

Development of a Selenium Standard for the Open Waters of Great Salt Lake

Great Salt Lake Water Quality Studies

What effects are of most concern?

- Birds are likely the beneficial users of Great Salt Lake most sensitive to selenium
- Exposure of birds to selenium is through their diet



Great Salt Lake Shorebirds

What are the critical endpoints for birds on the Great Salt Lake?

- Best-documented and most readily monitored effect of Se on birds is reproductive success
- More information is required to understand effect of Se on body weight/condition of migrating or over-wintering birds

Critical Endpoints

Body Weight/Condition

(Eared Grebes,
Common Goldeneyes)

Reproductive Success

(California Gulls, American
Avocets, Black-Necked Stilts)



Eared Grebes
(fall migrants)



Common Goldeneyes
(overwinter on GSL)



California Gulls
(nest on GSL)



Black-Necked Stilts
(nest on GSL)



American Avocets
(nest on GSL)

How is reproductive success defined?

- Practically measured by egg hatchability
- Hatchability (or hatching success) is the number of eggs that hatch of those that are incubated full term
- Hatchability is a more sensitive endpoint than teratogenesis endpoint (deformities)
- Best data set for Se effects on egg hatchability is for mallards



American Avocet Nest on Great Salt Lake