11/30/16
For Discussion
Shasta Division RPA Adjustments

Operations related Actions					
	Critically Dry	**Dry**	**Below Normal**	**Above Normal**	**Wet**
Early Temperature Management Season (March 1 – April 30)					
Winter-run egg-to-fry survival	Predicted <10% temperature dependent mortality for temperature compliance season	Predicted <7% temperature dependent mortality for temperature compliance season	Predicted <3% temperature dependent mortality for temperature compliance season	Predicted <1% temperature dependent mortality for temperature compliance season	Predicted <1% temperature dependent mortality for temperature compliance season
Minimum End of April Storage	3.3 MAF	3.9 MAF	3.9 MAF	4.2 MAF	4.2 MAF
Minimum Temperature Requirement for winter-run holding	61 F 7DADM (or similar) to downstream most holding area (e.g. Jelly's Ferry)	61 F 7DADM (or similar) to downstream most holding area (e.g. Jelly's Ferry)	61 F 7DADM (or similar) to downstream most holding area (e.g. Jelly's Ferry)	61 F 7DADM (or similar) to downstream most holding area (e.g. Jelly's Ferry)	61 F 7DADM (or similar) to downstream most holding area (e.g. Jelly's Ferry)
Temperature Compliance Season (May 1 - October 31)					
Winter-run egg-to-fry survival	95% of temperature management plan cold water storage, temperature, and temperature mortality predictions	95% of temperature management plan cold water storage, temperature, and temperature mortality predictions	95% of temperature management plan cold water storage, temperature, and temperature mortality predictions	99% of temperature management plan cold water storage, temperature, and temperature mortality predictions	99% of temperature management plan cold water storage, temperature, and temperature mortality predictions
Winter-run redd dewatering and juvenile stranding	0%	0%	0%	<1%	<1%
Minimum Temperature Requirement for winter-run spawning, egg incubation, and fry emergence	55 F 7DADM (or similar) to downstream most redd (e.g. Clear Ck)	55 F 7DADM (or similar) to downstream most redd (e.g. Clear Ck)	55 F 7DADM (or similar) to downstream most redd (e.g. Clear Ck)	55 F 7DADM (or similar) to downstream most redd (e.g. Clear Ck)	55 F 7DADM (or similar) to downstream most redd (e.g. Clear Ck)
Minimum End of September Storage	1.9 MAF	2.2 MAF	2.2 MAF	2.8 MAF	3.2 MAF
Maximum Keswick Releases	7,500 cfs	10,000 cfs	12,000 cfs	None	None
Post Temperature Compliance Season (October 30 - February 28)					
Winter-run egg-to-fry survival	≥15%	≥25%	>25%	>25%	>25%
Spring, fall, late-fall run redd dewatering and juvenile stranding	<5%	<5%	<5%	<5%	<5%

Non-operations Actions

- Increased gravel augmentation and juvenile rearing habitat based on carrying capacity needs (to be informed by inSALMO or SWFSC winter-run life-cycle model)
- Monitoring of restoration site utilization by winter-run adults and juveniles. Take actions adaptively manage if quantitative metric is not achieved.
- Monitoring of juvenile winter-run for disease and condition. Take actions to reduce stressor if quantitative metric is occurring.
- Research to assess predation (magnitude, composition, spatial, temporal)
- Research to assess winter-run juvenile food web supply and bioenergetics