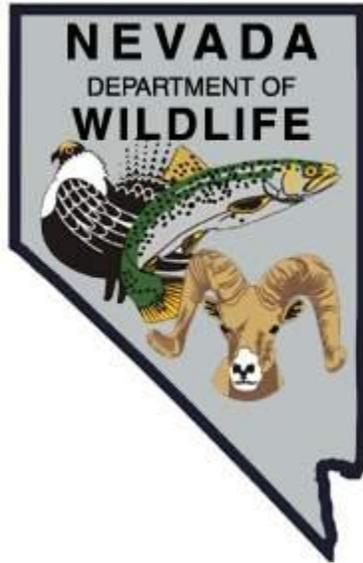


NEVADA DEPARTMENT OF WILDLIFE
STATEWIDE SPORT FISHERIES MANAGEMENT



FEDERAL AID JOB PROGRESS REPORT

F-20-48
2012

WILDHORSE RESERVOIR
EASTERN REGION



**NEVADA DEPARTMENT OF WILDLIFE, FISHERIES DIVISION
ANNUAL JOB PROGRESS REPORT**

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**NEVADA DEPARTMENT OF WILDLIFE, FISHERIES DIVISION
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**NEVADA DEPARTMENT OF WILDLIFE, FISHERIES DIVISION
ANNUAL JOB PROGRESS REPORT**

State: *Nevada*
Project Title: *Statewide Fisheries Program*
Job Title: *Wildhorse Reservoir*
Period Covered: *January 1, 2012 through December 31, 2012*

SUMMARY

The water year 2012 saw below average amounts of winter and spring precipitation within the basin, which resulted in Wildhorse Reservoir only filling to 81% capacity and a recharge of only approximately 8,300 acre-ft of fresh water. Twenty-four days of creel surveys contacted 212 anglers from January through December. Anglers reported fishing a total of 564 hours to catch 339 fish for annual average catch rates of 0.60 fish per hour and 1.60 fish per angler. The average harvest size for rainbow trout was 16.5 in (FL), bowcutt trout averaged 18.7 in (FL), wipers averaged 20.4 in (TL), channel catfish averaged 20.5 in (TL), and yellow perch averaged 8.6 in (TL). A total of 181,760 fish consisting of 176,010 trout, 4,500 channel catfish, and 1,250 wipers were stocked during 2012.

An electrofishing survey to inventory species composition occurred on June 7, 2012. The ratio of nongame and/or non-desirable fish species (yellow perch) to game fish species in this survey was 0.8:1 (35 non-desirable:44 game fish), or a percent ratio of 44%:56%. Three gill nets were set on June 7, 2012 to evaluate game fish and non-game fish composition. Nongame and/or non-desirable fish species (yellow perch) to game fish species ratio was 0.15:1 (8 non-desirable:54 game fish) or a percent ratio of 13%:87%. A combination of both fish population surveys together in 2012 produced a nongame and/or non-desirable to game fish species ratio of 0.44:1 (43 non-desirable:98 desirable game fish), or a percent ratio of 31%:69%.

Over the course of 11 sampling days during the spring and summer, 75 wipers were contacted and tagged with the numeric yellow Floy tag for future identification, 3 were recaptured wipers from previous sampling efforts. An additional 6 wipers were caught by anglers who reported lengths and weights. The wipers sampled had an average size of 20.2 in, TL, and 72.2 oz (4.5 pounds), with fish ranging in size from 14.0 to 24.8 in, TL, and a maximum weight of 141 oz (8.8 pounds).

A digital recording thermograph was installed in Wildhorse Reservoir in early May to monitor water temperature patterns for forecasting black bass spawning behavior during. Equipment malfunction from a cracked thermograph housing and water infiltration resulted in no available data for 2012.

BACKGROUND

Historically, Wildhorse Reservoir has been managed as a quality trout fishery. Since the mid-1940's, the reservoir has supported a valuable trout fishery renowned for good catch rates and harvest of quality size-fish. The trout fishery is dependent upon hatchery stocking, as natural reproduction in the system is negligible. Over the last 17 years, Wildhorse Reservoir received an annual average of 105,000 catchable sized trout and 62,000 sub-catchable and fingerling sized trout.

Angler use at Wildhorse Reservoir averages 35,000 angler use days per year, making it one of the top 10 fished waters in the state of Nevada. Fluctuating reservoir water levels and nuisance nongame fish species are the two management challenges associated with this fishery. Natural succession towards nongame fish dominance in the reservoir prompted periodic chemical fish eradication as a management tool to restore desirable fish populations.

The last chemical treatment in Wildhorse Reservoir and several watershed drainage streams was in September 1988. As a biological control of nuisance fishes, smallmouth bass were introduced into the reservoir in the fall of 1989, with an augmentation in July 1990. Channel catfish were first introduced in July 1993. An illegally introduced yellow perch population was discovered in 1996 and rapidly established dominance in the reservoir. As a result of the expanding yellow perch population, an initial stocking of wipers (white bass x striped bass hybrid) was completed in 2002. Control of undesirable fish species is the primary management challenge and success of the trout fishery is directly related to the abundance of these undesirable fish species and reservoir water levels.

OBJECTIVES and APPROACHES

Objective: General Sport Fisheries Management

Approach:

- Conduct a general fisheries assessment through opportunistic angler contacts.

Objective: Monitor impacts of undesirable fish on the rainbow trout fishery and the effectiveness of wipers in controlling these species.

Approach:

- Examine spawning/recruitment potential of black basses by monitoring water temperature variations using a digital recording thermograph.
- Examine growth and use of forage fish by capturing a minimum of 75 black bass through electroshocking in late summer.
- Use hook-and-line to collect a minimum of 50 wipers to assess stomach contents.
- Set experimental gill nets for 3 net-nights in the spring.

- Purchase and stock 1,500 wipers and 10,000 channel catfish.

PROCEDURES

A minimum of two days of angler surveys were scheduled per month. Data collection included number of anglers, location, target species, and harvest. Harvest data included identifying species, collecting weights, identifying fin clips and marks, and assessing body condition. Only trout were measured to fork length while all other fish were measured to total length.

A HOBO Water Temp Pro data logger recording thermograph was installed and placed approximately 36 in below the surface off an anchored buoy chain near the State Park Island.

The electrofishing survey was conducted during nighttime from 1900 to 2215 hrs on June 7, 2012. The twin anode Coffelt/Clark electrofishing barge with two bow netters was used. The electrofishing survey was conducted at the southeast side of the reservoir by the Old Highway and Hot Creek confluence under windy and choppy conditions. All fish contacted were targeted for capture. Captured fish were identified by species and counted. Electrofisher settings and other relevant information during this inventory are listed in the following:

June 7, 2012 Electrofishing Survey

Pulse - DC	Pulse Width (millisec) – 5	Time –1900-2215
Volts – 850	Pulse Freq.(per sec) – 120	Water Condition –algae light, reservoir at seasonal, average capacity (~69%), choppy
Output (amps) -5-6	Shocking Time (sec) – 1,239 sec (20.7 min)	Water Temp(°F) – 57

Wipers were collected by angling, electrofishing, and gillnetting to monitor food habits and to tag with a numeric yellow Floy tag for documenting growth, longevity, angler return, and other attributes (catch rates, angler preference, palatability, etc.).

Three variable mesh gill nets were set in the early evening on June 7, 2012, fished overnight, and retrieved in the morning of the following day. Gill net locations were in the Hendrick’s Arm, Brown Cove in the canyon, and Warm Springs Beach on the southwest shoreline. All fish species were targeted for capture. All captured fish were identified by species and counted. Only trout were measured to fork length while all other fish were measured to total length. Captured trout were weighed for body condition appraisal.

A total of 1,250 8.5 in wipers and approximately 4,500 9.5 in (TL) channel catfish were stocked in June 2012 from approved commercial sources.

FINDINGS

General Sport Fisheries Management

Opportunistic Angler Contacts and Surveys

During 2012, 212 anglers were contacted at Wildhorse Reservoir over 23 days of roving angler surveys (Table 1). A total of 564 hrs of fishing effort was expended to catch 339 fish, of which 198 were released (59% of total catch). Overall angler success was 0.60 fish per hour and 1.60 fish per angler, with the highest catch rate occurring in November at 2.16 fish per hour, and the lowest in August at 0.30 fish per hour.

The average harvest size for 96 rainbow trout was 16.5 in (Table 1). Figure 1 illustrates angler caught rainbow trout length frequency and compares it with the eleven-year average. Approximately 57% of the 2012 rainbow trout sample was greater than 17.0 in, significantly higher than the 17.9% for the 2001-2011 average. In comparison to the long-term (1988–2011) average harvest size of 14.3 in, the 2012 average size rainbow trout harvested was significantly longer (+2.2 inches) and illustrates an improvement in the trout fishery.

Of the 96 rainbow trout measured, 93 fish were weighed for body condition analysis, resulting in 2.2% (2 fish) in poor condition, 15.1% (14 fish) in fair condition, 53.8% (50 fish) in good condition, and 29% (27 fish) in excellent condition. Overall body condition for the 93 rainbow trout measured was 4.27 and rated “good.”

Bowcutt trout continued to show a positive return to the angler, with excellent growth and an average harvest size of 18.7 in (size range 12.2–23.0 in) for 63 bowcutts measured. Renewed stocking of bowcutt trout has occurred since 2006, with 11,160 catchable and sub-catchable-size bowcutt trout stocked in 2012. After they reach a size of 16.0 in or greater, this hybrid trout assists in biological control of undesirable fish species. They also increase recreational angling opportunities for larger trout (greater than 20 in).

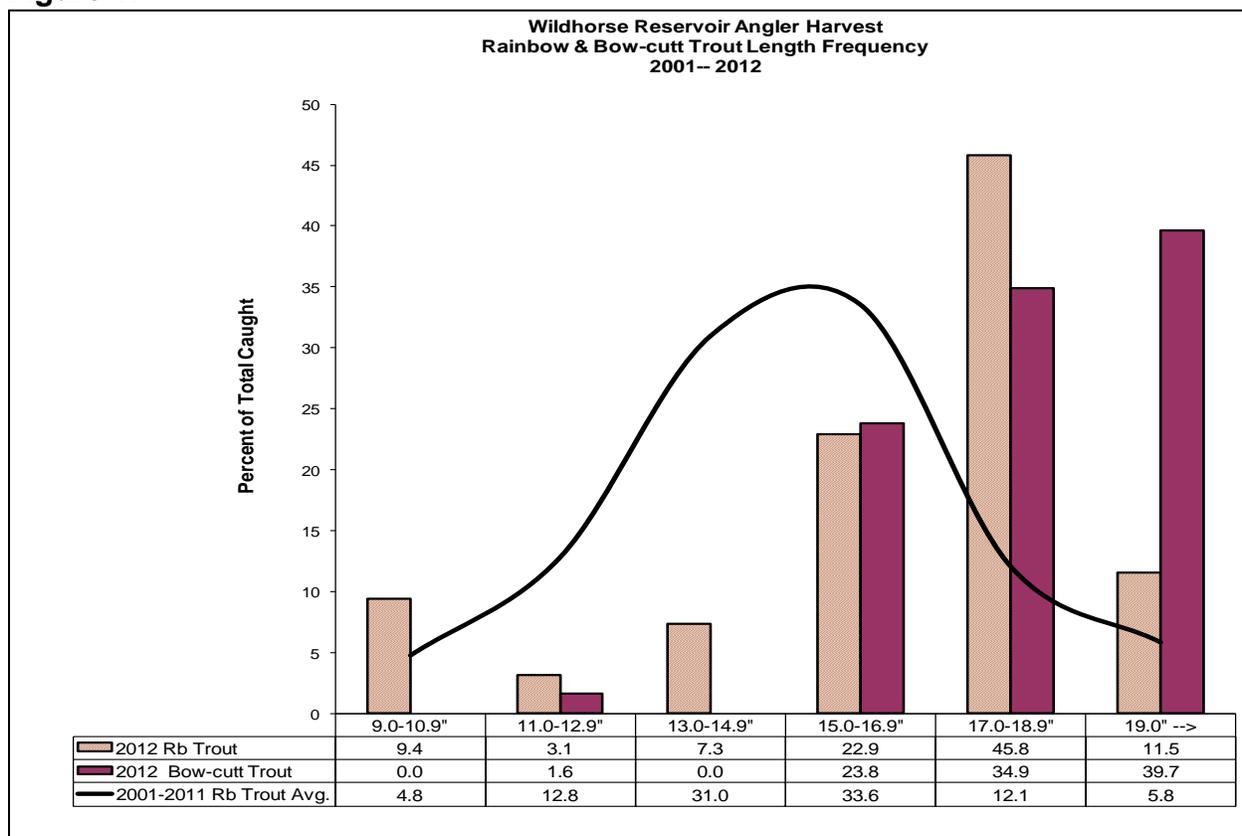
Although the overall harvest of warmwater fish, including black bass, was low, interest in fishing for these species continued, even during the catch and release season (March 1 through June 30 for black bass). One channel catfish measured in 2012 was 20.5 in, three wipers averaged 20.4 in, and 12 yellow perch averaged 8.6 in.

The Wildhorse Reservoir volunteer Angler Drop-Box Survey was in use for the entire season, with 58 surveys received from January through December 2012. Anglers reported fishing 330 hrs to catch 378 fish (351 trout, 9 bass/wipers, and 18 yellow perch), for catch rates of 5.4 fish per angler and 1.1 fish per angler hour. Approximately 40.3% of the fish caught was 17.0 in or greater, lower than the 57% measured rainbow trout from the contact creel survey, but higher than the 33.3% 2005-2011 drop-box average.

Fish stocking at Wildhorse Reservoir during 2012 resulted in supplementation of

118,930 catchable trout and 57,750 sub-catchable trout (Table 2). Approximately 4,500 channel catfish and 1,250 wipers were also stocked to continue aiding in biological control of non-game fish species and diversifying angling opportunities by increasing the potential of catching trophy-sized fish.

Figure 1.



Water Quality Monitoring

A digital recording thermograph was installed in Wildhorse Reservoir to monitor water temperature patterns associated with black bass spawning behavior during the spring and summer. Due to a cracked thermograph housing and water penetration, the thermograph failed and no temperature data was obtained in 2012.

Wildhorse Reservoir Fishery Study

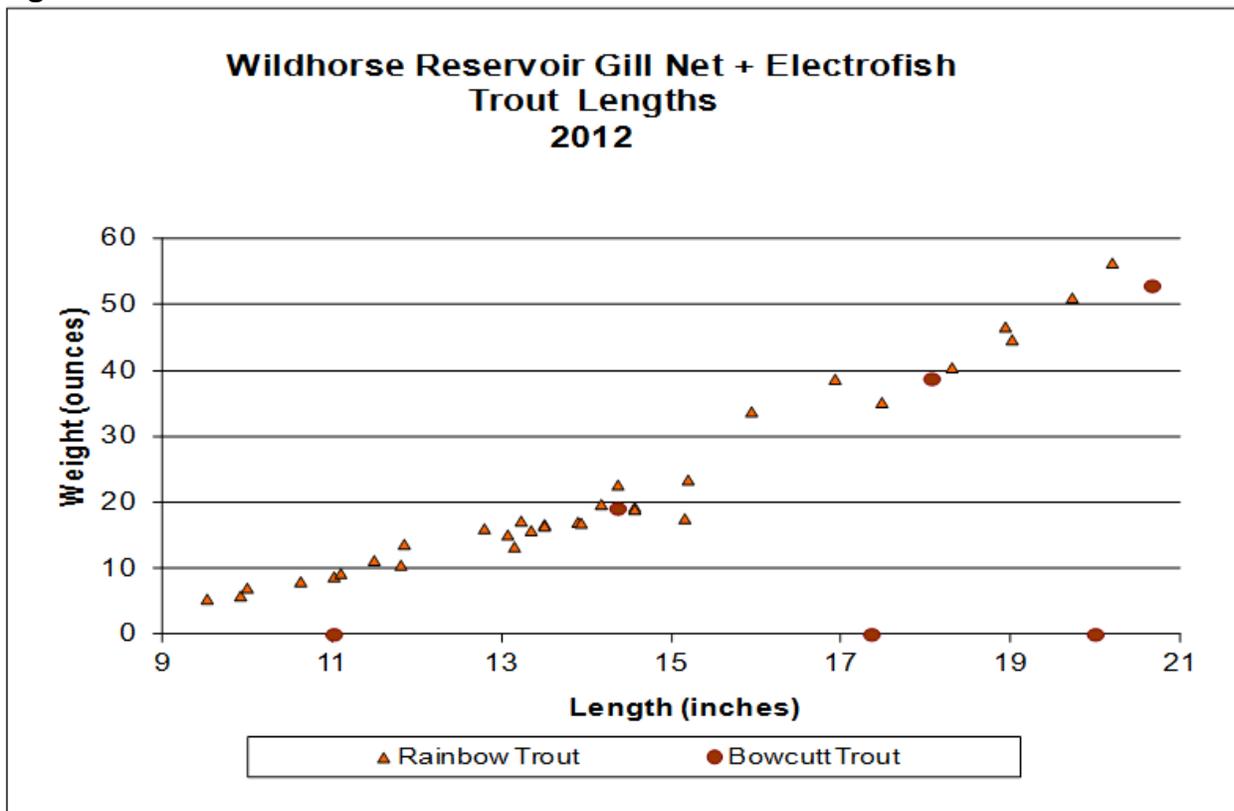
Sport Fish Population Surveys

Three spring gill nets were fished a total of 38.5 hrs and captured 62 fish, with a species composition of 60% rainbow trout, 16.2% wiper, 6.5% tiger trout, 5% bowcutt trout, and 11.3% yellow perch. The non-desirable fish species to game fish species ratio in this survey was 0.15:1 (8 non-desirable:54 game fish), or a percent ratio of 13:87.

Body condition factor (K-Factor) and overall body condition rating were calculated on 34 rainbow trout caught from gill nets. The average size of the rainbow trout captured was 13.7 in, with an overall K-Factor of 4.27, and received a body condition rating of good. Approximately 65% were in good condition and 24% were in excellent condition. The largest trout captured from gill nets was a 20.2 in rainbow trout caught in Brown Cove. The majority of the fish caught were carryovers from the 2011 stocking effort (12 to 15 in), but larger age classes were represented and continued to provide quality angling. No marked fish from the May 2011 stocking effort to evaluate the Bel-Air strain rainbow trout were captured during this survey.

Bowcutt trout were also represented in the gill net survey, for a total of three at an average size of 17.7 in (fall 2010 stocking), with the largest measuring 20.7 in (Figure 2). Utilizing rainbow trout body condition factors and ratings, bowcutts had an average K-Factor of 3.96 for a rating of good. Ten wipers were captured in the Hendrick's Arm set and had an average length of 18.4 in.

Figure 2.



The June 7 electrofishing survey captured a total of 79 fish, with a species composition of 30% yellow perch, 10% bridge lip sucker, 3% redbside shiner, 29% smallmouth bass, 14% rainbow trout, 5% channel catfish, and 4% wiper. The 10 smallmouth bass varied in sizes from 3.0 to 16.1 in, with an average size of 8.8 in and a body condition rating of good. Nongame and non-desirable (yellow perch) fish species

to game fish species ratio in this survey was 0.8:1(35 non-desirable:44 desired game fish), or a percent ratio of 35%:65%.

The last four years of population surveys illustrate a slight declining trend in percent and number ratio of nongame/non-desirable species (tui chub, sucker and yellow perch) to desired game fish (rainbow, bowcutt, brown and tiger trout, smallmouth bass, wiper and channel catfish). Due to an early sample date and rough electrofishing conditions, slightly below expected catch rates of both desired and non-desired fishes were experienced during the 2012 sampling.

The current trend in nongame/non-desirable verses game fish species composition is an indicator of the success that sport fishes have as biological control agents within the reservoir. Combining 2012 data from both fish population survey types produced a nongame/non-desirable to game fish species ratio of 0.44:1 (43 non-desirable: 98 desirable game fish), or a percent ratio of 31%:69% (Figure 4), well below the 17 year long term average of 2.5:1 ratio.

Removal of yellow perch from the non-desirable category and the sport fishery of Wildhorse Reservoir would be considered very productive and diverse, despite the effects and dynamics of fluctuating water levels. Very few adult sized yellow perch (>6.0 in) and only one Lahontan tui chub were captured, with the only non-game/non-desirable fish of concern being the bridgelip sucker, whose numbers were consistent with historic survey and do not pose a threat like the Lahontan tui chub or yellow perch, whose decline in numbers are also being witnessed in annual creel surveys. Yellow perch YOY have been documented for the last six years during electrofishing surveys, but have failed to carry forward in similar numbers or percentages to the next survey season, indicating continued success of predators.

Wiper Assessment

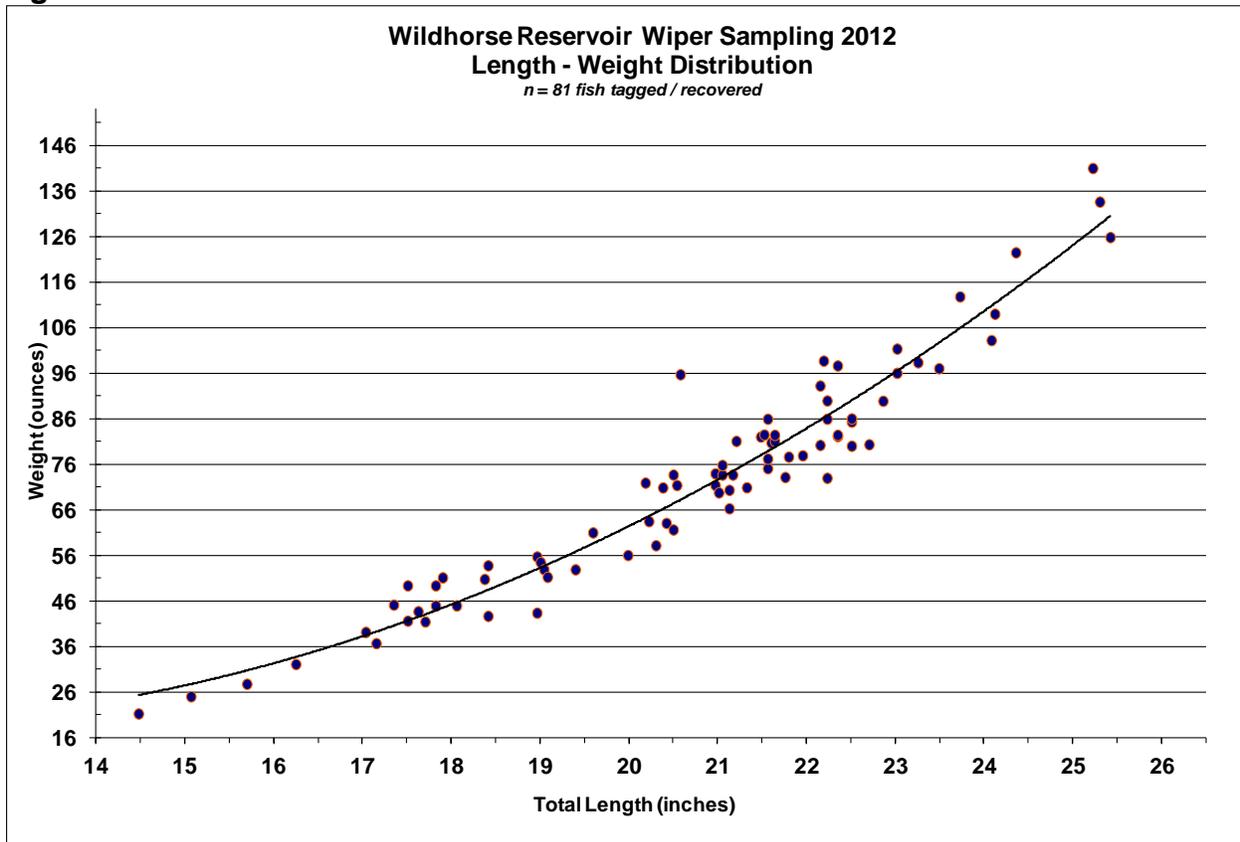
Over the course of 11 sampling days during the spring and summer of 2012, 72 wipers were newly contacted and tagged with a numeric yellow Floy tag for future identification, 3 were recaptured wipers from previous sampling efforts, and 6 were reported by anglers. The wipers sampled had an average size of 20.2 in and 72.2 oz (4.5 lbs), with fish ranging in size from 14.0 to 24.8 in and a maximum weight of 141 oz (8.8 lbs) (Figure 3).

Recreational sport fishing for wipers continues to increase as anglers spread the word regarding the attributes of this species. The water record for Wildhorse Reservoir was broken 3 times in 2012, with an 8 lb wiper caught on May 21 and finishing up with a new record of 10 lb 11 oz wiper caught on November 6.

Scales from representative specimens were collected from 11 wipers representing 4 different age classes. The oldest scale came from a 24 in, 8.8 lb specimen which revealed an age of approximately +8 years (presumably coming from the June 2, 2006 stocking effort). This fish had grown 16.7 in (a 209% growth increase

since stocking) and had resided in the reservoir for 2,299 days at time of recapture. Other fish of similar sizes were placed with their respective cohorts, with partial overlap occurring between the different age classes. Based on the 2012 scale readings and age interpretation, wipers are averaging a growth increase in length of approximately 2.5 to 3.5 in per year after being stocked. Including the 72 wipers tagged in 2012, a total of 307 wipers have been tagged and released back into Wildhorse Reservoir over the last six years of the study.

Figure 3.



Of the 64 wipers collected during angling surveys in 2012, 24 had empty stomachs (37%), while the other 40 had stomach contents ranging from 1 item up to 250 food items (Annelida - leeches) in one 17.9 in specimen. Other items counted included 19% Frequency of Occurrence (FOC) of unidentified (decomposed) fish species, 8.6% FOC of yellow perch young-of-year (YOY) minnows, 32.8% FOC of Annelida (leeches), 12.1% FOC of Diptera (Midge larvae/pupae), and 1.7% FOC of Decapoda (crayfish parts). Yellow perch YOY and unidentified/decomposed minnow species made up 27.6% FOC of the total number of food items counted in 2012, up from the 2011 sample. Aquatic invertebrates are an important dietary item during the spring of the year until YOY minnows appear in early summer. Reducing small fish (yellow perch, tui chub YOY) through predation is the primary management objective of stocking wipers into Wildhorse Reservoir. Based on the findings within the 6 year wiper

study, it is meeting and exceeding the management goal of assisting and keeping undesirable fish populations in check.

Recovery of tagged fish has been limited, with two tags recovered in 2008, three in 2009, seven in 2010, 4 in 2011, and 9 in 2012, for a summative total of 25 wipers. Of the 9 tagged wipers reported in 2012, 4 were caught and harvested by anglers, 2 were caught and released by anglers with anglers reporting harvest information (date, length and weight), and the other 3 were recaptures from previous NDOW sampling surveys.

Tagged wipers recovered by NDOW and/or by angler reporting in 2012 revealed these fish had an average growth of 4.4 in (range of 1.1 to 8.0 in), for an average increase of 29% in total length since initial tagging. They also showed an average increase of 39.1 oz (range of 15 to 64 oz), for an average of 144% weight increase since initial tagging date. The 9 wipers showed an average time of 944 days or 2.59 years (range of 70 to 1,741 days) of residency in the reservoir before being caught.

To date, 25 (8.2%) of the 307 tagged wipers have been recovered through angler reporting and NDOW surveys. The 25 tagged wipers had an average size of 18.4 in and 57.7 oz at time of tagging, and had an average residency within the reservoir of 577 days (1.58 years) before capture. Summative averages of the 25 wipers at time of harvest or capture revealed an average size of 21.1 in and 76 oz, for an average growth increase of 2.7 in and 18 oz.

Warmwater Fish Stocking

Wildhorse Reservoir received approximately 1,250 wipers that had an average length of 8.0 in on June 7, 2012 (Table 2). This marks the eleventh consecutive year of stocking wipers, with angler creel reports of wipers approaching eleven pounds.

Approximately 4,500 channel catfish that had an average length of 9.5 in were also stocked on June 7, 2012 to aid in biological control of non-desirable fish (tui chub and yellow perch). Channel catfish have been stocked regularly since 1989.

MANAGEMENT REVIEW

- Angler surveys were conducted throughout the entire 2012 fishing season with good fishing reported but no marked trout recovered (Bel-Air strain rainbow).
- The installation and retrieval of the recording thermograph were completed, but equipment failure prevented any data from being downloaded in 2012.
- The black bass and species composition electrofishing survey was completed in late spring. Population surveys revealed success in controlling the non-game fish/non-desirable to game fish ratios and good carryover of planted trout in the spring gill nets.

- Angling for wipers occurred in the spring and summer with fair success, and tagged fish continued to be reported back to the department and entered into the database. A new water record for wiper was caught on November 6, 2012 and weighed in at 10 lbs 11 oz.
- Wipers and channel catfish were stocked in late spring.

RECOMMENDATIONS

- Continue angler surveys and assessments to develop an accurate assessment of angler use and harvest of all fish species and look for marked trout.
- Conduct an electrofishing survey to assess age class distribution, body condition, and Relative Stock Density of black bass populations.
- Continue to monitor reservoir water temperatures in spring to evaluate and predict black bass spawning timing and possible success.
- Continue population sampling to monitor game fish/non-game fish ratios. Continue stocking piscivorous fish in an effort to reduce non-game fish abundance.
- Continue the food habit study of wipers in Wildhorse Reservoir in an effort to determine their impacts upon non-game fish, specifically tui chub and yellow perch.
- Continue wiper and channel catfish augmentation when necessary and monitoring/evaluation to provide added control of non-game fish and provide diversified angling opportunities with trophy fish potential.

Prepared by: Chris Drake
Fisheries Biologist, Eastern Region

Date: March 2013

Table 1

WILDHORSE RESERVOIR
2012 Creel Census Angler Use and Harvest Summary

	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Totals
No. Days Checked	1	3	2	0	3	4	3	1	1	1	2	2	23
Avg. Water Temp.	Ice=13"	Ice=20"	Ice=23"		57	63	70	66	60	44	40	36	54.5
No. Anglers Checked	10	61	12		37	35	43	4	0	0	6	4	212
No. of Hours Fished	22.5	144.5	29.5		119	107	103	10			12.5	15.5	564
Total Fish Caught	17	49	11		87	79	44	3			27	22	339
Total Fish Harvested	13	43	10		49	33	18	3			15	14	198
<i>Rainbow Trout</i>	9	27	3		32	22	17	2			4	3	119
<i>Brown Trout</i>	0	0	0		0	0	0	0			0	0	0
<i>Bow-cutt Trout</i>	4	14	1		14	8	1	1			11	11	65
<i>Tiger Trout</i>	0	0	0		1	1	0	0			0	0	2
<i>Black Bass</i>	0	0	0		0	0	0	0			0	0	0
<i>Wiper</i>	0	0	0		2	1	0	0			0	0	3
<i>Channel Catfish</i>	0	0	0		0	1	0	0			0	0	1
<i>Yellow Perch</i>	0	7	6		0	0	0	0			0	0	13

Average Measured Fish Harvest Size

<i>Rainbow Trout No.</i>	8	17	3		32	20	8	2			3	3	96
<i>Avg. Size (FL-mm)</i>	17.1	17.7	17.5		17	15.2	13.1	20.3			16.5	18.3	16.5
<i>Brown Trout No.</i>	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Avg. Size (FL-mm)</i>													
<i>Bow-cutt Trout No.</i>	4	14	1		14	8	1	1			10	10	63
<i>Avg. Size (FL-mm)</i>	17.9	17.5	15.2		18.2	17.4	22.0	12.2			21.1	20.6	18.7
<i>Tiger Trout No.</i>	0	0	0	0	1	1	0	0	0	0	0	0	2
<i>Avg. Size (FL-mm)</i>					15.2	10.7							13.0
<i>Black Bass No.</i>	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Avg. Size (TL-mm)</i>													
<i>Wiper</i>	0	0	0	0	2	1	0	0	0	0	0	0	3
<i>Avg. Size (TL-mm)</i>					20.6	20.0							20.4
<i>Channel Catfish No.</i>	0	0	0	0	0	1	0	0	0	0	0	0	1
<i>Avg. Size (TL-mm)</i>						20.5							20.5
<i>Yellow Perch No.</i>	0	7	5	0	0	0	0	0	0	0	0	0	12
<i>Avg. Size (TL-mm)</i>		8.4	8.9										8.6

Angler Catch Rate

Fish / Hour	0.76	0.34	0.37		0.73	0.74	0.43	0.30			2.16	1.42	0.60
Fish / Angler	1.70	0.80	0.92		2.35	2.26	1.02	0.75			4.50	5.50	1.60

Table 2

Wildhorse Reservoir Fish Stocking

2012

Date	# of Fish Stocked	Pounds	Avg. Size (in.)	Species	Fish / Pound	Strain	Stocking Location	Water Temp.	Tank Temp.
April 23, 2012	8,400	2,000	8.4	Rainbow	4.2	Eagle Lake	St. Park Boat Launch	55	54
April 25, 2012	8,400	2,000	8.4	Rainbow	4.2	Eagle Lake	St. Park Boat Launch	55	52
May 2, 2012	8,200	2,000	8.5	Rainbow	4.1	Jumpers	St. Park Boat Launch	52	54
May 3, 2012	2,870	700	8.5	Rainbow	4.1	Jumpers	St. Park Boat Launch	50	52
May 8, 2012	6,720	1,600	8.4	Tiger Trout	4.2	Egan	St. Park Boat Launch	58	53
May 11, 2012	7,000	2,000	8.9	Rainbow	3.5	Eagle Lake	St. Park Boat Launch	51	53
May 14, 2012	9,000	2,000	8.2	Rainbow	4.5	Jumpers	St. Park Boat Launch	63	53
May 15, 2012	9,000	2,000	8.2	Rainbow	4.5	Jumpers	St. Park Boat Launch	56	51
May 30, 2012	6,240	1,300	8.0	Rainbow	4.8	Jumpers	St. Park Boat Launch	59	54
June 7, 2012	4,500	900	9.5	Ch. Catfish	5.0	Arkansas	St. Park Boat Launch	60	53
June 7, 2012	1,250	156	8.0	Wiper	8.0	Arkansas	St. Park Boat Launch	60	53
June 28, 2012	1,925	550	8.9	Tiger Trout	3.5	Egan	St. Park Boat Launch	66	54
October 4, 2012	8,000	2,000	8.5	Rainbow	4.0	Jumpers	St. Park Boat Launch	63	53
October 4, 2012	8,000	2,000	8.5	Rainbow	4.0	Jumpers	St. Park Boat Launch	59	52
October 5, 2012	7,800	2,000	8.6	Rainbow	3.9	Jumpers	St. Park Boat Launch	60	54
October 8, 2012	7,400	2,000	8.8	Rainbow	3.7	Jumpers	St. Park Boat Launch	58	52
October 8, 2012	7,400	2,000	8.8	Rainbow	3.7	Jumpers	St. Park Boat Launch	58	53
October 9, 2012	15,000	1,250	5.9	Brown	12.0	Egan	St. Park Boat Launch	60	53
October 9, 2012	15,000	1,250	5.9	Brown	12.0	Egan	St. Park Boat Launch	62	53
October 12, 2012	16,375	1,250	5.8	Brown	13.1	Egan	St. Park Boat Launch	56	52
October 22, 2012	4,720	400	6.0	Brown	11.8	Egan	St. Park Boat Launch	49	52
November 5, 2012	7,400	2,000	8.8	Rainbow	3.7	Jumpers	St. Park Boat Launch	48	53
November 7, 2012	5,175	2,250	10.3	Bow-cutt	2.3	Tahoe	St. Park Boat Launch	48	52
November 15, 2012	3,150	500	7.3	Bow-cutt	6.3	Tahoe	St. Park Boat Launch	43	51
November 16, 2012	2,835	450	7.3	Bow-cutt	6.3	Tahoe	St. Park Boat Launch	41	54
Total Catchable Trout:	118,930	29,150							
Total Sub-catchables Trout:	57,080	6,350							
Total Fingerling Trout:	0	0							
Total Warm Water Fish:	5,750	1,056							
TOTALS	181,760	36,556							

x= 4.1 fish/lb.

Avg. Water Temp. = 55.6 52.8

Brown Trout = 51,095 Sub-catchables

Tiger Trout = 8,645 Catchable

Bowcutts = 11,160 (5,175 Catchable + 5,985 Sub-catchables)

Table 3

**Wildhorse Reservoir
Population Sampling Catch Record
2012**

		Net/Sample #	#1-3	Electrofish		
		Date:	6/8/2012	6/7/2012		
SPECIES					TOTALS	% of Species Composition
<i>Rainbow Trout</i>	Number of Fish Sampled	37	11		48	34.0
	Avg. Size (Inches-FL)	13.4	13.7		13.5	
<i>Bow-Cutt Trout</i>	Number of Fish Sampled	3	3		6	4.3
	Avg. Size (Inches-FL)	17.7	16.1		16.9	
<i>Brown Trout</i>	Number of Fish Sampled	0	0		0	0.0
	Avg. Size (Inches-FL)					
<i>Tiger Trout</i>	Number of Fish Sampled	4	0		4	2.8
	Avg. Size (Inches-FL)	12.5			12.5	
<i>Largemouth Bass</i>	Number of Fish Sampled	0	0		0	0.0
	Avg. Size (Inches-TL)					
<i>Smallmouth Bass</i>	Number of Fish Sampled	0	23		23	16.3
	Avg. Size (Inches-TL)		8.8		8.8	
<i>Wiper</i>	Number of Fish Sampled	10	3		13	9.2
	Avg. Size (Inches-TL)	18.4	12.3		17.0	
<i>Channel Catfish</i>	Number of Fish Sampled	0	4		4	2.8
	Avg. Size (Inches-TL)		20.1			
<i>Yellow Perch</i>	Number of Fish Sampled	7	24		31	22.0
	Avg. Size (Inches-TL)	4.6	3.9		4.1	
<i>Tui Chub</i>	Number of Fish Sampled	0	1		1	0.7
	Avg. Size (Inches-TL)		5			
<i>Red Side Shiner</i>	Number of Fish Sampled	0	2		2	1.4
	Avg. Size (Inches-TL)		3.4		3.4	
<i>Bridgelip Sucker</i>	Number of Fish Sampled	1	8		9	6.4
	Avg. Size (Inches-TL)	6.5	5.4		5.5	
TOTAL FISH		62	79		141	
HOURS		38.5	0.35		38.9	
% Non-desirable Fish		12.9	44.3		30.5	
Fish / Net-Shocking Hour		1.61	225.7		3.6	
Reservoir Water Temp. °F		58.5	60.0			
** Wildhorse Res. Storage Capacity at Survey (Approx. % Acre-Feet)		69%	69%			

Gill Net & Electroshocking Survey Locations:

1. Mouth of Brown Cove. Experimental Mesh gill net, 150 feet long.
2. Warm Springs Beach, Southwest Side. Experimental Mesh gill net, 150 feet long.
3. Hendrick's Arm, South side, East of Highway 225. Experimental Mesh gill net, 150 feet long.
4. Hot Creek & Old Hwy, Southeast side Electrofish 6/7/2012

** Wildhorse Reservoir 100% of Capacity = 71,500 Acre-Feet of Storage (Source: nrcs.usda.gov/data/water/basin_reports/nevada/)

Table 4

Wildhorse Reservoir Non-game and Non-desirable (Yellow Perch) to Game fish Ratios 1996 - 2012

Year	Electrofish Survey		Gillnet Survey		Surveys Combined			
	No.	Ratio	% Ratio	No.	Ratio	% Ratio	No.	Ratio
1996	1.2:1	54:46	1.4:1	58:42	1.4:1	59	41	
1997	1.3:1	56:44	5.2:1	84:16	2.4:1	71	29	
1998	13.4:1	93:7	3.1:1	75:25	5.6:1	85	15	
1999	1.5:1	59:41	8.3:1	89:11	3.1:1	75	25	
2000	2.6:1	72:28	4.3:1	81:19	3.3:1	77	23	
2001	2.6:1	72:28	4.2:1	81:19	3.0:1	75	25	
2002	2.3:1	70:30	3.0:1	75:25	2.8:1	73	27	
2003	2.0:1	67:33	1.0:2	33:67	1.7:1	63	37	
2004	2.0:1	66:34	4.3:1	81:19	2.3:1	69	31	
2005	6.3:1	86:14	2.1:1	68:32	5.5:1	85	15	
2006	3.2:1	76:24	3.0:1	80:20	3.3:1	77	23	
2007	3.2:1	76:24	1.8:1	65:35	2.7:1	73	27	
2008	1.0:1.2	46:54	10.7:1	92:8	1.6:1	62	38	
2009	1.1:1	52:48	0.12:1	11:89	0.8:1	44	56	
2010	1.3:1	57:43	0.21:1	17:83	0.8:1	44	56	
2011	1.4:1	59:41	0.0:1	0:100	1.0:1	51	49	
2012	0.8:1	44:56	0.15:1	13:87	0.4:1	31	69	
17-Year Avg.			17-Year Avg.		2.5:1	65.5	34.5	

Figure 4

Wildhorse Reservoir Population Monitoring
Non-desirable to Game Fish % Ratio

