Title Page

Application for Drought Contingency Planning Grant

Funding Opportunity Announcement No.: R16-FOA-DO-005

WaterSMART: Drought Contingency Planning Grants for Fiscal Year (FY) 2016

Development of a Drought Contingency Plan for Whatcom County in Washington State, including development of a water rights exchange program to provide resilience to water users in future droughts.

Applicant and Project Manager:

Mr. Stephan Jilk, General Manager
PUD #1 of Whatcom County
1705 Trigg Road,
Ferndale, WA 98248
Phone: 360-384-4288 x 12
e-mail: stevej@pudwhatcom.org
FAX: 360-384-4849

Award Documents:

If sent by e-mail, send to stevej@pubwhatcom.org
If hard copy, send to:

Mr. Stephan Jilk, General Manager
PUD #1 of Whatcom County
1705 Trigg Road,
Ferndale, WA 98248

Table of Contents

TECHNICAL PROPOSAL

Executive Summary

WaterSMART: Drought Contingency Planning Grants for Fiscal Year 2016
Applicant Name: PUD #1 of Whatcom County (PUD)
Nearest City: Ferndale, WA
County: Whatcom
State: Washington State
April 8, 2016

Project Description: The PUD is seeking USBR funding to assist in developing a drought contingency plan for Whatcom County in Washington State. The goal of the plan is to convene a Drought Planning Task Force which will evaluate the following drought mitigation elements:

1. Drought Monitoring
2. Vulnerability Assessment
3. Mitigation Actions
4. Response Actions
5. Operational and Administrative Framework
6. Plan Update Process

The mitigation actions work will include the establishment of a water rights exchange program to facilitate the shifting of water within Whatcom County to assist irrigators and other water users with interruptible water rights to secure a reliable supply of water during future droughts.

Length of time and estimated completion date: It is currently estimated that the development of the drought contingency plan for Whatcom County will require 18-24 months after the receipt of the U.S.B.R. grant funding.

There are no U.S. Bureau of Reclamations Projects currently located in the study area.

Background Data

Hydrology and Recent Droughts

Whatcom County is located at the northwest corner of Washington State and covers over 2,503 square miles of which 2,107 square miles is land and 397 square miles is water. Elevations range from sea level to the top of Mount Baker at about 10,700 feet. Whatcom County is home to over 200,000 people. The PUD is submitting this application of behalf of water users in Whatcom County.

The Nooksack River and its tributaries is the primary source of water in Whatcom County. The north and middle Forks of the Nooksack River are glacially fed. Flows in the lower elevation south fork are dependent on snowpack and precipitation and, in the north and middle forks, lower elevation snow pack and precipitation also play a significant role in the flows of the river. Because of the reliance on lower elevation snowpack and precipitation, Whatcom County is susceptible to drought impacts such as those that occurred in 2014-2015. The average daily discharge of the Nooksack River at the USGS gage in Ferndale, WA (USGS 12213100 Nooksack River at Ferndale, WA) for the period 1967-2016 is 17,957 cfs. On August 27, 2015, the flow of the river at Ferndale was 934 cfs which is about 52 percent of the mean daily discharge for that date over nearly 50 years of record! During the summer of 2015, several holders of interruptible irrigation water rights from the Nooksack River were not able to divert water because of the low flows of the river.

Unlike classic droughts, characterized by extended precipitation deficits, 2015 was the year of the "snowpack drought." Washington State had normal or near-normal precipitation over the 2014-2015 winter season. However, October through March the average statewide temperature was 40.5 degrees Fahrenheit, 4.7 degrees above the 20th century long-term average and ranking as the warmest October through March on record. Washington experienced record low snowpack because mountain precipitation that normally fell as snow instead fell as rain.

The snowpack deficit then was compounded as precipitation began to lag behind normal levels in early spring and into the summer. With record spring and summer temperatures, and little to no precipitation over many parts of the state, the snowpack drought morphed into a traditional precipitation drought, causing injury to crops and aquatic species. Many rivers and streams experienced record low flows. (Department of Ecology, http://www.ecy.wa.gov/drought/index.html Washington Drought Watch 2016)

During the winter of 2014-2015, much of the precipitation in the mountains fell as rain rather than snow due to above average temperatures. The snowpack is considered to be a "third reservoir", and is an important water source for rivers as lowland precipitation tapers off in the late spring/early summer. This resulted in low snowpack which was the initial driver of the 2015 drought. http://agr.wa.gov/FP/Pubs/docs/104-495InterimDroughtReport2015.pdf Interim Report: 2015 Drought and Agriculture, Washington State Department of Agriculture, December 2015, Publication No. [AGR PUB 104-395]

Washington is third in the nation in blueberry production. The majority of production (about 65%) occurs in northwest Washington (Whatcom and Skagit Counties). Western Washington growers reported impacts on yield, size, and quality. Prior to harvest, growers estimated that in a normal year, production would have been approximately 112 million pounds. The final harvest totals were only 104 million pounds, a loss of 8 million pounds. Meetings with producers attributed all of that loss to high temperatures immediately before and during harvest. Known loss: 8 million pound loss (based on data received from commodity commission on lost yield) and $1.32/lb price based on NASS 5-year price average (NASS, 2015a), approximately $12.0 million.

Washington State is the second largest grower of red raspberries in the nation. In 2014, Washington State recorded 12,596 acres planted in red raspberries or other caneberries (WSDA, 2015a). Of this acreage, 84 percent is in northwest Washington (Skagit and Whatcom Counties). Red raspberry growers in this region reported both size and quality impacts from this year's drought and extreme heat. Known loss: 26% crop loss (based on 2014 yield of 72.6 million pounds) at an average price of $0.735/lb – (5-year price average, NASS 2015a), approximately $13.9 million.

The main conclusion from this interim report is that impacts were widespread and will be ongoing. In the agricultural industry, a drought is not a single point of impact, simply because crop growing periods, seeding, drought damaged plants, and other issues take time to resolve. We will not truly know the impact of this drought for two to four years, and that is only if another drought does not occur during this time. Farming operations will struggle to stay solvent, despite their technological innovation and adapting practices, if climate and weather changes like those seen in 2015 become more regular. http://agr.wa.gov/FP/Pubs/docs/104-495InterimDroughtReport2015.pdf Interim Report: 2015 Drought and Agriculture, Washington State Department of Agriculture, December 2015, Publication No. [AGR PUB 104-395]

Water Use in Whatcom County

The eastern third of Whatcom County is dominated by forested lands under the jurisdiction of the U.S. Forest Service and National Park Service. Land use in the western portion supports agriculture, residential development, commercial/industrial development, and forestry.

Bellingham is the largest city (2014 population approximately 83,000). Other cities and towns include Blaine, Ferndale, Everson, Lynden, Nooksack, and Sumas. The total county population is forecast to increase to approximately 275,000 by 2036 and, by 2065, the total county population is expected to be about 400,000. This population growth will increase the importance of the wise and efficient use of water and amplifies the need for an effective drought response plan to mitigate the impacts of future droughts in the county.
Source: Washington Office of Financial Management, May 2012

In addition to municipal water use, irrigation is a significant water use in Whatcom County and, in fact, accounts for most of the water used in the County.

Water use associated with irrigation increased by an estimated 25% between 2000 and 2005. The 2012 census reports Market Value of Whatcom County crops was $357 million over 1,702 farms and Whatcom County led the state in the production of milk, raspberries, and blueberries.

Also in 2012, the Department of Revenue and Employment Security Department reported that gross sales attributed to the food processing industry in Whatcom County accounted for sales of $959 million and 1,774 jobs, ranking Whatcom County in the top 10 of Washington's 39 counties. (Based on 2012 Census of Agriculture date and compiled by Whatcom Farm Friends.

http://www.agcensus.usda.gov/Publications/2012/Full Report/Volume 1, Chapter 2 County Level/Washington/

The USDA 2012 Census of Agriculture reported a "farm gate value" of $326,450,000 for agricultural products in Whatcom County, making Whatcom County 1st of 17 counties in Western WA, 6th of 39 in the state, and 78th out of 3,075 farm counties in the US (top 3%). According to the USDA, Washington State is second behind California in total agricultural exports. (USDA, 2015a)

As stated above, Washington is third in the nation in blueberry production with the majority of production (about 65%) occurring in northwest Washington (Whatcom and Skagit Counties) and is the second largest grower of red raspberries in the nation. In 2014, Washington State recorded 12,596 acres planted in red raspberries or other caneberries (WSDA, 2015a). Of this acreage, 84 percent is in northwest Washington (Skagit and Whatcom Counties).

In addition to the more traditional uses of water for out-of-stream uses, water is also vital to the maintenance of stream flows for fisheries in the region. The Nooksack River, its Forks, and its tributaries have minimum requirements for streamflow as established by Chapter 173-501 Washington Administrative Code (WAC). The purpose of these instream flow requirements is to retain perennial rivers, streams, and lakes in the basin with instream flows and levels necessary for preservation of wildlife, fish, scenic, aesthetic, and other environmental values, and navigational values as well as recreation and water quality". Such instream flows constitute a water right with the priority dates of the rule which is January, 1986.

Whatcom County is home to seven species of salmon, including chinook, chum, coho, pink, sockeye, steelhead, and kokanee (land-locked sockeye). Other salmonids (fish that are closely related to salmon) are also found in Whatcom County, including bull trout and dolly varden (native char), sea-run cutthroat, resident cutthroat, rainbow trout, and brook trout (a non-native char). Populations of several of the species have seen a decline over the past decades. Three Puget Sound species found in Whatcom County– chinook, bull trout, and steelhead– are listed as "threatened" under the Federal Endangered Species Act. Two chinook populations, which are the North/Middle Fork and South Fork Nooksack early chinook, are genetically unique and together make up one of five genetic diversity units in Puget Sound, and are the only two populations in the Strait of Georgia Region. These populations are considered to be essential to recovering Puget Sound Chinook. Italicized text is from: www.nwr.noaa.gov/salmon-recovery-planning/ recovery-domains/Puget-Sound) (italicized material above from 2010 State of the Watershed Report – June 30, 2011

As the drought contingency plan is developed, the Task Force will involve stakeholders with interests in both instream and out-of-stream uses of water to ensure that the mitigation and response actions that are developed will address the broad range of anticipated drought impacts in Whatcom County.

Industrial use of water in Whatcom County is a key element in the location and operations of facilities of regional importance. The Cherry Point Heavy Industrial Zone in western Whatcom

County is home to two oil refineries, one aluminum smelter and several smaller industries. Cherry Point is also the location of two electric generating facilities. The PUD supplies water to all its industrial customers at Cherry Point. The PUD draws its water from the Nooksack River under two perfected water rights. The average daily consumption by the industrial customers is 15 million gallons. Reliable flows in the Nooksack River are critical to retaining this important economic sector of Whatcom County.

Technical Project Description

The goal of this project is to develop a drought contingency plan for Whatcom County to increase the resiliency of water users to future drought conditions.

The project will begin with the establishment of the drought planning task force consisting of members representing a diverse range of instream and out-of-stream water-related interests. The task force will be chaired by the PUD. The task force will develop a detailed work plan in conjunction with the USBR and will include public outreach within Whatcom County.

Subject to concurrence of the task force, it is envisioned that the development of the Whatcom County drought contingency plan will begin with the establishment of a drought water exchange program which will focus initially on the South Lynden Watershed Improvement District (WID). This WID consists of 12,991 acres in which dairy farms are the most prevalent agricultural activity. Dairies are highly reliant on the availability of water for a variety of purposes including stock watering, wash down of the barns and other facilities, and irrigation of silage and corn crops to provide food for the herd. Relative to other parts of the County, the South Lynden WID has a higher percentage of surface water users because of a lack of groundwater. Because of their reliance on surface water, a number of the dairies in the WID experienced hardships that were directly related to the drought in 2015. Specifically, several dairies hold water rights which are interruptible based on the instream flows established in Chapter 173-501 WAC are were not allowed to fully exercise those water rights in 2015.The result was a reduced ability to grow feed for their herds necessitating the purchase of hay from other areas at a higher cost and/or less sales of locally-produced hay to other dairies with the concomitant loss of income.

The development of the water exchange for the WID is viewed as Phase 1 of the mitigation measures of the Whatcom County drought contingency plan. There are a total of six watershed improvement districts in Whatcom County. It is anticipated that similar water exchange programs will be designed and implemented in the remaining WIDS and the remainder of Whatcom County as subsequent phases of the drought mitigation efforts. The decision to initially focus on the South Lynden WID was driven by the preponderance of surface water users in that area which results in the most pronounced susceptibility to drought-related low flows on the Nooksack River.

Two major water suppliers in Whatcom County, the City of Bellingham and the PUD, have large water rights which provide more water than is forecasted to be needed at full build-out of their water systems. The City of Bellingham supply is for municipal supply purposes while the PUDs supply is primarily for industrial use with a quantity intended for irrigation. The drought contingency plan is expected to evaluate options for the use of a portion of the water rights from these two entities as a means of providing resiliency in future droughts. This discussion will essentially be a discussion about the potential creation of regional water supply projects and will, by necessity, require participation by a diverse cross-section of the local community which will be accomplished by creation of the drought planning task force and its public outreach efforts.

Evaluation Criteria

(See Section V – Application Review Information for additional details, including a detailed description of each criterion and subcriterion and points associated with each.)

The evaluation criteria portion of your application should thoroughly address each criterion and subcriterion in the order presented to assist in the complete and accurate evaluation of your proposal. It is suggested that applicants copy and paste the evaluation criteria and sub-criteria immediately below into their applications to ensure that all necessary information is adequately addressed.

Evaluation Criteria A – Need for a Drought Contingency Plan (40 points)

As previously stated, Whatcom County relies heavily on the water supply provided by the Nooksack River Basin watershed. While the North and Middle Fork are sustained in part by glacial melt, the North, Middle, and South Forks also rely heavily on the existence of low-elevation snowpack and rainfall to provide adequate water supplies for the County. The lack of snowpack and record low-levels of precipitation in the watershed were the cause of the 2015 drought in Whatcom County and the rest of the State of Washington.

As stated previously, Washington is third in the nation in blueberry production. The majority of production (about 65%) occurs in northwest Washington (Whatcom and Skagit Counties). Western Washington growers reported impacts on yield, size, and quality. Prior to harvest, growers estimated that, in a normal year, production would have been approximately 112 million pounds. The final harvest totals were only 104 million pounds, a loss of 8 million pounds. Meetings with producers attributed all of that loss to high temperatures immediately before and during harvest. Known loss: 8 million pound loss (based on data received from commodity commission on lost yield) and $1.32/lb price based on NASS 5-year price average (NASS, 2015a), approximately $12.0 million.

Washington State is the second largest grower of red raspberries in the nation. In 2014, Washington State recorded 12,596 acres planted in red raspberries or other caneberries (WSDA, 2015a). Of this acreage, 84 percent is in northwest Washington (Skagit and Whatcom Counties). Red raspberry growers in this region reported both size and quality impacts from this year's drought and extreme heat. Known loss: 26% crop loss (based on 2014 yield of 72.6 million pounds) at an average price of $0.735/lb – (5-year price average, NASS 2015a), approximately $13.9 million.

In 2015, much of the Nooksack River basin was closed to fishing because of drought impacts. Spring chinook were experiencing high pre-spawning mortality rates and were not able to enter the South Fork of the Nooksack River due to extreme low flows and high water temperatures. Chinook salmon are one of the species listed as "threatened" under the Federal Endangered Species Act and the spring chinook are considered genetically unique and are a key part of one

of five genetic diversity units in Puget Sound (to which the Nooksack River drains) and are considered essential to recovering Puget Sound Chinook.

In addition, the Cities of Bellingham and Lynden rely on direct withdrawals of surface water for their municipal water supplies. While other cities and towns in Whatcom County use ground water, groundwater supplies are generally highly connected to the surface water supplies. The result is that these systems are also vulnerable to drought-related impacts although the impacts on groundwater resources may be somewhat delayed relative to the impacts on surface water users.

Industrial use at the Cherry Point industrial Area is provided by PUD No. 1 of Whatcom County. Extreme low river flows, such as those that may be encountered during future droughts or extended low-flow periods accompanying climate change, may result in the PUD being unable to withdraw the needed water for its customers at Cherry Point and may require extensive modifications of intake structures in the future in order to avoid significant economic impacts associated with the interruption of industrial water supplies in Whatcom County.

Evaluation Criteria B – Inclusion of Stakeholders (30 Points)

It is anticipated that the Drought Contingency Planning Task Force will include, at a minimum, representatives of the following interests in the County's water resources:

Municipal suppliers using surface water and ground water;
Industrial suppliers;
Agricultural interests representing growers of perennial and annual crops and users of surface water and ground water;
Fishery interests, including commercial and recreational interests; representatives of the Lummi Indian Nation and the Nooksack Tribe will be invited to participate;
State agencies, including the Washington State Department of Health (responsible for public water systems; Washington State Department of Ecology (the state water agency, responsible for water rights and water policy, including the establishment of minimum instream flows, chair of the State Drought Task Force), Washington State Department of Fisheries and Wildlife.
Recreation.
Other water resource stakeholders.

Each of the entities that provided letters of support are expected to actively participate in the Task Force as well as representatives from the other interests listed above.

It is anticipated that the initial meetings of the task force will include developing an outreach program to identify new potential members of the task force and the best means of inviting them to participate in the task force. Interests that may be invited include forest managers, recreational user groups, and other water user groups not included in the list above such as the Water Supply Coalition, a group of local out-of-stream water users concerned with the availability of water for future needs. [1]

[1]The Water Supply Coalition currently includes the following members: Ag Water Board; Birch Bay Water & Sewer District; City of Blaine; Dave Olsen, Cornerstone Management – representing Group A systems primarily; City of Lynden; PUD No. 1 of Whatcom County; Whatcom County. The group meets monthly and is in the process of developing a work plan and, once that is agreed upon, other water users will be invited to join.

Evaluation Criteria C – Project Implementation (20 points)

Drought Monitoring

The Washington State Department of Ecology monitors water supply conditions throughout the State and serves as the chair of the Water Supply Availability Committee which consists of the following members:

Core Members:

Ecology
U.S. Geological Survey
National Weather Service
Soil Conservation Service
U.S. Bureau of Reclamation
U.S. Army Corps of Engineers
Bonneville Power Administration.

User Members:

Washington departments of Fish and Wildlife
Community, Trade, and Economic Development
Agriculture
Natural Resources
Health
Office of Financial Management.

When water supply conditions warrant, the Governor's Office convenes and serves as Chair of the Executive Water Emergency Committee. This Committee includes the following members:

State Agencies

Agriculture
Community, Trade, and Economic Development
Ecology
Employment Security
Fish and Wildlife
Health
Natural Resources
Office of Financial Management

Federal Agencies

Bureau of Reclamation
Army Corps of Engineers
Bonneville Power Administration

Other

Affected Tribes
Cooperative Extension

The Whatcom County Drought Contingency Planning Task Force will monitor the water supply forecast information provided by Ecology as chair of the water supply availability committee and will also work with task force members to evaluate the significance of the water supply forecasts on each of their activities. There appears to be little value added by duplicating the thorough water supply monitoring efforts already being provided by the groups listed above. Efforts in Whatcom County will focus instead of the significance of the water supply forecasts for Whatcom County and how best to identify and address anticipated drought impacts.

Vulnerability Assessment

One of the first and most important goals of the Task Force will be identify those elements of water use in Whatcom County that are most susceptible to drought-related impacts. As previously discussed, elements of the agricultural sector are extremely vulnerable to drought impacts as are a number of the instream resources such as fish and wildlife habitat. This vulnerability will be assessed from the aspects of both relatively short-term drought

conditions as well as the vulnerability should Whatcom County experience the anticipated long-term climate change conditions of reduced low-elevation snowpack and elevated temperatures.

Mitigation Actions

As mentioned previously, local interests have already identified the need to develop a water exchange program for Whatcom County with an initial focus on the South Lynden WID area. This area was selected because of the agricultural community's reliance on surface water supplies and their vulnerability to low stream flow caused by drought conditions. It is anticipated that the Task Force will identify additional mitigation actions such as the implementation of water reductions strategies for municipal and community water systems, an evaluation of storage opportunities on both a local and regional scale, potential fishery-related activities such as creating habitat enhancements or plans for re-channeling the lower reaches of tributary streams to ensure access of migrating salmon to productive spawning areas, consideration of regional water supply alternatives to move water from areas of relative abundance within the watershed to areas of relative scarcity as a means of alleviating future drought-related vulnerability and impacts.

Response Actions

The Task Force will be charged with the task of identifying, evaluating, and prioritizing drought response actions that can be implemented during a drought. This may include actions such as water use restrictions by industrial, municipal, and community water systems, long-range storage projects, and development and implementation of a water exchange program for other parts of the County.

Operational and Administrative Framework

One goal of the Task Force will be to identify roles of the members in the implementation of agreed-upon mitigation and response actions. In the event a responsible party is not already a member of the Task Force, those parties will be invited to participate in the Task Force and will be requested by the Task Force to conduct the activities recommend by the Task Force. The Task Force will discuss and assign "lead entity" roles for each of the identified tasks and will work with those entities to develop a scope of work, schedule, and budget for the completion of the assigned tasks.

Another goal of the Task Force will be community outreach. This will be aimed at both "getting the word out" about impending or existing drought conditions but also seeking broad involvement from stakeholders in Whatcom County as mitigation and response measures are discussed and implemented.

Plan Update Process

It is anticipated that the Task Force will periodically evaluate the effectiveness of the task force itself and the drought contingency plan it has developed and will identify needed changes as a means of continuing to improve the ability of water users in Whatcom County to better prepare and respond to future droughts. Once the contingency plan has been developed and implemented and a drought has occurred and/or mitigation and response measures have been implemented, the Task Force will convene to review these actions and assess to what degree they were effective and whether they should be retained, modified, or discontinued.

Evaluation Criteria C – Nexus to Reclamation (10 points)

There is no direct nexus with the U.S. Bureau of Reclamation as there are no Bureau projects in Whatcom County. However, as identified above, the Bureau is involved in both the Water Supply Availability Committee and the Executive Water Emergency Committee, the work of both of which will be employed by the Whatcom County Drought Contingency Planning Task Force.

Existing Drought Contingency Plan

There is not currently a drought contingency plan specific to Whatcom County. Washington State government has a statewide drought contingency plan which is currently undergoing a revision and update. As part of that plan, the Washington State Department of Ecology monitors water supply conditions throughout the state and is authorized to issue a drought declaration for all or a portion of the State after consulting with, and obtaining the views of, the federal and state government entities identified in the State's drought contingency plan and obtaining the written approval of the Governor. RCW (Revised Code of Washington) 43.83B.400 defines "drought condition: as "the water supply for a geographical area or for a significant portion of a geographical area is below seventy-five percent of normal and the water shortage is likely to create undue hardships for various water uses and users. (See the discussion of the Water Supply Availability Committee and the Executive Water Emergency Committee, above.)

Required Permits or Approvals

No permits or approvals are required for the development of the Whatcom County drought contingency plan.

Letters of Support

Letters of support have been received from the following entities and are included in Appendix 1:

- AG Water Board (representing six watershed improvement districts (WIDs) in Whatcom County)
- Birch Bay Water and Sewer District
- City of Ferndale
- Lummi Nation
- City of Lynden
- Whatcom County Executive Office
- Washington Sea Grant
- Washington State University

Official Resolution

A draft resolution from the Commissioners of PUD #1 of Whatcom County is included in Appendix B. The Commissioners will meet on April 12 to formally approve this resolution. The Commissioners are aware of this resolution and have individually expressed their support for this project but will not meet until April 12. At the April 12 meeting, they will officially approve the resolution and it will be forwarded to the Bureau for inclusion in Appendix B.

Project Budget

Funding plan and letters of commitment

It is anticipated that the development of the drought contingency plan for Whatcom County will require approximately $200,000, with $100,000 provided by the U.S. Bureau of Reclamation and $100,000 provided by the PUD (the applicant). In the future, the PUD may elect to seek additional funding from Task Force members as the project is developed but no such commitments have been made. Therefore, there is no need to submit funding-related letters of commitment at this time.

Budget Proposal

This project will be led and administered by the applicant and the applicant will retain the services of a consultant familiar with Washington State water law and the water resource issues and stakeholders in Whatcom County to assist the PUD in developing the drought contingency plan in conjunction with the Task Force.

Appendix A

Letters of Support

AG WATER BOARD

AG Water Board
Scott Bedlington, Bertrand WID
Roger Bajema, North Lynden WID
Ed Blok, South Lynden WID
Mike Boxx, Laurel WID
Marty Maberry, Drayton WID
Andy Enfield, Sumas WID

March 29, 2016

Bureau of Reclamation Financial Assistance Services
Attn: Mr. Michael Dieterich
Mail Code: 84-27852
P.O. Box 25007
Denver, CO 80225

Re: WaterSMART Drought Contingency Planning Funding Opportunity (No. R16-FOA-DO-005)

Dear Mr. Dieterich:

The Ag Water Board of Whatcom County is providing this letter of support for Public Utility District No. 1 of Whatcom County's (PUD) application for a Drought Contingency Planning Grant made available through the U.S. Department of Interior's WaterSMART Program.

The PUD is submitting this application on behalf of water resource stakeholders who wish to build resiliency to drought and climate change in Whatcom County. Located at the northwest corner of Washington State, Whatcom County covers 2,503 square miles of which 2,107 square miles is land and 397 square miles is water. Elevations range from sea level to the top of Mount Baker at about 10,700 feet. Whatcom County is home to over 200,000 people.

The Nooksack River and its tributaries is the primary source of water in Whatcom County. The north and middle Forks of the Nooksack River are glacially fed. Flows in the lower elevation south fork are dependent on snowpack and precipitation and, in the north and middle forks, lower elevation snow pack and precipitation also play a significant role in the flows of the river. Because of the reliance on lower elevation snowpack and precipitation, Whatcom County is susceptible to drought impacts such as those that occurred in 2014-2015. The average daily discharge of the Nooksack River at the USGS gage in Ferndale, WA (USGS 12213100 Nooksack River at Ferndale, WA) for the period 1967-2016 is 17,957 cfs. On August 27, 2015, the flow of the river at Ferndale was 934 cfs which is about 52 percent of the mean daily discharge for that date over nearly 50 years of record.

In addition to the more than 200,000 people that rely on water for domestic supplies, the Nooksack River and its tributaries are home to several species of salmonids, and adequate stream flow is vital to support tribal and non-tribal commercial and recreational fishing, in addition to agriculture and industry. Whatcom County is a major agricultural area. Washington State ranks second in the nation in raspberry production and third in the nation in blueberry production. Eighty-four percent of the raspberries and

sixty-five percent of the blueberries are grown in Northwest Washington (Whatcom and Skagit counties). In fact, Washington State is second only to California in total agricultural exports.

Droughts such as that experienced in 2015 have significant adverse impacts on Whatcom County and, because Whatcom County currently does not have a drought contingency plan, there is little being done to prevent or alleviate drought impacts for its many and varied uses of water that support agriculture, industry, cities and ecological systems.

If the USBR approves this grant application, the PUD will convene a Drought Planning Task Force to develop a drought contingency plan for Whatcom County. Our organization looks forward to working with the PUD and the Task Force to develop a drought contingency plan consistent with the grant funding requirements.

Thank You,

Scott Bedlington
AWB Chairman

cc: Stephan Jilk, PUD No.1 of Whatcom County

Birch Bay Water and Sewer District

Serving the Greater Birch Bay Area Since 1968

7096 POINT WHITEHORN ROAD

BIRCH BAY, WASHINGTON 98230-9675

PHONE: (360) 371-7100 (24 hrs)

COMMISSIONERS

Carl Reichhardt

Don Montfort

Patrick Alesse

March 30, 2016

Bureau of Reclamation Financial Assistance Services
Attn: Mr. Michael Dieterich
Mail Code: 84-27852
P.O. Box 25007
Denver, CO 80225

Re: WaterSMART Drought Contingency Planning Funding Opportunity (No. R16-FOA-DO-005)

Dear Mr. Dieterich:

The Birch Bay Water & Sewer District is providing this letter of support for Public Utility District No. 1 of Whatcom County's (PUD) application for a Drought Contingency Planning Grant made available through the U.S. Department of Interior's WaterSMART Program.

The PUD is submitting this application on behalf of water resource stakeholders who wish to build resiliency to drought and climate change in Whatcom County. Located at the northwest corner of Washington State, Whatcom County covers 2,503 square miles of which 2,107 square miles is land and 397 square miles is water. Elevations range from sea level to the top of Mount Baker at about 10,700 feet. Whatcom County is home to over 200,000 people.

The Nooksack River and its tributaries is the primary source of water in Whatcom County. The north and middle Forks of the Nooksack River are glacially fed. Flows in the lower elevation south fork are dependent on snowpack and precipitation and, in the north and middle forks, lower elevation snow pack and precipitation also play a significant role in the flows of the river. Because of the reliance on lower elevation snowpack and precipitation, Whatcom County is susceptible to drought impacts such as those that occurred in 2014-2015. The average daily discharge of the Nooksack River at the USGS gage in Ferndale, WA (USGS 12213100 Nooksack River at Ferndale, WA) for the period 1967-2016 is 17,957 cfs. On August 27, 2015, the flow of the river at Ferndale was 934 cfs which is about 52 percent of the mean daily discharge for that date over nearly 50 years of record.

In addition to the more than 200,000 people that rely on water for domestic supplies, the Nooksack River and its tributaries are home to several species of salmonids, and adequate stream flow is vital to support tribal and non-tribal commercial and recreational fishing, in addition to agriculture and industry. Whatcom County is a major agricultural area. Washington State ranks second in the nation

in raspberry production and third in the nation in blueberry production. Eighty-four percent of the raspberries and sixty-five percent of the blueberries are grown in Northwest Washington (Whatcom and Skagit counties). In fact, Washington State is second only to California in total agricultural exports.

Droughts such as that experienced in 2015 have significant adverse impacts on Whatcom County and, because Whatcom County currently does not have a drought contingency plan, there is little being done to prevent or alleviate drought impacts for its many and varied uses of water that support agriculture, industry, cities and ecological systems.

If the USBR approves this grant application, the PUD will convene a Drought Planning Task Force to develop a drought contingency plan for Whatcom County. Our organization looks forward to working with the PUD and the Task Force to develop a drought contingency plan consistent with the grant funding requirements.

Sincerely,

Dan Eisses
General Manager

Cc: Stephan Jilk, PUD No.1 of Whatcom County

CITY OF FERNDALE
2095 Main Street
PO Box 936
Ferndale, Washington, 98248

April 1, 2016

Bureau of Reclamation Financial Assistance Services
Attn: Mr. Michael Dieterich
Mail Code: 84-27852
P.O. Box 25007
Denver, CO 80225

Re: WaterSMART Drought Contingency Planning Funding Opportunity (No. R16-FOA-DO-005)

Dear Mr. Dieterich:

The City of Ferndale is providing this letter of support for Public Utility District No. 1 of Whatcom County's (PUD) application for a Drought Contingency Planning Grant made available through the U.S. Department of Interior's WaterSMART Program.

The PUD is submitting this application on behalf of water resource stakeholders who wish to build resiliency to drought and climate change in Whatcom County. Located at the northwest corner of Washington State, Whatcom County covers 2,503 square miles of which 2,107 square miles is land and 397 square miles is water. Elevations range from sea level to the top of Mount Baker at about 10,700 feet. Whatcom County is home to over 200,000 people.

The Nooksack River and its tributaries is the primary source of water in Whatcom County. The north and middle Forks of the Nooksack River are glacially fed. Flows in the lower elevation south fork are dependent on snowpack and precipitation and, in the north and middle forks, lower elevation snow pack and precipitation also play a significant role in the flows of the river. Because of the reliance on lower elevation snowpack and precipitation, Whatcom County is susceptible to drought impacts such as those that occurred in 2014-2015. The average daily discharge of the Nooksack River at the USGS gage in Ferndale, WA (USGS 12213100 Nooksack River at Ferndale, WA) for the period 1967-2016 is 17,957 cfs. On August 27, 2015, the flow of the river at Ferndale was 934 cfs which is about 52 percent of the mean daily discharge for that date over nearly 50 years of record.

In addition to the more than 200,000 people that rely on water for domestic supplies, the Nooksack River and its tributaries are home to several species of salmonids, and adequate stream flow is vital to support tribal and non-tribal commercial and recreational fishing, in addition to agriculture and industry. Whatcom County is a major agricultural area. Washington State ranks second in the nation in raspberry

APR 11 '16 AM10:56

production and third in the nation in blueberry production. Eighty-four percent of the raspberries and sixty-five percent of the blueberries are grown in Northwest Washington (Whatcom and Skagit counties). In fact, Washington State is second only to California in total agricultural exports.

Droughts such as that experienced in 2015 have significant adverse impacts on Whatcom County and, because Whatcom County currently does not have a drought contingency plan, there is little being done to prevent or alleviate drought impacts for its many and varied uses of water that support agriculture, industry, cities and ecological systems.

If the USBR approves this grant application, the PUD will convene a Drought Planning Task Force to develop a drought contingency plan for Whatcom County. Our organization looks forward to working with the PUD and the Task Force to develop a drought contingency plan consistent with the grant funding requirements.

Sincerely,

Jon Mutchler
Mayor, City of Ferndale Washington

Cc: Stephan Jilk, PUD No.1 of Whatcom County

CITY OF LYNDEN

ADMINISTRATION DEPARTMENT
Scott Korthuis, Mayor
(360) 354 - 1170

March 30, 2016

Bureau of Reclamation Financial Assistance Services
Attn: Mr. Michael Dieterich
Mail Code: 84-27852
P.O. Box 25007
Denver, CO 80225

Re: WaterSMART Drought Contingency Planning Funding Opportunity (No. R16-FOA-DO-005)

Dear Mr. Dieterich:

The (your organization) is providing this letter of support for Public Utility District No. 1 of Whatcom County's (PUD) application for a Drought Contingency Planning Grant made available through the U.S. Department of Interior's WaterSMART Program.

The PUD is submitting this application on behalf of water resource stakeholders who wish to build resiliency to drought and climate change in Whatcom County. Located at the northwest corner of Washington State, Whatcom County covers 2,503 square miles of which 2,107 square miles is land and 397 square miles is water. Elevations range from sea level to the top of Mount Baker at about 10,700 feet. Whatcom County is home to over 200,000 people.

The Nooksack River and its tributaries is the primary source of water in Whatcom County. The north and middle Forks of the Nooksack River are glacially fed. Flows in the lower elevation south fork are dependent on snowpack and precipitation and, in the north and middle forks, lower elevation snow pack and precipitation also play a significant role in the flows of the river. Because of the reliance on lower elevation snowpack and precipitation, Whatcom County is susceptible to drought impacts such as those that occurred in 2014-2015. The average daily discharge of the Nooksack River at the USGS gage in Ferndale, WA (USGS 12213100 Nooksack River at Ferndale, WA) for the period 1967-2016 is 17,957 cfs. On August 27, 2015, the flow of the river at Ferndale was 934 cfs which is about 52 percent of the mean daily discharge for that date over nearly 50 years of record.

In addition to the more than 200,000 people that rely on water for domestic supplies, the Nooksack River and its tributaries are home to several species of salmonids, and adequate stream flow is vital to support tribal and non-tribal commercial and recreational fishing, in addition to agriculture and industry. Whatcom County is a major agricultural area. Washington State ranks second in the nation in raspberry production and third in the nation in blueberry production. Eighty-four percent of the raspberries and sixty-five percent of the blueberries are grown in Northwest Washington (Whatcom and Skagit counties). In fact, Washington State is second only to California in total agricultural exports.

APR 11 '16 AM10:56

Droughts such as that experienced in 2015 have significant adverse impacts on Whatcom County and, because Whatcom County currently does not have a drought contingency plan, there is little being done to prevent or alleviate drought impacts for its many and varied uses of water that support agriculture, industry, cities and ecological systems.

If the USBR approves this grant application, the PUD will convene a Drought Planning Task Force to develop a drought contingency plan for Whatcom County. Our organization looks forward to working with the PUD and the Task Force to develop a drought contingency plan consistent with the grant funding requirements.

Sincerely,

Scott Korthuis

Scott Korthuis, Mayor
City of Lynden

Cc: Stephan Jilk, PUD No.1 of Whatcom County

LUMMI INDIAN BUSINESS COUNCIL
2665 KWINA ROAD BELLINGHAM, WASHINGTON 98226 (360) 312-2000
DEPARTMENT_____DIRECT NO. _____

April 5, 2016

Bureau of Reclamation Financial Assistance Services
Attn: Mr. Michael Dieterich
Mail Code: 84-27852
P.O. Box 25007
Denver, CO 80225

Re: WaterSMART Drought Contingency Planning Funding Opportunity (No. R16-FOA-DO-005)

Dear Mr. Dieterich:

The Lummi Natural Resources Department is providing this letter of support for Public Utility District No. 1 of Whatcom County's (PUD) application for a Drought Contingency Planning Grant made available through the U.S. Department of Interior's WaterSMART Program.

The PUD is submitting this application on behalf of water resource managers and interest groups who wish to build resiliency to drought and climate change in Whatcom County. Located at the northwest corner of Washington State, Whatcom County covers 2,503 square miles of which 2,107 square miles is land and 397 square miles is water. Elevations range from sea level to the top of Mount Baker at about 10,700 feet. Whatcom County is home to over 200,000 people.

The Nooksack River and its tributaries are the primary sources of water in most of Whatcom County. The North Fork and Middle Fork of the Nooksack River are glacially fed during the summer months but the lower elevation snow pack and precipitation also play a significant role in the flows of the river. Flows in the lower elevation South Fork of the Nooksack River are primarily dependent on snowpack and precipitation. Because of the reliance on lower elevation snowpack and precipitation, Whatcom County is susceptible to drought impacts such as those that occurred in 2014-2015. The average daily discharge of the Nooksack River at the USGS gage in Ferndale, WA (USGS 12213100 Nooksack River at Ferndale, WA) for the period 1967-2016 is 17,957 cfs. On August 27, 2015, the flow of the river at Ferndale was 934 cfs which is about 52 percent of the mean daily discharge for that date over nearly 50 years of record.

In addition to the more than 200,000 people that rely on Nooksack River water for domestic, commercial, municipal, industrial, and agricultural supplies, the Nooksack River and its tributaries are home to several species of salmonids, including several species listed under the Endangered Species Act. Adequate stream flow is also vital to support salmon habitat and the tribal and non-tribal

commercial and recreational fishing. Whatcom County is a major agricultural area. Washington State ranks second in the nation in raspberry production and third in the nation in blueberry production. Eighty-four percent of the raspberries and sixty-five percent of the blueberries are grown in Northwest Washington (Whatcom and Skagit counties). In fact, Washington State is second only to California in total agricultural exports.

Droughts such as that experienced in 2015 have significant adverse impacts on Whatcom County and, because Whatcom County currently does not have a drought contingency plan, there is little being done to prevent or alleviate drought impacts for its many and varied uses of water that support agriculture, industry, cities and ecological systems.

If the USBR approves this grant application, the PUD will convene a Drought Planning Task Force to develop a drought contingency plan for Whatcom County. Our organization looks forward to working with the PUD and the Task Force to develop a drought contingency plan consistent with the grant funding requirements.

Sincerely,

Merle Jefferson, Sr.
Lummi Natural Resources Department Executive Director

cc: Stephan Jilk, PUD No.1 of Whatcom County

WHATCOM COUNTY
EXECUTIVE'S OFFICE
County Courthouse
311 Grand Avenue, Suite #108
Bellingham, WA 98225-4082

Jack Louws
County Executive

April 4, 2016

Bureau of Reclamation Financial Assistance Services
Attn: Mr, Michael Dieterich
Mail Code: 84-27852
P.O. Box 25007
Denver, CO 80225

Dear Mr. Dieterich:

Re: WaterSMART Drought Contingency Planning Funding Opportunity (No. R16-FOA-DO-005)

Whatcom County is providing this letter of support for Public Utility District No. 1 of Whatcom County's (PUD) application for a Drought Contingency Planning Grant made available through the U.S. Department of Interior's WaterSMART Program. The PUD is submitting this application on behalf of water resource stakeholders who wish to build resiliency to drought in Whatcom County. Located at the northwest corner of Washington State, Whatcom County covers 2,503 square miles of which 2,107 square miles is land and 397 square miles is water. Elevations range from sea level to the top of Mount Baker at about 10,700 feet.

In addition to the more than 200,000 people that rely on water for domestic supplies, the Nooksack River and its tributaries are home to several species of salmonids, and adequate stream flow is vital to support tribal and non-tribal commercial and recreational fishing, in addition to agriculture and industry. Whatcom County is a major agricultural area. Washington State ranks second in the nation in raspberry production and third in the nation in blueberry production. The Nooksack River and its tributaries is the primary source of water in Whatcom County. The north and middle forks of the Nooksack River are glacially fed. Flows in the lower elevation south fork are dependent on snowpack and precipitation and, in the north and middle forks, lower elevation snow pack and precipitation also play a significant role in the flows of the river. Because of the reliance on lower elevation snowpack and precipitation, Whatcom County is susceptible to drought impacts such as those that occurred in 2014-2015.

If the USBR approves this grant application, the PUD will convene a Drought Planning Task Force to develop a drought contingency plan for Whatcom County. Our organization looks forward to working with the PUD and the Task Force to develop a drought contingency plan consistent with the grant funding requirements.

Sincerely,

Jack Louws
Whatcom County Executive

cc: Stephan Jilk, PUD No.1 of Whatcom County

WASHINGTON STATE UNIVERSITY
Center for Sustaining Agriculture and Natural Resources

1 April 2016

Bureau of Reclamation Financial Assistance Services
Attn: Mr. Michael Dieterich
Mail Code: 84-27852
P.O. Box 25007
Denver, CO 80225

Re: WaterSMART Drought Contingency Planning Funding Opportunity (No. R16-FOA-DO-005)

Dear Mr. Dieterich:

Washington State University is providing this letter of support for Public Utility District No. 1 of Whatcom County's (PUD) application for a Drought Contingency Planning Grant made available through the U.S. Department of Interior's WaterSMART Program.

The PUD is submitting this application on behalf of water resource stakeholders who wish to build resiliency to drought and climate change in Whatcom County. Located at the northwest corner of Washington State, Whatcom County covers 2,503 square miles of which 2,107 square miles is land and 397 square miles is water. Elevations range from sea level to the top of Mount Baker at about 10,700 feet. Whatcom County is home to over 200,000 people.

The Nooksack River and its tributaries is the primary source of water in Whatcom County. The north and middle Forks of the Nooksack River are glacially fed. Flows in the lower elevation south fork are dependent on snowpack and precipitation and, in the north and middle forks, lower elevation snow pack and precipitation also play a significant role in the flows of the river. Because of the reliance on lower elevation snowpack and precipitation, Whatcom County is susceptible to drought impacts such as those that occurred in 2014-2015. The average daily discharge of the Nooksack River at the USGS gage in Ferndale, WA (USGS 12213100 Nooksack River at Ferndale, WA) for the period 1967-2016 is 17,957 cfs. On August 27, 2015, the flow of the river at Ferndale was 934 cfs which is about 52 percent of the mean daily discharge for that date over nearly 50 years of record.

In addition to the more than 200,000 people that rely on water for domestic supplies, the Nooksack River and its tributaries are home to several species of salmonids, and adequate

WSU CSANR, 16650 State Route 536, Mount Vernon, WA 98273
360-413-5222, cekruger@wsu.edu, http://csanr.wsu.edu

stream flow is vital to support tribal and non-tribal commercial and recreational fishing, in addition to agriculture and industry. Whatcom County is a major agricultural area. Washington State ranks second in the nation in raspberry production and third in the nation in blueberry production. Eighty-four percent of the raspberries and sixty-five percent of the blueberries are grown in Northwest Washington (Whatcom and Skagit counties). In fact, Washington State is second only to California in total agricultural exports.

Droughts such as that experienced in 2015 have significant adverse impacts on Whatcom County and, because Whatcom County currently does not have a drought contingency plan, there is little being done to prevent or alleviate drought impacts for its many and varied uses of water that support agriculture, industry, cities and ecological systems.

If the USBR approves this grant application, the PUD will convene a Drought Planning Task Force to develop a drought contingency plan for Whatcom County. Our organization looks forward to working with the PUD and the Task Force to develop a drought contingency plan consistent with the grant funding requirements.

Sincerely,

Chad Kruger
WSU Center for Sustaining Agriculture & Natural Resources
WSU Mount Vernon Northwestern Washington Research & Extension Center

Cc: Stephan Jilk, PUD No.1 of Whatcom County

Washington Sea Grant
University of Washington
3716 Brooklyn Avenue NE
Seattle, WA 98105-6716

206.543.6600 • fax: 206.685.0380
wsg.washington.edu

April 6, 2016

Mr. Michael Dieterich
Bureau of Reclamation Financial Assistance Services
Mail Code: 84-27852
P.O. Box 25007
Denver, CO 80225

Dear Mr. Dieterich:

I am writing on behalf of Washington Sea Grant to support the application of Whatcom County's Public Utility District No.1 (PUD) for a Drought Contingency Planning Grant (No. R16-FOA-DO-005) through the U.S. Department of the Interior's WaterSMART Program.

We appreciate the leadership provided by the PUD in submitting this application on behalf of water resource stakeholders who wish to build resiliency in Whatcom County. The PUD and fresh and marine water users have been engaged for some time in expanding our understanding of climate change and associated drought impacts. The proposal would build on past work, strengthen formal collaboration, and establish a clear plan for addressing the anticipated challenges.

Washington Sea Grant strongly supports this planning effort and the role it can play in addressing in-stream issues and their related impacts on estuarine and nearshore habitats. Whatcom County currently experiences significant problems in meeting established summer instream flows, with 2015 providing an invaluable example of the challenges that may be experienced. Such problems are expected to be exacerbated by changes in climate. Extremely low flows and associated water quality impacts increase stresses on endangered fish species and existing shellfish bed closures. Stakeholders' economic, environmental, and cultural wellbeing are likely to be affected, and tribal cultural and subsistence reliance on fisheries and shellfish may be negatively impacted.

The grant proposal will provide needed resources for the PUD and the Drought Planning Task Force to develop a drought contingency plan for Whatcom County. Washington Sea Grant views the plan as a critical step in developing

adaptive and mitigation strategies for anticipated problems and establishing a framework for responding to new knowledge and changing conditions over the coming years.

Sincerely,

Penelope Dalton

Penelope Dalton
Director

Cc: Stephan Jilk, PUD Number 1

Appendix B

Resolution by the Commissioners of PUD No. 1 of Whatcom County

A SIGNED COPY WILL BE PROVIDED AFTER THE APRIL 12, 2016 COMMISSIONER MEETING

RESOLUTION NO. 707

RESOLUTION BY THE BOARD OF COMMISSIONERS

OF PUBLIC UTILITY DISTRICT NO.1 OF WHATCOM COUNTY (DISTRICT) SUPPORTING FEDERAL FINANCIAL ASSISTANCE FOR THE U.S DEPARTMENT OF INTERIOR'S BUREAU OF RECLAMATION FUNDING OPPORTUNITY ANNOUNCEMENT (FOA)

NO. R-16-F0A-D0-005 DROUGHT CONTINGENCY PLANNING GRANT

FOR FISCAL YEAR 2016

WHEREAS, the District's Board of Commissioners (Board) adopted the District's Strategic Plan 2015-2020 on December 8, 2015;

WHEREAS, Goal 1 of the Strategic Plan: Steward of Water Resource *"supports water resource management to sustain water supply, increase water use efficiency, improve water conservation and enhance source protection"*;

WHEREAS, the District has the opportunity to join with other Whatcom County stakeholders to apply for the U.S. Department of Interior's Bureau of Reclamation (Reclamation) Funding Opportunity Announcement No. R-16-FOA-DO-005 ("FOA") to develop a Drought Contingency Plan ("Grant")

WHEREAS, the Commission has reviewed the FOA application and supports the FOA application as submitted.

NOW, THEREFORE, BE IT RESOLVED by the Commission of Public Utility District No. 1 of Whatcom County as follows:

1) The District will be the applicant for the FOA;

2) The District commits to the financial and legal obligations with receipt of Federal financial assistance, subject to the terms of this Resolution and the limits of the Grant;

3) The District is capable of providing the required financial and legal obligations with receipt of Federal financial assistance limited to the amount of funding and/or in-kind contribution specified in funding plan, in all cases (including legal and financial obligations) limited to an amount not to exceed $100,000.00, and subject to future Commission authorization for such funding from the District;

4) The District is committed to work with Reclamation to meet established deadlines for entering into a cooperative financial assistance agreement in relation to the FOA;

5) General Manager Stephan Jilk is authorized to enter into the Grant agreement and,

ADOPTED by the Commission of Public Utility District No.1 of Whatcom County at its regular meeting held on the 12th day of April 2016.

PUBLIC UTILITY DISTRICT NO. 1

Of WHATCOM COUNTY

_____

President/Commissioner

_____

Secretary/Commissioner

_____

Commissioner