

53:171 Water Resources Engineering
Lesson 12: Economic Alternatives

Design Life for Elements of Hydraulic Projects

TABLE 13.2
Lives (in years) for elements of hydraulic projects

Barges	12	Penstocks	50
Booms, log	15	Pipes	
Canals and ditches	75	Cast iron	
Coagulating basins	50	2–4 in.	50
Construction equipment	5	4–6 in.	65
Dams		8–10 in.	75
Crib	25	12 in. and over	100
Earthen, concrete, or masonry	150	Concrete	20–30
Loose rock	60	PVC	40
Steel	40	Steel	
Filters	50	Under 4 in.	30
Flumes		Over 4 in.	40
Concrete or masonry	75	Wood stave	
Steel	50	14 in. and larger	33
Wood	25	3–12 in.	20
Fossil-fuel power plants	28	Pumps	18–25
Generators*		Reservoirs	75
Above 3000 kva	28	Standpipes	50
1000–3000 kva	25	Tanks	
50 hp–1000 kva	17–25	Concrete	50
Below 50 hp	14–17	Steel	40
Hydrants	50	Wood	20
Marine construction equipment	12	Tunnels	100
Meters, water	30	Turbines, hydraulic	35
Nuclear power plants	20	Wells	40–50

* Alternating-current generators are rated in kilovolt-amperes (kva).