DEPARTMENT OF ECOLOGY
State of Washington

DROUGHT RELIEF GRANT APPLICATION

Ecology Use Only

Application Number						
D2015						

Date

The information provided in this application will be used to determine general eligibility for funding from the Drought Relief Program, and the priority or ranking of the proposal amongst other competing proposals.

Separate application must be made for any needed emergency drought authorization. Before final approval of grant funding, the applicant must submit copies of all required permits and other authorizations needed for the proposal to Ecology for our review.

1. **Applicant Name(Public Body):** Jamestown S'Klallam Tribe			
Address: 1033 Old Blyn Hwy	City: Sequim	State: WA	Zip: 98382
(a) Authority (State Law): 25 CFR 54.7			
(b) Date Organized: February 10, 1981			

2. **Contact Person:** Shawn Hines		Title: Watershed Planner	
Address: 1033 Old Blyn Hwy	City: Sequim	State: WA	Zip: 98382
Email: shines@jamestowntribe.org		Phone #: 360-681-4664	

3. PROJECT(S) DESCRIPTION

Provide a description of the proposed project(s) and a detailed scope of work. Attach additional sheet(s) if necessary. Attach a map (U.S.G.S. Quad or comparable) showing the geographic location of the proposed project(s).

PLEASE SEE ATTACHMENT 1 FOR FULL TEXT

The main project will entail acquiring approximately 20 "diversion dams" (Attachment 2) and installing them throughout the Dungeness River at locations that will benefit the most number of migrating salmonids. Attachment 3: Jamestown S'Klallam Tribe Fish Passage Drought Relief Proposal shows a map of the project area. Lower Dungeness River installations will be the first priority to assure that ESA-listed Chinook can reach the lower weir for broodstock purposes. If available, the temporary dams may also be placed at other streams in need within the watershed. Components of the project will include:

a) Project pre-planning (e.g., propose site locations, test fish-passage methods, acquire materials for testing, hang fish passage signs, continued flow/temperature/DO and fish monitoring, acquire landowner permissions, etc.) (beginning July 11, 2015)
b) Purchase/acquire materials (approximately 20 temporary diversion dams)
c) Install dams "on demand" as dire conditions arise at locations in Dungeness watershed, beginning at downstream locations and moving upstream (including R/T travel to sites)
(i) At minimum, 9 sites will require 1-2 temporary dams each.
(ii) Initial set-up and final removal of the temporary dams will require 3-4 employees; continued monitoring will require at least two employees.

ECY 070-176 *(07/2015) To request ADA accommodation including materials in a format for the visually impaired, call Ecology Water Resources Program 360-407-6872. Persons with impaired hearing may call Washington Relay Service at 711. Persons with speech disability may call TTY at 877-833-6341.*

4. DESCRIPTION OF NEED

Describe what would occur without the benefit of the proposed project(s), including: the nature of the actual hardship, both short-term and long-term impacts, the expected loss of normal water supply by percentage, and the estimated potential financial losses. Explain why these circumstances constitute a water supply emergency resulting from natural-caused drought conditions, rather than a pre-existing condition during a normal water year.

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The Dungeness Watershed is one of Ecology's 16 "fish critical basins" for low instream flows, with four ESA-listed salmonids (Puget Sound Chinook, Hood Canal summer chum salmon, Puget Sound steelhead, and bulltrout), as well as several species that are state-listed as either "critical" or "depressed". The current drought exacerbates the already extreme conditions for fish, with record-breaking minimum flows occurring on a daily basis at the upper gage (RM 11.8), and flows currently at the level they normally are expected seven or eight weeks from now. As of today's date (July 22), flows have dropped to 123 cfs at RM 11.8 and 70 cfs at RM 0.75, with irrigation diversions amounting to 60 cfs, nearly half of the flow at the upper gage.

5. EXPECTED OUTCOME(S)

Describe how the projects would reduce or avoid harm or hardships and any measures planned to assure the capability and reliability of the proposed project(s) to provide an emergency water supply to the applicant.

PLEASE SEE ATTACHMENT 1 FOR FULL TEXT

Flows in the Dungeness River and independent streams in the watershed are expected to continue to drop. It is expected that flows will get to the point that fish are unable to pass upstream to spawning grounds at multiple locations. With record-breaking numbers of Dungeness pinks, and with ESA-listed species at already fragile numbers, inaction could have dire results, with some streams left without any spawners. This project will reduce or avoid harm by helping to ensure as many migrating salmonids as possible, including critical and ESA-listed species, may reach as much of their spawning areas as possible.

Tribal and WDFW staff have taken measures to assure capability and reliability of the proposed project by investigating a variety of methods to assist in fish passage. For example, staff recently field-tested and compared "water bladders" (purchased by WDFW) to temporary "diversion dams" (on loan from Department of Ecology)

6. WATER SHORTAGE RESPONSE ACTIONS ALREADY TAKEN

Describe the measures taken by the applicant to plan for or mitigate the effects of drought (e.g., conservation, irrigation efficiency measures, leakage, elimination of non-essential uses).

PLEASE SEE ATTACHMENT 1 FOR FULL TEXT

In May, the Tribe sponsored and coordinated the first community drought forum on the Olympic Peninsula, in Sequim, Washington, bringing together governmental experts and concerned citizens to discuss current drought status, response and impacts, and to solicit potential volunteers for impending fish passage work related to the current drought. Tribal technicians have already had to rescue trapped fish in one of the sub-basins (Siebert Creek) , the mouth of which had been cut-off from the straits by a sandbar (see NWIFC's May 29th lead story: http://nwifc.org/2015/05/jamestown-sklallam-reconnects-creek-to-strait-to-save-fish/. The Tribe and WDFW have also field-tested methods for assisting upstream migrating salmonids.

These efforts exemplify the technical role in drought response that the Tribe has been filling since well before the

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7. WATER RIGHTS

(a) Describe whether you have or will be submitting an application for an emergency drought authorization and or have other pending water right applications

We will not be submitting an application for an emergency drought authorization as it will not apply to this project.

(b) List the applicant's legal water rights to divert or withdraw water for use on land within the applicant's legal boundaries, and attach copies.

N/A; we will not be diverting or withdrawing water for use on land; we will concentrate flow in-stream to promote safe fish passage. An instream flow and water management rule exists for the Dungeness, which went into effect January 2013, establishing water rights for the river to prevent further degradation from future water rights.

8. INTERGOVERNMENTAL COORDINATION

Provide a summary of how the applicant has and/or will consult with affected agencies and/or Indian Tribes prior to and during implementation of the proposed project(s). Include a list of the affected agencies and Indian Tribes and a summary of impacts/approvals if known. (Attach an additional sheet if necessary.)

The Jamestown S'Klallam Tribe has been working with WDFW on low-flow and fish-passage assistance planning since prior to the official drought declaration. Tribal and WDFW technicians are coordinating together on river and fish monitoring, and the Tribe has also coordinated with WDFW, Ecology and other agencies on drought outreach (see also: http://www.sequimgazette.com/news/306028251.html#).
Another example (as mentioned in Section 6) of intergovernmental coordinated response to the drought includes the limited Dungeness pink fishery agreed upon by the co-managers. The fishery is restricted to Dungeness Bay (no in-river fishery) due to the potential impacts on ESA-threatened species.

9. PROJECT(S) SCHEDULE/DURATION

(a) When do you expect to have all the required permitting, approvals, and funding?

Required permitting and landowner permissions are expected this week. Jamestown S'Klallam match funding (for labor, fringe, indirect/overhead) is in hand.

(b) Approximately how long will the proposed project(s) take to complete?

PLEASE SEE ATTACHMENT 1 FOR FULL TEXT

Because the timeline depends on the start of the rainy season, a definite timeline is difficult to predict. As the

(c) Expected project(s) schedule, including start date, completion date, and significant intermediary steps:

PLEASE SEE ATTACHMENT 1 FOR FULL TEXT

(c) Estimated Project Schedule:
(i) Project pre-planning (e.g., propose site locations, test fish-passage methods, acquiring materials for testing, hanging fish passage signs, continued flow/temperature/DO and fish monitoring, landowner permissions, etc.) (initiating July 11, 2015)
(ii) Purchase/acquire materials (approximately 20 temporary diversion dams) (July/August)

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10. PROJECT COMPONENTS

Check appropriate box or boxes and complete estimated cost for proposed activities under this grant.

(a) ☐ Engineering design and report $ _____

(b) ☐ Project(s) plans and specifications $ _____

(c) ☐ Purchase of land, rights-of-way, easements $ _____

(d) ☐ Construction $ _____

(e) ☐ Construction engineering $ _____

(f) ☐ Education and outreach $ _____

(g) Other Materials/labor/mont. for fish passage $ ~~148,998.12~~ 148,980.12 AH

11. FUND SOURCES	**Estimated total project cost**		**Estimated eligible project cost**	
(a) Total estimated project(s) cost	100 %	$ 148,980.12	100 %	$ 148,980.12
(b) Total estimated eligible project(s) cost	100 %	$ 148,980.12	%	$ 148,980.12
(c) Ecology grant share	50 %	$ 74,430.~~02~~ 42	AH %	$ 74,430.02
(d) Match fund source(s): (specify) ~~Tribe~~	%	$ ~~74,549.70~~	%	$ ~~74,549.70~~
(e) Match fund source:	%	$	%	$
(f) Tribe (hard dollars)	21 %	$ 31,694.37	AH %	$ 31,694.37 AH
(g) Federal (self-governence)	29 %	$ 42,855.33	AH %	$ 42,855.33 AH

☐ Applicant may be exempt under WAC 173-167-040(3) from the fund match requirement

12. CERTIFICATION

I certify to the best of my knowledge that the information in this application is true, complete, and correct and that I am legally authorized to sign and submit this information on behalf of the applicant.

W. Ron Allen
PRINT NAME

W. Ron Allen
SIGNATURE

Tribal Chair/CEO
TITLE

4-23-15
DATE

13. Send original, including attached sheets, maps, copies of water rights, and other supporting documents, to:

Department of Ecology
Water Resources Program
PO Box 47600
Olympia, WA 98504-7600
ATTN: Rebecca Inman

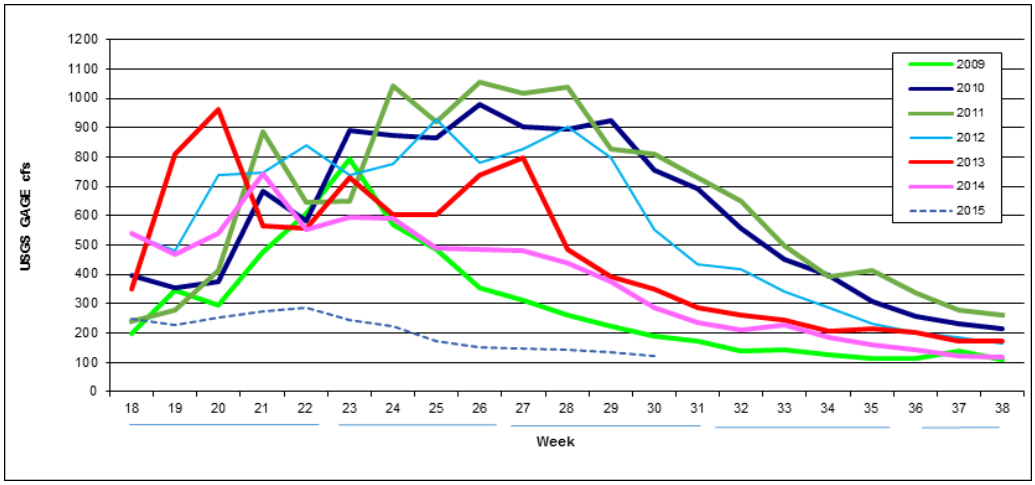
3. PROJECT DESCRIPTION:

The main project will entail acquiring approximately 20 "diversion dams" (**Attachment 2**) and installing them throughout the Dungeness River at locations that will benefit the most number of migrating salmonids. **Attachment 3: Jamestown S'Klallam Tribe Fish Passage Drought Relief Proposal** shows a map of the project area. Lower Dungeness River installations will be the first priority to assure that ESA-listed Chinook can reach the lower weir for broodstock purposes. If available, the temporary dams may also be placed at other streams in need within the watershed. Components of the project will include:

a) Project pre-planning (e.g., propose site locations, test fish-passage methods, acquire materials for testing, hang fish passage signs, continued flow/temperature/DO and fish monitoring, acquire landowner permissions, etc.) (beginning July 11, 2015)
b) Purchase/acquire materials (approximately 20 temporary diversion dams)
c) Install dams "on demand" as dire conditions arise at locations in Dungeness watershed, beginning at downstream locations and moving upstream (including R/T travel to sites)
   (i) At minimum, 9 sites will require 1-2 temporary dams each.
   (ii) Initial set-up and final removal of the temporary dams will require 3-4 employees; continued monitoring will require at least two employees.
d) Continue to monitor choke-points at locations within Dungeness River and watershed; address potential other blockage issues noticed during surveys (for example, removing any noticed rock dams, etc.), flow/temperature, and dissolved oxygen
e) Continue coordination and information-sharing (e.g., Dungeness low flow analyses, etc.) with WDFW and Ecology during drought declaration

Timeline:

The project start date (pre-planning) is July 11, 2015. As the Dungeness River flows continue to drop to alarming levels for fish (see chart below; Week 30 represents week beginning July 20th), the project timeline beyond pre-planning is as soon as possible after permit and landowner permissions are completed (expected in the next week).



Supplies will be ordered as soon as possible, and technicians will be ready to install them as soon as they arrive and are needed. Initial set-up/installation of diversion dams is estimated to take two full days per site. The dams would be in place until enough precipitation falls to bring the water levels up to safe

spawner/ passage conditions. It is possible that this will not occur until November. Dams will be monitored weekly to several times per week once they are installed to make sure they are functioning properly, there are no issues with flow or vandalism, and to determine when they should be removed. Any problems detected will be addressed as soon as possible if they occur. An estimated project timeline is July 11-December 31, 2015.

4. DESCRIPTION OF NEED:
The Dungeness Watershed is one of Ecology's 16 "fish critical basins" for low instream flows, with four ESA-listed salmonids (*Puget Sound Chinook, Hood Canal summer chum salmon, Puget Sound steelhead,* and *bulltrout*), as well as several species that are state-listed as either "critical" or "depressed". The current drought exacerbates the already extreme conditions for fish, with record-breaking minimum flows occurring on a daily basis at the upper gage (RM 11.8), and flows currently at the level they normally are expected seven or eight weeks from now. As of today's date (July 22), flows have dropped to 123 cfs at RM 11.8 and 70 cfs at RM 0.75, with irrigation diversions amounting to 60 cfs, nearly half of the flow at the upper gage.

Agriculture remains the largest consumptive use of Dungeness River water, and low flows are the primary fish passage concern described in the WRIA 18 Limiting Factors Analysis. As far back as May, Tribal staff encountered stranded out-migrating smolts in pools (plus some adult steelhead looking for freshwater passage), blocked by sandbars due to dewatered channels from the lack of spring snowmelt. Conditions for fish will only worsen as flows continue to drop and adult salmons begin their return, including an expected record number of returning Dungeness pinks (1.3 million). Further, considering the relatively few numbers of ESA-listed Chinook forecasted to return (500), it is important that co-managers employ the most effective and efficient methods to help ensure as many adult migrants as possible can reach their spawning grounds. This is a long-term impact. Recent drought preparations included testing a variety of fish-passage methods, and partners determined that multiple "diversion dams" should be acquired as soon as possible for this purpose.

5. EXPECTED OUTCOMES:
Flows in the Dungeness River and independent streams in the watershed are expected to continue to drop. It is expected that flows will get to the point that fish are unable to pass upstream to spawning grounds at multiple locations. With record-breaking numbers of Dungeness pinks, and with ESA-listed species at already fragile numbers, inaction could have dire results, with some streams left without any spawners. This project will reduce or avoid harm by helping to ensure as many migrating salmonids as possible, including critical and ESA-listed species, may reach as much of their spawning areas as possible.

Tribal and WDFW staff have taken measures to assure capability and reliability of the proposed project by investigating a variety of methods to assist in fish passage. For example, staff recently field-tested and compared "water bladders" (purchased by WDFW) to temporary "diversion dams" (on loan from Department of Ecology). Partners determined that the diversion dams were far-superior in accomplishing the task, with a durable design, quicker set-up (and break-down) time and requiring fewer installers, and also have low impact on the environment. By using the diversion dams, the project will protect more salmon by saving on time and labor. For example, unlike the bladders, the dams will not require installation of fence posts (very labor intensive) and are much easier to maneuver.

In preparation for drought response actions, staff are currently monitoring flows daily via the USGS and Ecology telemetry gages and field monitoring for in-channel "choke points" two days per week. Staff are also tracking irrigation withdrawals to ensure irrigator responsibilities during low-flows are upheld.

Contingency plans for ensuring fish passage could include: sandbagging to deepen channels, physically removing blockages, manually transport of fish upstream, and pulse flows. We intend to prioritize lower river sites (i.e., begin placing the temporary dams in the lower river and then move upstream), in order to make sure that fish, especially ESA-listed Chinook, can make it to WDFW's weir trap for broodstock purposes. If during assessment it appears the dams are not enough, Chinook at least may need to be manually trucked to the upper river. The Tribe and WDFW will coordinate this effort.

Dams will be monitored weekly to several times per week once they are installed to make sure they are functioning properly and there are no issues with flow or vandalism. Any problems detected will be addressed as soon as possible if they occur.

6. WATER SHORTAGE REPSONSE ACTIONS ALREADY TAKEN:
In May, the Tribe sponsored and coordinated the first community drought forum on the Olympic Peninsula, in Sequim, Washington, bringing together governmental experts and concerned citizens to discuss current drought status, response and impacts, and to solicit potential volunteers for impending fish passage work related to the current drought. Tribal technicians have already had to rescue trapped fish in one of the sub-basins (Siebert Creek) , the mouth of which had been cut-off from the straits by a sandbar (see NWIFC's May 29th lead story: http://nwifc.org/2015/05/jamestown-sklallam-reconnects-creek-to-strait-to-save-fish/. The Tribe and WDFW have also field-tested methods for assisting upstream migrating salmonids.

These efforts exemplify the technical role in drought response that the Tribe has been filling since well before the drought declaration. Government agencies and citizens have consulted the Tribe about fish and wildlife and other concerns related to the 2015 drought. The Tribe participates in Technical Water Supply Availability Committee meetings (convened by Ecology) and shares drought-information regularly with co-managers at WDFW, as well as other members of the Dungeness River Management Team (DRMT) and community. For example, the Tribe has been monitoring and sharing its analyses of Dungeness low flows since fall 2014, and our technicians have increased the frequency of field outings to track potential river and stream choke-point reaches in preparing for inevitable fish passage issues related to the drought (see "Fish trouble ahead" in this NPR broadcast from May: http://earthfix.info/news/article/the-olympic-peninsula-faces-a-summer-without-snowmelt/).

Beyond its contributions to "Washington Drought 2015" response, the Jamestown S'Klallam Tribe has an extensive history of working on low in-stream flow (including previous drought) issues for the Dungeness Watershed, including the milestone in-stream flow and water management rule adopted by Ecology in 2013. The Tribe and the DRMT, chaired by the Tribe's Natural Resources Director, have partnered with the Sequim-Dungeness Valley Water Users Association (SDWUA) and Clallam Conservation District on numerous irrigation efficiency measures (ditch lining/piping and re-regulating reservoir construction, groundwater storage/recharge planning, etc.) over the years and on other in-stream flow (e.g., water-leasing programs) and habitat restoration projects for Dungeness salmonids. Most recently, the DRMT has supported the 2015 drought-year water lease program managed by Washington Water Trust for the SDWUA. We also participated in Ecology and WDFW's 2014 Dungeness Low Flow Study. Further, co-managers have opted for a Dungeness pink fishery in Dungeness Bay to

help alleviate "river traffic" anticipated during spawner migration. See also http://www.sequimgazette.com/news/306028251.html# for additional examples of local response actions, by the City of Sequim and the Sequim-Dungeness Valley Water Users Association.

7. WATER RIGHTS:
   (a) We will not be submitting an application for an emergency drought authorization as it will not apply to this project.

   (b) N/A; we will not be diverting or withdrawing water for use on land; we will concentrate flow in-stream to promote safe fish passage. An instream flow and water management rule exists for the Dungeness, which went into effect January 2013, establishing water rights for the river to prevent further degradation from future water rights.

8. INTERGOVERNMENTAL COORDINATION:
   The Jamestown S'Klallam Tribe has been working with WDFW on low-flow and fish-passage assistance planning since prior to the official drought declaration. Tribal and WDFW technicians are coordinating together on river and fish monitoring, and the Tribe has also coordinated with WDFW, Ecology and other agencies on drought outreach (see also: http://www.sequimgazette.com/news/306028251.html#). Another example (as mentioned in Section 6) of intergovernmental coordinated response to the drought includes the limited Dungeness pink fishery agreed upon by the co-managers. The fishery is restricted to Dungeness Bay (no in-river fishery) due to the potential impacts on ESA-threatened species.

9. PROJECT SCHEDULE/DURATION:
   (a) Required permitting and landowner permissions are expected this week. Jamestown S'Klallam match funding (for labor, fringe, indirect/overhead) is in hand.

   (b) Approximate Project Duration:
   Because the timeline depends on the start of the rainy season, a definite timeline is difficult to predict. As the Dungeness River flows continue to drop to alarming levels for fish, the timeline for initiating the project (and ordering supplies) beyond pre-planning is *as soon as possible after permit and landowner permissions are completed*. The project will conclude when the streamflows reach safe, passable levels for fish. While the rainfall season normally begins in October, we expect it could be later given this is a drought year. Removing the dams upon project completion is expected to take one work week. Therefore, an estimated project timeline is July 11-December 31, 2015.

   (c) ***Estimated*** Project Schedule:
      (i) Project pre-planning (e.g., propose site locations, test fish-passage methods, acquiring materials for testing, hanging fish passage signs, continued flow/temperature/DO and fish monitoring, landowner permissions, etc.) (***initiating July 11, 2015***)
      (ii) Purchase/acquire materials (approximately 20 temporary diversion dams) (***July/August***)
      (iii) Install dams "on demand" as dire conditions arise at locations in Dungeness watershed, beginning at downstream locations and moving upstream (including R/T travel to sites) (***August-September***)
      (iv) Continue to monitor choke-points at locations within Dungeness River and watershed; address potential other blockage issues noticed during surveys (for example, removing any noticed rock dams, etc.), flow/temperature, and dissolved oxygen (***July-November***)

(v) Continue coordination, meeting and information-sharing (e.g., Dungeness low flow analyses, etc.) with WDFW and Ecology (***July-December***)
(vi) Remove diversion dams when flows reach safe conditions for fish spawning/migration (**October-November**)

10. PROJECT COMPONENTS:
    (g) Other: Materials, labor, fringe, overhead and supplies for planning and implementing fish passage/drought relief projects. **$144,973.07**

11. FUND SOURCES:

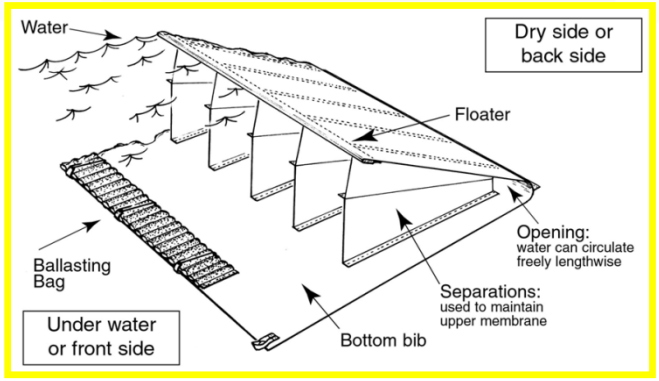
	Estimated Total Project Cost		Est. Eligible Project Cost	
(a) Total estimated project cost	100%	$144,973.07	100%	$144,973.07
(b) Total estimated eligible project cost	100%	$144,973.07	100%	$144,973.07
(c) Ecology grant share	100%	$96,648.72	100%	$96,648.72
(d) Match fund source: Tribe	100%	$48,324.36	100%	$48,324.36

PORTABLE DAMS

For Spill Response

Portable Dams are an essential spill response tool. Dams are deployed easily & quickly with minimal training. Portable Dam(s) can stop product from flowing downstream and create a calm water recovery area where none existed. Dams (25' in Length) can be deployed individually or easily connected together for longer lengths.

SEE REVERSE SIDE FOR SAMPLE NRC RESPONSE SYSTEM WITH PORTABLE DAM.

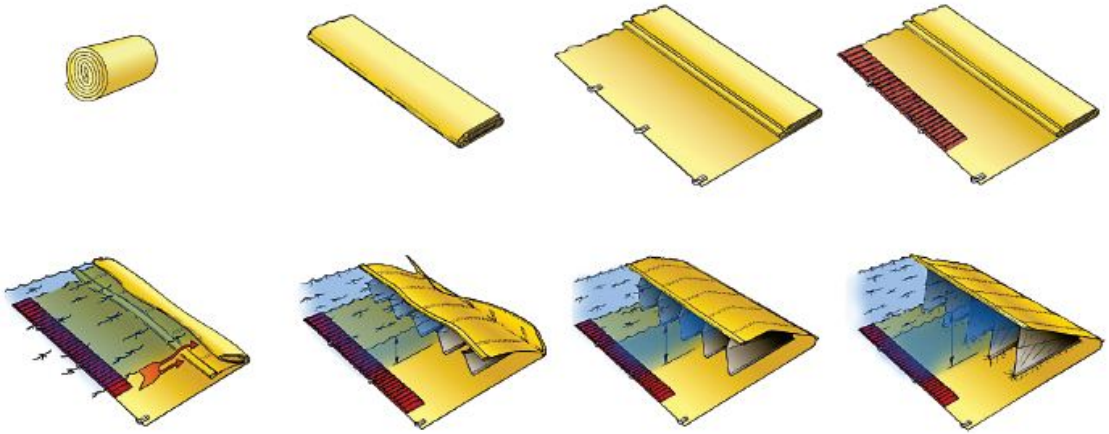


Portable Dam Model with water relief gates

Flood Control Model being deployed

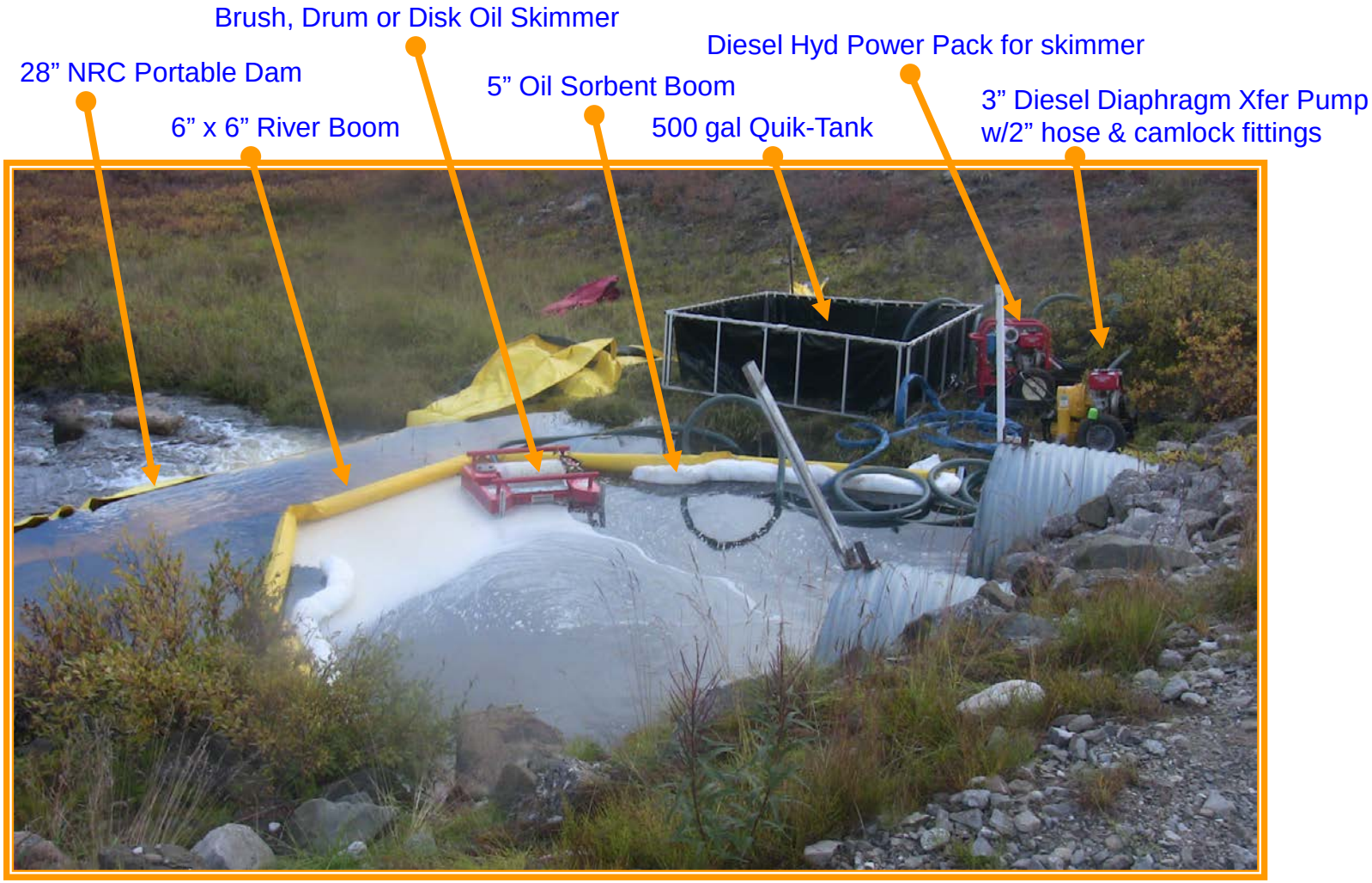
HOW THE WATER BARRIER WORKS

The principle is simple: water accumulates inside the barrier and exerts pressure on the bottom of the fabric, which keeps the barrier in place. The speed or direction of the incoming water is not important, as it is the water pressure that causes the barrier to open up.



Portable Dam System

for Oil Spill Response on Rivers and Creeks



Call or email for Current System Price:

+1-206-378-4100; bhopps@nrcc.com or Lpintler@nrcc.com

JAMESTOWN S'KLALLAM TRIBE
1033 Old Blyn Highway, Sequim, WA 98382 360/683-1109 FAX 360/681-4643

July 24, 2015

Mike Gallagher
Water Resources Program
Department of Ecology, Southwest Regional Office
PO Box 47775
Olympia, WA 98504-7775

Dear Mike:

At the request of Marie Peter, I write to inform you of drought-relief work the Jamestown S'Klallam Tribe intends to conduct, in coordination with Washington Department of Fish and Wildlife (WDFW), in the Dungeness Watershed. Below is a description of the work, as proposed in our Drought Relief Grant Application submitted to Ecology Headquarters today:

The main project will entail acquiring approximately 20 "diversion dams" and installing them throughout the Dungeness River at locations that will benefit the most number of migrating salmonids. Lower Dungeness River installations will be the first priority to assure that ESA-listed Chinook can reach the lower weir for broodstock purposes. If available, the temporary dams may also be placed at other streams in need within the watershed. Project components include:

a) *Project pre-planning (e.g., propose site locations, test fish-passage methods, acquire materials for testing, hang fish passage signs, continued flow/temperature/DO and fish monitoring, acquire landowner permissions, etc.) (beginning July 11, 2015)*
b) *Purchase/acquire materials (approximately 20 temporary diversion dams and other supplies necessary to promote fish passage)*
c) *Install dams "on demand" as dire conditions arise at locations in Dungeness watershed, beginning at downstream locations and moving upstream (including R/T travel to sites)*
d) *Continue to monitor choke-points at locations within Dungeness River and watershed; address potential other blockage issues noticed during surveys (for example, removing any noticed rock dams, etc.), flow/temperature, and dissolved oxygen*
e) *Continue coordination and information-sharing (e.g., Dungeness low flow analyses, etc.) with WDFW and Ecology during drought declaration*

I have enclosed a map of the project area and a flyer with images of the temporary diversion dams. Last week the Tribe and WDFW tested one of the dams (on loan from Ecology) and found them to be extremely effective and more efficient than other methods. We are hopeful that by installing the dams as soon as possible we will be able to alleviate some of the impact of the extremely low flows the drought is contributing in the Dungeness.

Sincerely,

Scott Chitwood
Jamestown S'Klallam Tribe

Jamestown S'Klallam Tribe
Fish Passage
Drought Relief
Proposal
July 2015
Potential choke points
Miles
0
1
2
N
River's End
RM 0
RM 1
Game Farm
RM 2
Ward Bridge
RM 3
RM 4
Dungeness River
RM 5
101
RM 6
Top of Dawley
RM 7
Just above Dawley
RM 8
Just above Powerline
Powerline
RM 9
Above Powerline
RM 10
Just below USGS gage
RM 11
RM 12
RM 13
RM 14
RM 15
RM 0
RM 16
Graywolf Cascade
RM 1
RM 17
Graywolf River
RM 2
RM 3
RM 18
Aerial Photo - NAIP 2013
CANADA
Project Area
WASHINGTON
OREGON