

**Mitigation for all applicants.** Ecology would spend conservation project money on projects that will provide mitigation for all applicants subject to their priority date in line regardless of whether they participate in a VRA or not.

**Mitigation only for applicants in VRAs.** Ecology would only spend conservation project money on projects that will provide mitigation for applicants in VRAs. Applicants not in VRAs that participate in the consultation process would provide their own mitigation.

**No mitigation for applicants in VRAs.** Ecology would not spend conservation project money for mitigation associated with VRAs. VRA participants would provide their own mitigation.

### **2.2.13 Inclusion of Exempt Wells in Water Use Inventory**

The Columbia River Water Management Act directs Ecology to develop a Columbia River mainstem water resources information system that includes “the total aggregate quantity of water rights issued under state permits and certificates and filed under state claims on the Columbia River mainstem and for ground water within one mile of the mainstem” (RCW 90.90.050(2)(a)). Exempt wells are not issued permits or certificates, and yet are allowed to withdraw water, and they are subject to interruption in order to protect instream flows. Exempt wells are an important part of the water balance for the defined area, but they are not technically within the definition of what the information system is expected to include. Ecology will consider two alternatives for including exempt wells in the inventory system.

**Do not include exempt wells in the information system.**

**Include exempt wells in the information system.**

## **2.3 Preferred Alternatives for Program Implementation**

The following section describes Ecology’s preferred alternatives for the policy choices described in Section 2.2 after considering comments received on the Draft EIS. These choices can be implemented through policy actions and permit decisions. Rulemaking may be required in conjunction with Ecology’s choices described in Sections 2.3.2 and 2.3.10. Additional discussions of the preferred alternatives is provided in Chapter 6.

### **2.3.1 Selecting Water Supply Projects**

Current water supply needs are identified in the *Water Supply Inventory and Long-Term Water Supply and Demand Forecast*, Ecology, November 15, 2006 (Section 2.1.5). This inventory will be updated frequently to ensure an ongoing understanding of real water needs. Ecology will actively pursue the most cost-effective and beneficial methods to meet the future water supply needs of the Columbia River Basin. Both large and small water supply projects will be evaluated and considered.

First, Ecology will continue to fund studies designed to identify large off-channel storage projects that would serve multiple water supply purposes and benefit both public and environmental water needs. Second, Ecology will work to identify other, likely smaller, water

supply opportunities that might substitute for, or complement, new large off-channel storage. Opportunities include: using Watershed Plans to identify and pursue smaller storage projects, purchasing stored water in Idaho and/or Canada, buying or negotiating changes in operations of existing federal facilities to provide additional water when and where it is needed, aquifer storage and recharge: passive ground water recharge, and other water conservation and acquisition projects.

### **2.3.2 Calculating Net Water Savings from Conservation**

The Columbia River Water Management Act provides that net water savings from conservation projects shall be placed in the Trust Water Rights Program (Trust Program). The Act states: “net water savings achieved through conservation measures funded by the account shall be placed in trust in proportion to the state funding provided to implement the project” (RCW 90.90.010(4)).

Ecology will use GUID-1210 (a 2005 Ecology guidance document that establishes Ecology’s approach for determining irrigation efficiency and consumptive use of water) for calculating net water savings. Ecology may, if required by RCW 34.05, propose a rule that adopts the GUID-1210 methodology as the basis for calculating consumptive use and net water savings.

### **2.3.3 Funding Criteria for Conservation Projects**

Net water savings derived from funding conservation projects will be assigned to benefit both instream flows and out-of-stream uses on the Columbia River. Projects would be qualified and then ranked by the magnitude and significance of the instream and out-of-stream benefits expected. In-kind contributions and cost-sharing by applicants will be among the criteria to be developed by Ecology.

Ecology will ensure the expected project benefits are realized in two ways. First, if conservation projects are funded on tributaries, water savings will be assigned solely to instream flow benefit within the tributary stream down to the confluence with the Columbia River. Second, during initial program implementation, Ecology may initially reserve a portion of the water rights acquired with Account funds for instream purposes on the mainstem Columbia River. Ecology may subsequently alter the initial reservation once measuring and accounting systems are fully implemented and any uncertainties associated with management of the new Trust Water Rights and new permits are defined and addressed.

To ensure that anticipated out-of-stream benefits are achieved, Ecology will allocate water rights not reserved exclusively for mainstem flow improvement to provide mitigation for new water rights from the Columbia mainstem. Ecology will provide mitigation water for each permit it approves; however, the state-funded portion of the mitigation package will be determined by the project funding criteria and anticipated public benefits associated with the proposed use of water.

### **2.3.4 Defining “Acquisition” and “Transfer”**

The Columbia River Water Management Act prohibits Ecology from expending money from the Account on conservation projects that will result in “water acquisition or transfers from one water resource inventory area (WRIA) to another” without express legislative authorization. The bill does not define either “acquisition” or “transfer.”

For purposes of determining where Account funds may be spent, Ecology will define the terms “acquisition” and “transfer” as follows:

“Acquisition” means funding projects using the Columbia River account for the purpose of effectuating the following forms of consumptive water use reduction:

- Purchase of water rights to place in the Trust Program;
- Crop water duty reductions (e.g., deficit irrigation without crop change);
- Change in crops (e.g., permanent change of orchard to vineyard);
- Fallowing or idling corner irrigation of center-pivot irrigation systems;
- Switching from irrigated to non-irrigated crops; and
- Partial season acquisitions (e.g., foregoing irrigation after first cutting of hay).

“Transfer” means the change of a water right from one place and person to another place and person, or the issuance of a new permit where the consumptive demand associated with the new permit is mitigated by a water right “acquired” using Account funds and held in the Trust Program.

Pumps and pipes infrastructure projects are not considered to be “acquisition” or “transfer.”

### **2.3.5 Conditioning Water Rights on Instream Flows**

RCW 90.90.020(2) states that “Water developed under the provisions of this section to offset out-of-stream uses and for instream flows shall be deemed adequate mitigation for the issuance of new water rights.” Currently Ecology conditions new water rights and water right changes to protect the instream flow water right established in 1980 and referred to as the Columbia River Instream Flow Rule (Chapter 173-563 WAC). This requirement has discouraged some water right changes that otherwise could provide a reliable new source of water for municipal users. Ecology will continue to apply the instream flow water right created by the 1980 Columbia River Instream Flow Rule to new permits and to season of use changes that authorize a beneficial use during a different season than the mitigation water right. In situations where demand shifting from critical summer months to less critical winter months would result in a benefit to aquatic species, Ecology will consider case-specific waivers of the 1980 instream flow after consulting with the Directors of the Department of Fish and Wildlife and the Department of Agriculture and the Commissioner of Public Lands.

### **2.3.6 Initiating Voluntary Regional Agreements**

Ecology will support water users with common interests to consider a VRA where it benefits the Columbia River program and is in the public interest. Ecology will respond to and work with proponents to execute new VRA proposals that are consistent with RCW 90.90.030. However, this will not be a major focus of Ecology’s activities

### **2.3.7 Processing Voluntary Regional Agreements**

Ecology currently processes water rights applications according to the “Hillis Rule” (Chapter 173-152-050 WAC). Ecology will continue this practice for new Columbia River applications, including those associated with a VRA. This means that, generally, Ecology will process new water right applications and water right change applications in two separate lines in the order they are received within an Ecology region. Ecology may make decisions from multiple water sources within a region, beginning with the application with oldest priority date from each source. Ecology generally prioritizes its work by source (WRIA) for efficiency in investigation and permitting. The priority date is based on the date an application is filed with Ecology (WAC 173-152-030).

### **2.3.8 Defining “No Negative Impact” to Instream Flows of the Columbia and Snake Rivers**

The Columbia River Water Management Act sets forth that there shall be no negative impact to stream flow allowed in July and August on the Columbia River and from April through August on the Snake River as a result of a VRA. Ecology will use metering, monitoring, stream gaging and water masters to account for Trust Water Rights derived from conservation and acquisitions together with all mitigated permits. Ecology will authorize new out-of-stream uses only within the first mainstem pool that benefits from a trust water right and any downstream pools, subject to the limitations of RCW 90.90.010(2)(a) on acquisitions and transfers. Net water savings from a tributary project would be measured at the mouth of the tributary.

### **2.3.9 Defining the Main Channel and One-Mile Zone**

The Columbia River Water Management Act defines the mainstems of the Columbia and Snake Rivers to include “all water ... within the ordinary high water mark (OHWM) of the main channel...” and “all ground water within one mile of the ordinary high water mark.” Ecology interprets “all water” in these definitions to refer to diversions within the one-mile corridor, even where the place of use of the diverted water is outside of the one-mile corridor. The definition of the main channel and one-mile zone applies to:

- Water right permits issued from the mainstem;
- The mitigation standard for VRAs (no negative impact on instream flows of the mainstems); and
- The water resource inventory prepared for "effective mainstem water resource planning and management."

A straight line will be drawn across the mouth of each tributary to delineate the mainstem channel. The main channel OHWM does not include any of the backwater areas on tributaries nor does it include tributary surface water rights within the one-mile corridor.

### **2.3.10 Coordinating VRA Mitigation and Processing New Water Rights**

Processing new water rights from the Columbia River will require mitigation for any impacts to instream flows. The mitigation will be provided either through a VRA or through the

consultation process (WAC 173-563-020, see Section 1.3 for additional information). The mitigation standard for Columbia River water rights covered by a VRA is no negative impact on instream flows during July and August. For the Snake River, it is no negative impact for the months of April through August. Mitigation under a VRA means avoidance of negative impacts on flows and must be in-kind, in-time, and in-place.

Ecology will aggressively pursue funding of water supply projects to make mitigation water available for new mainstem permits, whether covered by a VRA or not. However, in some cases, adequate (in-kind, in-time, in-place) mitigation water may not be available. RCW 90.03.380(5)(c) allows Ecology to skip over a water right change application to the next person in line if information is lacking to make a decision on the request. Ecology does not have similar discretion for processing new water rights and must process them in the order they are received. However, Ecology may request permission from new water right applicants to skip to the next applicant.

If state-funded mitigation is unavailable and those earlier in line who require mitigation cannot provide their own, Ecology would allow those earlier in line to voluntarily step aside for up to a set period of time. After that period of time, the application would be processed, even if adequate mitigation water has not been found. This may result in a denial of an application to the extent that mitigation was inadequate. If an earlier applicant declines to step aside, Ecology will process the application and would deny an application that fails to meet the four-part test under RCW 90.03.290. Ecology will address this process through policy development or, if required by RCW 34.05, rulemaking and will consider reasonable timeframes (e.g., two years) necessary to coordinate acquisition of adequate mitigation under the program (in-kind, in-place, in-time) with new application requests.

### **2.3.11 Coordinating VRA and Non-VRA Processing**

WAC 173-152-030 states that Ecology will process new water right applications in the order they are received within a region. It also allows Ecology to make decisions from multiple water sources within a region, beginning with the oldest priority date in each source. The priority date is based on the date an application is filed with Ecology. Ecology defines a “source of water” as surface waters and/or ground water in hydraulic connection, meeting the following four conditions:

1. They share a common recharge area.
2. They are part of a common flow regime.
3. They are separable from other water sources by effective barriers to hydraulic flow.
4. They are an independent water body for the purpose of water right administration, as determined by Ecology.

Generally, Ecology processes water rights applications on a WRIA-by-WRIA basis within a region to maximize permitting efficiency. WRIAs may include Columbia River applicants and non-Columbia River applicants.

Ecology will use a hybrid of two choices presented in the Draft EIS to coordinate VRA and non-VRA application processing based on 1) the source of mitigation water acquired and placed into the Trust Program (e.g., mainstem savings versus tributary savings) and 2) whether saved water must stay within the WRIA by statute (e.g., RCW 90.90.010(2)(a)), as follows:

- **Grouped within the Columbia River one-mile corridor.** If the source of mitigation water is a mainstem conservation, acquisition, or storage project, Ecology will group all applicants in the Columbia River one-mile corridor together. Ecology will process applications from the mainstem independent of WRIA boundaries when the source of water from a water supply project is from the mainstem Columbia, for example, the proposed Lake Roosevelt drawdown.
- **Grouped within the Columbia River one-mile corridor with WRIA permitting.** If the source of mitigation water is a conservation or acquisition project within a tributary stream, Ecology will group applicants within the Columbia River one-mile corridor together with tributary WRIA permitting. Ecology will choose which WRIA to work in based on the availability of water rights within the Trust Program to match up with new permits from the Columbia River requiring mitigation to satisfy the no negative impact policy described in section 6.1.9. The senior-most applicant *within the WRIA* will be processed ahead of older mainstem applicants downstream if those older applicants cannot benefit from mitigation water that must stay within the WRIA.

### **2.3.12 Funding Projects Associated with a VRA**

The Columbia River Water Management Act does not directly require Ecology to use conservation or storage funding to assist in providing mitigation water for VRAs. However, Ecology will expend Account funds on projects that will provide mitigation for mainstem water right applicants, including those who participate in VRAs. New VRAs will be expected to include provisions for funding a portion of the costs associated with developing new water supplies.

### **2.3.13 Inclusion of Exempt Wells in Water Use Inventory**

Ecology will include uses of ground water exempt from permitting in the water use inventory. However, the first inventories will address only uses that rely on wells for which electronic information is available. Over time, as resources and opportunities allow, Ecology will expand the inventories to include additional exempt uses. Ecology will provide access on its website to the aggregate inventory data by 2009.

## **2.4 No Action Alternative**

Under the No Action Alternative, the Management Program would not be implemented and the allocation of water and processing of water rights would continue under the existing programs and policies. The Columbia River Basin Water Supply Development Account would not be used to fund new storage projects or conservation projects, but those projects could continue to be pursued with other funding. Ecology would not enter into VRAs with groups or entities or establish the inventory and demand forecasting component. There would be no Ecology funding for the Lake Roosevelt drawdown or Supplemental Feed Route projects, but those projects could

be implemented by other parties. The purpose of the No Action Alternative is to provide a means of comparing the impacts associated with the Management Program to the impacts of continuing without the legislated program.

## **2.5 Other Non-project Alternatives Considered but Not Carried Forward to Environmental Review**

During the development of the Columbia River Water Management Act, numerous proposals were considered for improving the allocation of water in the Columbia River Basin. The state Legislature did not carry these proposals forward and they are not being evaluated in this programmatic EIS. These proposals generally advocate using only one approach to resolving the allocation problems. The Columbia River Water Management Act and the Management Program recognize the value of the individual approaches to managing water, but propose a more comprehensive approach that includes aspects of each of the proposals.

### **2.5.1 Conservation Only Approach**

Under this proposal, all new water in the Columbia River Basin would be obtained through conservation projects only. No new storage facilities would be pursued through studies, analyses, funding, or construction. The Management Program legislation encourages conservation projects and the legislation allocates funding for conservation projects. The Columbia River Water Management Act strongly supports both storage and conservation by prescribing a formula for funding both activities.

### **2.5.2 Storage Only Approach**

The storage only approach would include only storage projects and would not include conservation projects or other water management strategies. The state Legislature rejected the storage only approach because other approaches to water management can also provide benefits and improve water allocation.

### **2.5.3 Water Marketing/Water Banking**

Water marketing, the purchase of existing water rights for allocation to new uses, along with water banking, have been proposed as an approach to water management in the Columbia River Basin. Water marketing and water banking could reallocate existing water rights to new uses. Water banking refers, in general, to a formalized exchange of water rights in a particular area. A water bank transaction is one that involves the transfer of all or a portion of a water right from the owner of the right to the buyer or new user of the right. The institution serving as the water bank will deposit the water right into trust to be held for a period of time until a buyer of the water right is identified. The water bank is the institutional framework that comprises the rules and other market mechanisms to meet the basic needs of buyers and sellers, and to facilitate pricing, documentation, and completion of the transactions.

The legislation did not authorize water banking in the Columbia River Basin, but did not preclude Ecology from pursuing marketing options in the future. Ecology has established a pilot water bank project in the Yakima River Basin and that approach could be expanded in the future.

## 2.6 Description of Early Actions and Alternatives

This section describes the actions identified for early implementation under the Management Program. They include two actions that involve a partnership between the state of Washington and Reclamation, the Lake Roosevelt drawdown project and the Supplemental Feed Route project, as well as the Voluntary Regional Agreement (VRA) submitted by the Columbia-Snake River Irrigators Association (CSRIA).

This programmatic EIS evaluates the impacts associated with the SEPA actions related to the early actions. The Supplemental Feed Route project conducted in coordination with Reclamation will receive separate NEPA analysis as described in Section 1.1. The NEPA analysis will cover the impacts of construction and operation of the project. For the Lake Roosevelt drawdown, the action subject to SEPA review would be the approval of water rights. The SEPA actions for the Supplemental Feed Routes would be the issuance of permits by Ecology (or other agencies), including the Hydraulic Project Approval (HPA) and construction storm water permits. While Ecology intends to proceed with these actions as soon as possible after completion of this programmatic EIS, the Supplemental Feed Route project and the Lake Roosevelt drawdown project will require subsequent SEPA threshold determinations and supplemental environmental analysis.

The CSRIA VRA would undergo phased SEPA review as provided for in WAC 197-11-060(5). The initial action to be addressed would be Ecology's decision whether to sign the VRA. That step in the process would represent a nonproject action and is addressed in this programmatic EIS. The subsequent phase of SEPA review for the VRA would address finalization of the VRA implementation plan and subsequent updates of that plan. A third phase of SEPA environmental review would address some of the specific projects associated with the CSRIA VRA, such as large regional conservation projects or the proposed Kennewick Irrigation District pump exchange. Similarly, some water right decisions associated with the CSRIA VRA may trigger additional SEPA review.

As part of the Memorandum of Understanding between the state of Washington, Reclamation, and the major Columbia River irrigation districts (Section 1.3.1.1), Reclamation will file appropriate water right applications with Ecology to divert a total of 132,500 acre-feet from Lake Roosevelt (Figure 2-3). The water is proposed to be diverted from Reclamation's existing 6.4 million acre-foot storage right for water behind Grand Coulee Dam. Ecology and Reclamation are currently discussing whether the additional water for instream flow, municipal/industrial uses, and interruptible water rights should be issued as a water right in perpetuity or as a water service contract with a long, but limited duration. That discussion will continue as Ecology processes the water rights applications. Prior to decision making regarding Reclamation's applications, both Ecology and Reclamation will work with the Confederated Tribes of the Colville Reservation, the Spokane Tribe of Indians, and the National Park Service to address issues regarding the diversion. A comprehensive Memorandum of Agreement would be developed with the Confederated Tribes.

The Lake Roosevelt Drawdown Project will involve withdrawals that would occur every year and withdrawals that would occur only during drought years. For the purposes of this proposal, a drought year is defined by Ecology as any year when the March 1 forecast for April through September runoff at The Dalles Dam is less than 60 million acre-feet (WAC 173-563-056). The

forecast is made by the National Weather Service. For drought-year conditions to apply, Ecology must also make a formal request in accordance with the Reclamation States Drought Relief Act of 1991 (P.L. 102-250). By this definition, a drought year occurs on average once every 26 years (Slattery 2002).

### **2.6.1.1 Description of Proposed Non-Drought and Drought Year Diversions**

During non-drought years, Reclamation would divert or release an additional 82,500 acre-feet from Lake Roosevelt to provide the following:

- 25,000 acre-feet of municipal/industrial supply,
- 30,000 acre-feet of irrigation water for replacement of ground water supplies in the Odessa Subarea, and
- 27,500 acre-feet for stream flow enhancement downstream of Grand Coulee Dam.

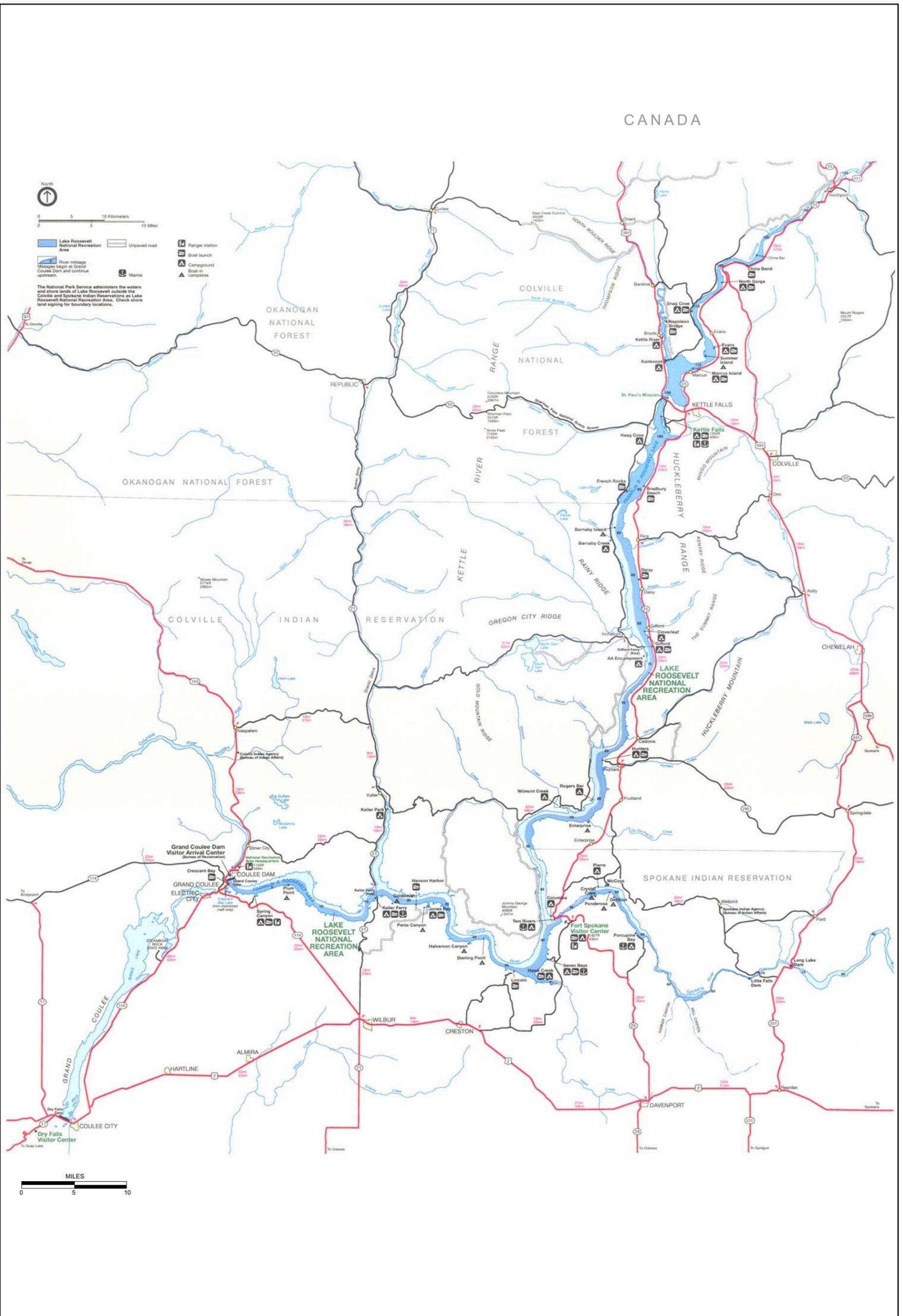
After perfection of the water right, the water for instream flow and municipal and industrial uses will be transferred to the Trust Water Rights Program for the duration of a water service contract between the state and Reclamation. A party that wants to use water for municipal and industrial purposes will be required to file an application with Ecology to obtain a water right permit.

The non-drought year diversion would result in an additional drawdown of the reservoir of approximately 1 foot at the end of the irrigation season. Under current operations, the Lake Roosevelt drawdown in early spring is approximately 40 feet in an average year and as much as 80 feet in a high flow year to provide flood control storage. The reservoir fills up to a normal operating level by July. The additional drawdown would occur after July. These maximum drawdown levels occur primarily in the months of April and May. However, during the months of the year when diversions associated with the Lake Roosevelt drawdown project could occur, July and August, lake levels are maintained at a relatively stable 1,278 to 1,290 feet above sea level.

During drought years, Reclamation would release 50,000 acre-feet from Lake Roosevelt in addition to the non-drought year diversion or release of 82,500 acre-feet. This diversion would provide:

- 33,000 acre-feet of water for Columbia River mainstem interruptible water right holders; and
- 17,000 additional acre-feet for flow augmentation downstream of Grand Coulee Dam.

Use of the 33,000 acre-feet by parties holding interruptible water rights would require the parties to obtain a permit from Ecology. The drought-year diversion would add an approximately 0.5 foot drawdown in addition to the 1-foot drawdown during non-drought years. Drawdowns for interruptible water rights would occur primarily during July and August. The water for stream flow augmentation would also likely occur during those months.



CANADA



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**FIGURE 2-3**  
**LAKE ROOSEVELT AREA**  
 COLUMBIA RIVER WATER MANAGEMENT PROGRAM EIS  
 WASHINGTON

At time of publication of this EIS, it was anticipated that Reclamation will submit two water right applications to Ecology to address the 82,500 acre-foot of annual diversions or releases. One application would be for the 30,000 acre-feet of water for Odessa Subarea ground water replacement and for 15,000 acre-feet of the flow augmentation water. A second application would be made for the 25,000 acre-feet of municipal/industrial supply and for the remaining 12,500 acre-feet of flow augmentation water. Water for the drought year diversions and releases would be made available through a service contract between Reclamation and Ecology.

Table 2-1 summarizes the estimated additional stream flows to Columbia River that would result from the drawdown proposals.

**Table 2-1. Lake Roosevelt Drawdown Flows**

	Lake Roosevelt Withdrawal (AF)	Flow Release (AF)	Flow Rate (cfs) One Month (31 days) - July	Flow Rate (cfs) Two Months (62 days) - July and August
<b>Non-Drought Years</b>				
Municipal/Industrial Supply	25,000	25,000	407	203
Instream Flow Augmentation	27,500	27,500	447	224
Odessa Subarea	30,000	0*	0	0
Interruptible Water Rights	0	0	0	0
<i>Total</i>	<i>82,500</i>	<i>52,500</i>	<i>854</i>	<i>427</i>
<b>Drought Years</b>				
Municipal/Industrial Supply	25,000	25,000	407	203
Instream Flow Augmentation	44,500	44,500	724	362
Odessa Subarea	30,000	0*	0	0
Interruptible Water Rights	33,000	33,000	537	268
<i>Total</i>	<i>132,500</i>	<i>102,500</i>	<i>1,667</i>	<i>834</i>

\* The 30,000 acre-feet for the Odessa Subarea is not considered to be additional stream flows because it would not enter the Columbia River.

**2.6.1.2 No Action Alternative: Lake Roosevelt Drawdown**

Under the No Action Alternative for the Lake Roosevelt drawdown, no additional drawdown of Lake Roosevelt would occur. Water for municipal/industrial supply and stream-flow enhancement would continue to be limited during non-drought years. Lake Roosevelt water would not be available to help replace ground water used in the Odessa Subarea during non-drought years. During drought years, interruptible water rights would not be met unless additional sources of supply are developed and stream-flows would not be augmented. Other entities may propose reservoir drawdowns which would be evaluated under separate environmental review.

## 2.6.2 Supplemental Feed Route

Reclamation, in cooperation with the state of Washington, is studying possible Supplemental Feed Routes to convey water from Banks Lake to Potholes Reservoir for purposes of supplying parts of the East and South Columbia Basin Irrigation Districts (Reclamation 2006e). Potholes Reservoir, is located just south of Moses Lake. It has 332,200 acre-feet of active storage capacity and a total capacity of 511,700 acre-feet.

Water for Reclamation's Columbia Basin Project is diverted from Lake Roosevelt at Grand Coulee Dam and pumped to Banks Lake (Figure 2-1). Irrigation water is distributed from Banks Lake through the Main Canal, which flows south to Billy Clapp Lake. The Main Canal continues south from Pinto Dam at the south end of Billy Clapp Lake. The Main Canal divides into the West and East Low Canals at a point southwest of Pinto Dam. The West Canal flows around the northwest edge of the Columbia Basin Project boundary and flows south toward Frenchman Hills Wasteway. The East Low Canal flows south, passing near the cities of Moses Lake and Warden, and ending east of the Scooteney Reservoir south of Othello.

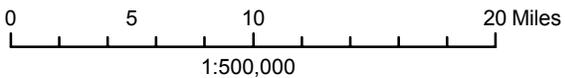
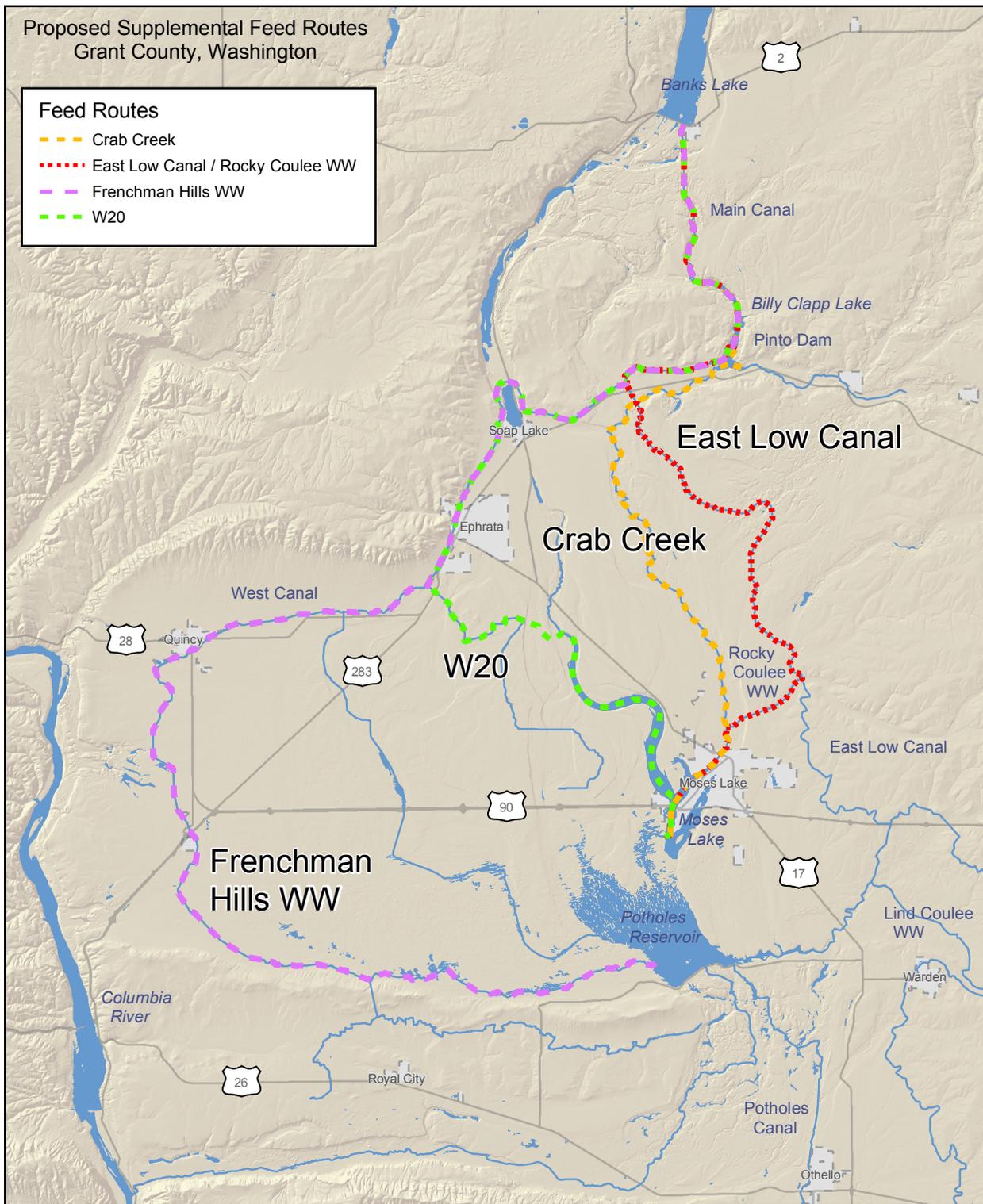
The Columbia Basin Project is designed so that return flows from irrigation in the northern half of the project, generally the area north of Potholes Reservoir, would flow to Potholes Reservoir and supply the southern portion of the project, which is generally the area south of Potholes Reservoir. Potholes Reservoir receives and stores runoff water from the Upper Crab Creek Basin and return flows from irrigated land served by the West and East Low Canals. Water is released from Potholes Reservoir through the Potholes Canal to supply the South Columbia Basin Irrigation District. Because the Columbia Basin Project has not been completely developed, there is not adequate return flow in the northern portion of the project to provide a reliable supply of irrigation water to the South Columbia Basin Irrigation and East Columbia Irrigation Districts. To help meet that need, water is diverted from Banks Lake to Potholes Reservoir. This diverted water is called feed water. At present, the Potholes Canal serves approximately 231,000 acres, requiring up to 990,000 acre-feet of water annually from Potholes Reservoir. Of that amount, about 350,000 acre-feet is feed water from Banks Lake.

There are currently three feed routes that use canals and existing waterways (Figures 2-1 and 2-4). The primary route is through the East Low Canal to Rocky Coulee Wasteway then into Upper Crab Creek, Moses Lake and finally into Potholes Reservoir. The two secondary routes are through Lind Coulee Wasteway and through Frenchman Hills Wasteway. Water is spilled from the East Low Canal to Lind Coulee Wasteway, which flows directly to Potholes Reservoir. The other secondary route spills water from the West Canal to the Frenchman Hills Wasteway, which also flows directly to Potholes Reservoir.

Proposed Supplemental Feed Routes  
Grant County, Washington

Feed Routes

- Crab Creek
- East Low Canal / Rocky Coulee WW
- Frenchman Hills WW
- W20



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**FIGURE 2-4**  
**SUPPLEMENTAL FEED ROUTES**  
COLUMBIA RIVER WATER MANAGEMENT PROGRAM EIS  
WASHINGTON

Table 2-2 shows the annual amounts of feed water supplied to Potholes Reservoir over the last 10 years via each route.

**Table 2-2. Annual Feed Volumes in Acre-Feet, Between 1996 and 2005.**

Year	Rocky Coulee WW Feed Spring (Acre-Feet)	Rocky Coulee WW Feed Fall (Acre-Feet)	Lind Coulee WW Feed Spring (Acre-Feet)	Frenchman Hills WW Feed Spring (Acre-Feet)	Total Feed (Acre-Feet)
1996	55,600	0	32,500	0	88,100
1997	9,500	0	8,100	0	17,600
1998	9,531	89,158	16,261	0	114,950
1999	154,294	18,407	33,738	0	206,439
2000	224,901	0	33,920	0	258,821
2001	139,556	90,927	36,455	0	266,938
2002	256,017	45,296	27,581	15,213	344,107
2003	254,725	63,494	20,920	26,573	365,712
2004	290,934	69,363	30,193	30,367	420,857
2005	190,982	119,575	25,234	20,363	356,154

Source: Sonnichsen, 2006

The existing canal system only has feed capacity during spring and fall, so no feed water can be delivered during the summer. During low runoff years, the spring feed capacity is insufficient to fill Potholes Reservoir, necessitating a fall feed. Fall feed is limited by the need to leave space in Potholes Reservoir for winter return flows and spring runoff. These factors have led Reclamation to consider alternatives to supplement the supply of feed water to Potholes Reservoir.

To address the capacity issues associated with supplying feed water to Potholes Reservoir, Reclamation, in cooperation with Ecology, is in the process of developing a Supplemental Feed Route. The purpose of the Supplemental Feed Route Project is to improve the reliability and safety in the ability to supply feed water to Potholes Reservoir. A supplemental route is needed to increase the feed capacity from the end of the runoff period until fall without impacting the Potholes Reservoir winter storage capacity. A minimum fall feed water program conducted in conjunction with maximum spring feed and some level of summer feed would allow the Columbia Basin Project to be operated with the greatest degree of flexibility and least likelihood of unnecessary Potholes Reservoir spill. Runoff from winter precipitation that exceeds the established end-of-month maximum reservoir elevation targets for Potholes Reservoir is spilled to lower Crab Creek, which discharges to the Columbia River at Priest Rapids Lake. Reclamation's objective for the Supplemental Feed Route is to develop the capacity to provide at least 25 percent of the current annual maximum feed water contribution to Potholes Reservoir of 350,000 acre-feet (Blanchard 2006).

Development of a Supplemental Feed Route could also support future efforts to replace ground water currently being used for irrigated agriculture with surface water in portions of the Odessa Ground Water Management Subarea that are located within the authorized boundaries of the Columbia Basin Project (Odessa Subarea Special Study in Section 2.1.2.1). A Supplemental

Feed Route would reduce the reliance on the East Low Canal for providing water to the southern portion of the project.

Reclamation is considering three alternative routes for supplementing the flow of feed water to Potholes Reservoir. They are designated as the Crab Creek, W20 Canal, and Frenchman Hills Wasteway routes and are shown in Figure 2-4. For all three alternatives, feed water would flow from Banks Lake to Billy Clapp Lake behind Pinto Dam. The Supplemental Feed Routes are described below.

### **2.6.2.1 Crab Creek Route Alternative**

Upper Crab Creek is a natural stream that begins near Davenport in Lincoln County and discharges to Moses Lake and Potholes Reservoir (Figure 2-4). East of Brook Lake, Upper Crab Creek flows year round. However, south of Brook Lake, the stream has intermittent flows south to Moses Lake. Under this alternative, feed water would be released from Billy Clapp Lake at an outlet structure in Pinto Dam into Brook Lake, a natural water body within the Crab Creek channel. The water would then be conveyed down the natural Crab Creek channel to Moses Lake. The feed water would then flow to Potholes Reservoir through the Moses Lake Outlet Structure.

This alternative would have several construction elements. The outlet structure at Pinto Dam would be reconstructed to minimize the potential for erosion. The outlet of Brook Lake would need to be lowered to prevent inundation of the toe drains at Pinto Dam. The culverts at Stratford Road would need to be reconstructed. The Crab Creek channel would be deepened from the Brook Lake outlet to a point about .05 mile downstream in order to facilitate flow of the feed water. In addition, a measuring location would be added near the Brook Lake outlet. The Road 16 NE crossing would need to be modified. The overflow channel area south of Farm Lake Unit would be modified, including the road crossings at Road 10 NE, Walker Road, and Stratford Road.

There are currently two flow strategies for the Crab Creek route alternative. One is to provide a base rate of water flow from Billy Clapp Lake of around 100 cubic feet per second (cfs) year round, with larger discharges, not to exceed 500 cfs, during spring and summer as needed. In total, this could provide about 160,000 acre-feet of feed water flow. To implement this alternative, Billy Clapp Reservoir would be drawn down to an elevation of 1,300 feet above mean sea level (msl) by March 1, but would be refilled to 1,326 feet by March 18.

The second strategy would be to release water from Billy Clapp Reservoir only during spring months as needed. The total spring release at any given time would not exceed 650 cfs. The exact amount would vary due to the volume of runoff from Upper Crab Creek and irrigation demands. This option could provide over 115,000 acre-feet of feed water in the spring.

### **2.6.2.2 W20 Canal Route Alternative**

Under this alternative, supplemental feed water would be conveyed from Billy Clapp Reservoir via the Main Canal and West Canal to the W20 lateral diversion. The W20 lateral is a canal that

currently supplies irrigation water to areas south of Ephrata. Feed water would then be conveyed down the W20 lateral and diverted to Moses Lake. The feed water would then flow to Potholes Reservoir through the Moses Lake Outlet Structure.

The diversion from the West Canal into the W20 lateral averages 150,000 acre-feet annually (approximately 380 cfs) throughout the irrigation season with a maximum of 33,000 acre-feet (approximately 540 cfs) in July (MWG 2002b). Water from the West Canal is conveyed to the W20 lateral through the Naylor Siphon. The existing Naylor Siphon, which starts at the West Canal and crosses under a railroad and State Route 28, has a capacity of 590 cfs. Below the Naylor Siphon, the W20 lateral has a capacity of 850 cfs. In order to accommodate the feed water, a second siphon would need to be constructed. In addition, since the W20 lateral does not currently discharge to Moses Lake, an approximately two-mile conveyance system would need to be constructed to connect with the lake at a point just below the discharge point of Rocky Ford Creek. A new radial gate check structure would be built on the W20 lateral approximately 6.1 miles below the Naylor Siphon to divert water to Moses Lake.

With construction of an additional siphon, the W20 lateral would have the capacity to add a maximum of 50,100 acre-feet to the spring supplemental. However, because of capacity limitations in the West Canal, the W20 lateral route would not add to the summer feed or fall supplemental feed. Thus, feed would be limited to the April to mid-May period.

### **2.6.2.3 Frenchman Hills Route Alternative**

Under this alternative, feed water would be conveyed from Billy Clapp Lake via the Main Canal and West Canal to the Frenchman Hills Wasteway (Figure 2-4). The feed water would then be discharged through the Frenchman Hills Wasteway, a combination of undefined channels and pothole lakes, into Potholes Reservoir.

Frenchman Hills Wasteway crosses under two county roads, Dodson Road and Road C SE. The existing Dodson Road crossing has a capacity of 1,100 cfs and the Road C SE crossing has a capacity of 500 cfs. Frenchman Hills Wasteway is currently used during the spring feed operation. Currently feed water supply from Frenchman Hills Wasteway is limited to 100 to 150 cfs because of the limited capacity of the Road C SE culvert to convey feed water and return flows. Return flows during April and May usually range from 350 to 400 cfs.

In order to increase the amount of feed water capacity, both the Dodson Road and Road C SE culverts would need to be replaced. Assuming a maximum feed of 700 cfs, the Frenchman Hills Wasteway route would have a capacity to feed a total of 46,000 acre-feet in the spring via Frenchman Hills Wasteway. The Frenchman Hills Wasteway route would not have any capacity to add to summer feed and would not be used for fall feed.

### **2.6.2.4 No Action Alternative: Supplemental Feed Route**

Under the No Action Alternative for the Supplemental Feed Route, there would be no supplemental route to deliver feed water to Potholes Reservoir. The existing feed routes would continue to be used with no increased flexibility in delivery.

### **2.6.3 Columbia-Snake River Irrigators Association Voluntary Regional Agreement**

The Columbia-Snake River Irrigators Association (CSRIA) submitted a VRA to Ecology following passage of the Columbia River Water Management Act. The Draft CSRIA VRA can be viewed at [http://www.ecy.wa.gov/programs/wr/cwp/images/pdf/ecy\\_csria\\_drft\\_vra.pdf](http://www.ecy.wa.gov/programs/wr/cwp/images/pdf/ecy_csria_drft_vra.pdf). The CSRIA represents farming operations in eastern Washington that irrigate about 250,000 acres of row crops, vineyards, and orchards. Its members have farming operations along the Columbia-Snake River system from Brewster on the north to the John Day and McNary Pools of the Columbia River on the south. Some of the members own farming operations in the Yakima Valley and within the Columbia Basin Project area. The membership also includes several municipal service irrigators, including Brewster, Kennewick, West Richland, and the Kennewick Irrigation and Hospital Districts.

#### **2.6.3.1 Description of the Proposal**

The CSRIA proposes to undertake conservation and other measures such as pump exchanges, aquifer storage and recovery projects, and surface storage projects to create new sources of water. That water would be used for new water rights on the Columbia River mainstem and lower Snake River (at or below Ice Harbor Pool). Under the proposed VRA, the conserved water would be transferred to Ecology's Trust Program. The VRA does not specify where the projects would be located. The conservation projects could be undertaken by municipal as well as agricultural users.

The CSRIA VRA, as proposed, addresses two groups of water users or potential water users: existing water right holders with interruptible certificated water rights, and new applicants. There are approximately 340 water right holders on the Columbia River and 33 water right holders on the Snake River whose rights are interruptible. That means that during years when flows in the Columbia River at The Dalles for the period April through September are forecasted to fall below 60 million acre-feet, the interruptible water right holders must curtail their use of water.

Under the proposed VRA, Ecology would commit to issue supplemental drought permits to interruptible water right holders that are CSRIA members, provided that mitigation water from efficiency measures and other measures is available to offset their water use during July and August. In exchange, participating members would commit to implementing and maintaining state-of-the-art water use efficiency measures and best management practices, and submit their water rights to Ecology for "recalibration" (determination of extent and validity) of actual beneficial use. Any water saved through the recalibration would be placed into Ecology's Trust Water Right Program. Ecology would be obligated to make a "good faith" effort to provide mitigation water necessary to ensure that any new rights issued in the form of supplemental drought permits will not impair flows in the Columbia River during the months of July and August in years covered by the permits.

For CSRIA members that are applying for new water rights, applicants would receive new interruptible water rights in exchange for agreeing to install or maintain water use efficiency practices, submit any existing water rights to Ecology for recalibration, and permanently transfer

any resulting conserved water to Ecology's Trust Program. CSRIA members would commit to pay \$10 per acre-foot annually for the full amount of water used under the permit. The initial payment would cover the first three years of use. Subsequent payments would be required for each year water is used under the permit. Such payments would be adjusted annually for inflation by Ecology using a methodology mutually agreed to by the parties to the agreement. Revenues received from CSRIA members would be placed in the Columbia River Water Supply Development Account.

CSRIA would work with Ecology to identify the most cost-effective and feasible water projects that could be implemented in a time-frame and at locations that would provide mitigation for new water rights to be issued by Ecology. In applications for new water rights, CSRIA or its members would document that the applications meet the requirements of the Columbia River Water Management Act and applicable water law, including RCW 90.03.290. Some of the provisions of the VRA, including the \$10 per acre-foot payment, are taken from the Settlement Agreement with Ecology on the 2000 CSRIA lawsuit against Ecology (Section 1.3). The VRA states that none of the provisions of the VRA shall supersede the terms of the Settlement Agreement. Pursuant to the requirements of Chapter 90.90.030, a formal 60-day government consultation process regarding the Draft CSRIA was initiated on October 16, 2006, and ended on December 15, 2006. Included in the consultation were county legislative authorities, watershed planning groups with jurisdiction over the area where the water rights included in the agreement are located, the Washington Department of Fish and Wildlife, affected tribal governments, and federal agencies. Some of the issues raised during the consultation period include:

- Watershed Planning Units and Salmon Recovery Boards should be included in the process to identify projects and in decisions to use state funds for conservation projects;
- Mitigation to "achieve no net loss" should be required for impacts during months outside the July to August period for the Columbia River and April to August period for the Snake River;
- Instream flows will be put at further risk if interruptible rights are made non-interruptible;
- Best management practices must be well documented and "government endorsed";
- The \$10 per acre-foot per year mitigation fee is inadequate;
- It is not clear who and what number of individuals would be covered by the agreement;
- The geographic area covered by the agreement is not well defined;
- The locations of sites where conservation and efficiency programs would be implemented are not specified; and
- The locations where new water rights would be issued and the amount of water involved are not known.

Issues raised in the consultation will be the subject of negotiations with CSRIA to determine if modifications to the Draft VRA are warranted. Subsequent to those negotiations, the VRA will undergo a 30-day public comment period prior to a decision by Ecology whether to enter into the agreement.

In addition, if Ecology enters into the VRA, Ecology is committing to prepare an implementation plan for the VRA. The implementation plan would cover projects associated with the VRA for some specified time period and would be periodically updated. The implementation plan and subsequent updates would be subject to environmental review under SEPA. In addition, some of the individual projects and actions undertaken as part of the VRA would trigger environmental review under SEPA.

#### **2.6.3.2 No Action Alternative: Columbia-Snake River Irrigators Association Voluntary Regional Agreement**

Under the No Action Alternative for the CSRIA VRA, Ecology would not process the VRA. The conservation projects proposed by the VRA could be undertaken independently of the Management Program by irrigators or irrigation districts.