



SALTON SEA RESTORATION PLANS REPORT CARD 2006

	PLAN 1	PLAN 2	PLAN 3	PLAN 4	PLAN 5	PLAN 6	PLAN 7	PLAN 8	PLAN 9	PLAN 10
	SHC I	SHC II	CONCENTRIC RINGS	CONCENTRIC LAKES	NORTH SEA	N. SEA COMBINED	N. & S. SEA COMBINED	S. SEA COMBINED	NO ACTION-QSA	NO ACTION-VARIABILITY
<p>WILDLIFE HABITAT</p> <p>FISH DIVERSITY & ABUNDANCE</p> <p><i>Limited number of species present</i></p> <p>Possible Points: 10</p>	Assumes that dredged areas will provide some refugia for fish, but numbers and abundance will be much lower than current, much less historic, abundance	Greater extent will increase abundance relative to (1), but still much lower than current	Greater extent of deeper water habitat will increase abundance relative to (1) & (2), with deep-water refugia	Greater volume and range of habitats than (3); lacks deep-water refugia	SHC will provide some fish habitat; assumes that recurrent hydrogen sulfide eruptions in north lake will restrict any fishery there	Marine mixing zone will provide abundant fishery; north lake issues equivalent to (5)	Similar to (6)	Broad southern lake could provide extensive habitat, though might be subject to periodic sulfide eruptions	Pupfish channel	Pupfish channel
<p>WILDLIFE DIVERSITY & ABUNDANCE</p> <p><i>400 plus species of birds observed at and around the Sea</i></p> <p>Possible Points: 30</p>	Limited fish will reduce diversity and abundance of fish-eating birds; total habitat acreage lower than present	Approximates current extent of shallow habitat, and will provide some prey-base for fish-eating birds, but less than current	Less shallow habitat acreage than (1), and smaller fish prey-base than current	Greater extent of shoreline and shallow habitat than (1) with some prey-base for fish-eating birds	Equivalent to (1), plus some additional shoreline habitat around north lake	SHC plus mixing zone will provide diversity of habitats and abundant shallow habitat	Limited SHC; greater frequency and magnitude of sulfide eruptions in N Lake could periodically sterilize that lake	Combination of SHC and extensive lake over shallower southern end would provide diversity of prey base	Transition period will provide vast brine-fly and -shrimp resources, though for a brief period; fails to meet legislative objectives	Similar to (9), but for briefer period
<p>AIR QUALITY</p> <p>CONSTRUCTION IMPACTS</p> <p><i>Listed in legislation</i></p> <p>Possible Points: 20</p>	Scores of miles of berms, with large diesel emissions, plus construction of conveyance infrastructure; 6.7 million cubic yards (mcy) of gravel required	Scores of miles of berms, with large diesel emissions, plus construction of conveyance infrastructure; 11.7 mcy of gravel to be excavated, transported	Excavation and transport of 85.2 million cubic yards of rock & gravel; massive diesel emissions for conveyance and construction	Massive construction effort (balanced by use of geothermal power, to the extent available); 7.4 mcy of gravel	Excavation and transport of 53.7 mcy of rock & gravel; massive diesel emissions for conveyance and construction	Excavation and transport of 93.7 mcy of rock & gravel; massive diesel emissions for conveyance and construction	Excavation and transport of 80 mcy of rock & gravel; massive diesel emissions for conveyance and construction	Excavation and transport of 100 mcy of rock & gravel; massive diesel emissions for conveyance and construction	Construction of extensive AQ management infrastructure; 1.7 mcy of rock & gravel	Construction of extensive AQ management infrastructure; 1.7 mcy of rock & gravel

<p>PLAYA EXPOSED</p> <p><i>Directly impacts amount of potential dust emissions</i></p> <p>Possible Points: 30</p>	<p>Assumes air quality (AQ) management of exposed playa and lowest amount of fugitive dust emissions</p>	<p>Assumes AQ management of exposed playa, but greater dust emissions than (1)</p>	<p>Assumes AQ management of exposed playa; rings could intercept windborne dust</p>	<p>Per DEIR, assumes NO AQ management of exposed playa and 4100 tons of fugitive dust/year</p>	<p>Assumes AQ management of exposed playa, but will expose xxx sq miles of playa</p>	<p>Assumes AQ management of exposed playa; N & S lakes will reduce fetch and intercept some dust</p>	<p>Per DEIR, assumes NO AQ management and 2415 tons of fugitive dust/year</p>	<p>Similar to (6)</p>	<p>Assumes AQ management, but could still expose >xx sq miles of playa</p>	<p>Assumes AQ management, but could still expose >130 sq miles of playa</p>
<p>WATER QUALITY</p> <p><i>Listed in legislation</i></p> <p>Possible Points: 50</p>	<p>Controls salinity in SHC but not in large brine pool; does not address selenium or eutrophication</p>	<p>Similar to (1), but greater volume</p>	<p>Similar to (1), but greater volume; potential for unmitigated selenium problems</p>	<p>Similar to (3), but greater volume; potential for unmitigated selenium problems</p>	<p>Manages salinity for large volume of water; periodic hydrogen sulfide problems; could mitigate selenium problems</p>	<p>Similar to (5)</p>	<p>S lake & SHC manage large volume of water; N Lake relies on unproven (at this scale) and likely unfeasible water treatment, with probable massive sulfide eruptions</p>	<p>Manages large volume of water, but potential for periodic sulfide eruptions</p>	<p>No water quality management</p>	<p>No water quality management</p>
<p>RECREATION AVAILABILITY</p> <p><i>Bird watching, fishing, hunting, water sports</i></p> <p>Possible Points: 10</p>	<p>Extensive bird watching and hunting opportunities; little or no fishing; no water sports</p>	<p>Extensive bird watching and hunting opportunities; little or no fishing; no water sports</p>	<p>Bird watching, hunting, and fishing; limited water sports</p>	<p>Bird watching, hunting, and fishing; limited water sports</p>	<p>Limited fishing opportunities due to sulfide eruptions</p>	<p>Fishing in mixing zone in south; limited in north</p>	<p>Periodic die-offs in north lake may limit availability</p>	<p>Lake in the south is less accessible to Coachella populations; potential for die-offs</p>	<p>Some bird watching and may attract the morbid</p>	<p>Some bird watching and may attract the morbid</p>
<p>FLEXIBILITY/ ADAPTABILITY</p> <p><i>How project will manage in the face of variable inflows and changing conditions</i></p> <p>Possible Points: 10</p>	<p>Implementation requires expected lake level decline; adaptable to much lower inflows, but inundated in early years by unusually high inflows</p>	<p>Similar to (1)</p>	<p>Built in the wet; indifferent to lower or higher inflows; fixed in place once constructed</p>	<p>Similar to (3); subsequent rings to be constructed if lake levels continue to fall</p>	<p>Fixed infrastructure and features could be stranded by unusually low inflows</p>	<p>Greater extent of fixed infrastructure and greater complexity</p>	<p>Assumes higher than projected inflows; complex system that requires multiple functioning components, the failure of any of which could jeopardize plan as a whole</p>	<p>Similar to (7) but assumes projected inflows</p>	<p>Adapts to any inflow</p>	<p>Adapts to any inflow</p>

<p>COMPLETION TIME</p> <p><i>Time until major components are functional</i></p> <p>Possible Points: 10</p>	<p>Requires construction of large Air Quality (AQ) infrastructure and miles of berms</p>	<p>Longer completion time than (1)</p>	<p>Air quality regulations will restrict extraction and conveyance of required millions of cubic yards of rock; miles of dam construction, plus site survey and preparation</p>	<p>Use of Geotubes will avoid most rock concerns; miles of site survey and preparation and construction</p>	<p>AQ regulations will restrict extraction and conveyance of required millions of cubic yards of rock; miles of dam construction, plus site survey and preparation</p>	<p>AQ regulations will restrict extraction and conveyance of required millions of cubic yards of rock; miles of dam construction, plus site survey and preparation</p>	<p>AQ regulations will restrict extraction and conveyance of required millions of cubic yards of rock; miles of dam construction, plus site survey and preparation</p>	<p>AQ regulations will restrict extraction and conveyance of required millions of cubic yards of rock; miles of dam construction, plus site survey and preparation</p>	<p>Requires construction of pupfish channel and AQ management infrastructure</p>	<p>similar to (9) but more extensive AQ infrastructure</p>
<p>AGRICULTURE IMPACTS</p> <p><i>Maintains sump, thermal buffer, windborne dust</i></p> <p>Possible Points: 10</p>	<p>Maintains sump; loss of some thermal buffer and likely increase in windborne dust</p>	<p>Similar to (1) but likely less dust</p>	<p>Maintains sump and thermal buffer, minimal dust</p>	<p>Lower elevation decreases thermal buffer function; otherwise, similar to (3)</p>	<p>Similar to (4) but less buffer</p>	<p>Similar to (3)</p>	<p>Similar to (3)</p>	<p>Similar to (3)</p>	<p>Maintains sump; complete loss of thermal buffer function; large increase in windborne dust</p>	<p>Similar to (9)</p>
<p>DEPENDABILITY</p> <p><i>Seismic risk, reliance on technologies proven at that scale; likelihood that plan will meet objectives</i></p>	<p>Some risk of seismic failure; complex AQ conveyance</p>	<p>Similar to (1), plus complex pump-back systems and more extensive infrastructure</p>	<p>Very high risk of seismic and static failure</p>	<p>Purportedly, lower risk of seismic/static failure; not proven at this scale or location</p>	<p>Complex conveyance; high risk of seismic/static dam failure</p>	<p>Similar to (5), but much longer structure susceptible to failure</p>	<p>Similar to (6), plus relies on higher than projected inflows, suggesting that objectives will not be met in most years</p>	<p>Similar to (6)</p>	<p>Dependably fails to meet legal and secondary objectives</p>	<p>Dependably fails to meet legal and secondary objectives</p>