Dungeness Water Exchange

## 2021 AQUIFER RECHARGE REPORT

PREPARED BY

Dungeness Water Exchange

FOR MORE INFORMATION VISIT US AT DUNGENESSWATEREXCHANGE.ORG

#### Dungeness Water Exchange:

#### AQUIFER RECHARGE PROGRAM

Dungeness Water Exchange (DWE) aquifer recharge sites are managed to strategically replenish groundwater and local streams that are depleted by new well withdrawals. In times of abundant water in the Dungeness River, the aquifer recharge sites are used to infiltrate and create additional restoration to the watershed.

In 2021, DWE mitigated a total of 589 unique water uses which included indoor domestic water use, outdoor irrigation, and stockwater. The total impact of these water uses on instream flow was fully mitigated in all but one stream identified in the Dungeness Water Rule (WAC 173-518). Due to the locations of the aquifer recharge sites, streams on the west side of the Dungeness are the most difficult to reach and DWE is pursuing alternative means of mitigating the impacts for these streams.

The Annual Aquifer Recharge report provides an overview of:

- Aquifer recharge water source and management
- Aquifer recharge impact on instream flows (mitigation and restoration)



DWE replenishes groundwater through the recharge program, designed to return the same amount of water to our streams and rivers as is taken out by new water uses.

#### AQUIFER RECHARGE WATER SOURCE

Water used for the aquifer recharge program comes from the Dungeness River during the time of year when river flows are higher due to precipitation and snowmelt. The water used in the 2021 water season falls into one of three categories:

- 1. A water right purchased for DWE *mitigation* and use in aquifer recharge sites
- 2. High flow water for  $\underline{restoration}^*$
- 3. A small portion of willing irrigation company/district water rights for <u>restoration</u>



\*Maximum Allocation water stated in the Dungeness Water Rule (WAC 173-518-090)







### AQUIFER RECHARGE SITES & ACRE FEET INFILTRATED



### IMPACTS TO STREAMFLOW

The Dungeness Groundwater Flow Model is used to predict instream flow impacts and benefits resulting from aquifer recharge. DWE uses the model to strategically infiltrate at aquifer recharge sites, five of which are used to mitigate new water uses.

Using *mitigation* water, DWE fully offset and added **additional** benefit in all but one stream. When all impacts to a stream cannot be mitigated for, reservation amounts are used (WAC 173-518-030). The reservation amounts establish how much a stream can be impacted before being biologically impaired or being closed to new uses. Although Bagley Creek did have some impacts from new wells this year, it has used only 0.013% of the reservation amount available.



#### **Instream Benefit**

# 26.42<sub>AFY</sub>

Acre-feet of instream impacts DWE had to mitigate for

## 482.8<sub>AFY</sub>

Total acre-feet of instream benefit from mitigation and restoration recharge

Question or Comments? Contact us at dwe@washingtonwatertrust.org