

Table 5D.1. Summary of important observations necessary to an adaptive management approach for managing Columbia Basin salmon resources above Bonneville Dam. (*Italicized traits are not being monitored routinely.*)

ENVIRONMENT	SALMON LIFE STAGE	LOCATION	TRAIT (what we observe)	PARAMETER (what we learn)
<b>Index Tributaries<sup>a</sup></b>	Adult	Tributary mouth	<i>Abundance<sup>b</sup></i>	Escapement
			<i>Length frequency<sup>b</sup></i>	Age composition
			<i>Sex ratio<sup>b</sup></i>	Number females
	Adult, egg→smolt	Representative sites	<i>Temperature, silt, riparian condition, etc.</i>	Quality of habitat
	Parr	Within stream	<i>Abundance<sup>b</sup></i>	Egg→parr survival
Smolt	Tributary mouth		<i>Abundance<sup>b</sup></i>	Parr→smolt survival
				Egg→smolt survival
<b>Mainstem</b>	Smolt	Uppermost dam	<i>Abundance</i>	No. entering hydropower system
		Bonneville Dam	<i>Abundance</i>	Survival through hydropower system
	Parr, smolt	Representative sites	<i>Pollutant levels, flow, riparian condition, temperature, etc.</i>	Quality of habitat
<b>Ocean</b>	Subadult, adult	Various	Catch by fishery	Harvest rates
		Various	<i>Temperature, upwelling, etc.<sup>c</sup></i>	Index of natural survival
<b>Mainstem</b>	Adult	Lower river fishery	Catch	Harvest rate
		Bonneville Dam	Abundance	Return by species
		Zone 6 fishery	Catch	Harvest rate
		Intermediate dams	Abundance	Interdam losses by project
		Uppermost dam	Abundance	Total interdam loss
		Representative sites	<i>Pollutant levels, flow, temperature, etc.</i>	Quality of habitat

<sup>a</sup> Areas suitable for monitoring will be identified by the U.S. v Oregon Technical Advisory Committee.

<sup>b</sup> Information is available in a few areas but is not collected for most stocks.

<sup>c</sup> Information exists but has not been analyzed for application to salmon management.