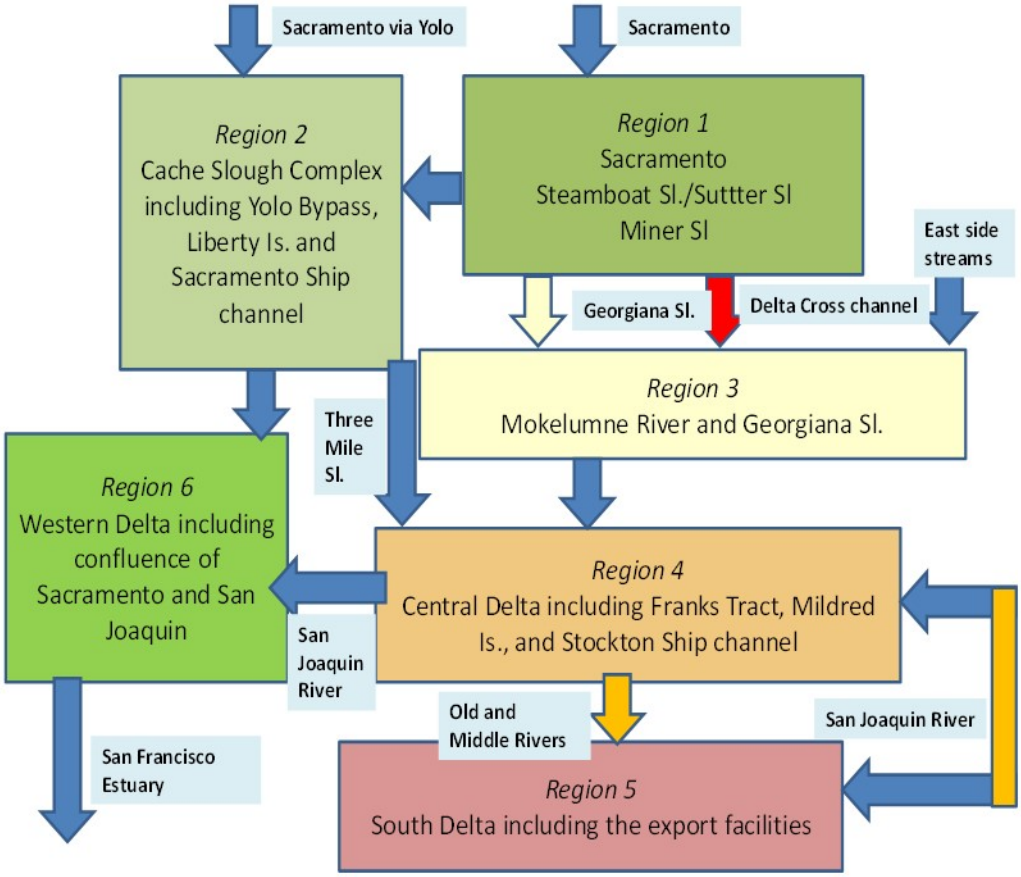
Predation of salmon in the Delta

- Predation is one of the pressures on native salmon populations, but its magnitude relative to other stressors is difficult to quantify.
- Salmon are not well adapted for avoiding non-native predators (Table).
- Salmon must migrate through predation hot spots, which develop in areas of modified habitat and flow (Figure).
- Predation estimates (rates & population-level effects) are ambiguous/uncomprehensive and a priority for current Delta Science Program-funded research.

Predator	**Abundance Trend** (Grossman et al. 2013)	**Type** (all are non- native and distributedthroughout Delta)	**Predation Potential** (Salmon consumptionranked by frequency ofoccurrence, Grossman 2016)
Striped Bass	Juvenile and adultsare declining, but sub-adults are stable or increasing	Pelagic & Migratory 	Common
Largemouth Bass	Increasing	Nearshore 	Moderate
Smallmouth Bass	Unknown	Nearshore 	Common
White Catfish	Relatively high abundance, but maybe regionally declining over time (Farruggia et al. 2017)	Benthic 	Occasional

Figure 1. Predation risk from **low** to **high**, adapted from Grossman et al. 2013:



"… given extensive flow modification, altered habitatconditions, native and non- native fish and avian predators, temperature anddissolved oxygen limitations, and overall reduction in historical salmon population size, it isnot clear what proportion of juvenile mortality can be directly attributed to fish predation."