

Submitted by the Alaska Department of Fish and Game at the request of board member Kluberton
December 7, 2012

It is apparent that for most systems very few escapements in the past 30 years have been less than the recommended lower escapement goal (Table 1). This suggests that implementing the recommended changes to the lower escapement goals will generally have minimal impact on how fisheries are currently managed.

Recommended increases to the lower-bound escapement goals for Egegik, Naknek, Wood, Ugashik, and Igushik rivers are 450,000 fish greater than the existing lower bounds. The increase of 450,000 represents 1.2% of the 30-year average total run and 3.7% of the long-term average escapement to the bay. Given historical environment conditions and productivity, on average, an increase in harvests (yields) should result from achieving the recommended lower-bound escapement goal increases. An additional 450,000 fish allowed to spawn annually should result, on average, in a baywide harvest increase of 795,000 fish (Table 2), which is the difference between total return (1,245,000) and escapement (450,000). At the current fish value (roughly \$1 per pound) and a 6-pound average sockeye salmon, there is a potential increase in exvessel value of approximately \$4.8 million. There is a return-per-spawner of 2.8 for the additional 450,000 fish escapement. Of the 450,000 fish additional escapement, each fish will represent 1.8 additional fish in future harvest.

Table 1.—The history of escapements below the recommended lower goal.

Sockeye System	Existing Lower Goal	Recommended Lower Goal	Escapements below the recommended goal
Egegik	800,000	900,000	Last occurred 30 years ago (1983)
Naknek	800,000	900,000	Last occurred 30 years ago (1983)
Wood	700,000	800,000	Occurred once (2012) in last 30 years
Ugashik	500,000	600,000	Occurred once (2008) in last 30 years
Igushik	150,000	200,000	Occurred 9 times in last 30 years
Nushagak	340,000	400,000	No effective change - change is from sonar conversion
Kvichak	2,000,000	2,000,000	No change recommended
Alagnak	320,000	320,000	No change recommended
Togiak	120,000	120,000	No change recommended
Sum	5,730,000	6,180,000	Recommended lower goals are larger by 450,000
Long-term baywide total run average			38,287,218
Long-term baywide escapement average			12,152,544

Table 2.—The expected increase in harvests (yields) between existing and recommended lower goals.

Sockeye System	Expected Harvest		Recommended Lower Goal	Expected Harvest	
	Existing Lower Goal	From Existing Lower Goal		From Recommended Lower Goal	Harvest Increase
Egegik	800,000	2,846,000	900,000	3,146,000	300,000
Naknek	800,000	1,866,000	900,000	1,995,000	129,000
Wood	700,000	1,813,000	800,000	1,963,000	150,000
Ugashik	500,000	1,048,000	600,000	1,218,000	170,000
Igushik	150,000	310,000	200,000	356,000	46,000
Nushagak	340,000	-	400,000	No effective change	
Kvichak	2,000,000	-	2,000,000	-	No change
Alagnak	320,000	-	320,000	-	No change
Togjak	120,000	-	120,000	-	No change
Sum	5,730,000		6,180,000		795,000