OVERVIEW

1. Declarations of a drought emergency
2. Challenges with drought planning
3. Decision making under uncertainty – evaluating risk
4. Mitigating risk
RCW 43.83B.400: “Drought condition" means:

• The water supply for a geographical area or for a significant portion of a geographical area is below 75% of normal; and

• The water shortage is likely to create undue hardships for various water uses and users.

RCW 43.83B.405(1): “Whenever it appears to the department of ecology that a drought condition either exists or is forecast to occur within the state or portions thereof, the department of ecology is authorized to issue orders...”
EMERGENCY POWERS

1. Issue emergency withdrawal permits (temporary permits and temporary changes) (RCW 43.83B.410)

2. Issue grants for emergency projects, contingent upon funding (RCW 43.83B.415)
CHALLENGE WITH A TIMELY DROUGHT RESPONSE
RESPONSE TOOLS

• Change decision making – change crop type, fallow fields, rettime water application
• Lease water rights
• Apply for grant funding
TRADEOFFS

Declare a drought emergency early

- Less certainty on supply forecasts
- Allows for more effective response

Wait on a declaration

- More certainty on supply forecasts
- Response may be less effective
# POSSIBLE SCENARIOS

<table>
<thead>
<tr>
<th>Drought occurs</th>
<th>Early declaration</th>
<th>Late declaration</th>
<th>No declaration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drought occurs</td>
<td>Good</td>
<td>Okay</td>
<td>Risky</td>
</tr>
<tr>
<td>No drought occurs</td>
<td>Bad</td>
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</table>
DECISION MAKING UNDER UNCERTAINTY – EVALUATING RISK

Diagram showing a matrix with axes labeled 'Likelihood' and 'Consequence'. The matrix is divided into quadrants indicating different levels of risk based on the likelihood and consequence.
RISKS OF AN EARLY DECLARATION

<table>
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</thead>
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The bottom line: the situation is far less dire or unusual than advertised. There will be plenty of water for nearly all users, and that the forecast is for wetter than normal summer.

If one cries Wolf too many times, one day folks may not listen.
RISKS OF A LATE DECLARATION

<table>
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</thead>
<tbody>
<tr>
<td>Drought occurs</td>
<td>Good</td>
<td><strong>Okay</strong></td>
<td>Risky</td>
</tr>
<tr>
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Potential consequences of a “late” declaration:

- Irrigators are locked into planting decisions
- Less time to complete emergency projects
- Fewer water rights are available for lease; less time to negotiate agreements
RISKS OF NO DECLARATION

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WHAT CAN WE DO?

Mitigating Risk
MITIGATING RISK – LOWER THE LIKELIHOOD
• Our skill in forecasting varies by prediction length, season, and measure (precipitation vs. temperature)

• Ecology drought plan: “It can be anticipated that new resources and tools will be forthcoming... Nevertheless, it bears emphasizing that there are real limits in the predictability of the weather on time scales greater than a few weeks and hence our ultimate ability to forecast changes in drought conditions. This critical point underscores the need for the state to place equal, if not greater, emphasis on preparedness.”
MITIGATING RISK – LOWER THE CONSEQUENCE
MITIGATING RISK – BUILD PREPAREDNESS AMONG WATER USERS

• Build preparedness and resiliency among water users
  • Fund resiliency projects ahead of drought emergencies
  • Support local drought contingency plans
  • Establish long-term water option leases

• Communicate impending drought conditions through an “advisory”

• Concepts are incorporated in HB 1622
MITIGATING RISK - OUTCOME
THANK YOU

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