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Factors for Decline

NOAA (1998)

Habitat	Harvest	Disease & Predation	Regulatory Mechanisms	Other Natural or Human
Channel form	Marine	Disease	NW Forest Plan	Drought
Substrate	Recreational	Predation	Forest Practices	Floods
Roughness	Scientific		Dredge and Fill	Ocean Conditions
Estuaries			Water Quality	Artificial Propagation
Wetlands			Ag Practices	
Riparian Areas			Urban Growth	
Water Quality				
Streamflows				
Passage				
Habitat Elimination				

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Insufficient Streamflows

"migration delay resulting from insufficient streamflows or habitat blockage….

loss of usable habitat due to dewatering and blockage….

increased juvenile mortality from increased water temperatures."

1997 NMFS Federal Register

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Insufficient Streamflows

Current impact of water withdrawals on natural streamflows (August);

Restoration efforts under Oregon Plan;

Change in water withdrawals since onset of Oregon Plan (~1999);

Impact anticipated from future water withdrawals.

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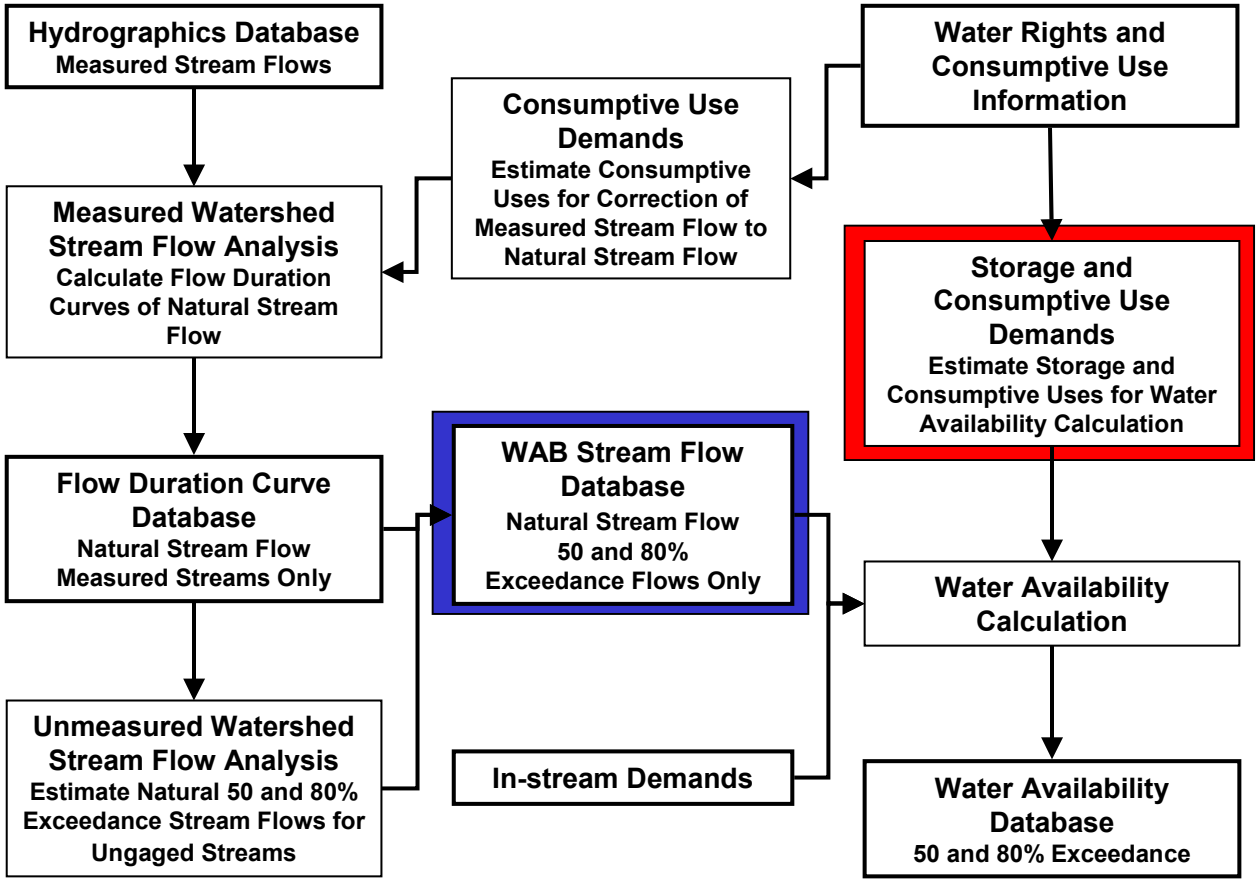
Water Availability Databases



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Natural Streamflow

Flow in stream with no consumptive uses - e.g. 80% exceedance flow

Estimated in one of three ways:

1. miscellaneous measurements
2. prediction equations based on measured streamflows
3. continuous measurements

All exceedance flows represent same period (1958 to 1987)

Consumptive Use

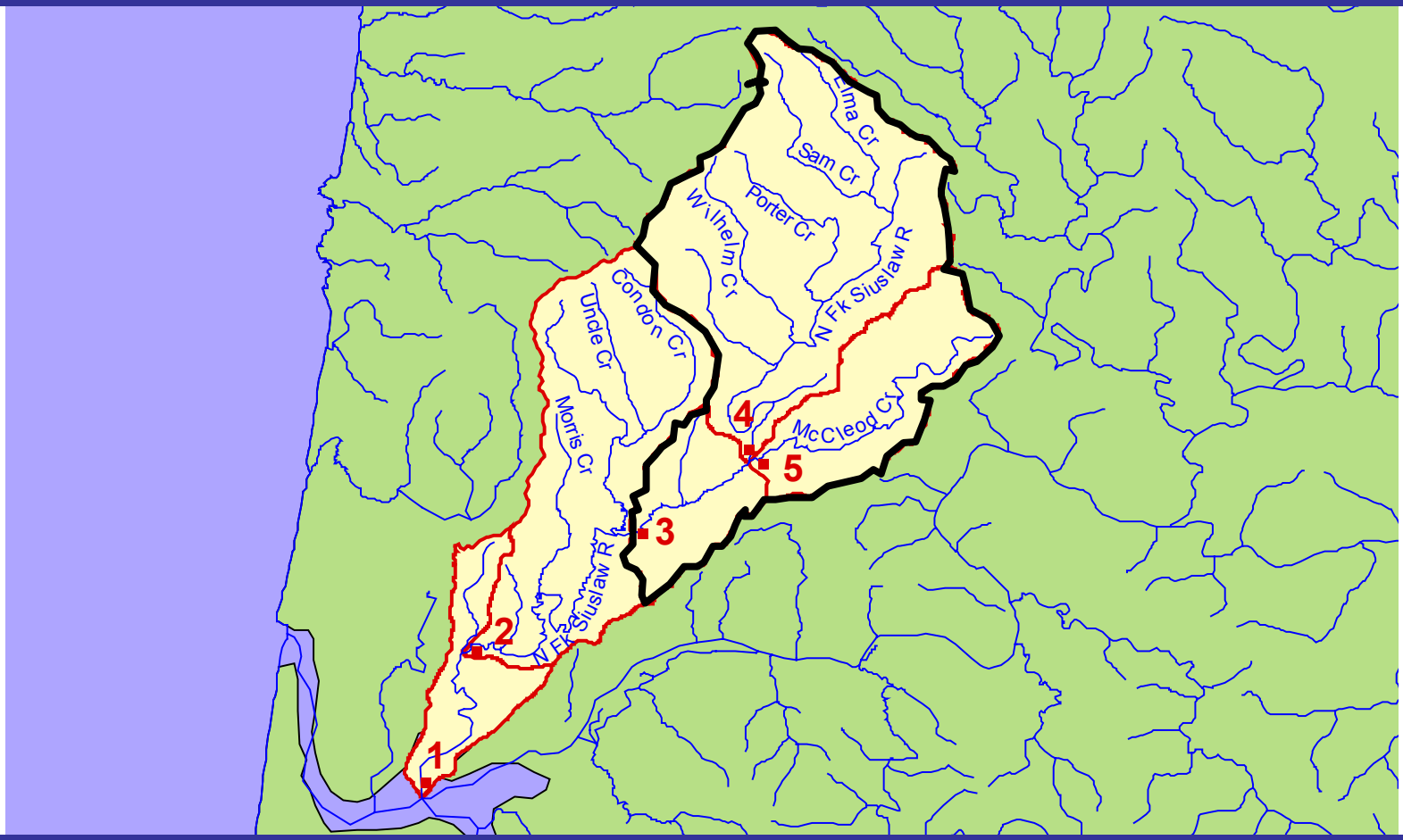
Causes a net reduction in streamflow.

Usually associated with loss via evaporation or transpiration.

Three major categories of consumptive use:

1. Irrigation
2. Municipal
3. All others (e.g., domestic, livestock) ~ Usually small in comparison with stream flow.

“Water Availability Basins”



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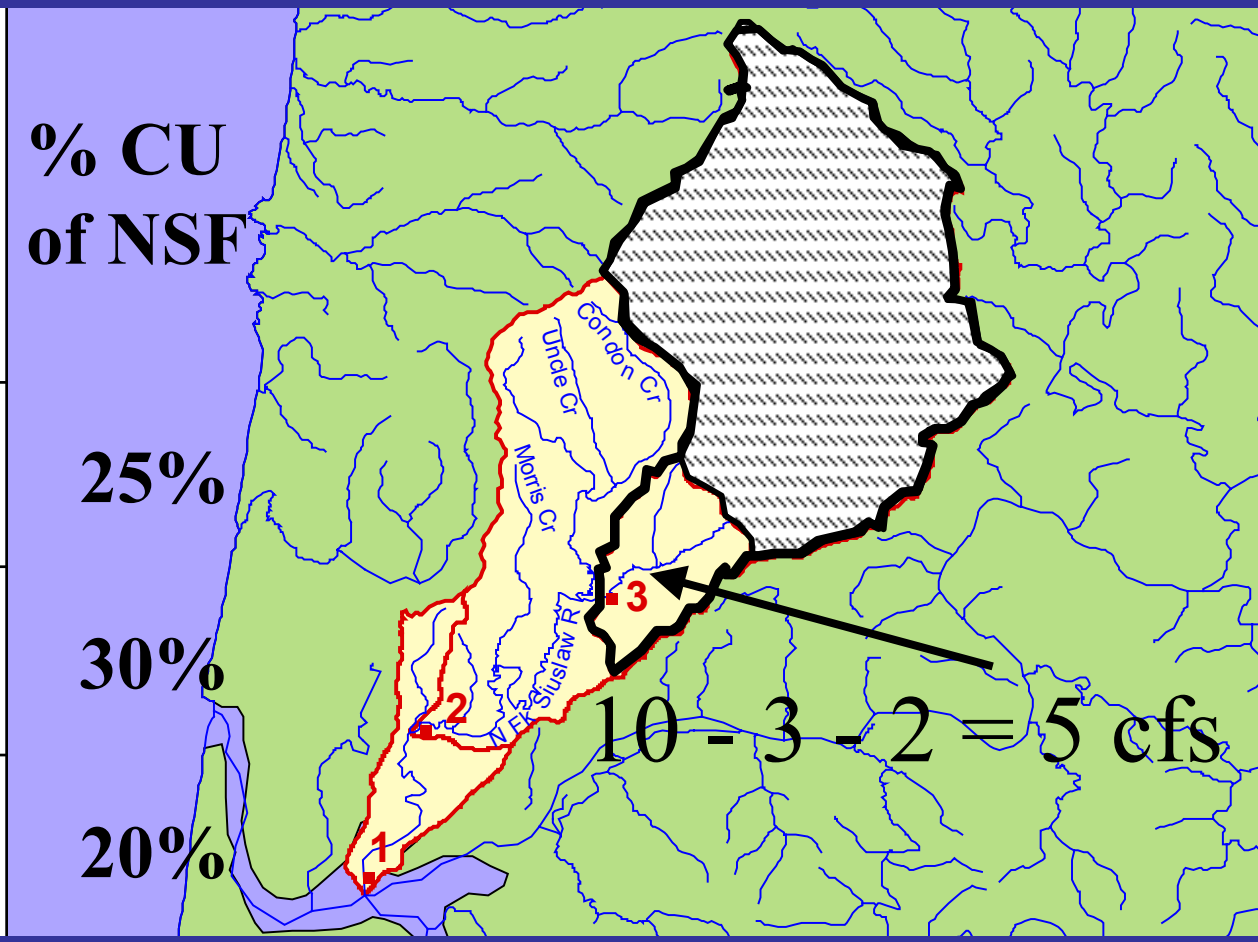
Consumptive Use (CU)

WAB #	Aug CU (cfs)	NSF (cfs)	% CU of NSF
3	5	25	25%
4	3	10	30%
5	2	10	20%



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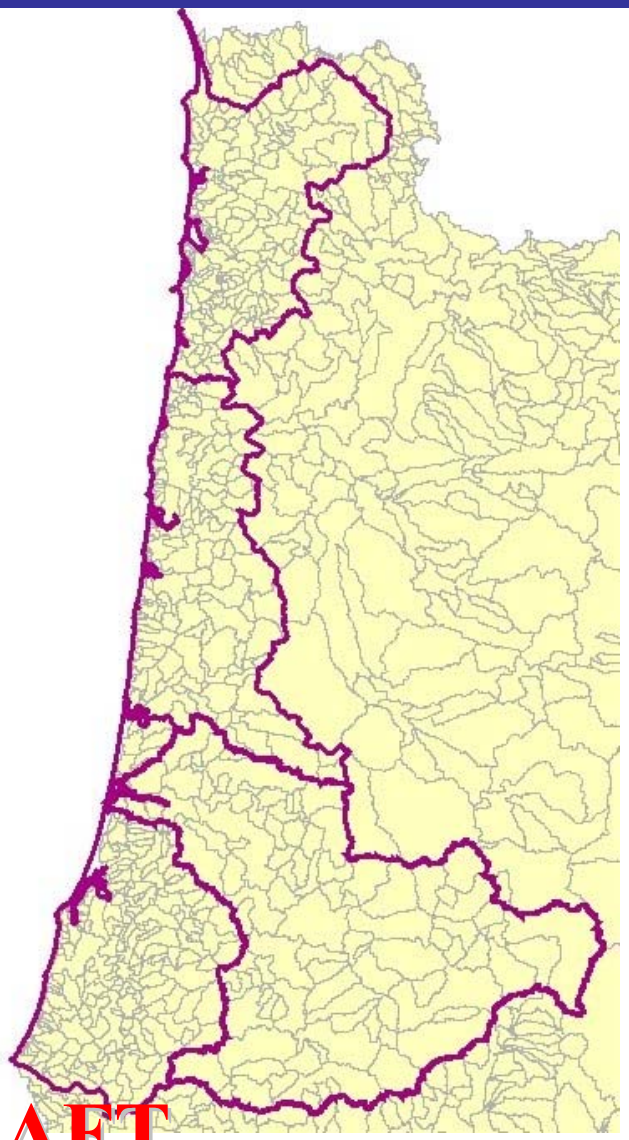
“WABs” in Coastal Coho ESU

North Coast: 164

Mid Coast: 156

Mid-South Coast: 210

Umpqua: 103



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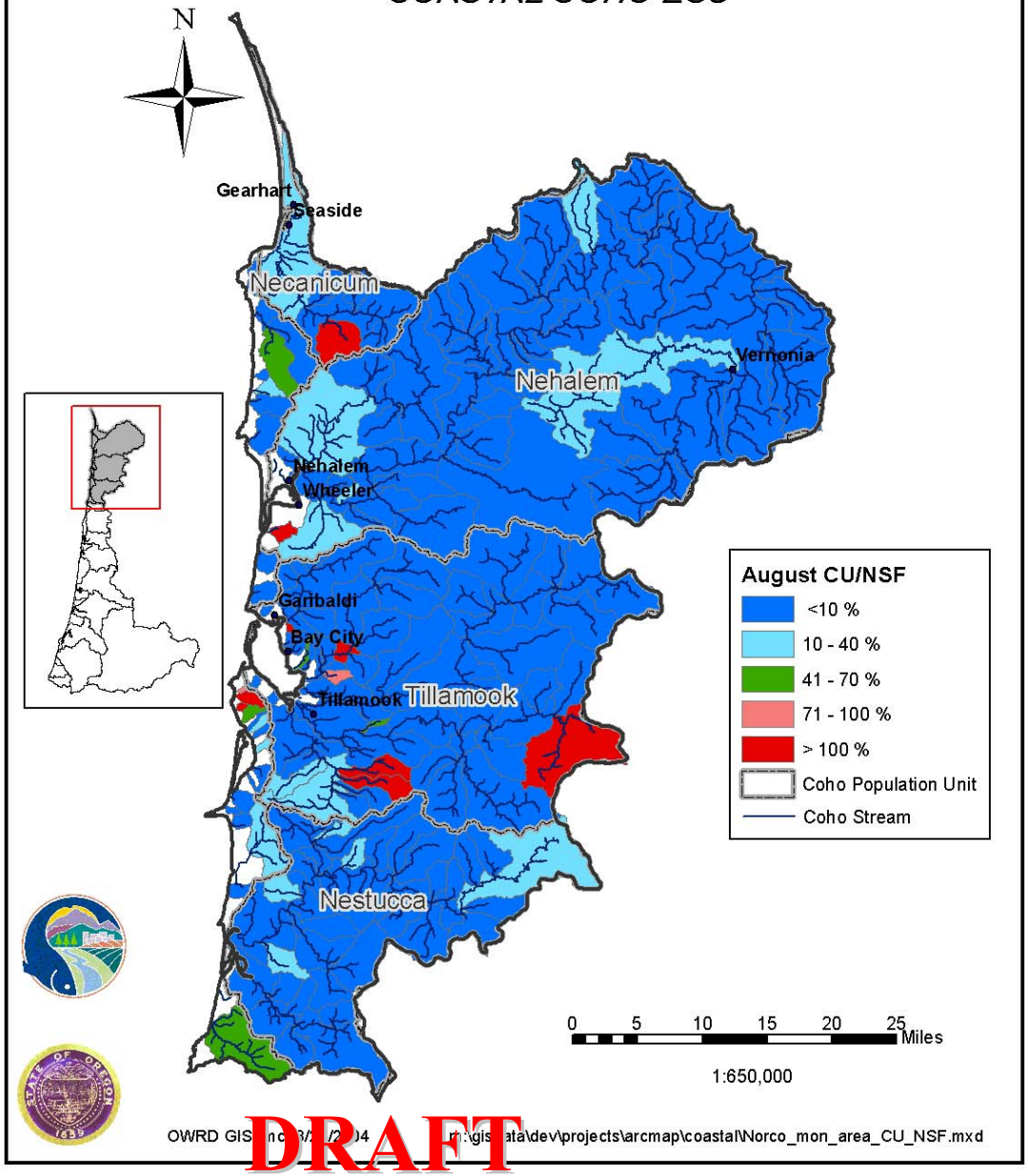
AUGUST CONSUMPTIVE USE
AS A PERCENT OF 80% EXCEEDANCE STREAM FLOW
NORTH COAST MONITORING AREA
COASTAL COHO ESU



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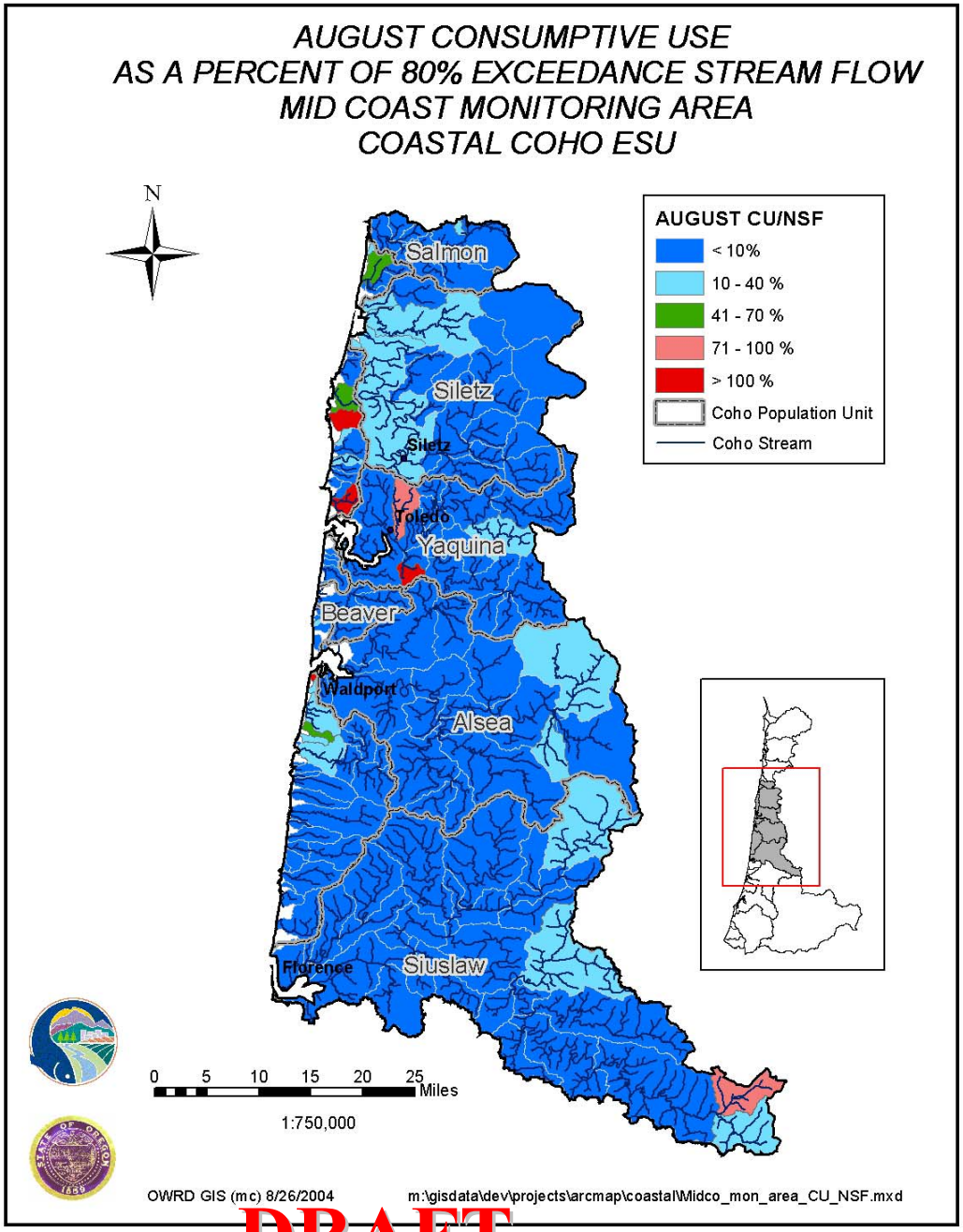
AUGUST CONSUMPTIVE USE
AS A PERCENT OF 80% EXCEEDANCE STREAM FLOW
MID COAST MONITORING AREA
COASTAL COHO ESU



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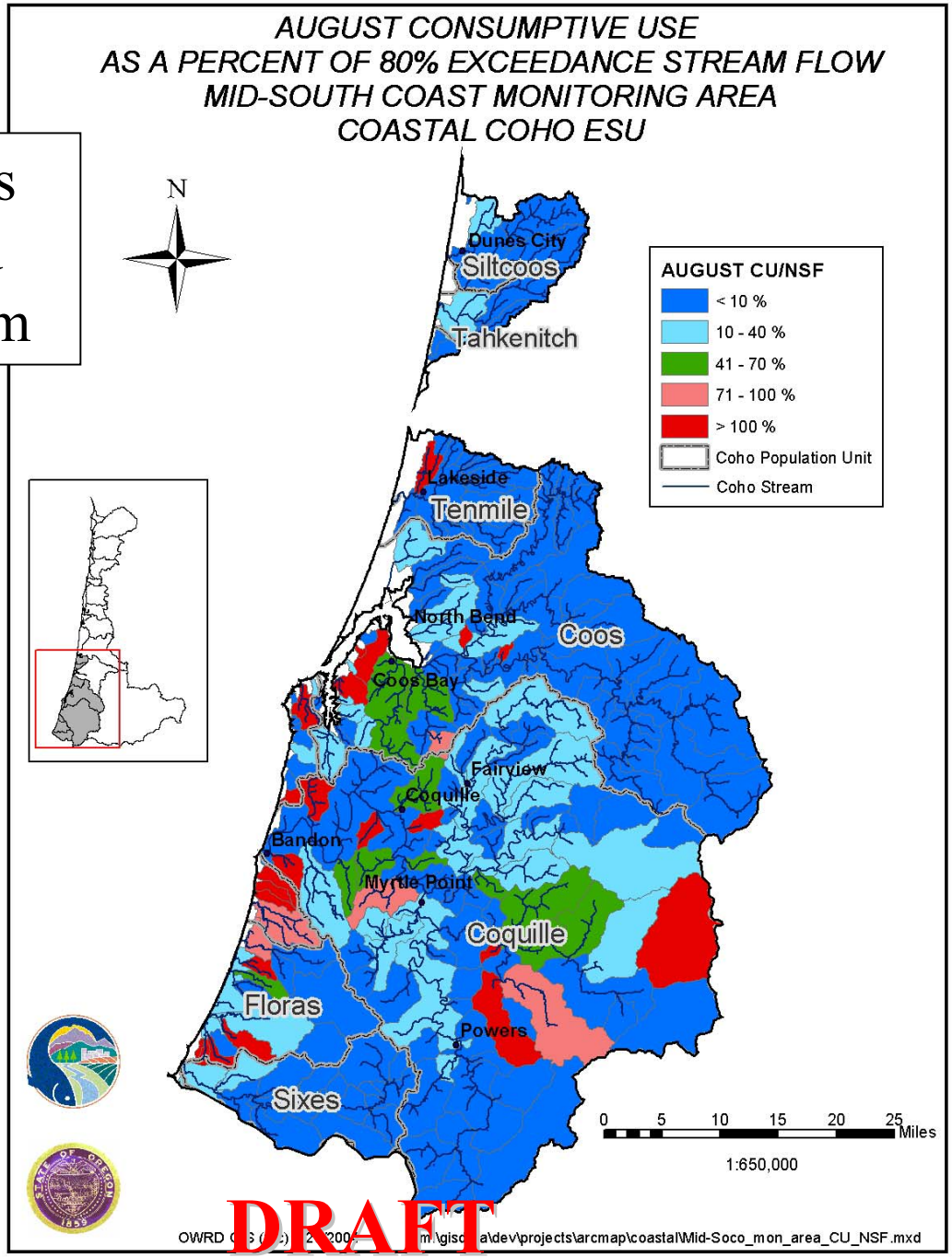
~17 cfs leased instream



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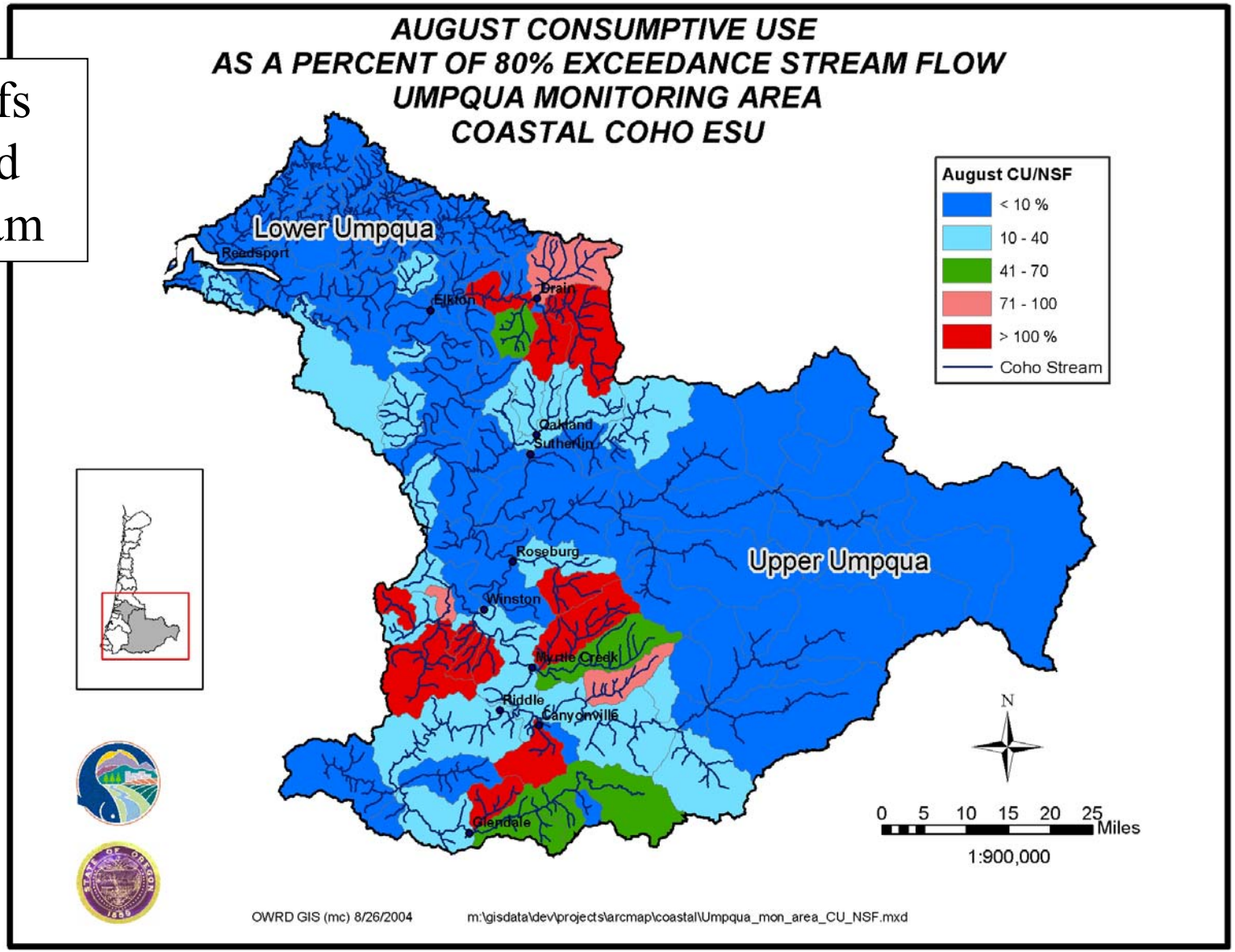
~16 cfs leased instream



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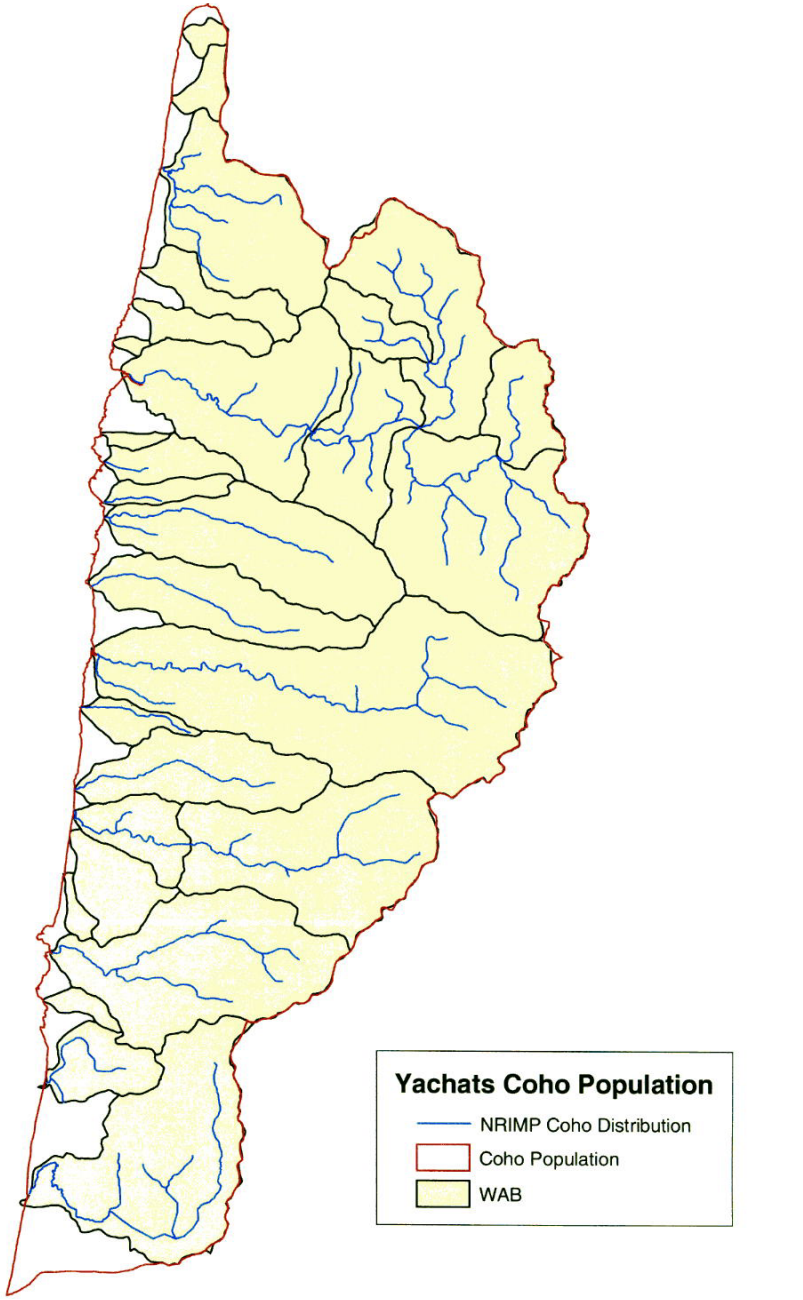
Linking Coho Stream Miles to Water Availability Basins



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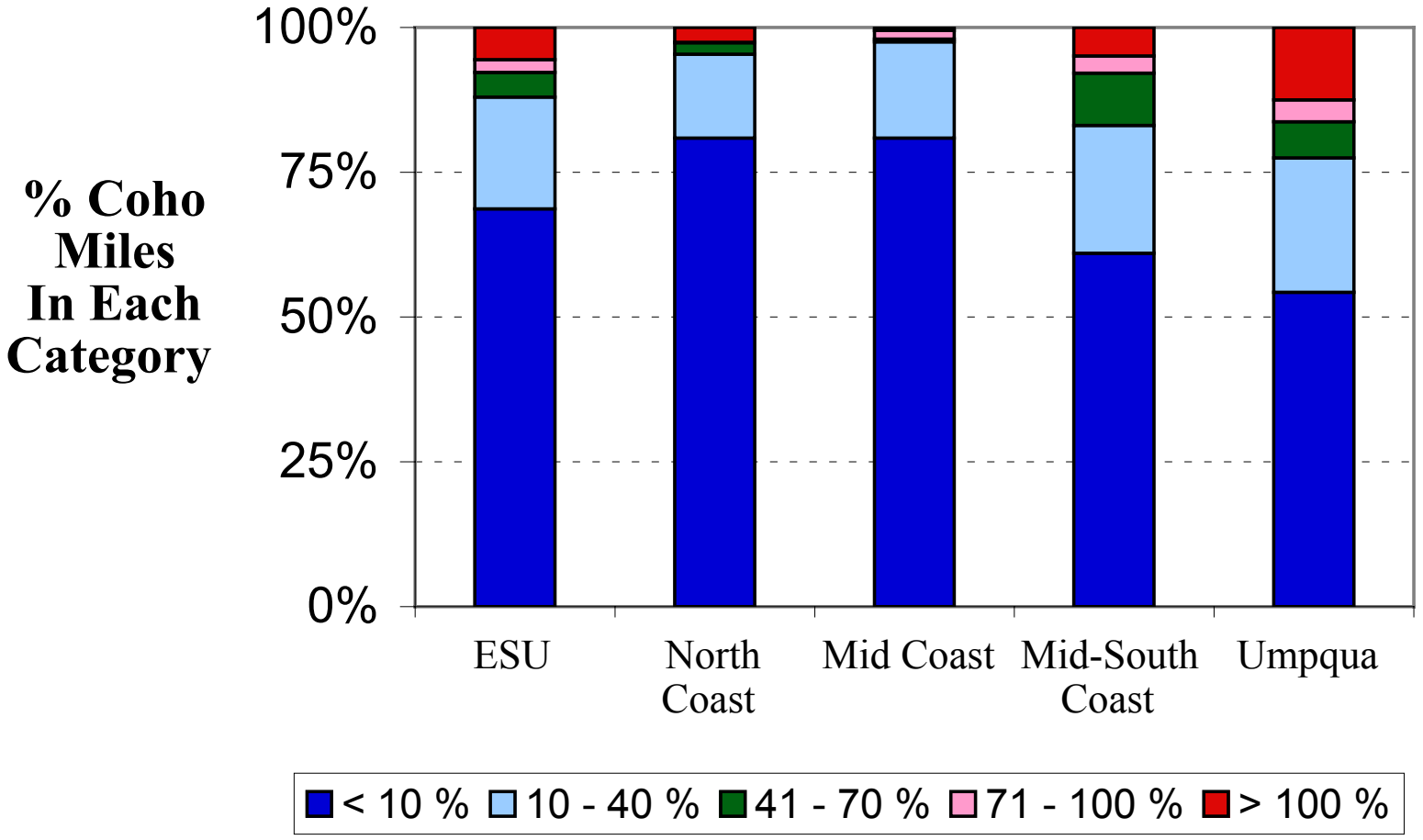
COASTAL COHO ESU:
% of Coho Miles by August CU/NSF



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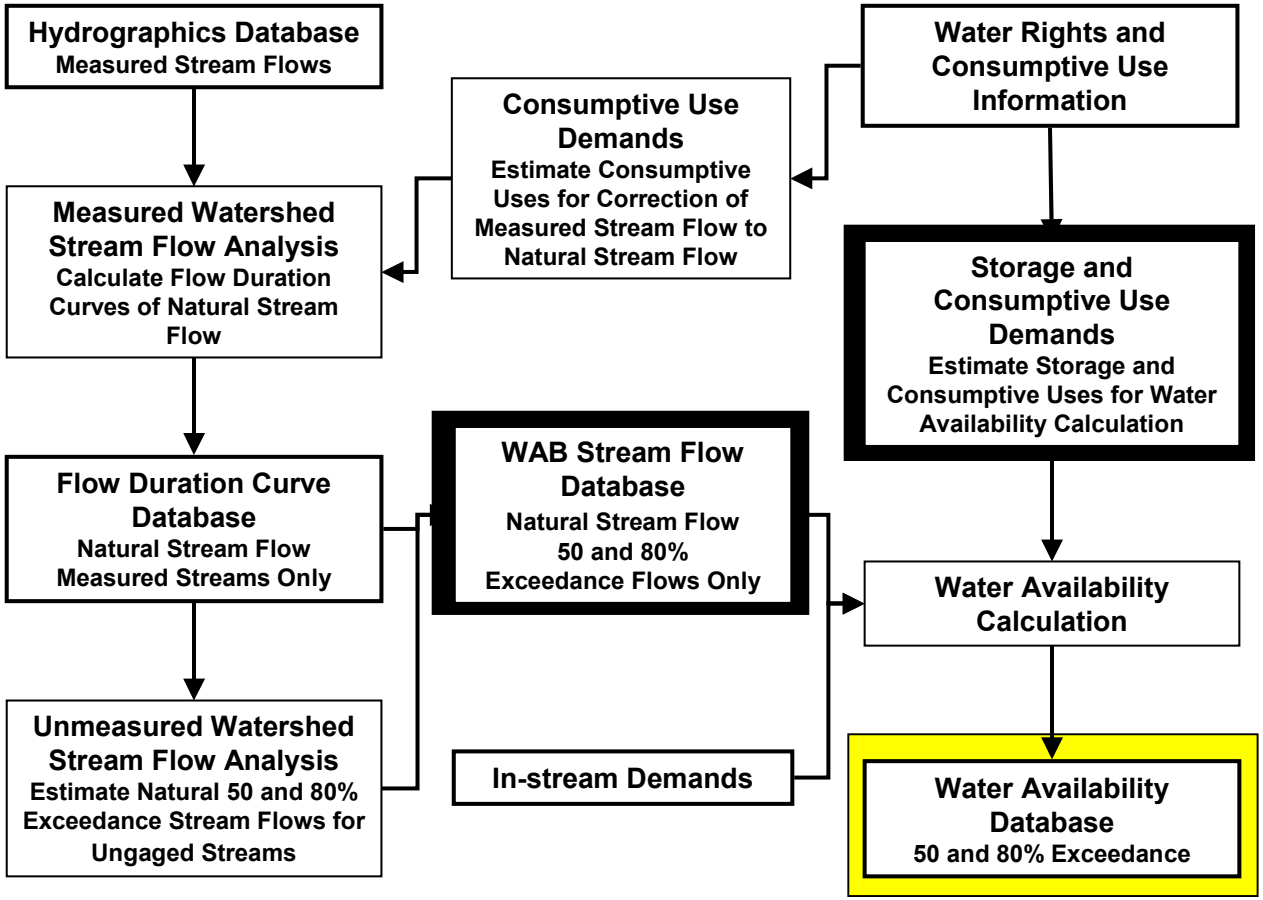
Water Availability Datasets



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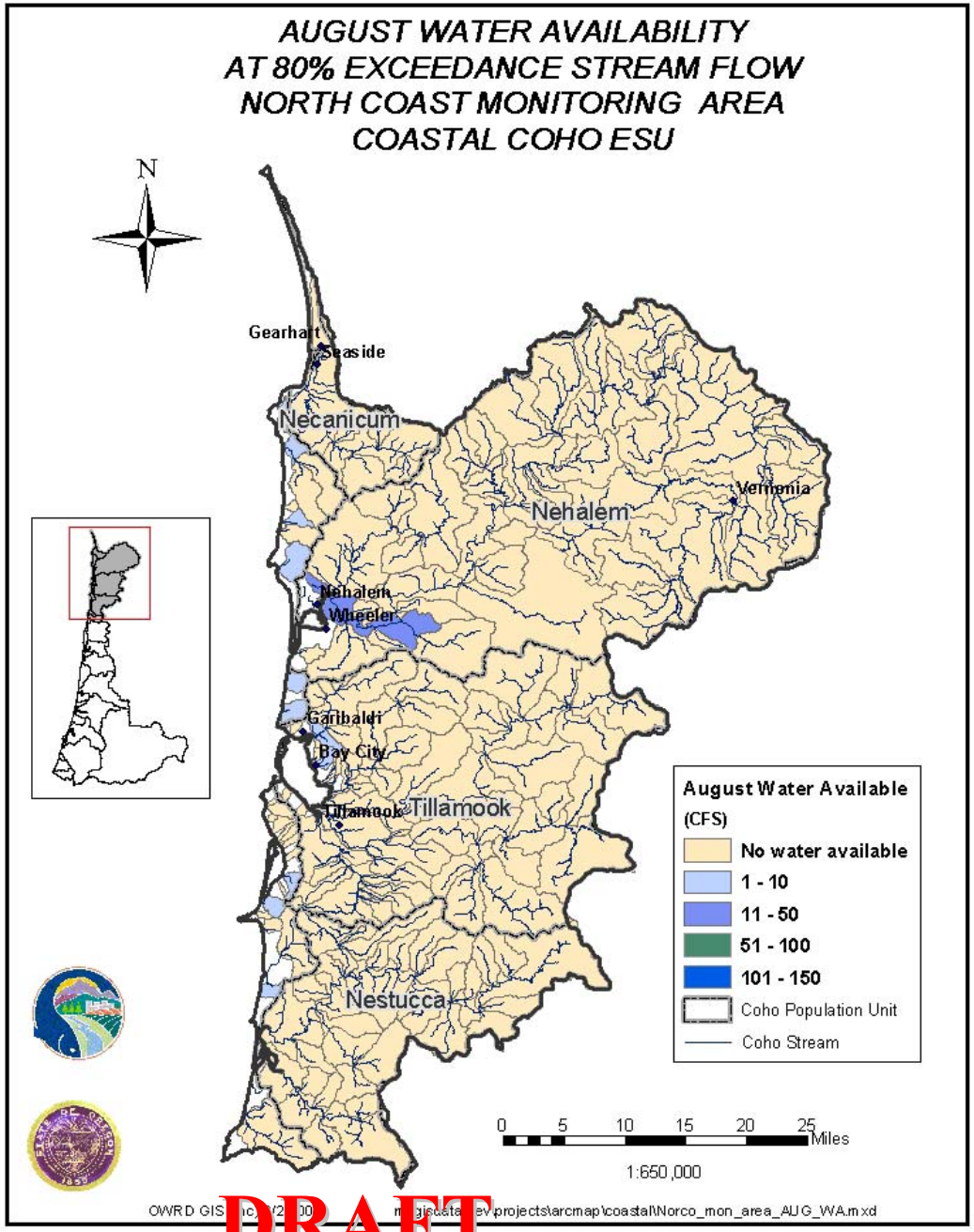

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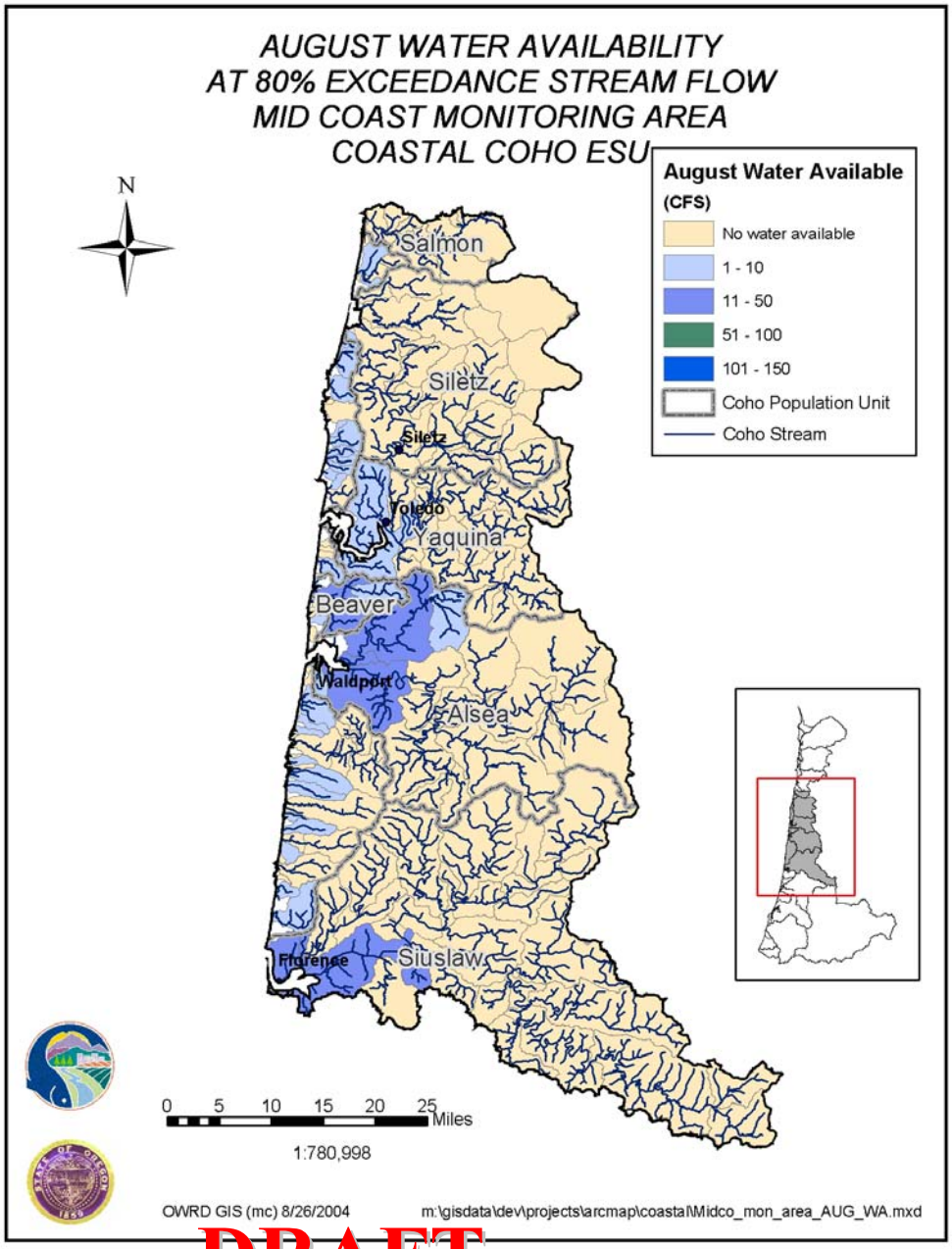

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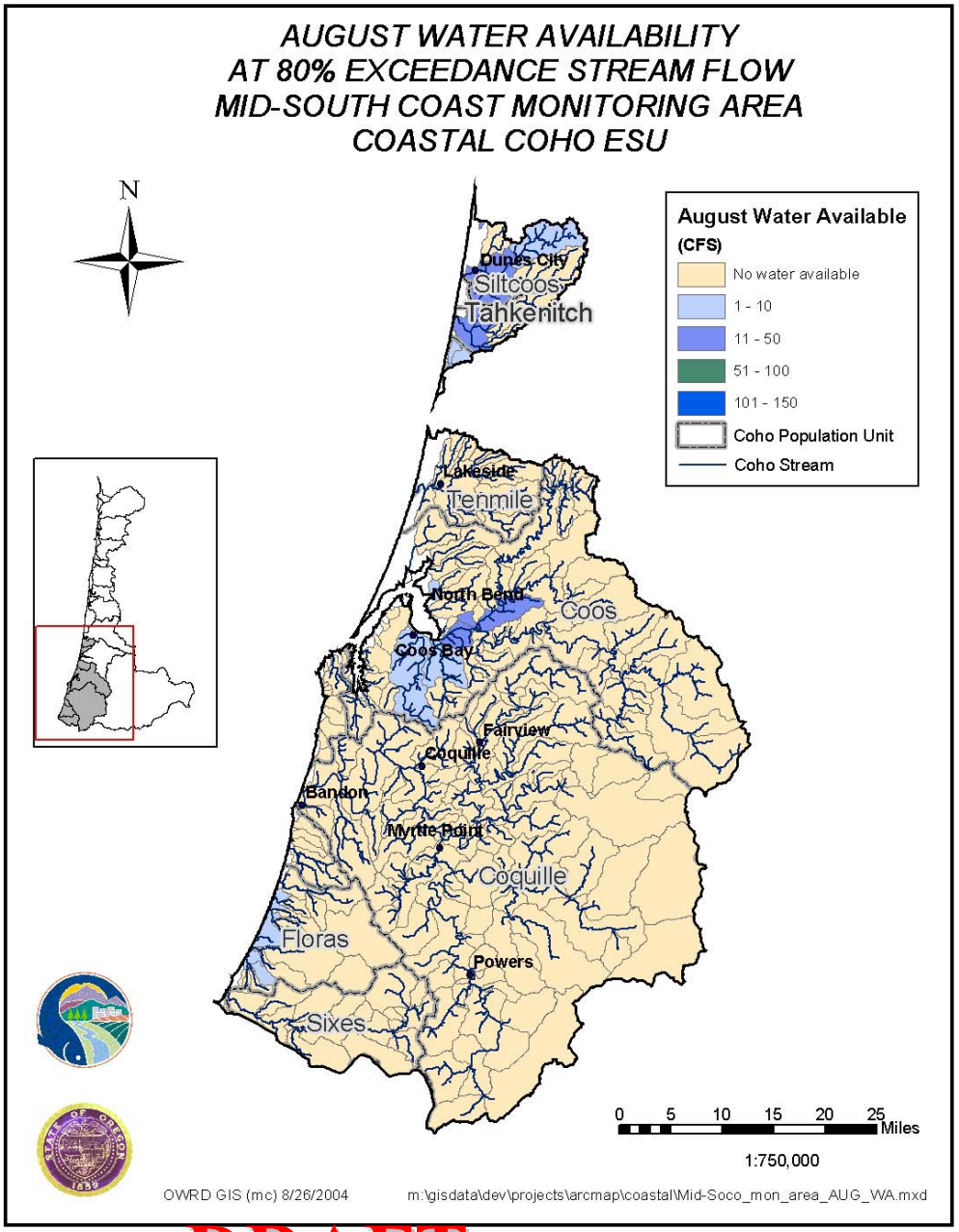
AUGUST WATER AVAILABILITY
AT 80% EXCEEDANCE STREAM FLOW
MID-SOUTH COAST MONITORING AREA
COASTAL COHO ESU



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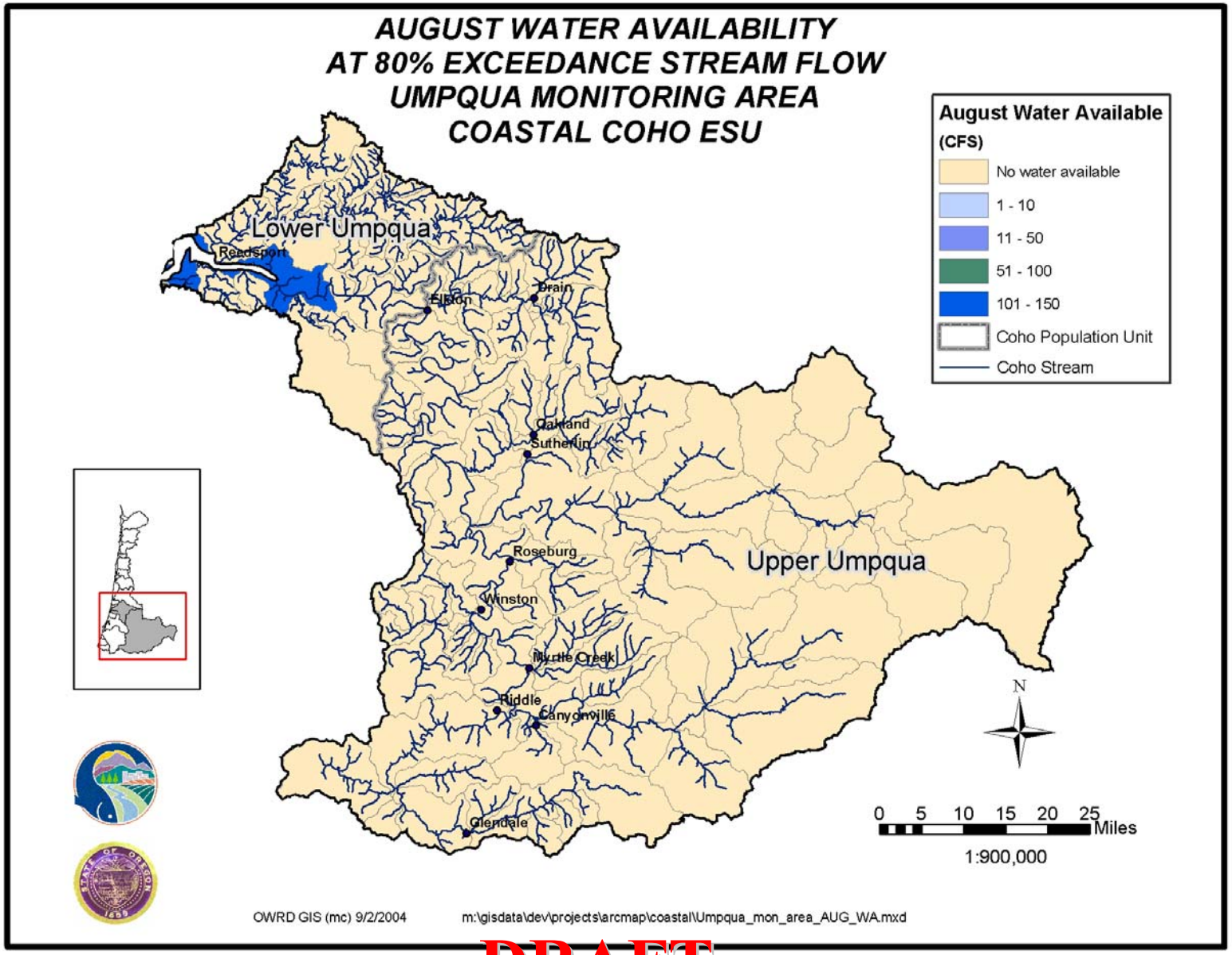

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Preliminary Conclusions

- Consumptive use of water not widespread issue
- Consumptive use generally increases from north to south within the ESU
- Since 1997, streamflow restoration activities coincide with areas of highest consumptive use impacts on streamflow
- Consumptive use not substantially increased since 1999 or likely to increase in future

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