

Fish Stocking Proposal **Region B**

Alford Lake (4798), Hope, Knox County

Proposal: Stock 100 fall yearling (FY) landlocked salmon annually.

Location: Hope, Knox County. (DeLorme, MAG map 14, D2)

Characteristics: Alford Lake is a 585-acre oligotrophic water located along the mid-coast of Maine. The maximum depth in Alford Lake is 78 feet (mean = 31 feet), and a significant portion of the water column retains cold temperatures and DO readings of 5 ppm or greater year-round.

Temperature & Dissolved Oxygen Profile – 6/27/14 -

Water Depth (ft)	Temperature (°C)	Dissolved Oxygen (mg/L)
0	20.4	8.9
5	20.4	9.1
10	20.4	9.1
15	20.4	9.1
20	20.3	9.2
25	11.3	11.2
30	9.7	10.5
35	9.4	10.1
40	9.1	9.5
45	8.7	9.4
50	8.6	9.4
55	8.6	8.6
60	8.6	5.5
65	8.6	2.8
70	8.6	1.4
75	8.6	0.8

Existing/historical sport fisheries: Alford Lake is colonized by both warm and cold water species, and provides a popular fishery for stocked BKT and BNT. The brown trout fishery in Alford Lake is above average and regularly grows individuals in the 5-10 pound range. There is a fairly popular hook-and-line SLT fishery during the ice fishing season, and anecdotal/biological reports indicate a robust SLT population in Alford. In fact, gillnetting efforts during summer 2014 collected 17 salmonids (15 BKT (11 spring yearlings {SY}; 4 fall yearlings), 2 BNT), and over half the individuals had stomach contents comprised primarily of smelts.

Competition and/or predation from other species: The fish assemblage in Alford Lake does not include species that will readily prey upon FY LLS; however, a few resident fishes (i.e. BKT, BNT, SMB, WHP) will compete with FY LLS for SLT.

Use of sport fishery: Alford Lake is a popular year-round fishing destination for midcoast anglers. The introduction of FY LLS will increase use on the pond and provide anglers with a popular cold water angling opportunity in an area largely deficient of landlocked salmon fisheries. Due to the above average water quality (i.e. temperature and dissolved oxygen), low stocking density, robust smelt population, close proximity to populated areas, and the relatively small size of Alford Lake, we anticipate good angler success, as well as above average survival and growth of stocked FY LLS.

Access: Alford Lake is readily accessed from Route 235. There is a public boat launch at the northwestern corner of the pond.

Species present: BKF, BKT, BNT, BUL, EEL, GLS, PKL, PKS, SLT, SMB, WHS, & YLP.

Recent Stocking History:

Alford Lake has been stocked since 1938 with various cold water fishes (i.e. BNT, BKT, LLS, and SPK). The most recent stockings are restricted to brook and brown trout and are as follows:

Stocking History	2011-2014	
Year	Species/Age Class	# of Stocked Fish
2011	SY BKT	1000
	FY BKT	500
	FY BNT	250
2012	SY BKT	1000
	FY BKT	500
	FY BNT	250
2013	SY BKT	1000
	FY BKT	500
	FY BNT	250
2014	SY BKT	1000
	FY BKT	500
	FY BNT	250
*Requested		

Landlocked salmon were stocked frequently (and periodically) since 1938 and most recently from 1958 to 1979. Those fish stocked during this time frame were referred to as “fall yearlings” but the mean length range of those salmon, particularly toward the program’s most recent inception (1959-1963) were much smaller than the fall yearlings of today. The stocking history (1959-78) and corresponding trap-netted salmon data are as follows:

LLS Stocking History			LLS Historic Trapnetting				
Year	# LLS Stocked	Stocking Length (mm)	Mean Length (mm)	2 SE	Mean Mass (g)	2 SE	n
1959	5000	103 - 152	-	-	-	-	-
1960	3000	103 - 152	-	-	-	-	-
1961	2700	153 - 203	-	-	-	-	-
1962	2700	204 - 254	-	-	-	-	-
1963	2700	103 - 152	410.9	8.9	624.5	45.1	41
1964	2700	204 - 254	-	-	-	-	-
1965	2700	204 - 254	421.7	24.7	722.7	129.7	14
1966	2700	204 - 254	396.0	15.8	563.8	83.5	27
1967	1350	-	-	-	-	-	-
1968	800	204 - 254	-	-	-	-	-
1969	0	-	422.8	25.7	-	-	43
1970	800	204 - 254	432.2	7.4	756.6	49.1	110
1971	800	204 - 254	433.9	14.6	754.6	61.7	104
1972	800	204 - 254	408.9	12.6	562.8	58.6	41
1973	1100	153 - 203	439.2	19.4	792.6	96.6	32
1974	400	204 - 254	444.7	8.9	816.1	56.0	90
1975	400	204 - 254	375.9	18.9	498.5	68.2	72
1976	800	204 - 254	355.0	10.2	377.9	29.5	72
1977	300	-	361.1	8.3	367.3	32.8	76
1978	800	204 - 254	-	-	-	-	-
1979	0	-	-	-	-	-	-
1980	0	-	421.0	7.9	696.3	42.3	60
1981	0	-	447.3	29.9	977.0	279.6	8

Although the file does not indicate the specific reason for the termination of the salmon program, it appears that Alford was stocked annually with too many larger salmon between 1970 and 1976. This many salmon compromised smelt forage, and resulted in a stunted population comprised of considerably smaller salmon in 1975-77 (mean length, weight = 364 mm, 415 g) than in 1970-74 (mean length, weight = 432 mm, 737 g).

The current LLS stocking proposal calls for the stocking 100 FYs in Alford annually; a much lower density than during the 1970's. At this low rate (~0.17 LLS/acre) and advanced size, we anticipate salmon will capitalize on the SLT population without over-exploiting this critical forage (a forage base that is already being utilized by stocked brown and brook trout). Stocking annually at this low density should provide anglers with the opportunity to catch sizeable landlocked salmon at decent catch rates.

We will continue to stock SY and FY BKT annually. However, because recent observations confirm spring yearling trout as formidable smelt predators, we will reduce the number to just 200 SY per year. We are confident that this will help maintain SLT abundance and pose only marginal impacts on angler catch rates, as all signs (anecdotal and netting results) indicate that harvest rates are low on SY BKT. To further protect the SLT forage, we will reduce the annual FY BNT stocking from 250 to 200 individuals.

Regulations:

S-2, S-3, S-13, S-17. From Oct. 1 – Dec. 31: ALO and all trout, salmon, and togue must be released alive at once.

Possible effects and risks of introduction on fish populations/fisheries of proposed and adjoining waters: The proposed LLS stocking program on Alford Lake has the potential to negatively impact both the SLT forage abundance and the current BNT (and BKT) stocking programs. However, we are confident that the low stocking density (~0.17 FY LLS/year) coupled with the reduction in SY BKT (from 1000 to 200), FY BNT (250 to 200), and close program monitoring by MDIFW biologists, we will be able to react accordingly to any declines in the Alford Lake fishery.

Evaluation of proposed stocking: Evaluation will be made by volunteer angler data, discussions with the District Game Warden, a season-long winter creel survey (2016), and fall trapnetting (2016).

Site Map:

