

# Lake Pend Oreille Fishery Recovery Update

## November, 2009

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### Netting

The gillnetting operation shut down for the season November 12th with trap nets being pulled the week of Nov 2nd. A total of 6,547 lake trout were removed during the fall netting season (Table 1), bringing the yearly total to 17,231 lake trout, which is the highest annual total to date. As with 2008, the fall netting largely targeted spawning lake trout near Windy Point and Echo Bay. Just over 2,000 mature lake trout were removed from late September through late October. Outside of the spawning season, the netters focused their efforts on juvenile lake trout, primarily in the northern part of the lake. As the lake trout size structure has changed in response to the removal efforts over the past three years, the netters have refined the methods and net size to maximize their effectiveness on the small fish and minimize bycatch of lake whitefish, bull trout, and other non-target species. This adaptive strategy has greatly increased their ability to remove juvenile lake trout. Over 11,000 juvenile lake trout (6-14 inches) were removed in the spring and an additional 4,000 juveniles were removed in the fall of 2009.

**Table 1. Species caught and removed in trap and gill nets in Fall 2009 effort.**

Over 95% of the lake trout caught in Fall 2009 were captured in gillnets, with trap nets adding 367 fish. The relatively small contribution of the trap nets is to be expected, given they are only effective at catching the larger lake trout. The decline in the trap net catch rate reflects the declining population of

Species captured	Gillnets	Trap nets	Total captured	Total removed
Lake Trout	6,551	367	6,918	6,913
Bull trout	675	66	741	218
Lake whitefish	13,234	14,526	27,760	3,589
Sucker spp.	161	8	169	
Northern pikeminnow	157	10	167	167
Rainbow trout	11	7	18	18
Brown trout	13	1	14	14
Smallmouth bass	24		24	1
Peamouth	343		343	
Mountain whitefish	3		3	
Walleye	2		2	2
Kokanee	25		25	12
Bullhead catfish	1		1	
Cutthroat trout	3		3	

mature lake trout. Because several of the trap nets have been fished in identical locations and times year after year the trap net catch rate is a useful index of the population of mature lake trout. The standardized trap net catch rate declined 52% from the 2008 to 2009, and 73% between 2007 and 2009.

As has been the case since the beginning of the netting effort, very few game fish, aside from lake whitefish, have been removed during the lake trout netting effort (Table 1).

## **Angler Harvest**

Through October anglers have turned in nearly 7,000 lake trout and just over 4,100 rainbow trout to the Angler Incentive Program (AIP) in 2009. On average, lake trout harvest has been a little over half the 2008 harvest. This is also not unexpected, as the angler catch is reflecting the decrease in the population—particularly of larger lake trout. Rainbow harvest has increased from 2008, particularly in recent months. The increase in catch could be a result of an increasing rainbow population, or it could just reflect a shift in angler effort (as lake trout catch rates decline, anglers focus more on rainbows). Regardless, it's critical to increase the harvest pressure on rainbow trout, as kokanee population modeling has indicated that even if the lake trout population is controlled, an abundant rainbow trout population can slow or prevent kokanee recovery.

**Table 2. Number of rainbow trout (RBT) lake trout (LKT) turned in to the Angler Incentive Program (AIP) by month since the program began in 2006.**

MONTH	2006		2007		2008		2009	
	RBT	LKT	RBT	LKT	RBT	LKT	RBT	LKT
January	--	--	124	415	58	216	27	144
February	--	--	78	789	33	241	45	156
March	--	--	154	895	96	363	79	179
April	--	--	1,050	1,261	357	544	241	263
May	1,211	1,317	1,376	2,445	548	771	948	1,033
June	510	2,136	1,212	3,107	711	2,117	602	1,321
July	206	1,033	396	2,809	337	2,612	392	1,178
August	375	2,200	526	1,949	244	1,878	369	1,051
September	544	1,755	654	1,864	391	2,178	447	969
October	1,561	1,689	1,114	1,046	644	862	967	409
November	1,412	661	1,288	831	1,073	940		
December	129	250	171	254	203	298		
<b>Total</b>	<b>5,948</b>	<b>11,041</b>	<b>8,141</b>	<b>17,665</b>	<b>4,695</b>	<b>13,020</b>	<b>4,117</b>	<b>6,703</b>

In light of the need to increase rainbow trout harvest, in June we began a program to provide an additional incentive to harvest rainbow trout. Nearly 100 microchip (PIT) tags were implanted in the heads of rainbow trout in May. The tags have been assigned a dollar value ranging from \$50 to \$1,000. All heads turned into the AIP are being scanned for the tags, and anglers turning in tagged heads will be mailed a check for the assigned value in addition to the \$15 standard reward. To date some 20 tags have been turned in, including four worth \$500 and one worth \$1,000. Next May, we'll be able to estimate annual harvest rate of rainbow trout based on the percentage of tags turned in.

## **Total Predator Reduction**

Between the netting program and the AIP, nearly 90,000 lake trout have been removed since the effort began in 2006. The importance of the two-pronged approach, using both netting and anglers to reduce the predator population is becoming increasingly evident. In 2007, anglers removed around 17,000 lake trout compared to around 6,000 lake trout removed by the netters. In 2009, we see nearly the inverse, with the netting program removing around 17,000 lake trout and anglers removing around 6,700. As the lake trout size structure and abundance continue to

decline, the netting program will play an increasingly vital role. However, it's very important to keep in mind the fact that the netting program does NOT remove a significant number of rainbow trout (Table 1), and we are relying solely on anglers to achieve that objective.

**Table 3. Total number of lake trout caught and removed to date by gillnets and trap nets (Netting) and the Angler Incentive Program (Angling) since the effort began in 2006.**

	2006	2007	2008	2009*	multi-year yr Total*
<b>Angling</b>	11,041	17,665	13,020	6,703	48,429
<b>Netting</b>	4,274	5,836	11,761	17,231	39,102
<b>Total</b>	<b>15,315</b>	<b>23,501</b>	<b>24,781</b>	<b>23,934</b>	<b>87,531</b>

\*denotes number through present

### **Kokanee Response**

We continue to be encouraged by the increases we've seen in kokanee survival. As reported in an earlier update, survival of age-1 to age-2 kokanee has increased from 10% two years ago, to 30% last year, to over 70% this year. Unfortunately survival rates are only part of the story. We still have a weaker than average year-class of age-1 kokanee, and have had three successive years of poor spawners, so maximizing survival will be extremely important for the next three to four years.

As we write this, kokanee spawning is underway. Over 17,000 spawners have been returned to the Sullivan Springs trap at Granite Creek so far, and nearly 3 million eggs have been taken. Though the egg-take will still most likely be below average, it's much better than the past two years, and there is still a good number of kokanee yet to reach the trap. As in recent years, we've requested any surplus late-spawning eggs from other states to help supplement the Pend Oreille population. We will be receiving around a half million October spawning kokanee eggs from Lake Mary Ronan in Montana. We plan to outplant these fry into the raceways at the Clark Fork Hatchery, in hopes they will return to spawn in the gravel that was placed there by the LPOIC.

### **Bull Trout**

Anyone who's fished for lake trout in Pend Oreille has likely found that lake trout and bull trout have a very high degree of habitat overlap. The overlap is, in fact, one reason the two species are not compatible. For that reason, some level of bull trout bycatch in gillnets and trap nets is unavoidable. Since the program began, the netters have continually worked with IDFG biologists to analyze bull trout catch rates and lake trout to bull trout catch ratios as related to net locations, depths, dates, and mesh sizes. In addition, nets are rarely set for more than a few hours to minimize mortality. Though these efforts have greatly minimized bull trout bycatch and mortality, 1,176 bull trout were captured incidentally in the netting program in 2009, with 306 of those being mortalities.

Though any bycatch mortality is unfortunate, it's important to look at the impacts to bull trout on a population level. In other words, is the predator reduction program hurting the bull

trout population? We have been working closely with the U.S. Fish and Wildlife Service as we answer this question. After four years of aggressive lake trout netting, it appears the answer so far is no, and in fact, the evidence is beginning to suggest the effort is benefitting bull trout. Bull trout population monitoring, through redd (spawning nest) surveys in October showed an increase in the bull trout population in nearly all spawning tributaries this year. Bull trout redd counts were at or above 10yr averages in most tributaries. Also of great importance, we found many of the streams that traditionally have only a few bull trout spawners (e.g., Strong, Porcupine, and Wellington creeks) remained stable or increased in 2009. Maintaining these weaker stocks is important to the genetic health of the overall bull trout population. Further evidence the netting program is benefitting the bull trout population is increased return of bull trout to Montana tributaries above Cabinet Gorge Dam, based on fish captured and transported by the USFWS and Avista crews working downstream from Cabinet Gorge Dam.

**Table 4. The number of bull trout redds (spawning nests) counted in tributaries to Lake Pend Oreille from 1999-2009 and the 10 year average.**

<b>STREAM</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>10 yr Avg</b>
Clark Fork R.	5	5	6	7	8	1	0	3	2	0	1	4
Lightning Cr.	16	4	7	8	8	9	22	9	3	10	11	10
East Fork	44	54	36	58	38	77	50	51	34	38	85	48
Savage Cr.	4	2	4	15	7	15	7	25	0	8	5	9
Char Cr.	17	11	2	8	7	14	15	20	1	5	1	10
Porcupine Cr.	4	4	0	0	5	10	14	8	8	8	15	6
Wellington Cr.	22	8	7	7	8	7	6	29	9	10	4	11
Rattle Cr.	13	12	67	33	37	34	34	21	2	24	62	28
Johnson Cr.	31	4	34	31	0	32	45	28	32	40	47	28
Twin Cr.	19	10	1	8	3	6	7	11	0	4	0	7
Morris Cr.	1	1	0	7	1	1	3	16	0	6	6	4
Strong Creek	--	--	--	0	--	0	--	--	--	7	6	2
Trestle Cr.	253	301	335	333	361	102	174	395	145	183	279	258
Pack River	0	8	28	22	24	31	53	44	16	11	4	24
Grouse Cr.	50	77	18	42	45	28	77	55	38	31	51	46
Granite Cr.	41	25	7	57	101	149	132	166	104	52	106	83
Sullivan Springs	22	19	8	15	12	14	15	28	17	7	2	16
North Gold Cr.	16	19	16	24	21	56	34	30	28	17	28	26
Gold Cr.	147	168	127	203	126	167	200	235	179	73	107	163
W. Gold	--	--	--	--	--	--	--	4	0	7	5	4
M.F. East River	--	--	4	8	21	20	48	71	34	36	25	30
Uleda Creek	--	--	3	4	3	7	4	7	2	7	16	5
N.F. East River	--	--	--	--	--	1	0	0	--	0	--	0
<b>Total of all streams</b>	<b>705</b>	<b>732</b>	<b>710</b>	<b>890</b>	<b>836</b>	<b>781</b>	<b>940</b>	<b>1256</b>	<b>654</b>	<b>584</b>	<b>866</b>	<b>809</b>

*~ We will continue to provide information on the recovery effort. In the meantime, we welcome you to forward this on to other interested parties. ~*