

GRANT APPLICATION

Multipurpose Water Storage Assessment under the Watershed Planning Act

Please provide two hard copies and one electronic copy of your application. Send to:
Cathy Hubbard, Department of Ecology, PO BOX 47600, Olympia, WA 98504-7600.

Water Resource Inventory Area(s): 53 – Lower Lake Roosevelt

If you are also submitting a water quality grant please tell us which of these two grant applications is a higher priority.

Water Quality application: Multipurpose Water Storage application:

Have you completed the phase 2 water quantity assessment in RCW 90.82.070?

The Phase 2 Level 1 Watershed Assessment was completed in September 2009. Water storage is a primary objective of most watersheds in the northeastern Washington Counties. Ecology, USBOR, and other entities have looked to the Lower Lake Roosevelt watershed for storage opportunities (e.g. the Hawk Creek Reservoir under the Columbia River Initiative). The primary goal of the water storage assessment will be to evaluate the potential of surface and subsurface storage in order to increase future water supplies in WRIA 53.

Is this application for:
a detailed assessment of multipurpose water storage opportunities

OR

studies of specific multipurpose storage projects which opportunities or projects are consistent with and support the other elements of the planning unit's watershed plan developed under this chapter;

CONTACT INFORMATION

Project Manager: Jim DeGraffenreid, Planning Director
Address, City Zip: 27234 SR 25 N, Davenport, WA 99122
Telephone: 509.725.7911
FAX Internet/e-mail Address: 509.725.4467 / jdegraff@co.lincoln.wa.us

BILLING INFORMATION

Payee Name: Lincoln County Land Services, Attn: Courtney Harder
Address, City Zip 27234 SR. 25 N., Davenport, WA 99122, (509) 725-7041
Federal Tax ID # 91-6001352
Legislative District 12 (14%), 7 (86%) Congressional District 5 (99.5%), 4, (0.5%)

Funding Request Summary

Amount Requested From Ecology \$100,000

Total Cost of Project = \$100,000

Application Authorization

Ecology is requested to consider this application for financial assistance for the purpose of meeting the water quality component under RCW 90.82.090. We agree to cooperate with Ecology by providing any additional information needed to determine grant eligibility and to adhere to all applicable state and federal rules governing grant funds. We certify that to the best of our knowledge, the information in this application is true and correct.

Designated Lead Agency: Lincoln County

Authorized Representative: _____

(signature) (date) Print name and title: _____

What were the conclusions of the completed phase 2 water quantity assessment in RCW 90.82.070?

The phase 2 water quantity assessment was completed in September 2009. Part of the conclusions and recommendations are presented in Section 7 of the document relative to water storage..

Several strategies may be warranted to assure future water supplies are sustainable in WRIA 53 as specified in RCW 90.82.070(2).

7.3.1 Water Storage Strategies

Retaining and/or slowing the transport of water within the watershed is a strategy that is being undertaken throughout eastern Washington. Within WRIA 53, large scale storage in Hawk Creek has been evaluated by Ecology, and has ranked within the top two feasible locations. In addition to large scale storage facilities, small and medium size storage opportunities may help to store and/or infiltrate surface water to assist with “flattening” the hydrograph. Smaller scale water storage strategies can include:

- Small Scale Offstream Storage – most feasible in the Hawk Creek drainage.
- Instream Storage – this could include constructing dams on the main tributaries, within the wetted perimeter. However, feasible alternatives are limited in the watershed.
- Onsite Catchment Systems – most feasible on private properties to assist with retaining spring runoff and infiltrating this water into the aquifers.

- Groundwater Recharge and Storage – this strategy would be integrated with the Columbia River Water Management Program to assess potential opportunities to divert available surface waters from the Columbia River and recharge the basalt interflows to the south.

The watershed is bisected by the Columbia River. Due to its unique location along the river, integration of potential Columbia River Initiative goals and objectives will be undertaken. It is the intent of the Planning Unit to communicate and work with the Office of Columbia River to determine if any future above ground and/or aquifer recharge programs would be beneficial to the goals and objectives of that program. Water storage is a known and primary objective for increasing water supplies in the watershed.

Identify the goals and objectives of the assessment or the specific storage project.

The Planning Unit wishes to identify potential multi-purpose water storage opportunities within WRIA 53. This evaluation will primarily focus on that area of WRIA 53 south of the Columbia River. The water storage evaluation will not focus on those issues within the Columbia River channel. The goals and objectives of this project are to:

Goal 1: Identify storage and augmentation opportunities in the surface and groundwater within the watershed

Objective: Consider short and long-term storage to augment existing out of stream uses

Objective: Consider short and long-term storage to augmenting instream flows

Objective: Evaluate feasibility of identified storage and augmentation opportunities

Objective: Assess feasibility of storage to support flood abatement potential for each identified storage and augmentation opportunity

Goal 2: Evaluate potential for increases in baseflow.

Objective: Evaluate shallow unconfined aquifer storage that may be utilized to increase baseflow to the streams

Objective: Increase baseflow to the basalt aquifers in the watershed.

Objective: Estimate hydraulic properties of aquifers providing baseflow

Objective: Estimate potential changes to baseflow due to storage opportunities

Goal 3: Coordinate Watershed Planning activities with the Columbia River Initiative.

Objective: Evaluate potential opportunities to coordinate water storage alternatives within WRIA 53 with the goals of the Columbia River Initiative

Objective: Develop a cooperative management strategy between WRIA 53 and the Columbia River Initiative for water storage

List any existing water storage studies; summarize the findings from them and how you plan to use them.

Ecology conducted its regional water storage evaluation for surface storage under the Columbia River investigation. The Hawk Creek site was identified as one of two feasible alternatives to store up to 3-million acre feet of water. However, there is some public concerns of a large water impoundment in the watershed. Many public comments refer to aquifer recharge, especially to the basalt aquifers as a preferred storage opportunity.

Provide a detailed scope of work for the type of Multipurpose Storage application that you are submitting. (a scope of work for 1 or 2 below)

Scope of work is attached

Assessment of multipurpose water storage opportunities

Using the technical assessment information on water availability and future water needs from the phase 2 water quantity assessment develop a scope of work for identifying storage opportunities which:

- Considers the type of storage projects that would be useful in that watershed, given the current and future water supply and demand.
- Considers and scopes the full range of storage alternatives and identifies potential site locations for: off-channel storage, underground storage, enlargement or enhancement of existing storage and on channel storage. Both large and small scale storage options should be considered.
- Includes an inventory and assessment of the water storage infrastructure needs including public and private water systems. This inventory should ensure that small drinking water systems and fire safety needs are addressed.
- The assessments should consider how to balance the full range of potential uses for stored water (multipurpose).
- Identifies potential environmental effects associated with the different storage alternatives.

**WRIA 53, Lower Lake Roosevelt Watershed,
Multi-Purpose Storage Assessment**

**ATTACHMENT A
SCOPE OF WORK**

Project Title: WRIA 53 Multi-Purpose Storage Assessment

Project Tasks:

Task 1: Project Management and Administrative Support

This task will include project management functions including contract and subcontract administration, budget tracking, project scheduling and updating, overseeing completion of project deliverables, and monthly reporting to Ecology. Project management also includes quality assurance/quality control of all deliverables. Project management will be completed by Lincoln County Planning and contract staff.

Deliverable(s): Quarterly Reports, Monthly Pay Requests and other items.

Due Date(s): Quarterly Reports: 20 days after quarter, monthly voucher requests

Estimated Cost: \$ 3,000

Task 2: Conduct Water Storage Project Review

2.1 Develop a list of known water storage alternatives for the environment of the watershed (both surface and groundwater).

- Develop a list of small and large scale water storage alternatives that may be feasible for needs in the watershed.
- Provide an interpretation of the benefits and obstacles of each water storage alternative

2.2 Research and compile previous water storage alternatives for watershed

- Determine if any existing reports and proposals on Water Storage are present in watershed
- Prioritize existing proposed projects, if present

Deliverable(s): Chapter for Water Storage report on previous studies and recommendations.

Due Date(s): 4 months from project start

Estimated Cost: \$ 7,000

Task 3: Conduct Water Storage Screening Review

This task will compile and synthesize potential feasible surface and subsurface storage alternatives for the watershed. The primary task will be to conduct a GIS screening to determine feasible storage sites in watershed.

3.1 Compile GIS database

- Compile GIS layers for geology (surface and subsurface), hydrogeology, hydrology, land use, vegetation, etc.)
- Utilize GIS data to determine if environmental conditions are amenable for water storage alternatives evaluated in subsequent tasks

3.4 Assess low flow streams that could benefit from water storage projects.

- Review and prioritize streams with low flow conditions
- Determine possible opportunities for significantly increasing baseflow
- Estimate hydraulic properties of aquifers providing baseflow

3.4 Assess out-of-stream needs that could benefit from water storage projects

- Review and assess growth projections and land use planning issues in the watershed.
- Conduct an inventory and assessment of the water storage infrastructure needs including public and private water systems.
- Compile and review other out-of-stream uses in the watershed that may be encountering water supply issues.

3.4 Categorize potential small and large scale water storage alternative actions that may be feasible in the watershed (surface and groundwater).

- Identify potential site locations across WRIA 53 for: off-channel storage, underground storage, enlargement or enhancement of existing storage, and on channel storage. (Both large and small scale storage options should be considered). Prioritize 4 to 6 potential sites that may be feasible for water storage projects.
- Identify potential environmental effects associated with the different storage alternatives
- Provide an analysis of water storage alternatives selected by Planning Unit. The analysis will be provided for a mutually agreed upon number of water storage alternatives by the Planning Unit. The analysis will include a conceptual design of the projects, and an estimate of cost, quantity of water stored, environmental impacts, and possible mitigation.

Deliverable(s): GIS data, Presentation of findings to PU, technical memorandum.

Due Date(s): GIS data: 4 months after contract award, presentation to PU: 7 months after contract award, technical memorandum/chapter: 8 months from contract award.

Estimated Cost: \$ 50,000

Task 4.0: Compile and submit report to Planning Unit and Ecology

- Submit draft report to Planning Unit for review and comment
- Present information from draft report to Planning Unit
- Prepare comment response table for Planning Unit approval

- Deliver final report and data to Planning Unit
- Deliver final report, final invoice and data to Ecology

Deliverable(s):

- Planning Unit Presentation
- Comment Response Table
- Final report

Due Date(s):

- Submit draft report to Planning Unit for review – 8 months from start
- Present information from draft report to Planning Unit and collect comments from Planning Unit – 9 months from start
- Submit Comment Response Table for Planning Unit approval – 11 months from start
- Deliver final report to Planning Unit – 12 months from start

Cost: \$ 25,000

Task 5.0: Coordinate Watershed Planning activities with the Columbia River Initiative.

- Evaluate potential opportunities to coordinate water storage alternatives within WRIA 53 with the goals of the Columbia River Initiative
- Develop a cooperative management strategy between WRIA 53 and the Columbia River Initiative for water storage

Deliverable(s):

- Memorandum of Water Storage Strategies

Due Date(s):

- Memorandum of CRI Water Storage Strategies: – 11 months from start

Cost: \$ 15,000

ATTACHMENT B
**WRIA 53, Lower Lake Roosevelt Watershed,
 Multi-Purpose Storage Assessment**

**FISCAL YEAR 09-10
 BUDGET**

BUDGET BY ELEMENT **FY2009-10**

SALARIES/BENEFITS	\$ 15,000
CONTRACTED SERVICES	\$ 85,000
TRAVEL	\$ 0
EQUIPMENT	\$ 0
SUPPLIES	\$ 0
OVERHEAD	<u>\$ 0</u>

TOTAL BUDGET BY ELEMENT **\$100,000**

BUDGET BY TASK

1. Project Management & Administrative Support	\$ 3,000
2. Water Storage Project Review	\$ 7,000
3. Water Storage Assessment	\$ 50,000
4. Water Storage Report	\$ 25,000
5. Coordinate Watershed Planning activities with the CRI	\$ 15,000

TOTAL BUDGET BY TASK **\$100,000**

TOTAL REQUEST FOR FISCAL YEAR 09-10 **\$ 100,000**

Total remaining Watershed Planning Funds for subsequent amendments pending continued eligibility and further legislative appropriation. \$ 0