PAG is open to the use of Interlocal Agreements, Watershed Management Partnerships, board of joint control approaches, and other cooperative means to coordinate water bank management. An interlocal agreement is likely the first step in further water bank coordination.

- The PAG supported submittal of a Watershed Plan Implementation and Flow Achievement Grant application to seek funding for completion of water bank development. The grant application was submitted to Ecology on April 30, 2015 and is pending review.

- Aspect requested comments on the draft Feasibility Study and Pend Oreille Appraisal Study by June 24 to allow completion of final documents before the end of June grant deadline.

- Open discussion among the PAG was conducted over the course of the meeting. Key discussion points included:

  - Addition of an overall concluding statement should be included in the Feasibility Study regarding the feasibility of water banking in WRIA 55.
  - Prior to seeding a water bank with agricultural water rights, careful consideration of appropriate approaches to this should be further evaluated. For example, fallowed land that may be at risk of water right relinquishment could be prioritized for detailed screening.
  - Pros and cons of metering as part of water bank management (i.e., balancing the need for proper bank accounting with public perception issues).

- The need for additional public outreach to clarify how each of the three counties would benefit from a water bank, and to address concerns from the public regarding the use of a Pend Oreille water source for bank seeding Outreach materials should come from both County and Ecology sources.
- Ecology noted that some residents along the Little Spokane River have the position that they own the river based on a state Supreme Court Case (Griffith vs. Holman). However, the water conveyance authority granted by RCW 90.03.030 also should be considered. Additional investigation of the ramifications of this issue are needed.
- If a groundwater source is used from the Pend Oreille watershed, further understanding of possible groundwater flow between WRIA 59 (Pend Oreille) and WRIA 55 is needed.
- Kalispel reserved water rights should be considered by Ecology if a new water right application is pursued.
- Additional details on Watershed Management Partnerships, particularly those supported by specific legislation, is needed to understand if this is a preferred option for Tri-County cooperation.

- The meeting was adjourned. This is the final PAG meeting scheduled for this phase of the project.

Attachments:

Attachment 1 – PAG Meeting #4 PowerPoint Presentation

S:\Little Spokane Water Bank 140129\PAG\LSWB PAG Meeting 4 summary.docx

WRIA 55, PAG Meeting #4

Little Spokane River Basin Water Bank Feasibility Study

June 17, 2015

Presented by

Aspect CONSULTING

with

Carlstad Consulting

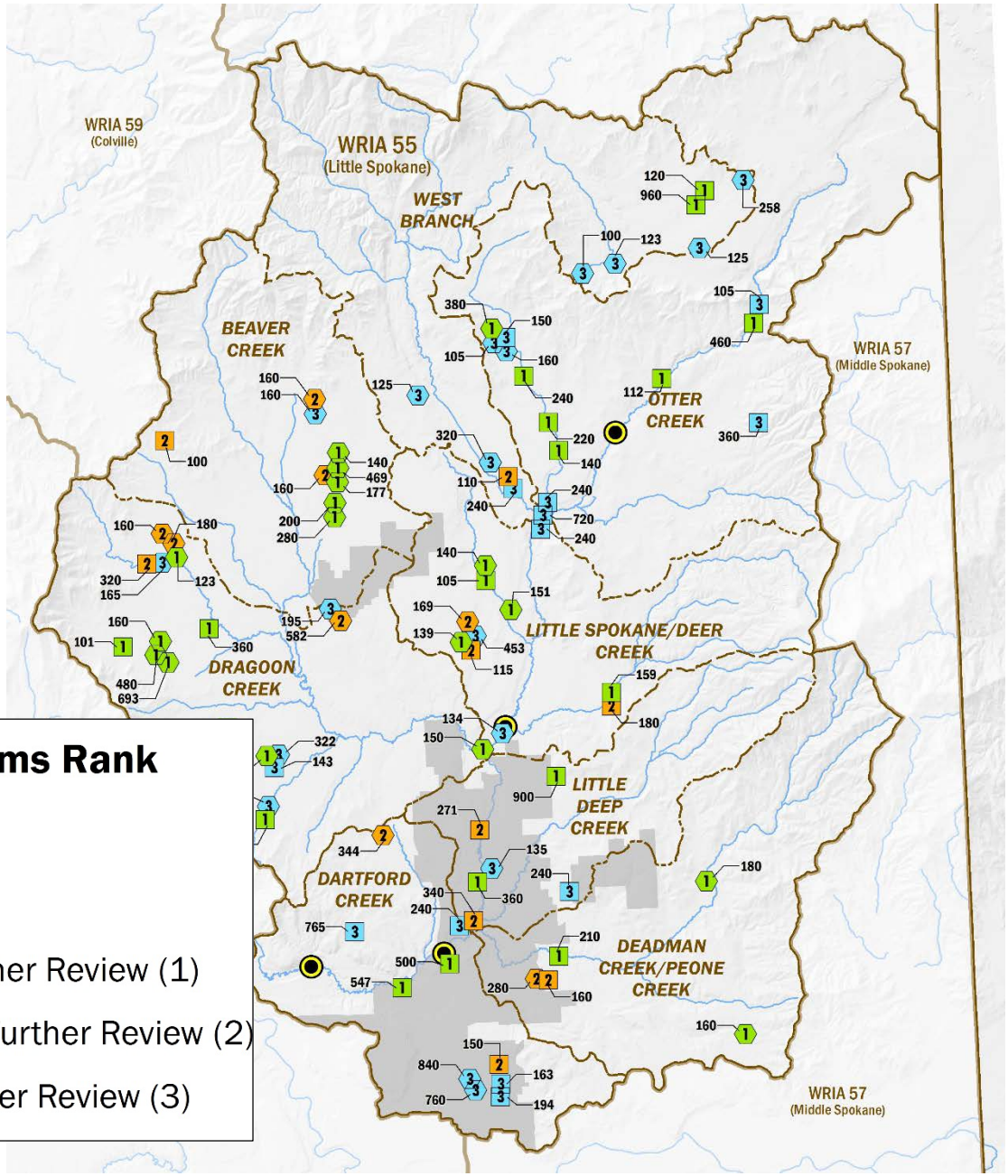
Cascadia Law Group

Washington State University

earth+water

PAG Meeting #4 Agenda

- Updates to Water Rights Evaluation
- Water Market Economic Analysis
- Summary of Pend Oreille Diversion Study
- Water Right Application Status
- Endorsement of PAG preferences for operational and management approaches
- Structural Options for Water Banking and Tri-County Cooperative Approach
- Final Feasibility Study Completion



Water Rights and Claims Rank

Acrefeet per Year

240
1
138

1 Groundwater Right

1 Surface Right

High Priority for Further Review (1)

Medium Priority for Further Review (2)

Low Priority for Further Review (3)

Table 19: Summary and Ranking of Irrigation Rights Evaluated for Bank Seeding

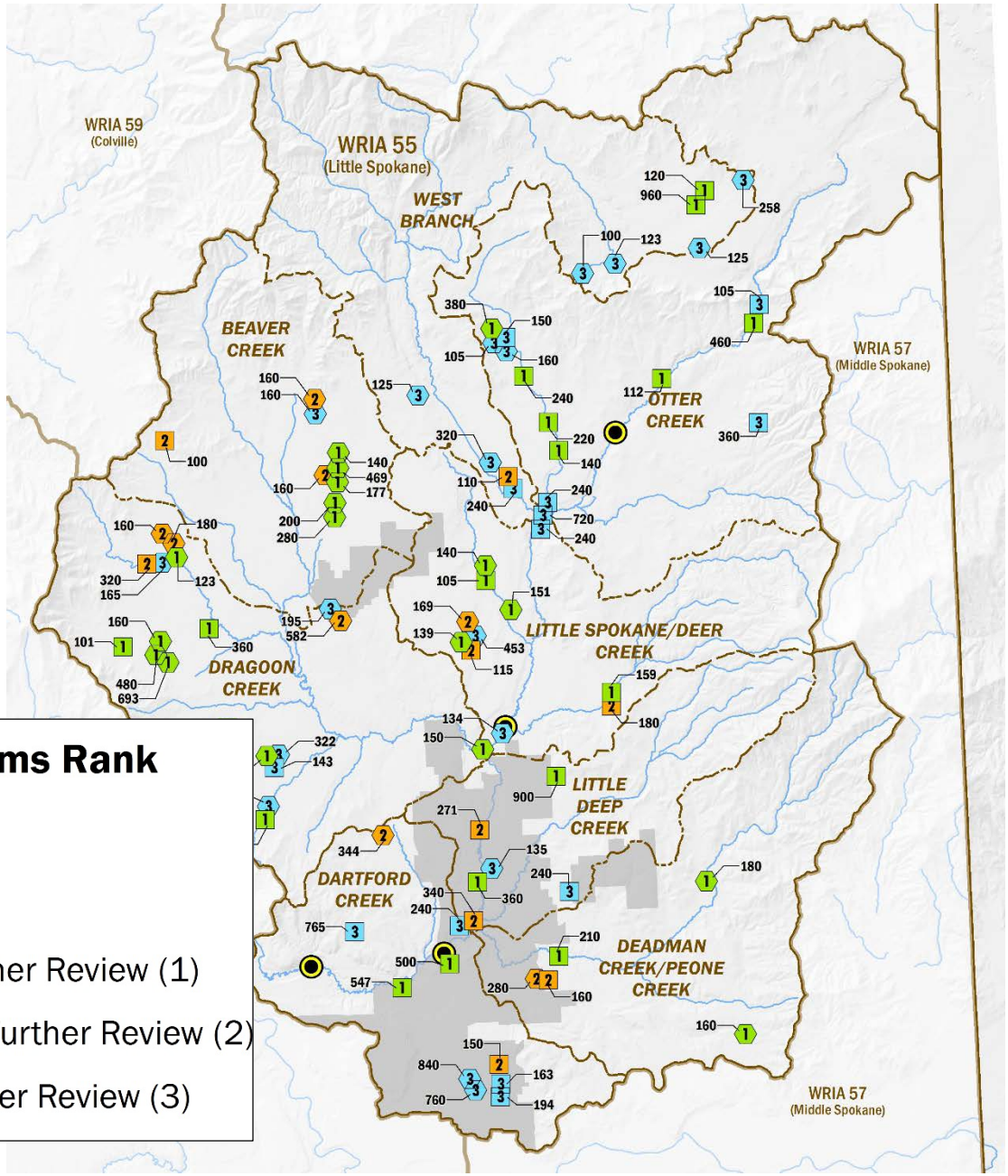
Project 140129 -Little Spokane River Watershed, WRIA 55

Subbasin	Rank	Source	WR_Doc	WR Doc File No.	Priority Date	cfs	gpm	Acres Irrigated	Purpose	Acre-feet/Year Recorded by Ecology	Acre-feet/Year Assuming Water Duty of 3 ft	Acre-feet/Year Used In Summary
Beaver Creek	1	G	2142608	G3-*00759CWRIS	19480305		300.0	50.0	IR	200.0	150	200.0
Beaver Creek	1	G	2141914	G3-*03978CWRIS	19550429		400.0	70.0	IR	280.0	210	280.0
Beaver Creek	1	G	2139212	G3-01505CWRIS	19680821	0	780	78	IR	177	234	177
Beaver Creek	1	G	2138274	G3-24214CWRIS	19750329		720.0	200.0	IR	469.0	600	469.0
Beaver Creek	1	G	2141491	G3-*06055CWRIS	19610914	0	180	35	IR	140	105	140
										Rank 1 Subbasin total		1,266
Beaver Creek	2	S	2114211	S3-071194CL	18821020	663	0	100	IR	100	300	100
Beaver Creek	2	G	2141714	G3-*04346CWRIS	19560611	0	400	40	IR	160	120	160
Beaver Creek	2	G	2141371	G3-*05449CWRIS	19591221	0	200	120	IR	160	360	160
										Rank 2 Subbasin total		420
Beaver Creek	3	G	2141812	G3-*04680CWRIS	19570912	0	200	60	IR	160	180	160
										Rank 3 Subbasin total		160
										Subbasin Acre-feet/year total		**1,846**
Dartford Creek	1	S	2109800	S3-094310CL	19110501	1,720.00		90.0	IR	547.0	270	547.0
Dartford Creek	1	S	2104770	S3-118876CL	19510501	1.67	0	125	DG IR ST	500	375	500.0
										Rank 1 Subbasin total		1,047
Dartford Creek	2	G	2142417	G3-*02079CWRIS	19510810		215.0	240.0	IR	344.0	720	344.0
Dartford Creek	2	S	2120767	S3-041806CL	19080401	1.01	0	50	DG IR	202	150	150
										Rank 2 Subbasin total		494
Dartford Creek	3	G	2141940	G3-*04077CWRIS	19550729		1,000.0	190.0	IR	760.0	570	760.0
Dartford Creek	3	G	2141669	G3-*04180CWRIS	19551212		1,200.0	210.0	IR	840.0	630	840.0
Dartford Creek	3	S	2124840	S3-020930CL	19701015	1.024	0	120	DG IR ST	163	360	163
Dartford Creek	3	S	2102620	S3-129240CL	19750401	0.05	0	80	DG IR ST	777,600.00	240	240
Dartford Creek	3	S	2132452	S3-01529CWRIS	19680809	1.11	0	56	IR	194	168	194
Dartford Creek	3	S	2123590	S3-028362CL	19050601	5.10		255.0	IR	765.0	765	765.0
										Rank 3 Subbasin total		2,962
										Subbasin Acre-feet/year total		**4,503**
Deadman Creek/Peone Creek	1	G	2142122	G3-*02228CWRIS	19511120	0	300	60	IR	180	180	180
Deadman Creek/Peone Creek	1	G	2142376	G3-*01844CWRIS	19510301	0	600	40	IR	160	120	160
Deadman Creek/Peone Creek	1	S	2129818	S3-77083JWRIS	19660920	0.7		70.0	IR	210.0	210	210.0
										Rank 1 Subbasin total		550
Deadman Creek/Peone Creek	2	G	2141394	G3-*05554CWRIS	19600405		400.0	70.0	IR	280.0	210	280.0
Deadman Creek/Peone Creek	2	S	2120766	S3-041805CL	19720415	0.8	0	40	IR ST	160	120	160
										Rank 2 Subbasin total		440
										Subbasin Acre-feet/year total		**990**

Table 21. Summary of Pre-Rule Irrigation Water Right Quantities by Subbasin

Subbasin	Volume (Acre-Feet/Year)					
	Rank 1	Rank 2	Rank 3	Total of Rank 1 and 2	Total of Ranks 1 through 3	Total New Demand (from Table 17)
Beaver Creek	1,266	420	160	1,686	1,846	510
Dartford Creek	1,047	494	2,962	1,541	4,503	471
Deadman Creek/Peone Creek	550	440	0	990	990	370
Little Deep Creek	1,260	1,531	375	2,791	3,166	601
Little Spokane/Deer Creek	844	464	827	1,308	2,135	427
Dragoon Creek	2,289	1,242	1,618	3,531	5,149	396
Otter Creek	1,552	0	1,840	1,552	3,392	412
West Branch	1,080	110	1,291	1,190	2,481	462
Total	9,888	4,701	9,073	14,589	23,661	3,649

Note: Total New Demand is taken from Table 17, and excludes possible total demand from pending water right applications.



Water Rights and Claims Rank

Acrefeet per Year: 240 / 1 / 138

- Groundwater Right
- Surface Right
- High Priority for Further Review (1)
- Medium Priority for Further Review (2)
- Low Priority for Further Review (3)

Water Market Economic Evaluation

- Price and market expectations under three scenarios based on public, non-profit versus private, profit based water banks
- Consideration of value of water under emerging demands and examples of other transactions
  - Kittitas County
  - Dungeness Water Bank
  - SVRP mitigation purchase

Water Market Economic Evaluation

- Low Cost/Low Participation
  - Public cost recovery based, voluntary program
  - No regulatory mitigation requirement, other than for existing interruptible rights
  - Purchases for Group residential development
- Moderate Cost/High Participation
  - Public cost recovery based
  - Regulatory mitigation required for exempt wells and other new water rights
- High Cost/High Participation
  - For profit
  - Regulatory mitigation required for exempt wells and other new water rights

Table 6. Average Public and Private Water Bank Prices per acre-foot Consumptive Use Outside of Stevens/Pend Oreille/Spokane (dollars)

Bank Structure	Mean	St. Dev.	Median	Min.	Max.
Private	$53,460	$30,439	$41,606	$27,007	$131,250
Public	$6,130	$4,314	$3,643	$3,636	$11,111
Total	$43,318	$33,493	$36,496	$3,636	$131,250

Notes: St. Dev. = Standard Deviation

Table 7. Administrative costs per mitigation transaction Outside of Stevens/Pend Oreille/Spokane (dollars)

Bank Structure	Mean	St. Dev.	Median	Min.	Max.
Private	$2,775	$493	$2,400	$1,000	$3,900
Public	$395	$249	$500	$0	$500
Total	$2,115	$1,189	$2,400	$0	$3,900

Notes: St. Dev. = Standard Deviation

Table 9. Summary statistics for Spokane/Pend Oreille/Stevens County sales data (dollars)

Variable	Mean	St. Dev.	Median	Min	Max
$/AFCU	$1,716	$646	$1,823	$781	$2,528

Notes: St. Dev. = Standard Deviation

Median Home Values and Water Bank Transaction Cost

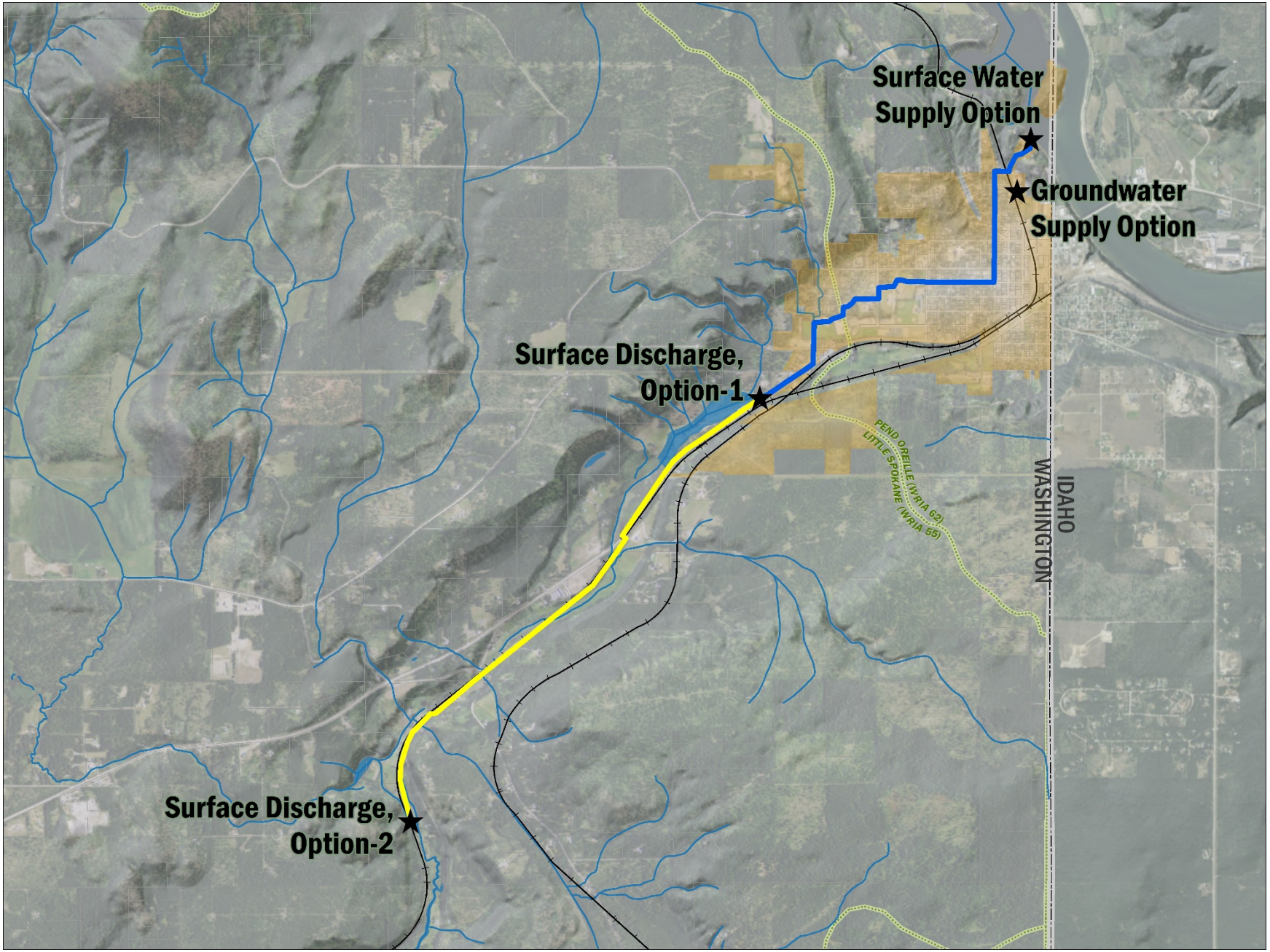
- Median home values outside of water service areas in Spokane County = $263,500
- Median improvement value = $193,000
- Scenario 1 –$400+ (transaction fees)
- Scenario 2 - $1,700+
  - Less than 2 percent of improvement value
- Scenario 3 - $ 20,000+
  - 9 percent of improvement value

Concept Alternatives

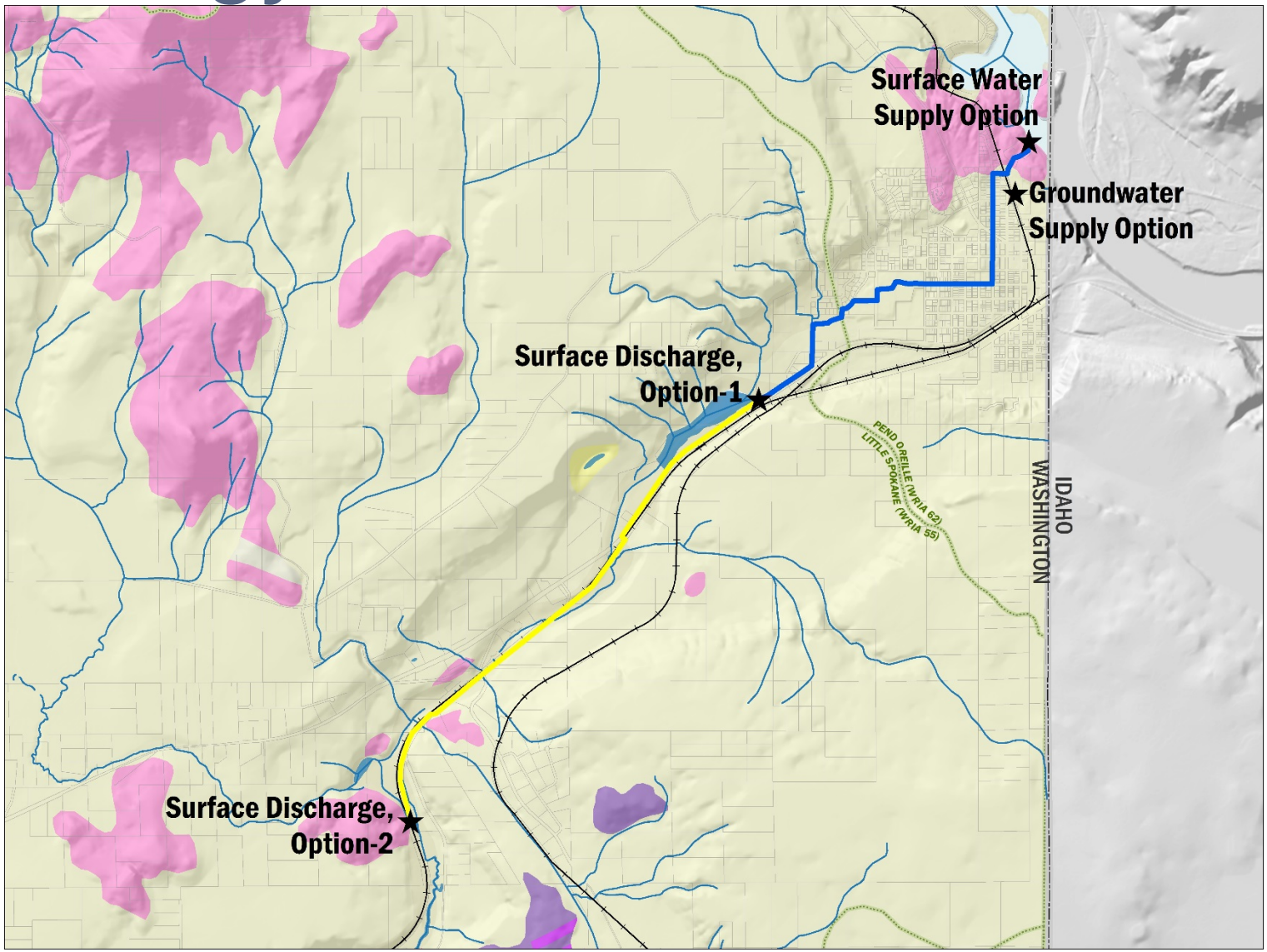
- Pend Oreille River - Source Options
  - Groundwater
  - Surface Water
- Conveyance and Discharge Options
  - Discharge at Upper Headwaters
  - Discharge Approximately 2.5-Miles Downstream

Four Alternatives

	Surface Water Supply	Groundwater Supply
Headwater Discharge	**Alternative 1A**	**Alternative 2A**
Bypass Discharge	**Alternative 1B**	**Alternative 2B**


Surface Water
Supply Option
Groundwater
Supply Option
Surface Discharge,
Option-1
Surface Discharge,
Option-2
PEND OREILLE (WRIA 62)
LITTLE SPOKANE (WRIA 55)
IDAHO
WASHINGTON

Geology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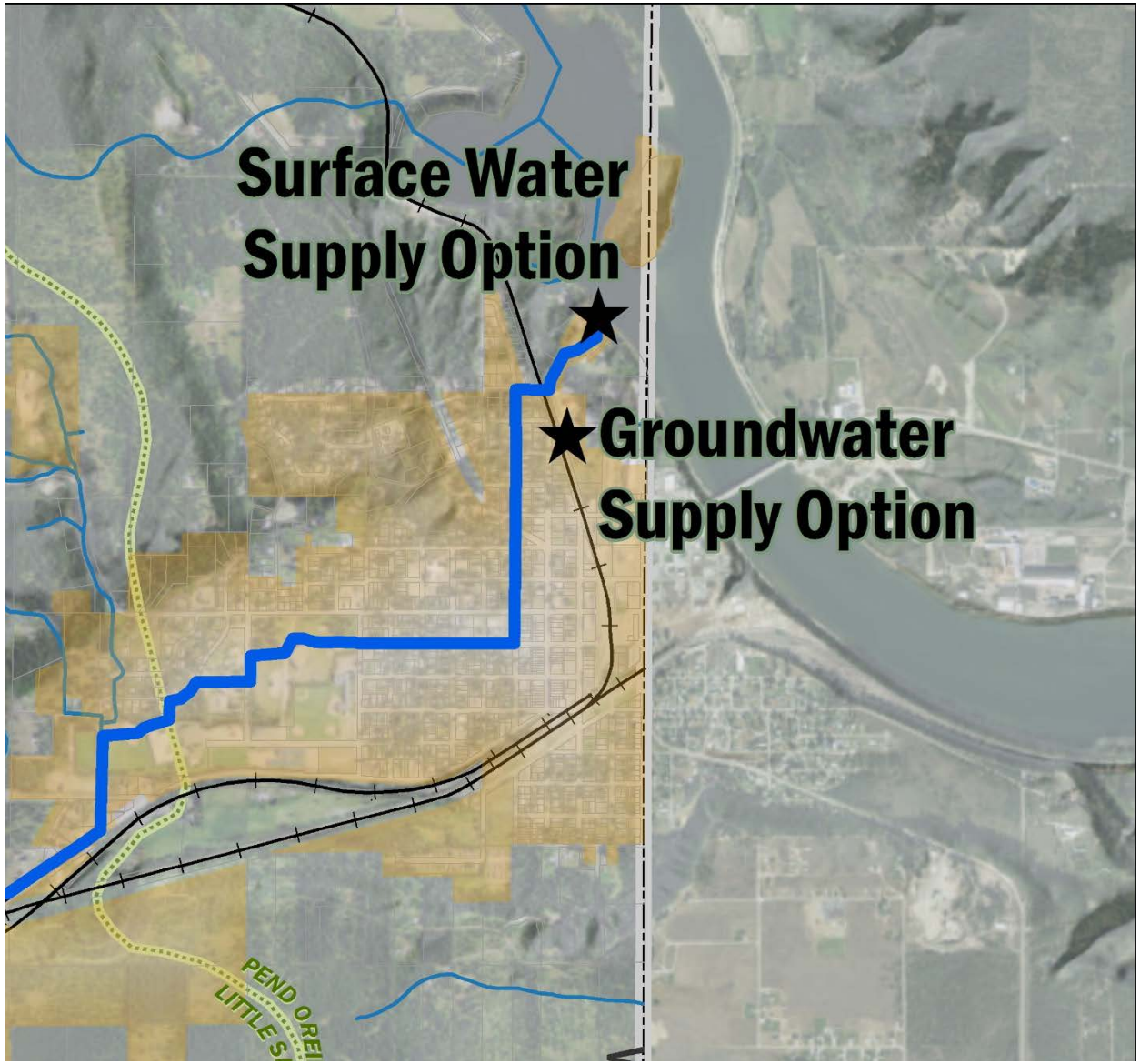
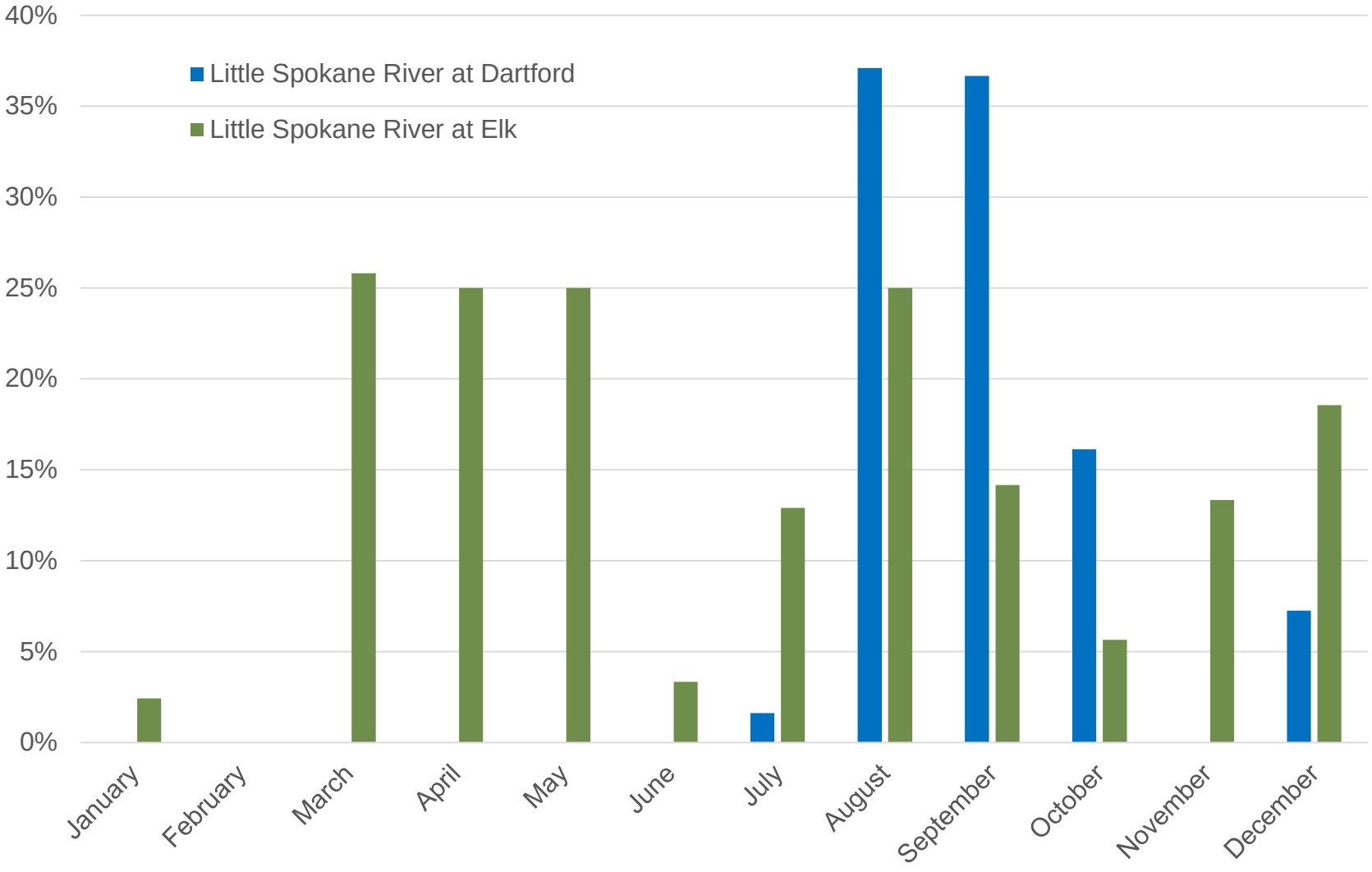
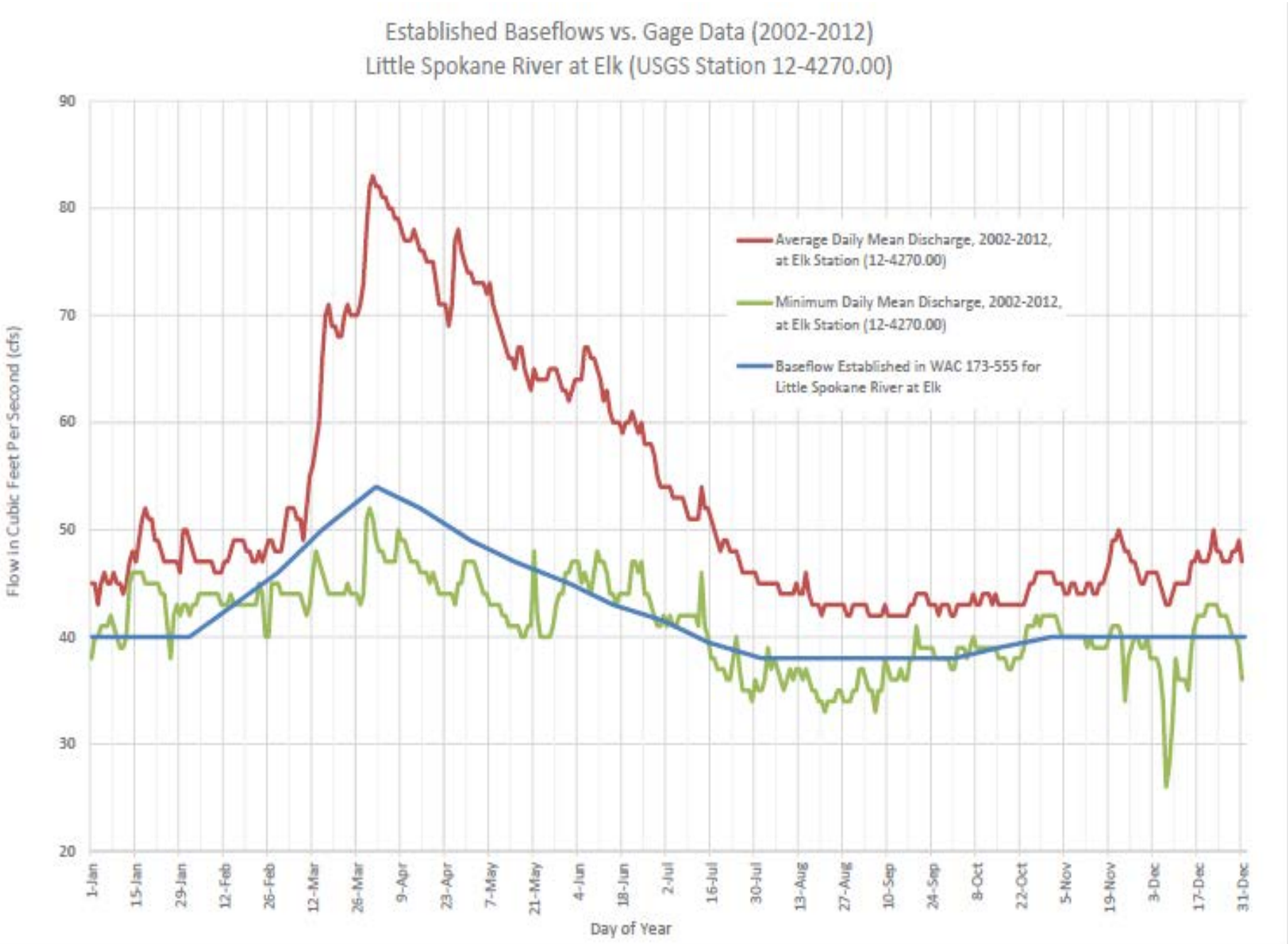
Source Options



Frequency Below Base Flows




Established Baseflows vs. Gage Data (2002-2012)
Little Spokane River at Elk (USGS Station 12-4270.00)
Flow in Cubic Feet Per Second (cfs)
90
80
70
60
50
40
30
20
Average Daily Mean Discharge, 2002-2012, at Elk Station (12-4270.00)
Minimum Daily Mean Discharge, 2002-2012, at Elk Station (12-4270.00)
Baseflow Established in WAC 173-555 for Little Spokane River at Elk
1-Jan
15-Jan
29-Jan
12-Feb
26-Feb
12-Mar
26-Mar
9-Apr
23-Apr
7-May
21-May
4-Jun
18-Jun
2-Jul
16-Jul
30-Jul
13-Aug
27-Aug
10-Sep
24-Sep
8-Oct
22-Oct
5-Nov
19-Nov
3-Dec
17-Dec
31-Dec
Day of Year

Project Cost Estimates

- Capital Costs
  - Direct Costs (Construction)
  - Indirect Costs (Engineering, Permitting, Overhead, etc).
- Annual O&M Costs
  - Operations
  - Maintenance
  - Replacement

Capital Cost Assumptions

Cost Element	Assumption
Mobilization	10% of Construction
Contingency	25% of Construction
Design Engineering	20% of Direct Costs
Permitting	5% to 7% of Direct Costs
WA Sales Tax	7.6% of Construction
Construction Eng.	10% of Direct Costs

Capital Cost Assumptions

Cost Element	Assumption
Owner Overhead	3% of Direct Costs
Property Acquisition	1% of Direct Costs
Habitat Mitigation	5% of Direct Costs
Labor	State Prevailing Wage

O&M Cost Assumptions

Cost Element	Assumption
Mechanical and Electrical Equipment	5% of Construction (Those Elements)
Other Fixed Improvements	1% of Construction (Those Elements)
Pump / Power Costs	$0.043 / kWh (Pend Oreille PUD Rates)

Cost Summary

	Total Cost		Unit Cost	
Alternative	**Capital Cost**	**Annual O&M**	**Capital Cost (per ac-ft)**	**Annual O&M (per acre-foot)**
Alternative 1A	$17,725,000	$220,000	$2,450	$30
Alternative 1B	$21,475,000	$242,000	$2,970	$33
Alternative 2A	$14,965,000	$251,000	$2,070	$35
Alternative 2B	$19,841,000	$277,000	$2,740	$38

Water Right Application Status

- Tri-County discussions in progress
- Recommendation for a continuous Qi of 20 cfs for surface water application
- Recommendation for a continuous Qi of 9,000 gpm for groundwater application

Bank Management and Collaboration Structures

- **Interlocal Agreements**
  - Standard approach to cooperative agreements between public entities that do not require third-party involvement to enact. Iinterlocal agreements can encompass the full range of authorities necessary for formation of a WRIA 55 water bank.
- **Watershed Management Partnership**
  - Greater management flexibility, but can be more challenging to establish than an interlocal agreement; ideal structure could require legislative action
  - Could combine with legislative authorization for funding for (e.g. Sullivan Lake Storage Project from Pend Oreille County).

Bank Management and Collaboration Structures

- **Boards of Joint Control**
  - A statutorily unique water bank structure that could be adopted without legislative action. Boards have not been expansively paired with water banking goals.

- **Contract Law**
  - Legal division of duties, obligations, and benefits derived from operating water banking activities in WRIA 55.
  - This option would be most useful if the County selected an NGO or private party to operate elements of the water bank.

PAG Endorsements for Water Banking

- Move forward with water bank development for WRIA 55.
- Publically run, Tri-County bank management model preferred.
- Water bank applicants should work with individual county planning and building departments to obtain mitigation certificates as part of other associated building permits.
- A central bank accounting system is preferred.

PAG Endorsements for Water Banking

- Continue investigating use of Pend Oreille watershed (WRIA 62) water from either a groundwater or surface water source in the vicinity of Newport, Washington.
- A groundwater source is the preferred choice if it is proven to be feasible.
- Bank seeding from water rights purchases should be a component of a WRIA 55 solution, in part to address tributary needs. Bank seeding from agricultural water rights should originate with lower value farmland.

PAG Endorsements for Water Banking

- Initial implementation should be a voluntary process to provide time to allow this new process to be integrated with functions in each of the counties.
- Consumptive use equivalents for bank management should be used, as this accurately describes instream flow impacts, and reduces cost.
- A water bank should adopt rules preventing speculation.

PAG Endorsements for Water Banking

- The bank should be managed as to a single point in the mainstem, such as the Dartford gage (i.e. 'one-bucket'), with the understanding that concurrence from Ecology will need to be negotiated for this approach, possibly coupled with habitat projects that would offset potential in-basin impacts to the functions and values of the instream flow.

- A better understanding of tributary groundwater/surface water interaction and habitat issues are needed to support this approach.

PAG Endorsements for Water Banking

- County planning and building departments will need to be educated regarding management of the water banking process, and determinations of legal water availability, in addition to filing and recording of mitigation certificates.

- Potential impacts to county workloads and the general fund need to be quantified. A key factor in final bank funding, seeding, and management will be to address and mitigate fiscal liabilities and workload burden on county staff, with one option being an enterprise funding mechanism.

PAG Endorsements for Water Banking

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- The PAG supported submittal of a Watershed Plan Implementation and Flow Achievement Grant application to seek funding for completion of water bank development. The grant application was submitted to Ecology on April 30, 2015 and is pending review.

Implementation

Changes to County Building Permit Process

- **No regulatory mandate.**
  - Public informed about the availability of the water bank through public outreach.
  - The current building permit application forms for each county are not modified.
  - Mitigation certificates issued by the water banking entity are recorded and attached to the property deed under a voluntary program.

- **Regulatory mandate.**
  - Public informed about the availability of the water bank through public outreach.
  - The public is informed about the requirements for mitigation at the Site Analysis application stage (Stevens and Pend Oreille County) or the Building Permit application stage (Spokane County).
  - Legal and physical water availability are evaluated by county staff as part of approval of building permits
  - Mitigation certificates issued by the water banking entity are recorded and attached to the property deed.

Final Feasibility Study Completion

- Requesting comments on draft FS and Pend Oreille Appraisal Study by June 24
- Grant application to Ecology is pending both legislative budget action and Ecology review

Open Discussion

Aspect CONSULTING