

# Elements of the Dungeness Instream Flow and Water Management Rule



# Purpose of an Instream Flow and Water Management Rule

- Protect existing water rights.
- Protect instream resources.
- Set up a framework for future water management decisions.

# What is an instream flow and water management rule?

- An instream flow rule establishes a water right and priority date for the stream:
  - Surface and ground water rights senior to the flows not affected.
  - Junior water rights can be regulated, including permit exempt wells.



## Authorizing Legislation

Ch. 90.22 RCW– *Minimum Water Flows and Levels*

Ch. 90.54 RCW– *Water Resources Act of 1971*

Ch. 90.82 RCW– *Watershed Planning*

# Adopt Instream Flow Recommendations

Ecology, WDFW, and local biologists use methods called IFIM, and PHABSIM to develop flow numbers for recommendation

The methods study the relationship between streamflows and fish and their habitat.

The flow recommendations in the rule are those agreed to in the watershed plan

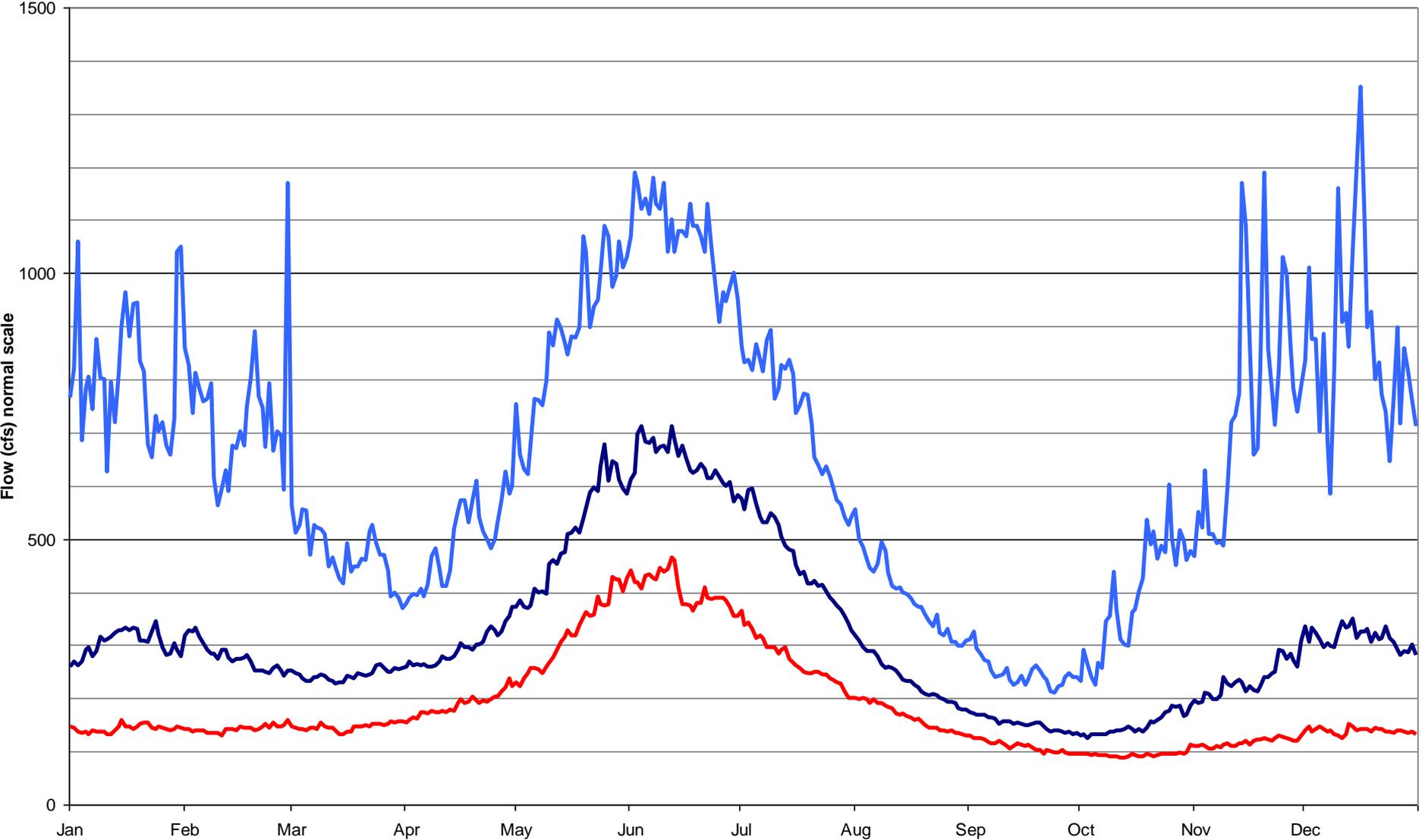
	Subbasin Management Unit					
Month	Bagley Creek	Bell Creek	Cassalery Creek	Dungeness Mainstem	Gierin Creek	
January	15	11	5	575	10	
February	10	7	3	575	7	
March	29	22	12	575	20	
April	29	22	12	475	20	
May	20	14	8	475	13	
June	20	14	8	475	13	
July	6	4	2	475	4	
August	6	4	2	180	4	
September	6	4	2	180	4	
October	6	4	2	180	4	
November	15	11	5	575	10	
December	15	11	5	575	10	

# Recommended Flows cont.

		Subbasin Management Unit			
Month		Matriotti Creek	McDonald Creek	Meadowbrook Creek	Siebert Creek
	January	14	36	12	36
	February	10	24	8	24
	March	27	63	24	63
	April	27	63	24	63
	May	18	42	16	42
	June	18	42	16	42
	July	5	15	5	15
	August	5	15	5	15
	September	5	15	5	15
	October	5	15	5	15
	November	14	36	12	36
	December	14	36	12	36

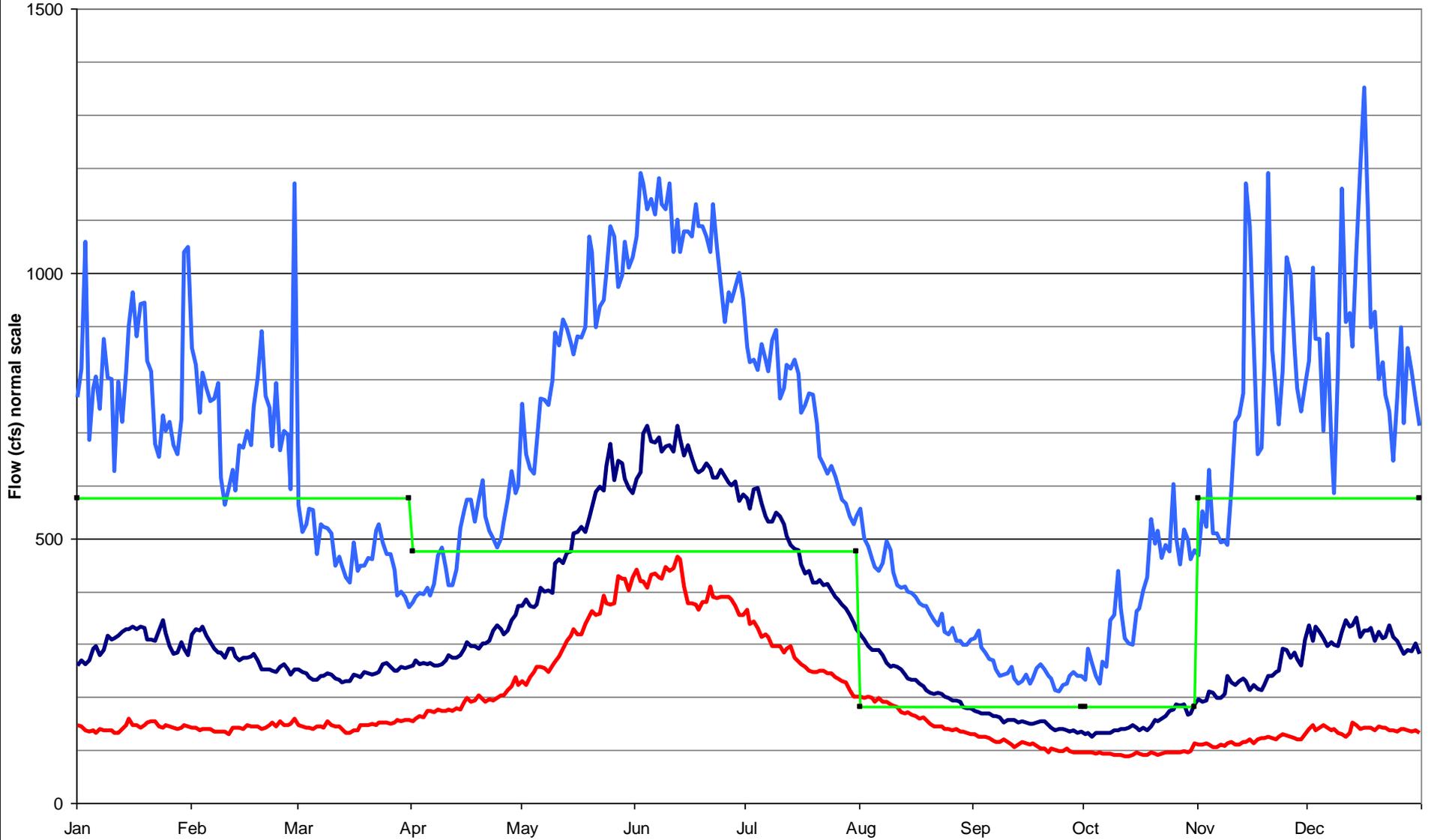
**DUNGENESS RIVER NEAR SEQUIM, WA**  
**Flow exceedance Probability Hydrograph**  
**USGS gage 12048000; RM 11.8; Period of Record: 1924 - 2006**

- 10% exceedance
- 50% exceedance
- 90% exceedance



**DUNGENESS RIVER NEAR SEQUIM, WA**  
**Flow exceedance Probability Hydrograph**  
**USGS gage 12048000; RM 11.8; Period of Record: 1924 - 2006**

- 10% exceedance
- 50% exceedance
- 90% exceedance
- Proposed Instream Flow



# Managing a Limited Resource

Can more water be taken without impairing:

- Existing water rights?
- Habitat for ESA-listed and other species?
- Other in-stream values?

# 1940

## Dungeness Basin Water Wells

Water Well Logs per 40 acres

1 - 2	13 - 15
3 - 5	16 - 17
6 - 7	18 - 20
8 - 10	21 - 22
11 - 12	23 - 25

- Arterial Roads
- US Highway
- Stream
- WRIA 18 Boundary
- County Boundary
- Lakes & Reservoirs

Scale 1 : 45,000  
Miles

Data Source: <https://apps.ecy.wa.gov/welllog/>  
November 2007  
Department of Ecology



# 1950

## Dungeness Basin Water Wells

Water Well Logs per 40 acres

● 1 - 2	● 13 - 15
● 3 - 5	● 16 - 17
● 6 - 7	● 18 - 20
● 8 - 10	● 21 - 22
● 11 - 12	● 23 - 25

- Arterial Roads
- US Highway
- Stream
- ▭ WRIA 18 Boundary
- ▭ County Boundary
- ▭ Lakes & Estuaries

Scale  
1:48,000  
Miles

Data Source: <http://apps.ecy.wa.gov/welllog>  
November 2007  
Department of Ecology



# 1960

## Dungeness Basin Water Wells

Water Well Logs  
per 40 acres

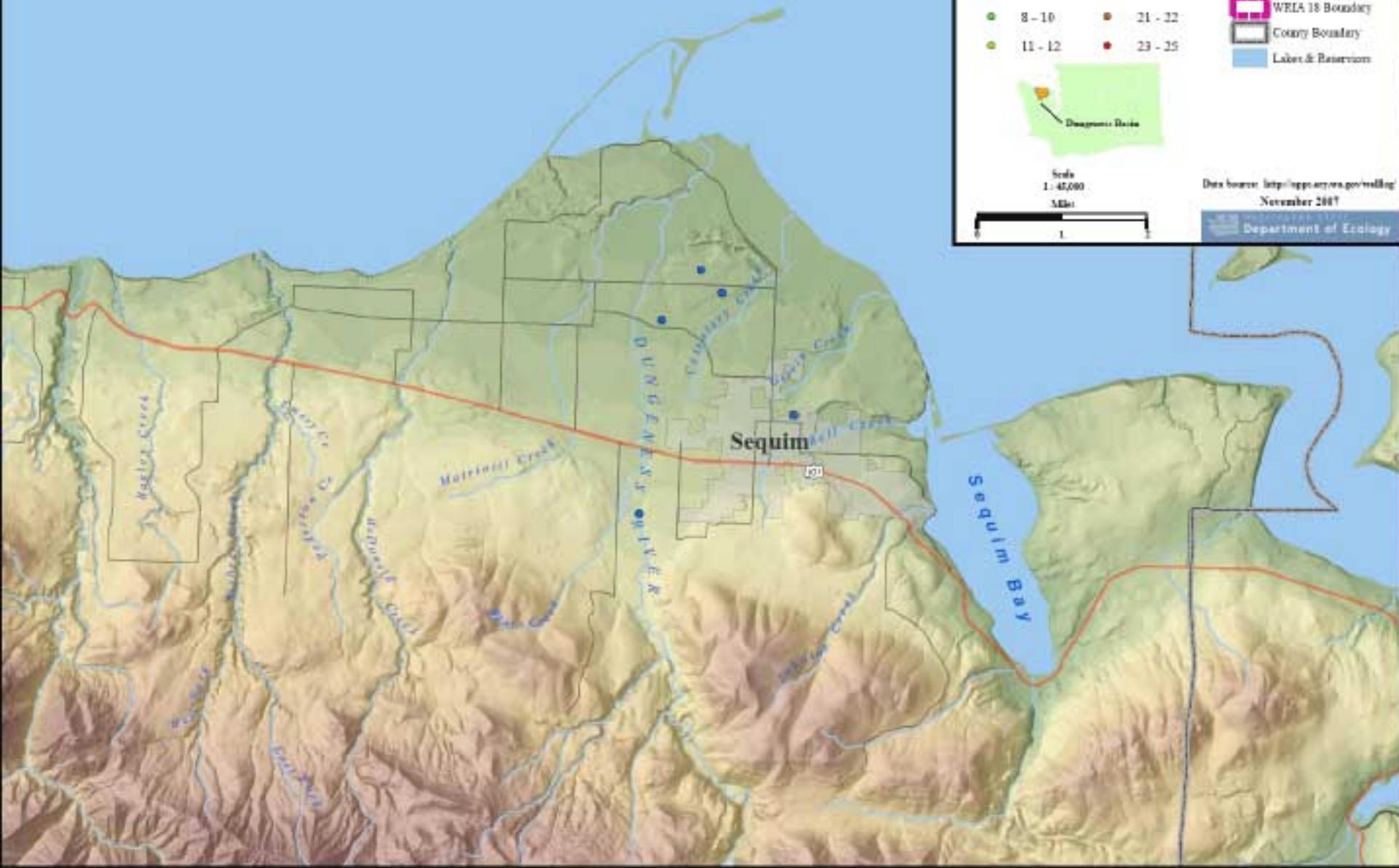


Scale  
1:47,000  
5 Miles



Data source: <http://apps.oregon.gov/welllog/>  
November 2007

Department of Ecology



# 1970

## Dungeness Basin Water Wells

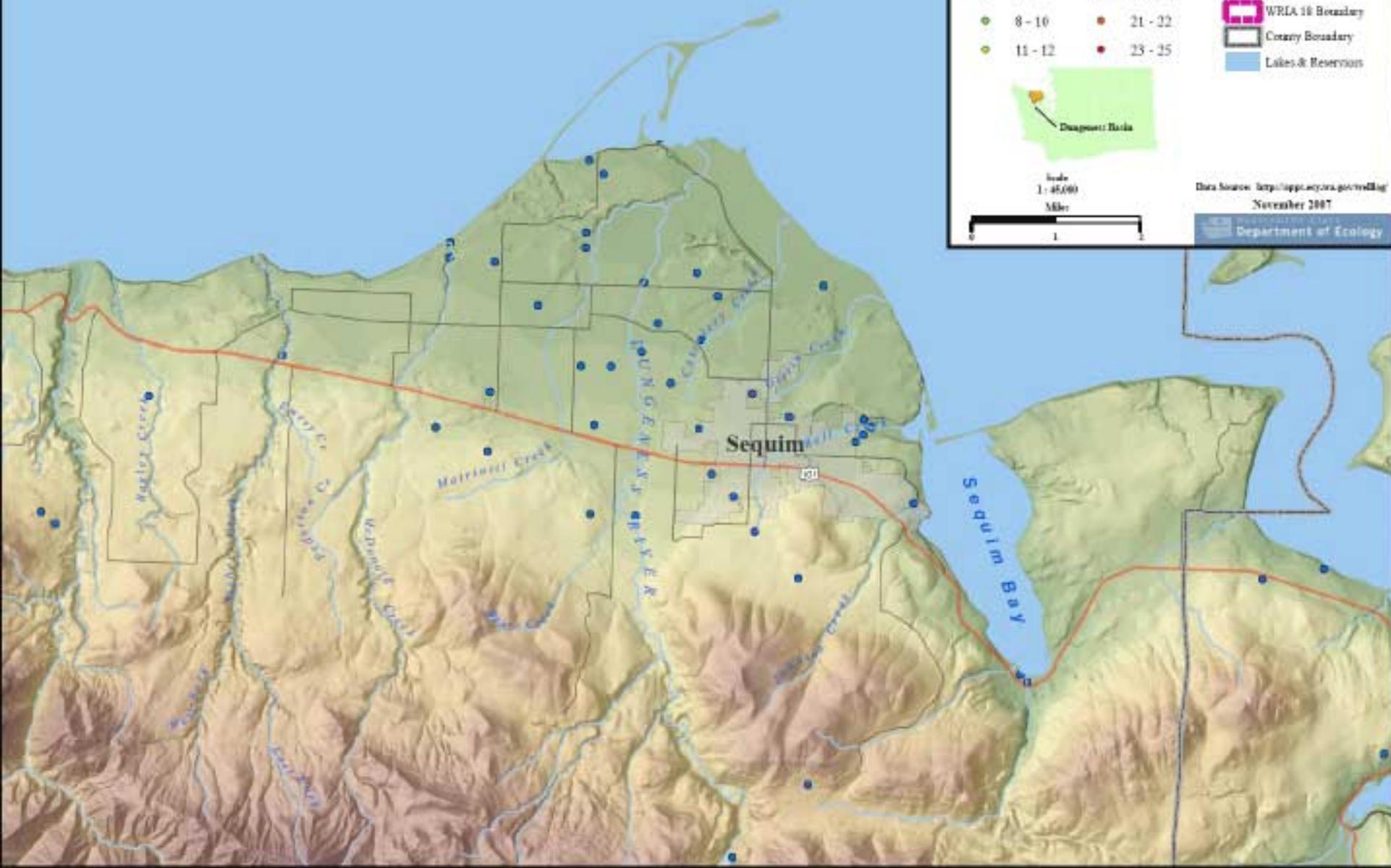
Water Well Logs per 40 acres

● 1 - 2	● 13 - 15
● 3 - 5	● 16 - 17
● 6 - 7	● 18 - 20
● 8 - 10	● 21 - 22
● 11 - 12	● 23 - 25

- Arenal Roads
- US Highway
- Stream
- ▭ WRIA 18 Boundary
- ▭ County Boundary
- ▭ Lakes & Reservoirs

Scale: 1:40,000  
Mile

Data Source: <http://app.ecy.wa.gov/welling>  
November 2007  
Department of Ecology



# 1980

## Dungeness Basin Water Wells

Water Well Logs  
per 40 acres

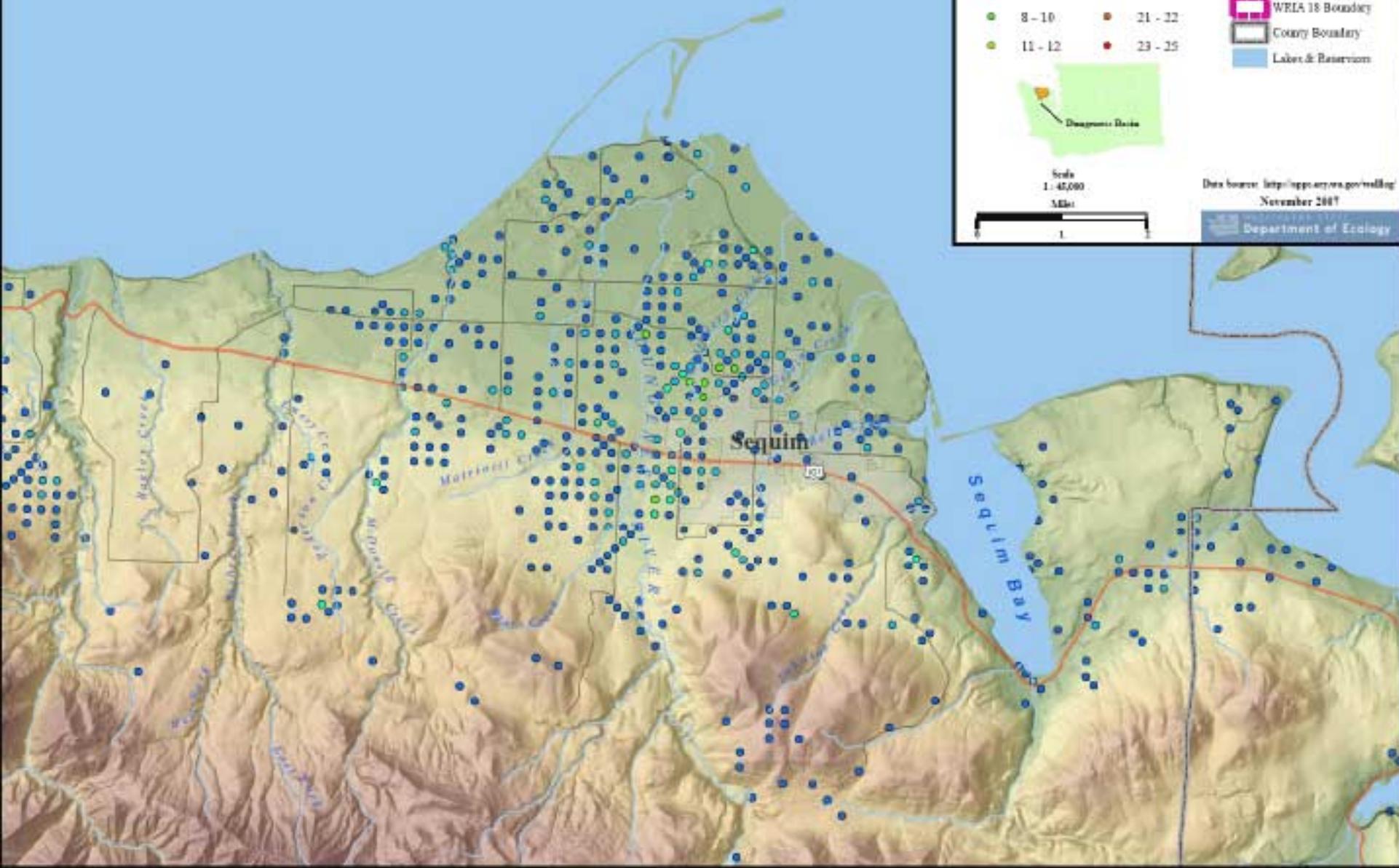


Scale  
1:47,000  
5 Miles



Data source: <http://apps.oregon.gov/welllog/>  
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# 1990

## Dungeness Basin Water Wells

Water Well Logs  
per 40 acres

- |           |           |
|-----------|-----------|
| ● 1 - 2   | ● 13 - 15 |
| ● 3 - 5   | ● 16 - 17 |
| ● 6 - 7   | ● 18 - 20 |
| ● 8 - 10  | ● 21 - 22 |
| ● 11 - 12 | ● 23 - 25 |

- Arterial Roads
- US Highway
- Stream
- ▭ WRIA 18 Boundary
- ▭ County Boundary
- ▭ Lakes & Estuaries

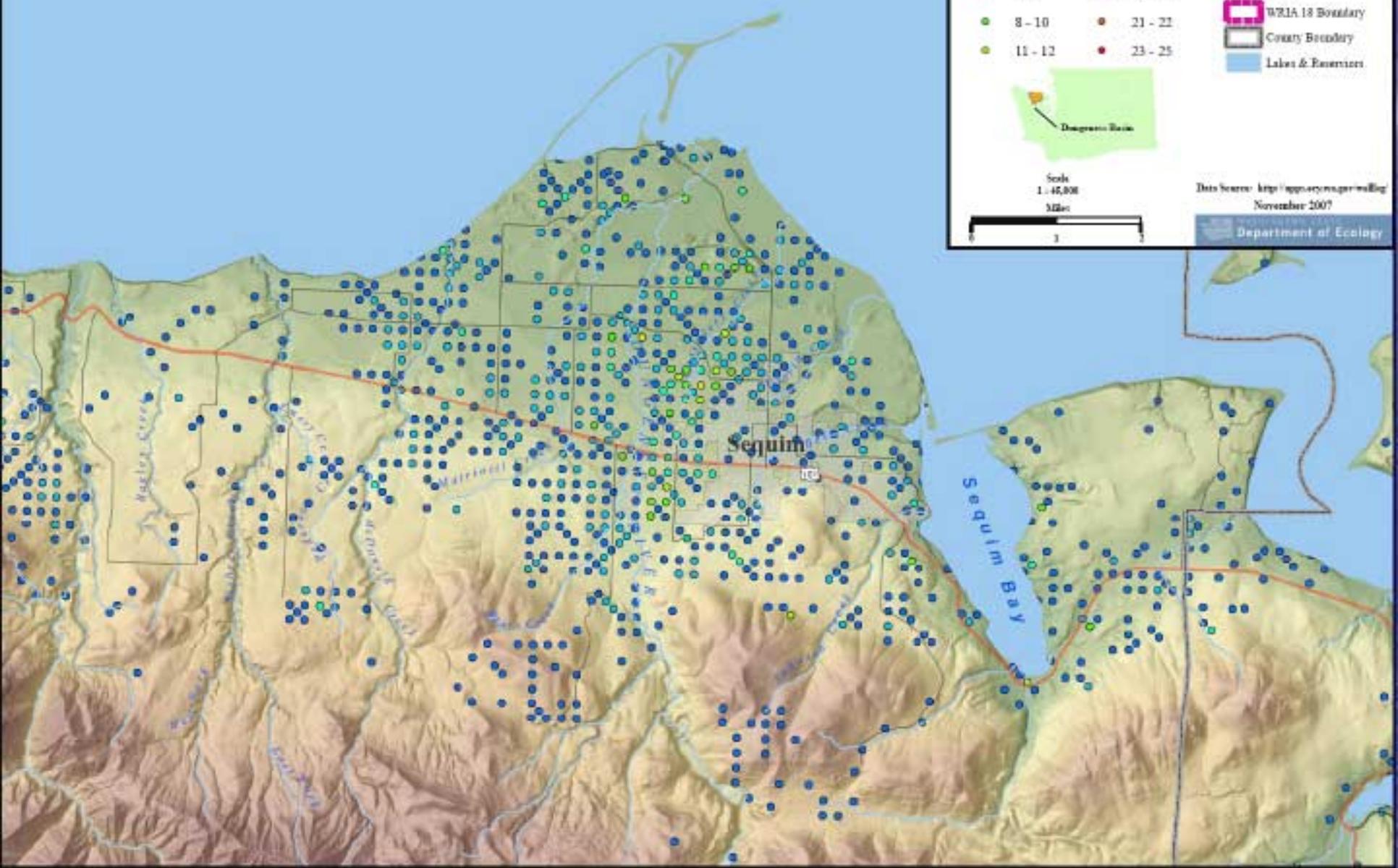


Scale  
1:45,000  
Miles



Data Source: <http://ag.wa.gov/water/welllog>  
November 2007

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# 2000

## Dungeness Basin Water Wells

Water Well Logs  
per 40 acres

- |           |           |                      |
|-----------|-----------|----------------------|
| ● 1 - 2   | ● 13 - 15 | — Aerial Roads       |
| ● 3 - 5   | ● 16 - 17 | — US Highway         |
| ● 6 - 7   | ● 18 - 20 | — Stream             |
| ● 8 - 10  | ● 21 - 22 | ■ WRIA 18 Boundary   |
| ● 11 - 12 | ● 23 - 25 | ■ County Boundary    |
|           |           | ■ Lakes & Reservoirs |

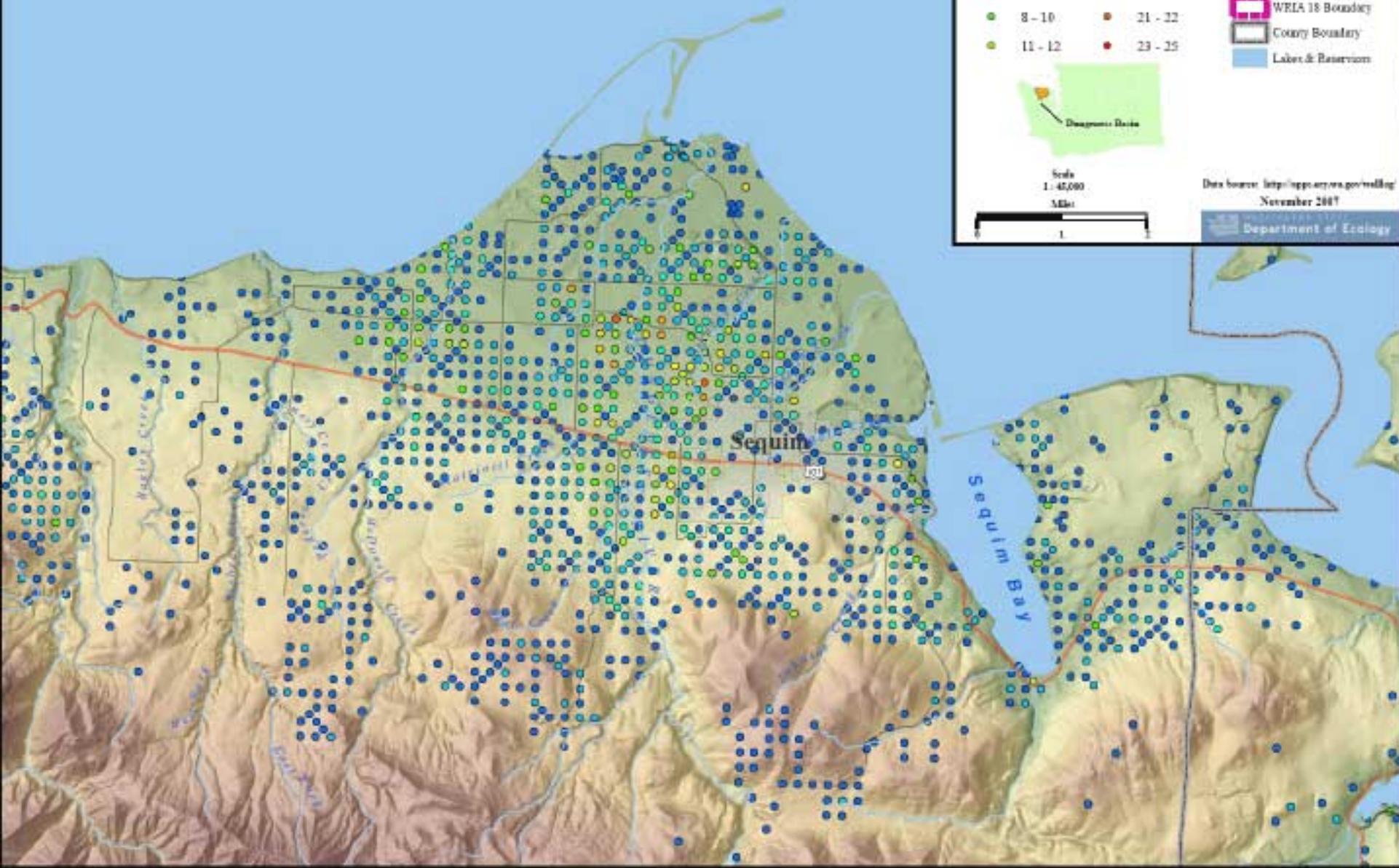


Scale  
1:47,000  
5 Miles



Data source: <http://apps.oregon.gov/welllog>  
November 2007

Department of Ecology



# 2007

## Dungeness Basin Water Wells

Water Well Logs  
per 40 acres

- |           |           |                      |
|-----------|-----------|----------------------|
| ● 1 - 2   | ● 13 - 15 | — Aerial Roads       |
| ● 3 - 5   | ● 16 - 17 | — US Highway         |
| ● 6 - 7   | ● 18 - 20 | — Stream             |
| ● 8 - 10  | ● 21 - 22 | ■ WRIA 18 Boundary   |
| ● 11 - 12 | ● 23 - 25 | ■ County Boundary    |
|           |           | ■ Lakes & Reservoirs |

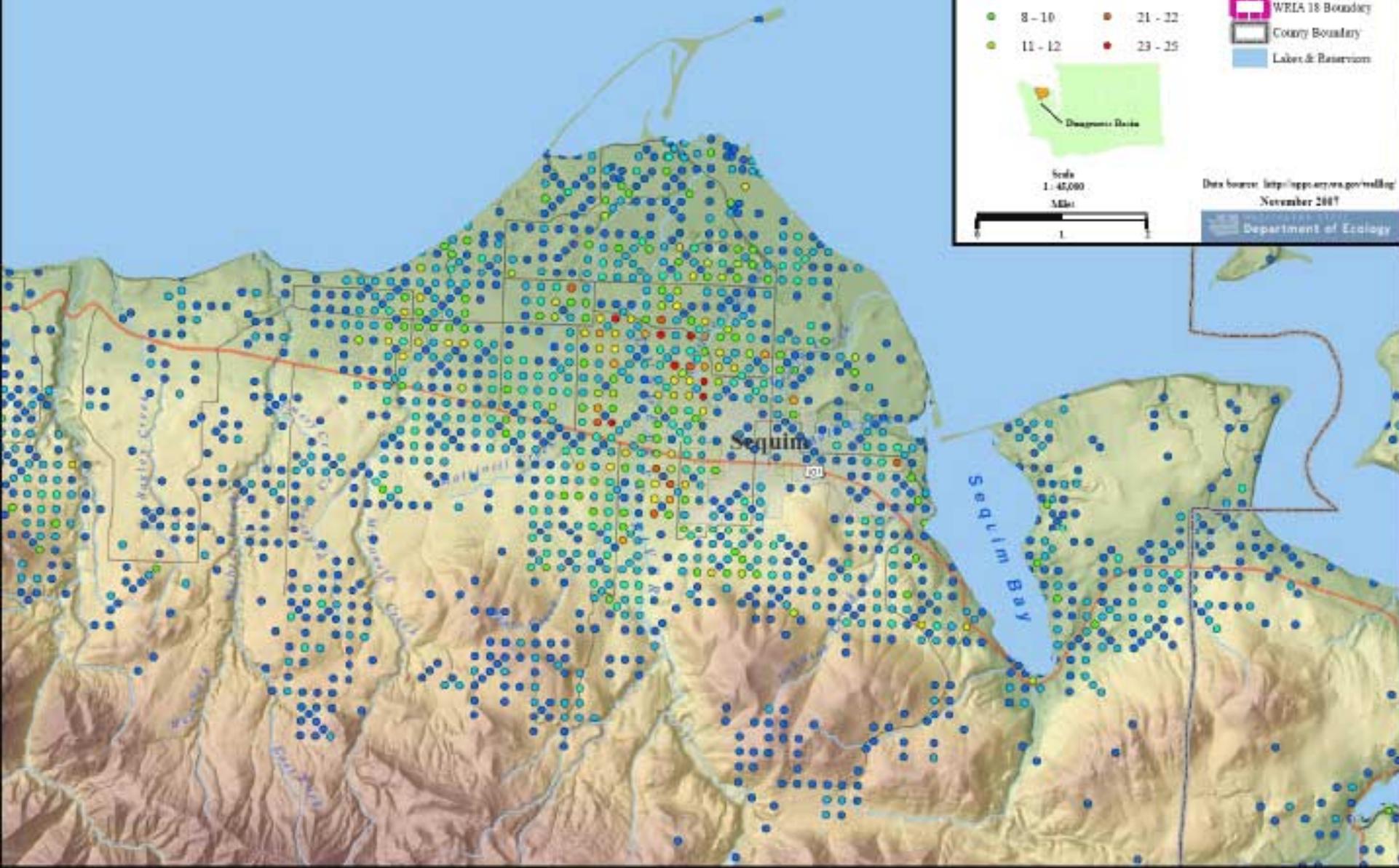


Scale  
1:47,000  
5 Miles



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November 2007

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If existing water rights, habitat,  
and other in-stream values will be  
**impaired...**

Then the rule may include closures.

- The Dungeness rule will include seasonal closures.
- Seasonal closures mean that water will still be available for new uses part of the year.
- If a surface water source is closed, then the connected ground water source is closed.

# Closures

- Mainstem Dungeness (including Matriotti and Meadowbrook)
  - July 15 (1) -November 15
- Small streams (Bagley, Bell, Casselary, Gierin, McDonald, and Siebert creeks)
  - April 15-November 15
- There will also be a year-round closure of the shallowest aquifer where lower aquifers exist

# Water Management in the rule

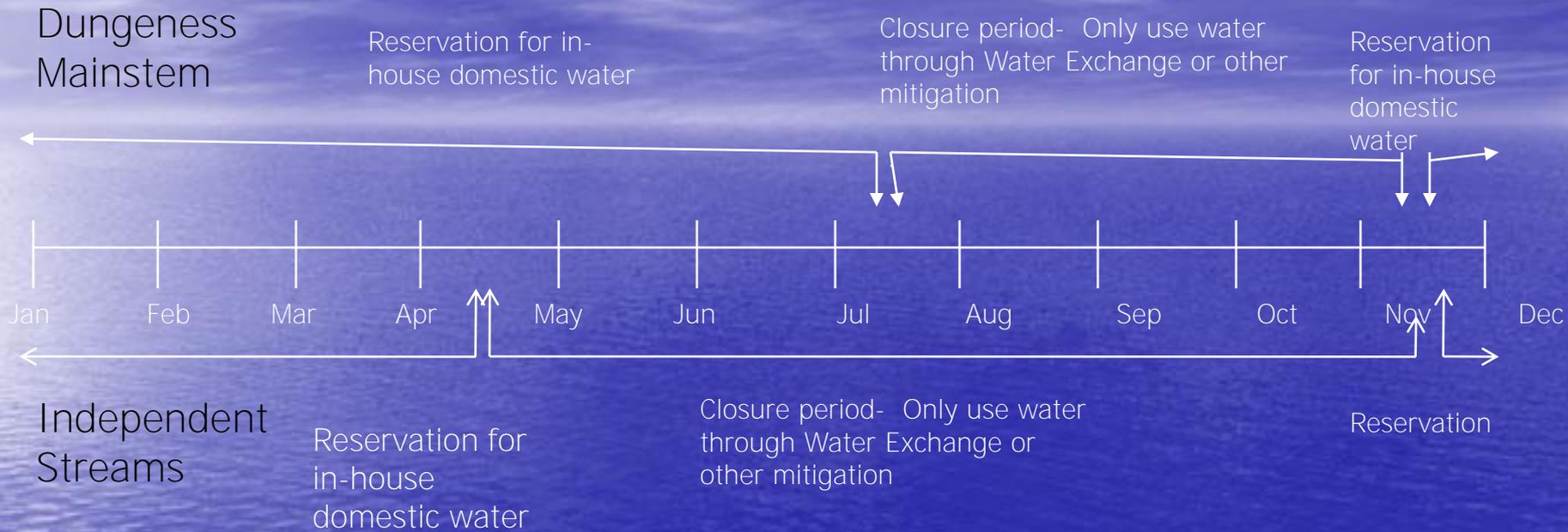
- Growth can still occur in the Dungeness despite instream flow setting and closures



First, new users will be required to seek a public water supply

- New permit-exempt withdrawals are not allowed in areas where municipal water is available in a timely and reasonable manner. (Elwha-Dungeness Watershed Plan)

- If this option is not available, then...



A proposed year under the Dungeness Instream Flow and Water Management Rule

# During the closure period, new water users will be required to mitigate

- Mitigation may be performed through the water exchange, or individually.
- The water exchange will be a one-time fee for new users.
  - Priority to exchange water will be given to exempt well users.
  - Other water users may also mitigate through the exchange if water is available.



# In addition, the water exchange will:

- Allow water to be bought in bulk, which will likely reduce the cost to future water users.
- Be easy to access and use.
- Probably be jointly run by the county and state.

# The water exchange also will:

- Allow people to use water both indoors and outdoors.



# Mitigation obligation

- Water may be bought from the exchange in varying amounts of 200 gpd, which reflects in-house use only plus a small amount of outdoor watering; or 500 gpd; or a higher use amount of probably 750 gpd.

# Lower aquifers will have a smaller mitigation obligation

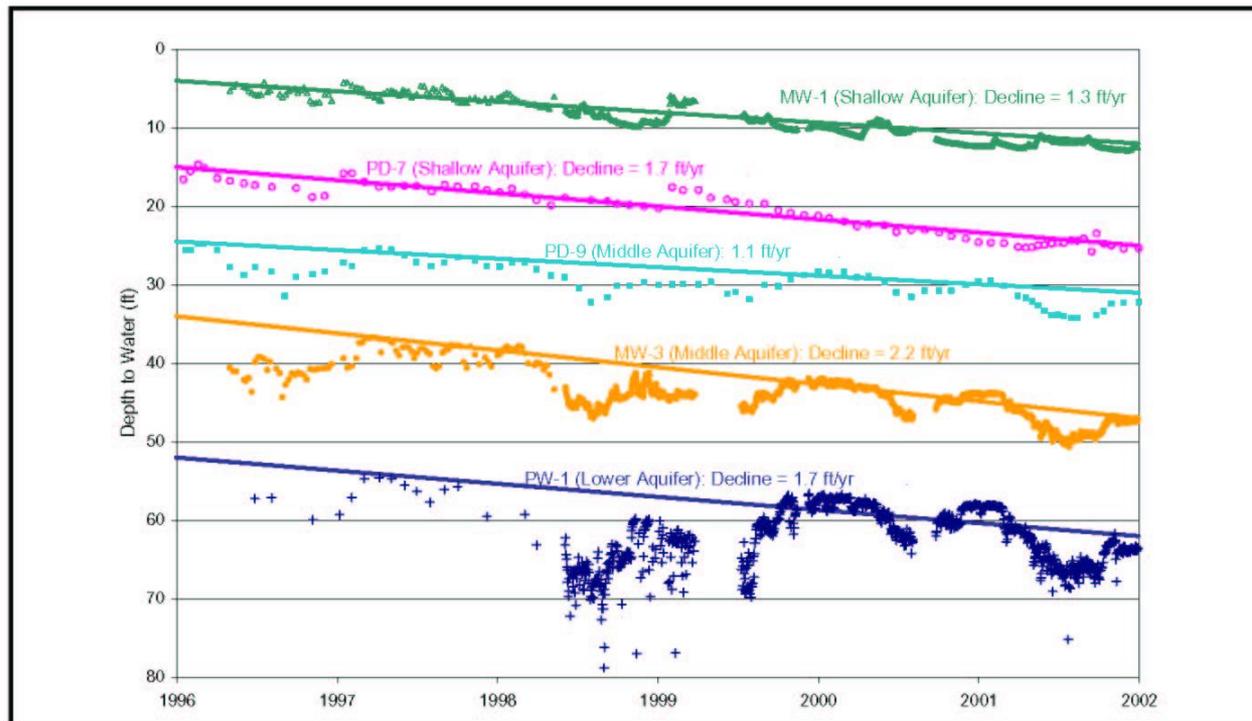


FIGURE 15  
COMPARISON OF GROUNDWATER LEVEL TRENDS NEAR THE PORT WILLIAMS WELLFIELD  
FROM WELLS COMPLETED IN THREE MAJOR AQUIFERS

# Potential Sources of Mitigation Water

- Transfer of existing water rights.
- Transfer of saved water.
- Aquifer recharge/infiltration.
  - Reclaimed water
  - High flow diversions
  - Storm water

# During the open season, water will be available through water reserves

- Will be available for in-house domestic and public water use.
- Will provide an un-interruptible source of water when flows are not met.
- Are a one-time finite resource.
  - According to build-out analysis, should last for 50-60 years into the future.
  - When reserves are used up, mitigation will have to occur year-round.

# Seasonal reserves debit amount:

- Reserves will be debited assuming an average 150 gallon per day (gpd) use
  - Determined by taking 2.31 people per household average x 65 gpd average in-house use per person = 150 gpd
  - On-site septic will be credited with a 90% recharge rate, or 15 gpd debit amount
  - The Mainstem Dungeness may have a higher average assumed amount due to different closure dates.

# Seasonal reserves and seasonal mitigation:

- As far as water users are concerned, there will be a seamless transition between the two time periods
  - Reserve debiting and water exchange transactions work will occur at the state and county level
  - No activity will be required of water users to switch between use of mitigation water and use of reservation water

# Maximum allocations

Will allow for water above the instream flows to be captured for interruptible uses, such as storage and habitat conservation



# Rainwater catchment

The rule would allow for rain barrels or cisterns to supplement water for use.



# Memorandum of Agreement between Ecology and Clallam County, will:

- Clarify roles for Ecology and County rule implementation.
- Create a process for buying mitigation credits and presenting them for the building permit.
- Create a process to attach proof of mitigation to the title and deeds of properties.
- Provide a cooperative arrangement for tracking the number of building permits in the subbasins for reserve accounting.



# Next Steps in Rulemaking

- Development and review of draft rule with Executive Committee, Working Group, DRMT, Tribes, and public.
- File revised draft rule in the state register (Late Spring-begins 180 day clock).
- Begin formal public comment period.
- File final rule (Fall, 2009).

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*Solduc Falls*