

# Elements of an Instream Flow and Water Management Rule



# History of Instream Flow Program

---

- Adopted 18 instream flow rules in 1970s & 80s
- Increasing recognition of connection between groundwater and surface water
- New water rights difficult to obtain
- Political opposition led to legislative moratorium



# Current Instream Flow Program

---

- Passage of watershed planning legislation
- Policy objectives - water for people, farms and fish
- Listings of threatened and endangered salmon
- Pressure of growth on finite resources
- Watersheds without instream flow rules



# Statewide Effort to adopt Instream Flow and Water Management Rules

---

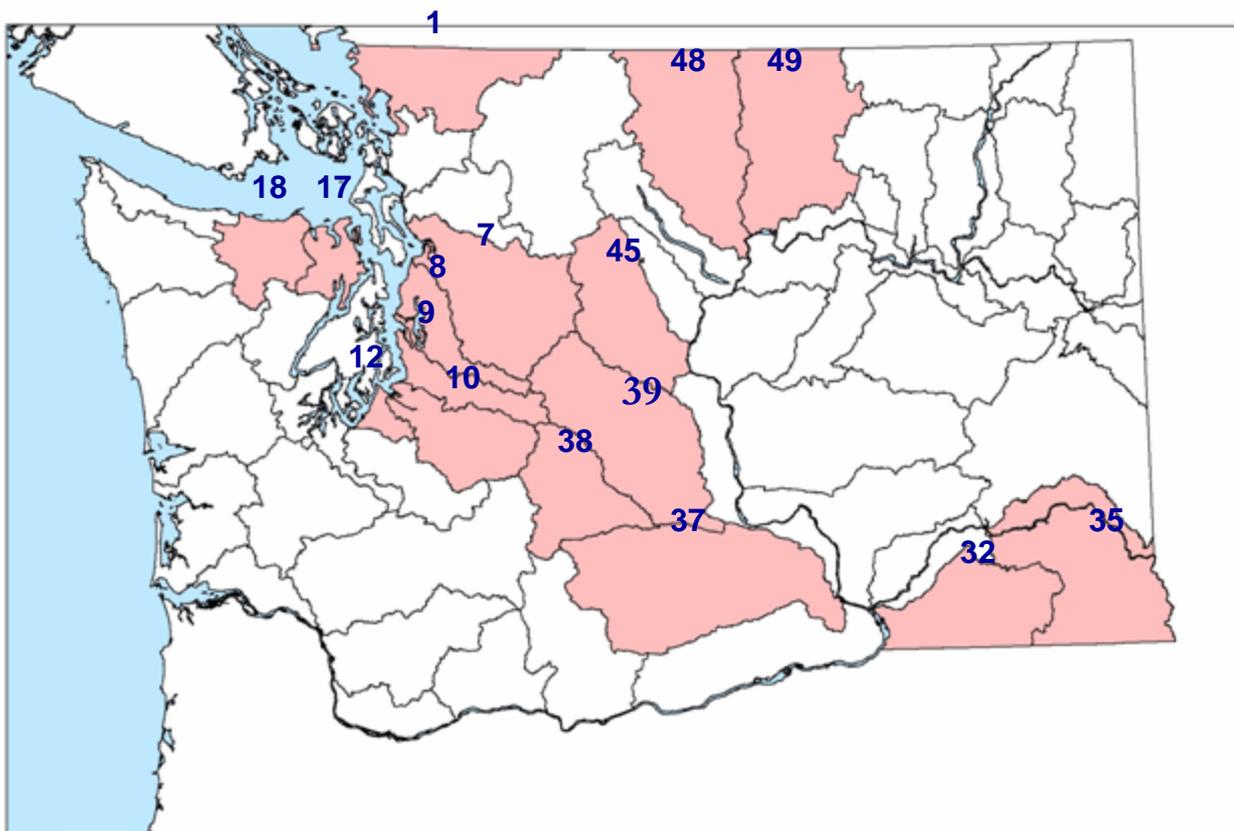
Driven by:

- Watershed Plan Recommendations
- Fish Critical Basins (16)
- Legislative Interest
- Fully Appropriated Basins



# 16 Critical WRIAs

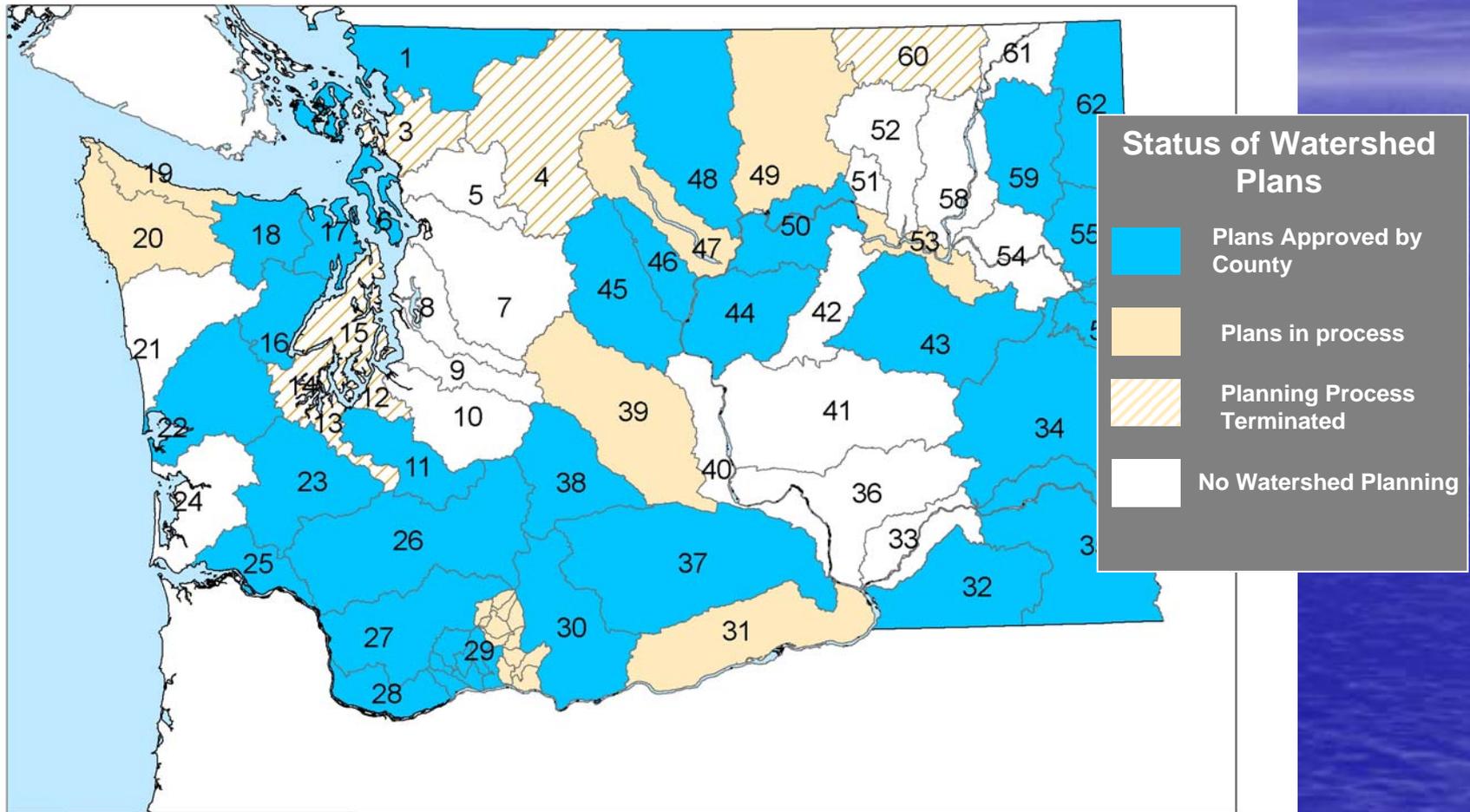
## Basins with Shortage of Water for ESA Listed Fish



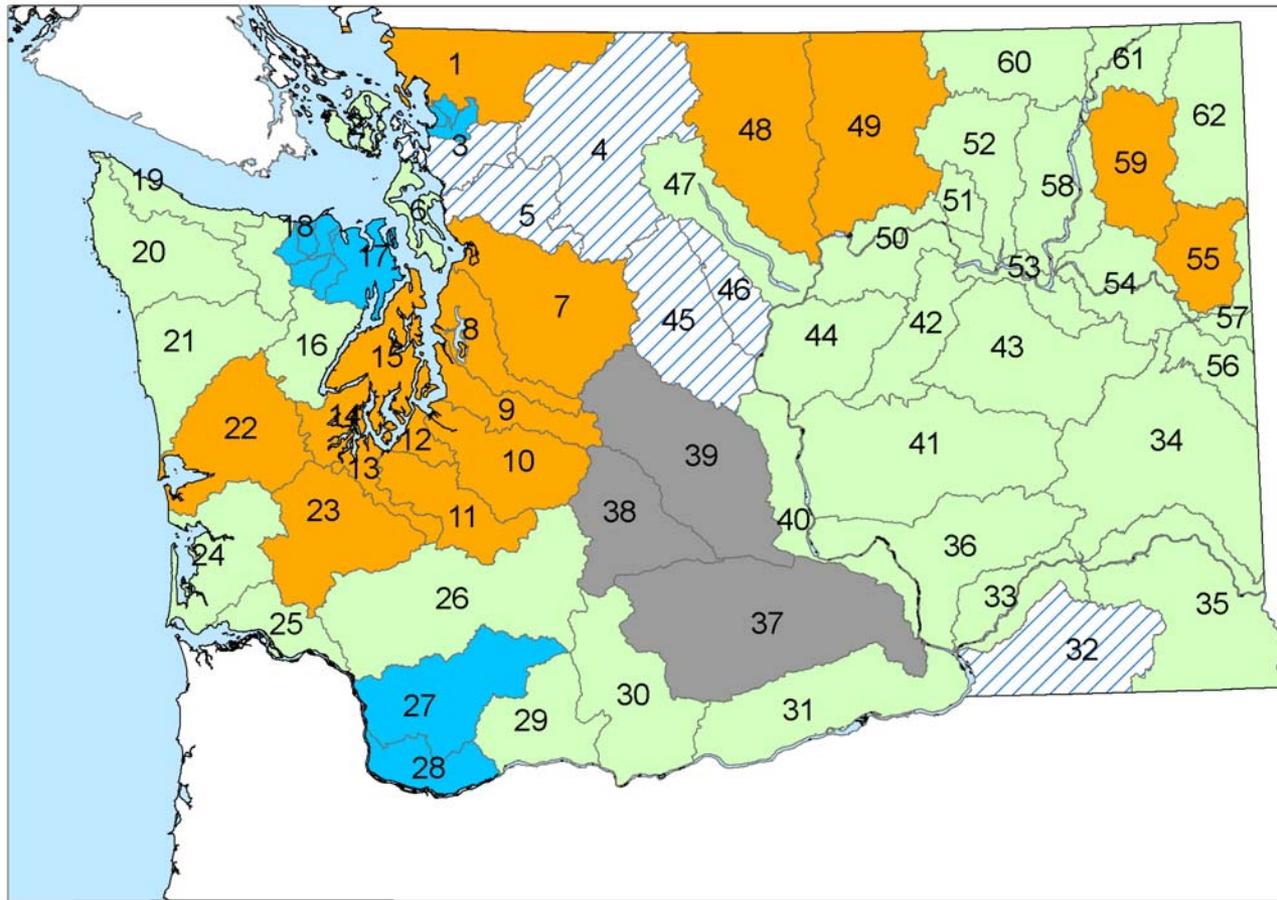
### WRIA Name

- 1 – Nooksack
- 7 – Snohomish
- 8 – Cedar
- 9 – Green
- 10 – Puyallup
- 12 – Chambers/Clover
- 17 – Quilcene/Snow
- 18 – Elwha /Dungeness
- 32 – Walla Walla
- 35 – Middle Snake
- 37 – Lower Yakima
- 38 – Naches
- 39 – Upper Yakima
- 45 – Wenatchee
- 48 – Methow
- 49 - Okanogan

# Status of Watershed Planning



# Established Instream Flows and Schedule for New Rules



**Instream Flows Set**

-  Rules Established Prior to Watershed Planning Act
-  Rules Adopted 2005 -07

**Yakima Adjudication**

-  De facto Federal Flow

**Instream Flow Rules Scheduled**

-  Current Rulemaking
-  Future Rulemaking

# Ecology is authorized under state law to establish state water-management rules that protect and preserve:



Aesthetics



Livestock Watering



Recreation



Navigation



Water Quality



Wildlife



Fish

# What is an instream flow and water management rule?

- An instream flow rule establishes a water right and priority date for the stream:
  - Senior surface and ground water rights not affected.
  - Junior water rights can be regulated, including permit exempt wells.
  - Conditions can be put on junior water rights and use can be shut off when flows are not met.



## Authorizing Legislation

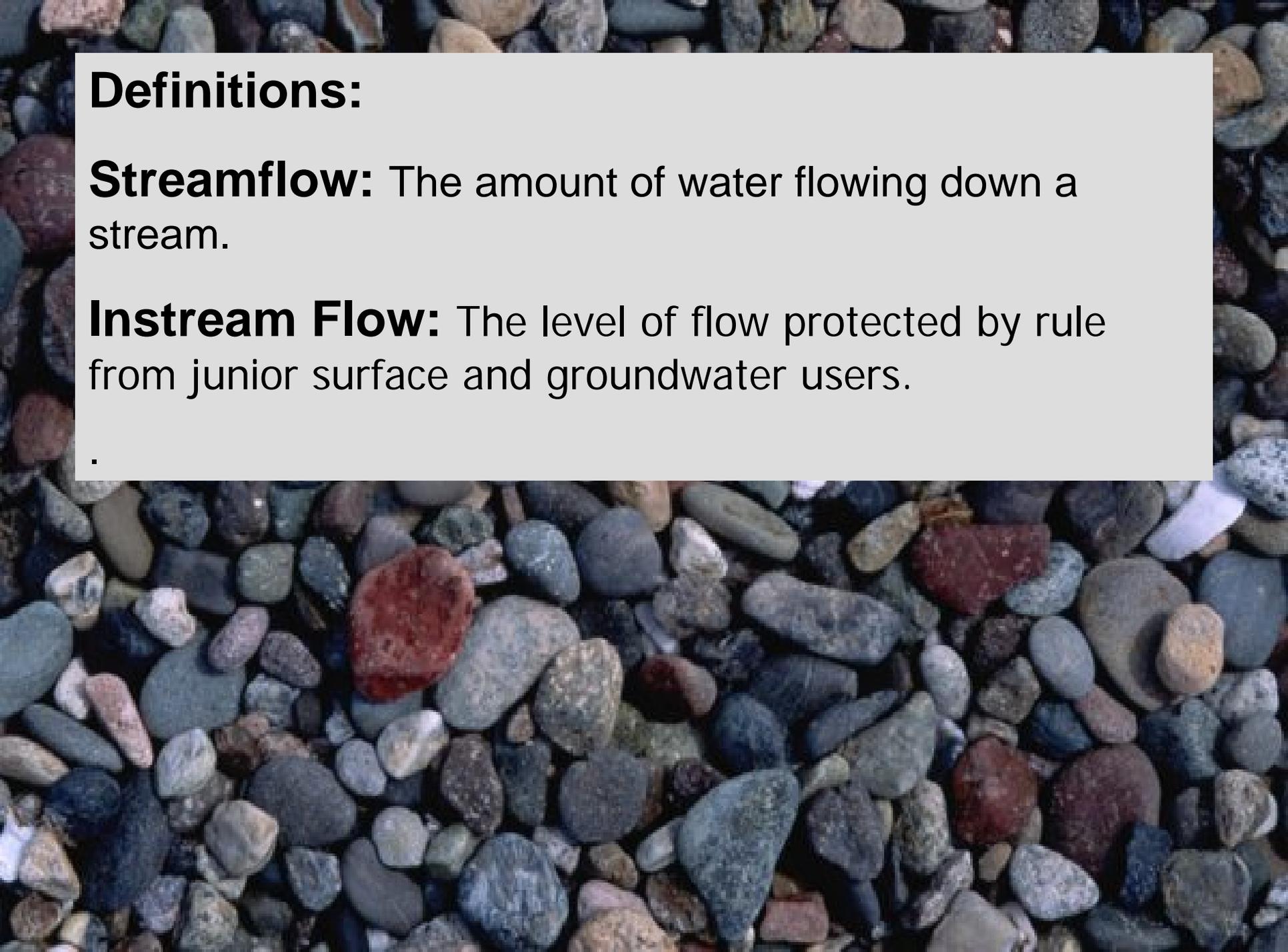
Ch. 90.22 RCW– *Minimum Water Flows and Levels*

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

Ch. 90.82 RCW– *Watershed Planning*

# 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.



## Definitions:

**Streamflow:** The amount of water flowing down a stream.

**Instream Flow:** The level of flow protected by rule from junior surface and groundwater users.

.

# An instream flow rule does **NOT** ...

---

- Affect existing or “senior” water rights, including existing small “exempt” wells.
- Require people to put water into streams.
- Guarantee that water will be in a stream.



# Developing Instream Flow Recommendations

In the Dungeness, we started by studying the relationship between streamflows and fish and their habitat.

One main goal is to protect flows for fish rearing and spawning.

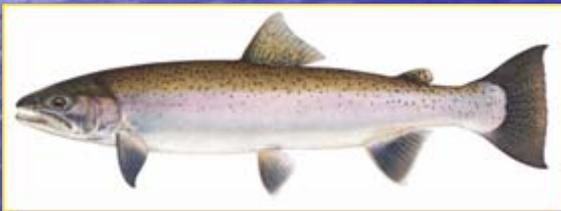
# Endangered Species Act (ESA)-Listed Species in the Dungeness



Chinook Salmon



Chum Salmon



Steelhead



Bull Trout

# Current Rulemaking in the Dungeness Basin

- Watershed Plan adopted in 2005, including recommendations for instream flow levels.
- Two groups created to advise Ecology on instream flow and water management rule.
  - The Dungeness River Executive Committee.
  - The Dungeness Water Working Group.
- Consultation with Tribes and Dungeness River Management Team (DRMT).
- Public Involvement.

# Dungeness Water Executive Committee

- Made up of elected officials, irrigators, state, county, city, and tribal representatives.
- Evaluates options for in-stream and out-of-stream water supplies and discusses state and county roles in implementation.

# Dungeness Water Working Group

- Made up of interested stakeholder groups, including the irrigators, realtors, well drillers, conservation groups, and more.
- Provides input on water supply issues and rule content.
- Helps integrate stakeholder and citizen views and broaden outreach.
- The public is encouraged to these meetings, which occur on the 4<sup>th</sup> Friday of every month.

# Public Involvement

Series of workshops introducing concepts and soliciting public comments:

- Workshop 1 on November 29<sup>th</sup> introduced water supply issues.
- Workshop 2 on March 26<sup>th</sup> to introduce water supply options.
- Future workshop(s) to introduce draft rule language.

# Ongoing Public Involvement

- Publish a series of articles in the Sequim Gazette aimed at informing and involving the public.
- Display workshop posters at Peninsula College and elsewhere.
- Meet with interest groups.
- Provide information on Ecology's website:  
<http://www.ecy.wa.gov/programs/wr/instream-flows/dungeness.html>
- Email updates to Ecology-Dungeness listserve.

# Next Steps in Rulemaking

- Develop preliminary rule with Executive Committee, Working Group, DRMT, Tribes, and public.
- Review of draft rule by public.
- File revised draft rule in the state register (late summer-begins 180 day clock).
- Begin formal public comment period.

# Instream Flow and Water Management Rule Issues



# 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

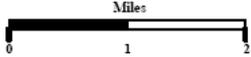
Water Well Logs per 40 acres

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

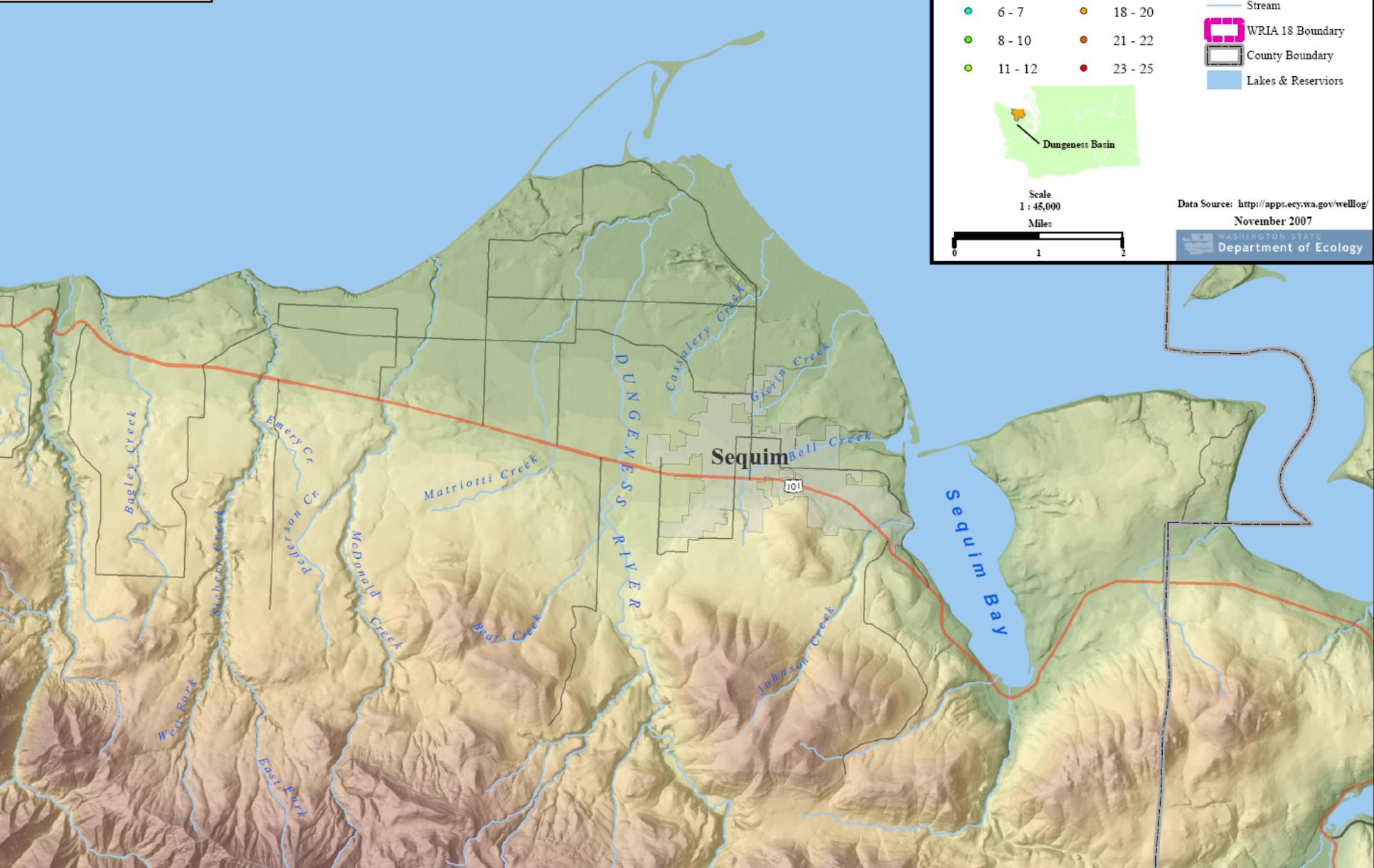
- Arterial Roads
- US Highway
- Stream
- ▭ WRIA 18 Boundary
- ▭ County Boundary
- ▭ Lakes & Reservoirs



Scale  
1 : 45,000  
Miles



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



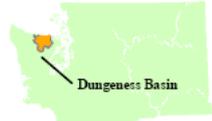
# 1950

## 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 |

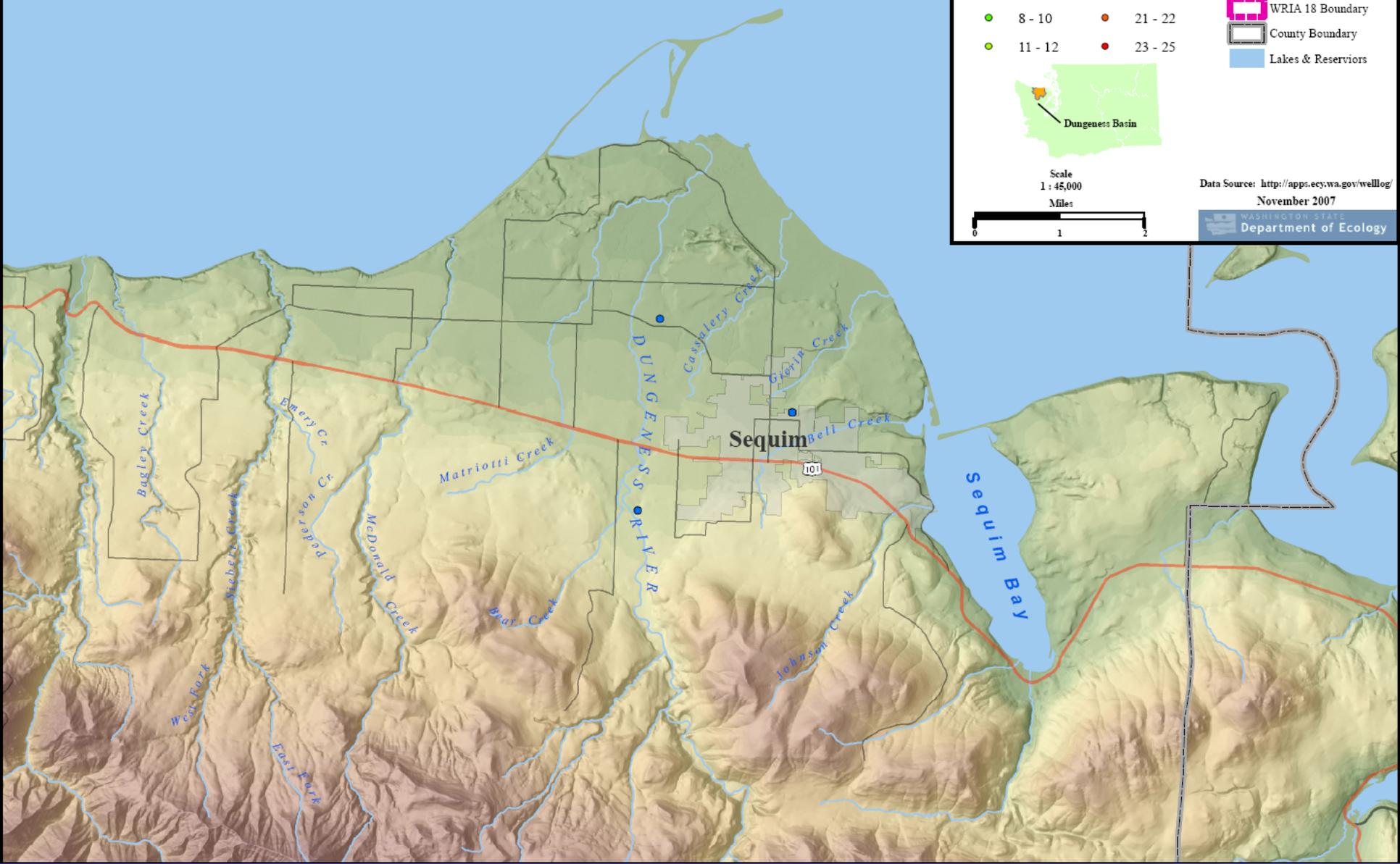
- Arterial Roads
- US Highway
- Stream
- ▭ WRIA 18 Boundary
- ▭ County Boundary
- ▭ Lakes & Reservoirs



Scale  
1 : 45,000  
Miles



Data Source: <http://apps.ecy.wa.gov/wellog/>  
November 2007



# 1960

## 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 |

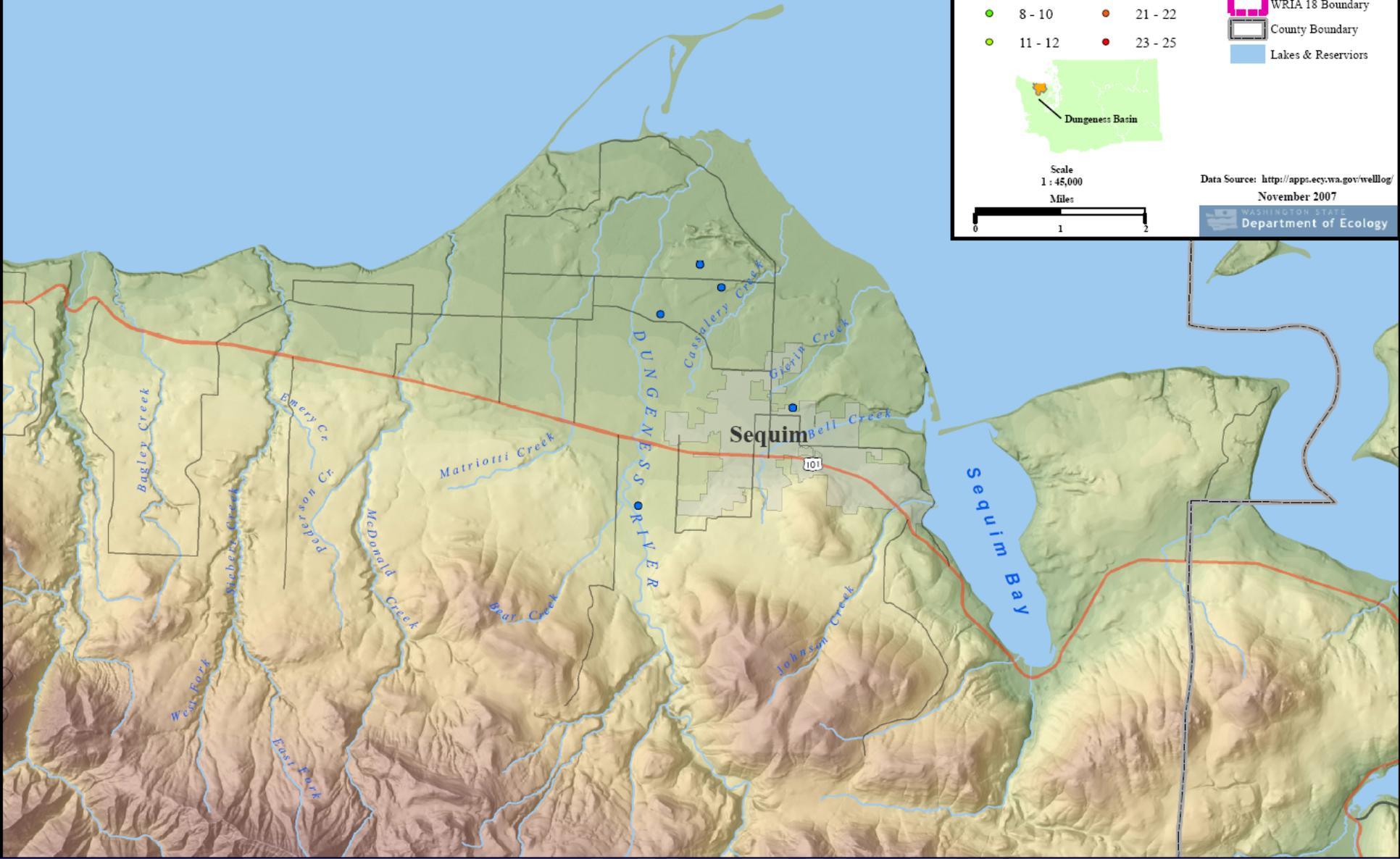
- Arterial Roads
- US Highway
- Stream
- ▭ WRIA 18 Boundary
- ▭ County Boundary
- ▭ Lakes & Reservoirs



Scale  
1 : 45,000  
Miles



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



# 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 |

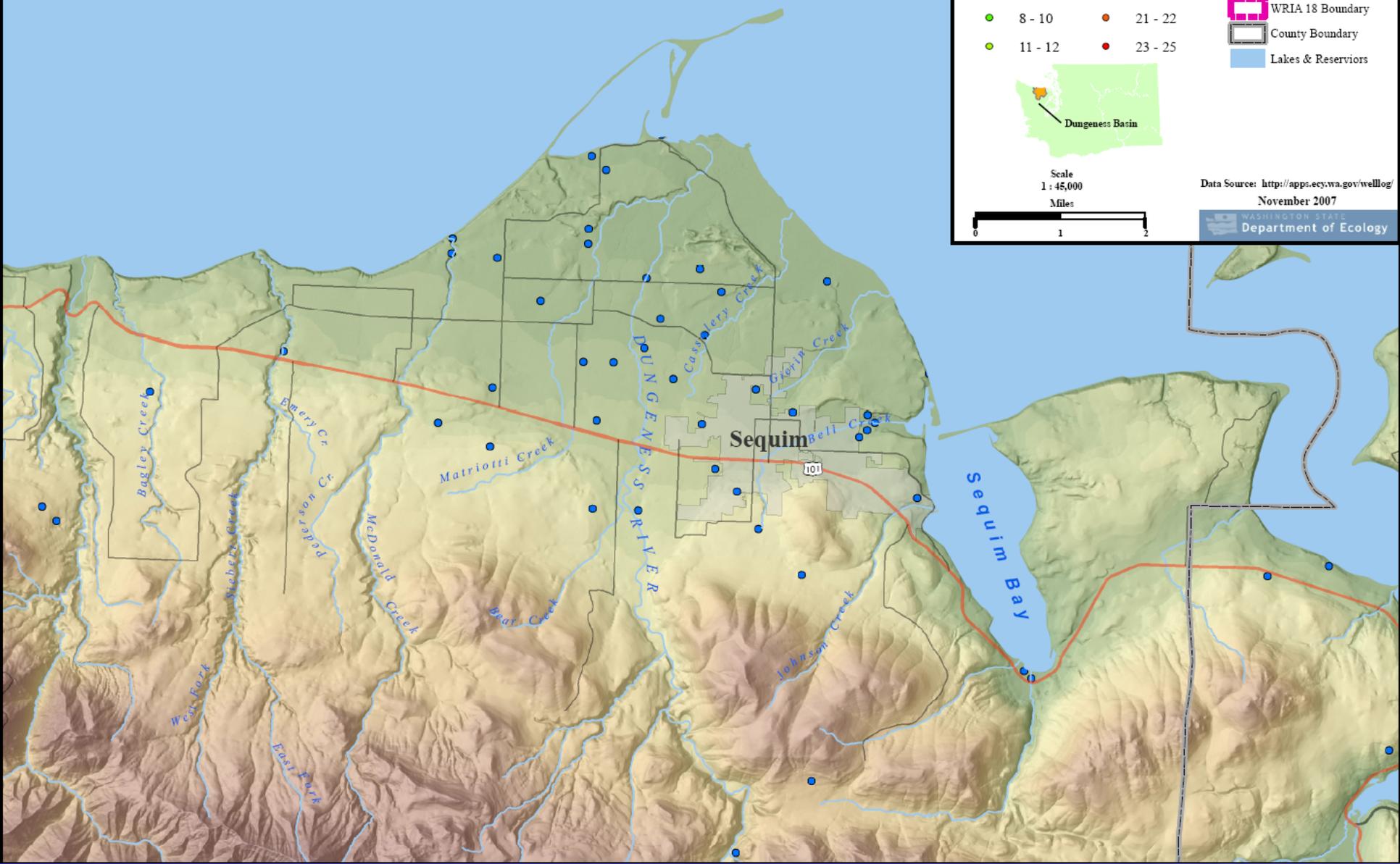
- Arterial Roads
- US Highway
- Stream
- ▭ WRIA 18 Boundary
- ▭ County Boundary
- ▭ Lakes & Reservoirs



Scale  
1 : 45,000  
Miles



Data Source: <http://apps.ecy.wa.gov/wellog/>  
November 2007



# 1980

## 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

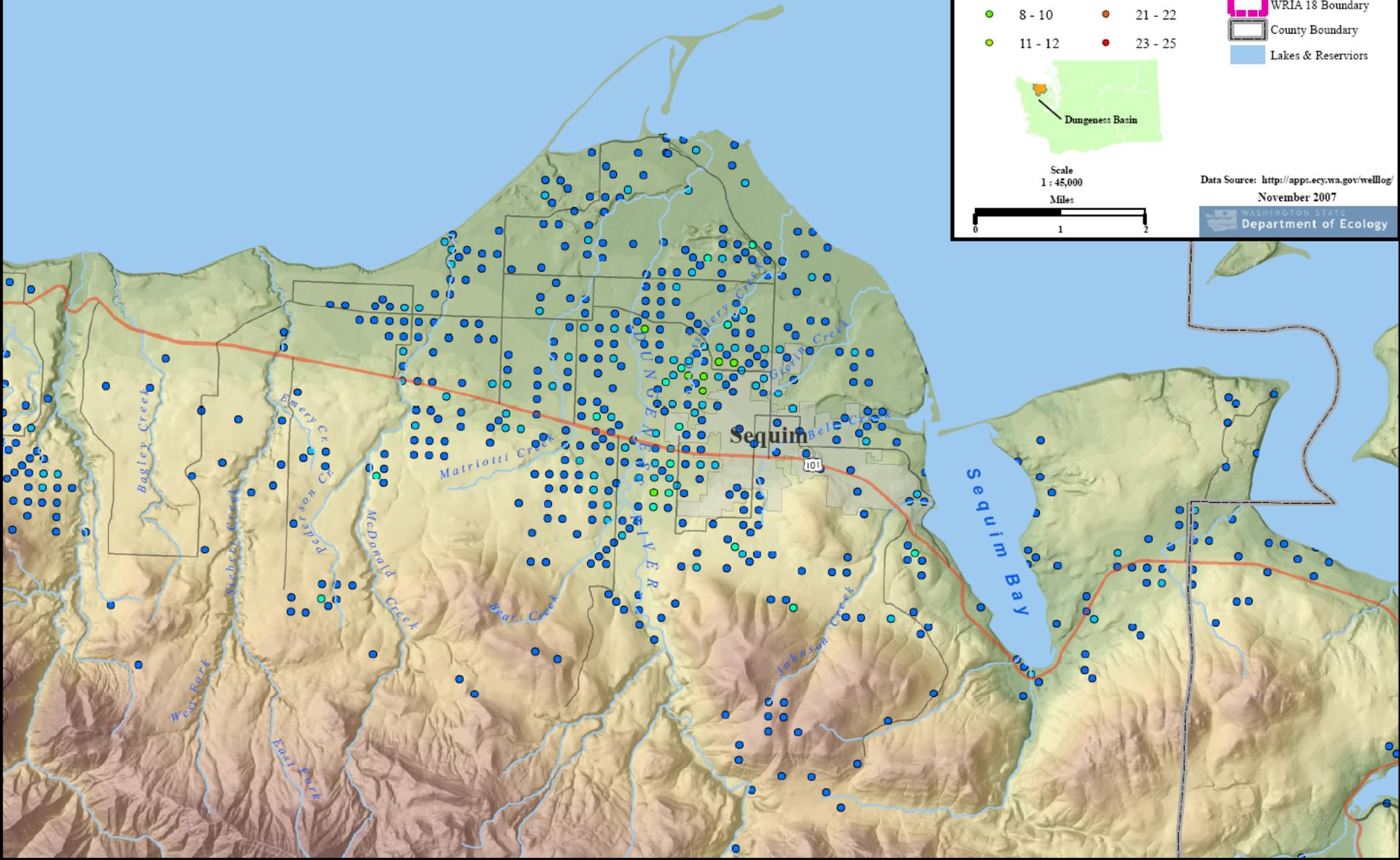


Scale  
1 : 45,000  
Miles



Data Source: <http://apps.ecy.wa.gov/wellog/>  
November 2007

WASHINGTON STATE  
Department of Ecology



# 1990

## Dungeness Basin Water Wells

Water Well Logs  
per 40 acres

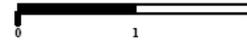
- |           |           |
|-----------|-----------|
| ● 1 - 2   | ● 13 - 15 |
| ● 3 - 5   | ● 16 - 17 |
| ● 6 - 7   | ● 18 - 20 |
| ● 8 - 10  | ● 21 - 22 |
| ● 11 - 12 | ● 23 - 25 |

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



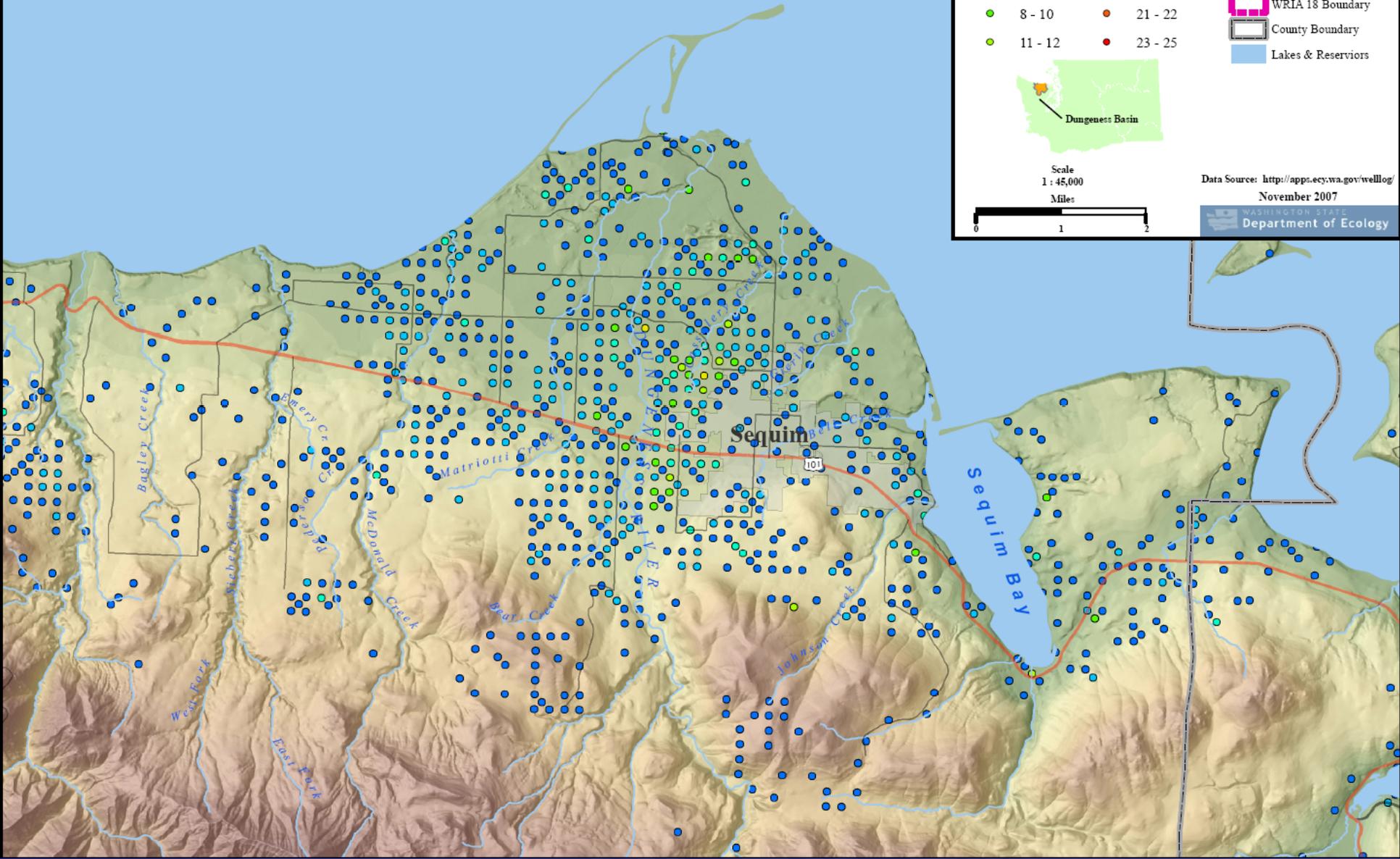
Scale  
1 : 45,000

Miles



Data Source: <http://apps.ecy.wa.gov/wellog/>  
November 2007

WASHINGTON STATE  
Department of Ecology



# 2000

## 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

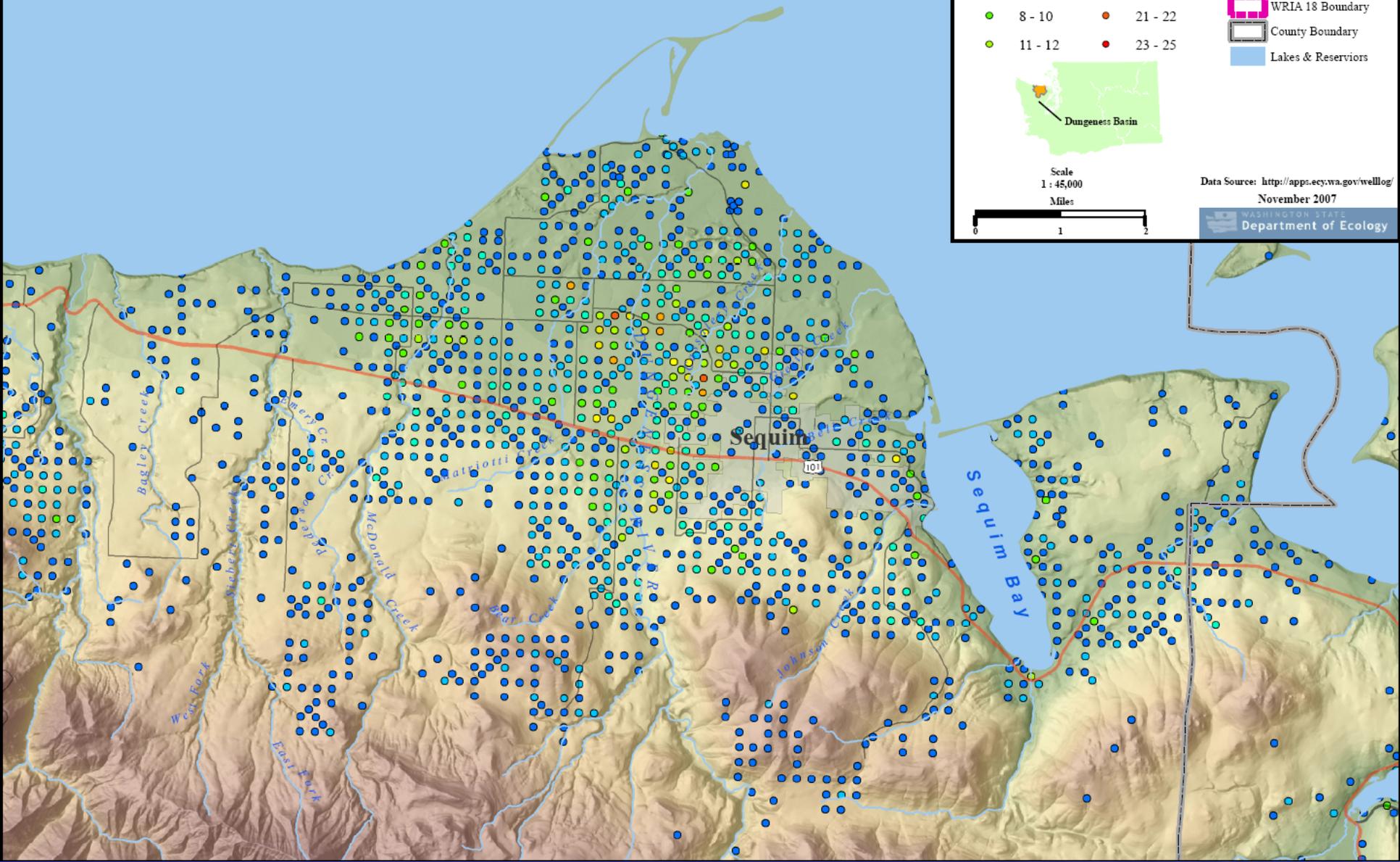


Scale  
1 : 45,000  
Miles



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

WASHINGTON STATE  
Department of Ecology



# 2007

## 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 |

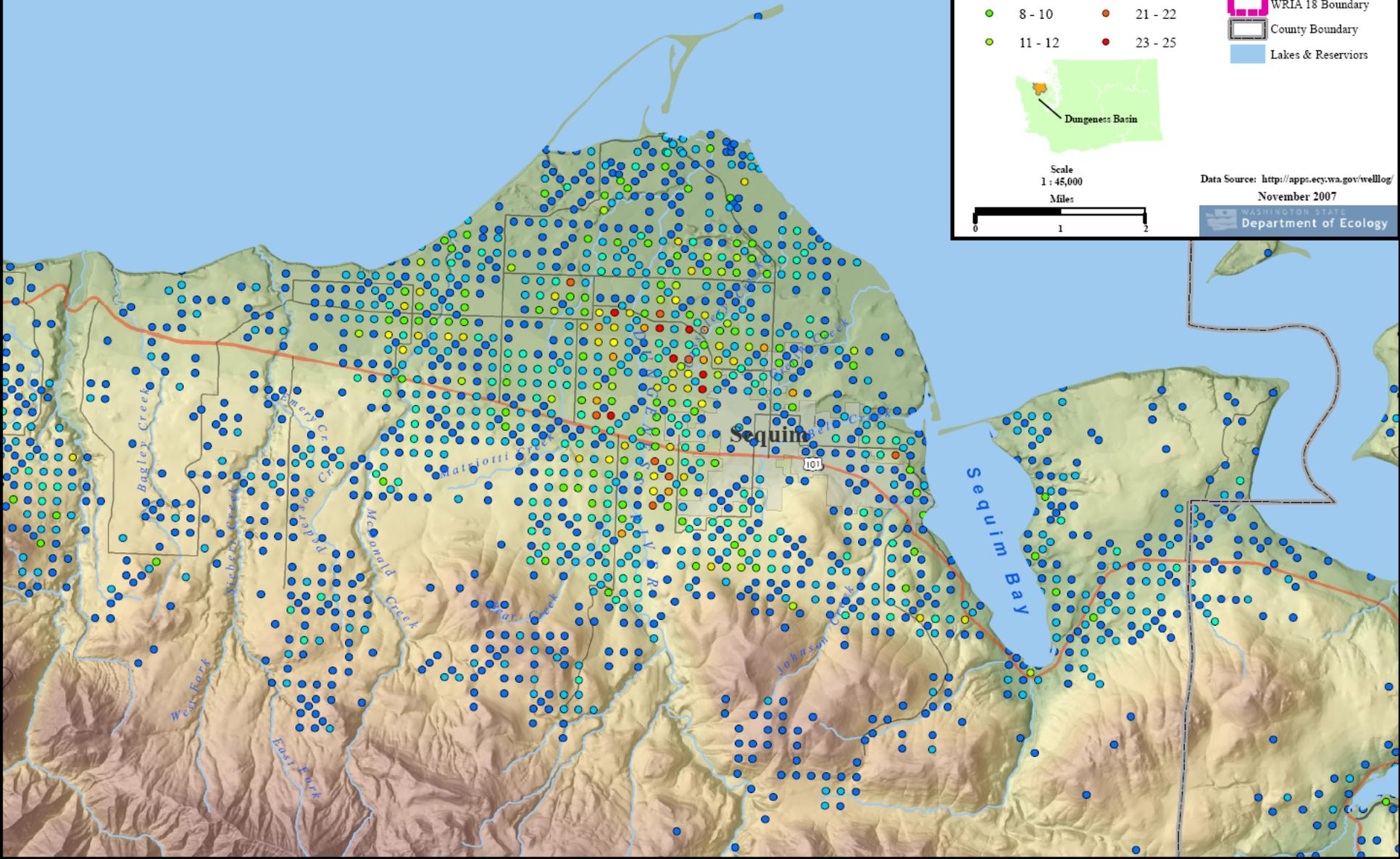
- Arterial Roads
- US Highway
- Stream
- ▭ WRIA 18 Boundary
- ▭ County Boundary
- ▭ Lakes & Reservoirs



Scale  
1 : 45,000  
Miles



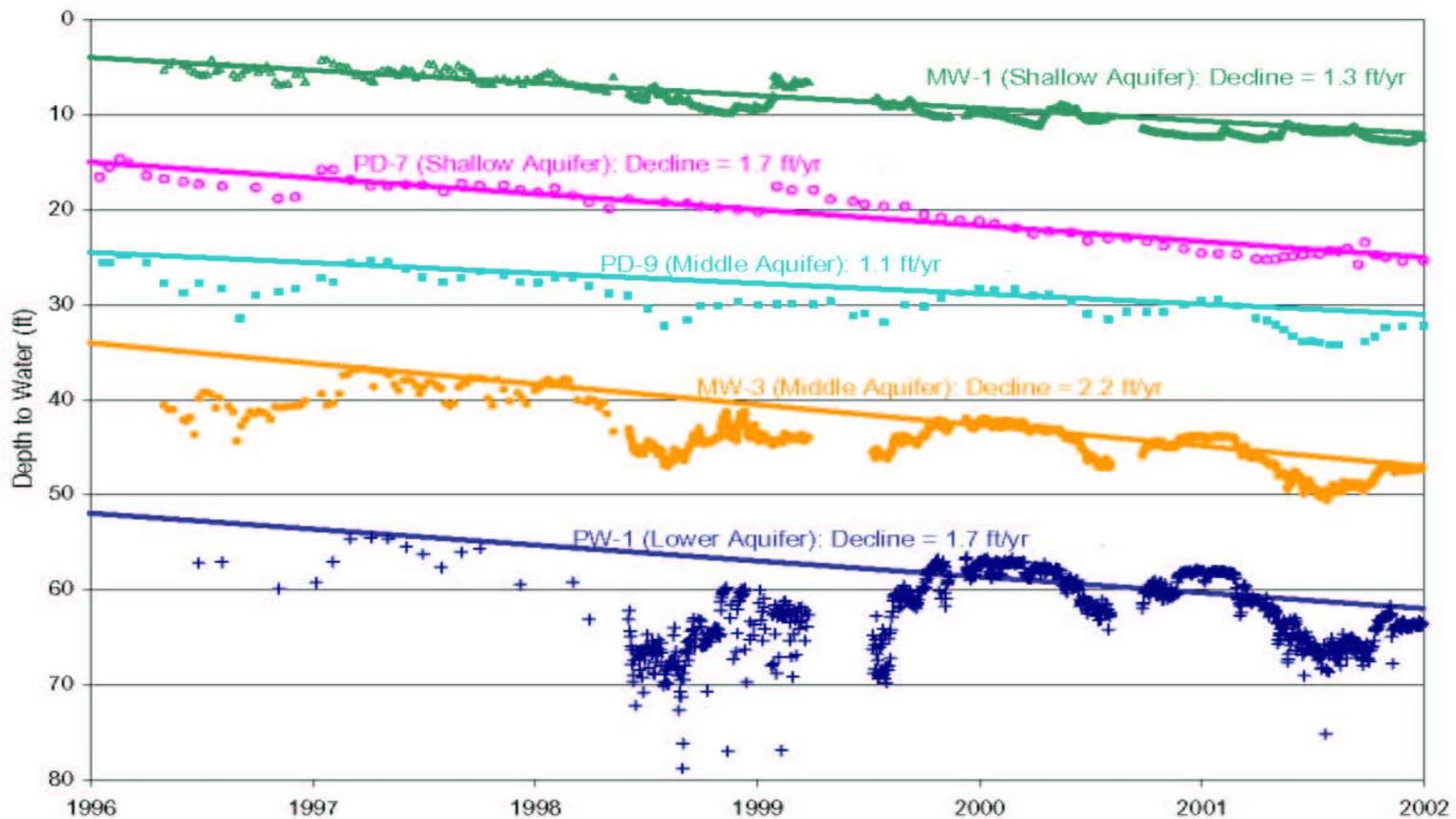
Data Source: <http://apps.ecy.wa.gov/wellog/>  
November 2007



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

Then the rule may include closures.

- Seasonal closures mean that water will be available for new uses part of the year.
- Water can be obtained during seasonal closures with approved mitigation.
- If a surface water source is closed, then the connected ground water source is closed.



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

# Options When Supplies are Limited

- Augment Supply.
  - Large storage projects.
  - Small-scale on-site storage (cisterns).
  - Reclaimed water.
  - Desalination.
- Manage Demand.
  - Conservation and efficiency.
  - Other management measures.
- Establish mechanisms for mitigation.
  - Water exchange/bank.
  - Individual project specific mitigation plan.



# Potential Sources of Mitigation Water

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

# Concepts for Water Management

- Indoor use only?
- Outdoor use?
  - Mitigated?
  - Intensively managed?
    - Watering schedules?
    - Highly efficient irrigation technology?
    - Late season curtailment?
  - Limited size of irrigated area?
  - On-site small scale storage?
- Limited number of gallons per day?

Other approaches to managing water use/demand:

- Encourage planned unit developments and clustering?
- Transfer of development rights?
- Report water use?
- Parcel or zoning-related conditions?



# Assumptions

- Septic return for in-house use is assumed to be roughly 90%, so the remaining 10% might require mitigation.
- Water used outdoors is assumed to return roughly 10% to the aquifer.

# Municipal Water Hook-up

New permit-exempt withdrawals are not allowed in areas where municipal water is available in a timely and reasonable manner.

(Elwha-Dungeness Watershed Plan)

# Contact Information

**Sarah Ferguson**

WA Department of Ecology

Water Resources Program

[sfer461@ecy.wa.gov](mailto:sfer461@ecy.wa.gov)

360/407-6780

**Cynthia Nelson**

WA Department of Ecology

Shorelands and Environmental Assessment

[cyne461@ecy.wa.gov](mailto:cyne461@ecy.wa.gov)

360/407-0276



WASHINGTON STATE

Department of Ecology

<http://www.ecy.wa.gov/ecyhome.html>



*Solduc Falls*