

2011 SONAR SURVEYS

Prepared by:

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03 Feb 2012

Some notes on the 2011 summer sonar surveys:

I am the Research Associate with Colorado State University working with Jesse Lepak in the Colorado Parks and Wildlife Research Division and with the help of Jesse and Estevan Vigil was able to complete numerous historical surveys and some research surveys of Granby (late) and Horsetooth (Sep and Nov). CPW coordinated with Wyoming Fish and Game to conduct a parallel survey of Horsetooth to evaluate sounder setup and the use of a side scan sounder run simultaneously with the down looking transducer. This event gathered a lot of data because of the increase in Rainbow Smelt since our shakedown survey we conducted in the month of June.

Table 1.- Reservoirs surveyed in 2011 with hydroacoustics are listed along with survey date, reservoir surface elevation (ft.) and crew.

Reservoir	Survey date	Elevation (ft)	Crew
Cheesman	30-Jun-11	6841.09	Avery, Lepak
Vallecito	29-Jul-11	7664.9	Avery, Lepak, Vigil
McPhee	30-Jul-11	6916.9	Avery, Lepak, Vigil
Blue Mesa	31-Jul-11	7516.8	Avery, Lepak, Brauch, Matt
Eleven Mile	1-Aug-11	8597.6	Avery, Lepak, Vigil, Cathcart
Cheesman	2-Aug-11	6840.9	Avery, Lepak, Vigil
Dillon	24-Aug-11	9017.1	Avery, Lepak
Green Mountain	25-Aug-11	7948.1	Avery, Lepak
Blue Mesa	28-Aug-11	7512.4	Avery, Lepak
Granby	29-Aug-11	8277.6	Avery, Lepak, Vigil, Rogers
Wolford	30-Aug-11	7488.2	Avery, Lepak
Williams Fork	31-Aug-11	7804.5	Avery, Lepak
Horsetooth	26-Sep-11	5405.7	Avery, Lepak, Davies
Carter	27-Sep-11	5712.6	Avery, Lepak, Black,
Granby	11-Oct-11	8272.8	Avery, Lepak
Horsetooth	8-Nov-11	5402.8	Avery, Lepak, Morgan
Granby	16-Nov-11	8269.4	Avery, Stacy

Specific comments: MCA reviews in red. KBR notes.

Williams Fork CDOW-2010-M243-1xd-15degP1_KBR

T1 (K2432054) – clean – all targets look legit, best cut about 23m

T2 (K2432132) – clean. Some bubble tracks but not enough to worry about; no clear cut opportunity

Reanalyze all previous transects just looking at fish between 10-25m – really could have used 23m but probably more difficult to process density numbers so stuck with 25? – need to revisit as break is really at 23m – not for all

Really need to deliberate when to do this survey – 2007 had adults in COD by dam – as did single 2008 fish – yet all fish captured in 2009 were immature – would it be better to do this in August? Better separation between kokanee and lake trout; Could we do this survey in July? Would the lake stratify? – recommend doing this survey throughout the summer – see if stratification necessary

Not as critical to crop T2 since shallow – not as many lake trout there as over in T1

Granby CDOW-2010-M243-1xd-15degP1_KBR

Would be good to go back and set a depth threshold on several transects from each year and just analyze those targets within the appropriate dB range and between say 10-25m – how does that compare to the strength of the run? Really need to set nets in Granby – on thermocline and at depth to confirm if deep targets are all lake trout

Need to rewrite HACK with multiple depth and size filters – reprocess to pull out spawners

Redid this looking at 20-45 bin? Fish above 25m – seemed to help the r-square

Would also be good to look at numbers of targets below 25m to see if any evidence for increase in lake trout numbers in recent years

In 2010 did an analysis of fish above 25m – in both 2010 and 2011, that cutoff really should have been at 20m; 25m may have been more appropriate in 2006

T10 (K2412105) – Checked in Echoscape - clean, completed MCA 11/16

T9 (K2412125) Clean, fish on bottom, some noise flats on bottom.

T8 (K24121450) Clean, noise flats on bottom.

T7 (K2412208) Clean, couple noise flats.

T6 (K2412223) Clean, noise on bottom Some depth separation around 10-12m,.

T5 (K2412241) Clean, noise on bottom Few fish off the bottom.

T4 (K2412302) Clean, bottom noise in what looks like a channel of sorts. One big fish CAME UP AT 80cm, verified though echoscape.

T3 (K2412323) Clean, bottom noise on slopes

T2 (K2412344) Clean no noise

T1 (K2420006) Clean few fish

11 MILE August 01,2011 CDOW-2010-M243-1xd-15degP1_KBR

T1 (K2132318) Clean, shallow, few fish.

T2 (K2132254) Had to clean two bottom spikes, bottom noise showed on echoscape. cleaned FSHreader.

T3(K2132235) Cleaned a fish outa file, bottom looks good. There is a noise bloom on bottom around ping 900. Quite a few stacked fish, they are good in echoscape.

T4(K2132212) Had to groom out the first depth, lost bottom. Some bottom noise on depth xsitions. Cleaned a 19.0dB on fish file, clean.

T5(K2132156) Some noise towers, there are fish in there, lotsa fish on the other side of a drop off. Looked into a 31dB tgt, it's valid- left in.

Blue Mesa

Ran two sessions on Blue Mesa this year to explore moving standard transect to later in the year (fewer adults present in main basin)
Only ran transects in Sapinero and Cebolla again this year

Blue Mesa July – July 31, 2011 – new moon – CDOW-2010-M243-1xd15degP1_KBR.CFG

T1 (K2122145) – Clean 0 at start and 510 around 4250, review in Echoscape suggests 21 otoliths and a couple of missed tracked fish due to tracking window limitations; no legit fish below 45 m – use filter in HAcK; also deleted half dozen bogus targets in 30-50m depths

T2 (K2122208) – Clean in Echoscape

T3 (K2122234) – Clean in Echoscape – couple of noise towers at end

T4 (K2122255) – Echoscape review – lost bottom; noise tower at start; lost bottom 5x in Echoscape; only 1 in HAcK – fixed; deleted targets below 70m after Ping 500 (about a dozen)

T5 (K2122318) – Cleaned 4 lost bottoms in HAcK – many more in Echoscape; filter targets below 50m after inspect in Echoscape

T6 (K2122314) – Filter below 50m from Echoscape, otherwise clean

T7 (K2130032) – Cleaned 0 at start; look like legit perch type towers at around Ping 3500

T8 (K2130051) – Cleaned 510 around Ping 1439

T9 (K2130111) – What happened here? In Echoscape, file ends at 11600 but no echoes from 5730 to 11400 – maybe stopped acquiring but didn't close file? Only 5804 pings in August survey and about 5900 here – so maybe OK; extra start/stop in both BOT and FSH that I deleted

T10 (K2130133) – Clean in Echoscape, but lots of noise/perch towers – look more like noise – may want to delete

T11 (K2130153) – Double and lost bottom at start in Echoscape – fixed and deleted fish targets associated with double bottom; noise towers around 2250

T1 (K2122145) KBR helped clean the start and showed me how to crop out the lost bottoms, didn't use filters for depth. Saved with 5cm cutoff, saved as BMRT1m

T2 (K2122318) Clean in echoscape.

T3 (K2122234) Clean in echoscape.

T4 (K2122255) Lost bottoms cleaned, saw the noise towers, used Botmod files for bot and fish.

T5 (K2122318) Used Botmod files, filter below 50m, just noise. Culled fish # 32 and 138 TS >19.

T6 (K2122314) Clean

T7 (K213032) clean in echoscape, saw the towers of noise, think density of fish causes this, filter >50m lose a few fish 7 or 8 in the noise.

T8 (K2130051) cleaned 510, little noise on rises

T9 (K2130111) saw the end of file, weird, going with KBR mod files, some noise at bottom – couple fish in there.

T10 (K2130133) clean in echoscape, has the noise towers on bottom,

T11 (K2130153) saw the lost bottom, noise towers here again – there are fish in the top of the towers.?

Blue Mesa August – August 28, 2011 – new moon – CDOW-2010-M243-1xd15degP1_KBR.CFG

T1 (K2402220) – This had 8+ lost bottoms in Echoscape? – looks clean now in HAcK – same as last year; had to delete Fish#12, 118, 146, 148, 151, 152, 153, 154 = large targets at depth; probably should have checked Fish#12 before cutting him – ckd in Echoscape – bogus (good cull)

T2 (K2402241) – Ckd in Echoscape – delete Fish 84, 142, 143, 149; lost bottom 2x in Echoscape but BOT file OK
T3 (K2402306) – Ckd in Echoscape – large fish deep could be legit – left as is; lost bottom in Echoscape but not in BOT file
T4 (K2402326) – Cleaned 510 at 4910
T5 (K2402350) – 7 lost bottoms in Echoscape but only 2 in HAcK; Delete Fish 96, 114; small targets at depth could be legit (from Echoscape review)
T6 (K2410012) – Cleaned 510 toward end – otherwise looks clean
T7 (K2410103) – Cluster near bottom – perch cluster? At ping 3750; Clean 0 at start
T8 (K2410123) – Cleaned 510 and 0 at start
T9 (K2410143) – Cleaned 510; could there be perch towers at end? Otherwise clean in Echoscape
T10 (K2410204) – Clean 0 at start; perch towers/noise (trees?)
T11 (K2410224) - Delete all fish prior to Ping 965 as this was double bottom – also had to halve all depths up to 965 in BOT file, otherwise file OK (had same problem last year)

BMR August 28,2011 NEW MOON CDOW-2010-M243-1xd15degP1_KBR

T1 (K2402220) Looked at bot file, was saved over raw file, I added .mod to file ext. Checked the fish cull data and culled fish #49 @ 65m, and #156 boggus fish. Noise on bottom xsitions, some fish in with the noise – seems like the fish are on the top of the noise.
T2 (K2402241) OK'd deleting 49,142,143,149.... Also deleted fish # 171 and 212/ 213 – sitting on bottom saw noise no good track.
T3 (K2402306) Bottom clean in FSH, echoscape lost bottom couple times. Cleaned fish #155 and 187 bottom noise, bottom noise suspended off bottom. Cleaned fish #89, 21 ,219 and 221 for TS > -29, verified with echoscape. Left the last six or so fish mixed in with the noise towers.
T4 (K2402326) Cleaned bottom, some noise flats with fish on upper meter, other bottom noise on depth xsitions. NO high TS.
T5 (K2402350) Used BOTmod file, I looked at fish 96 and 114 >TS culled. echoscape showed small fish in the top meter of a noise bloom – good.
T6 (K2410012) Fish 15 -28dB, checks with echoscape GOOD FISH. Some fish in with the bottom noise, clean.
T7 (K2410103) Cleaned bottom at start, noise bloom with depth xsition! Noise towers with fish throughout (ping3750) depth range 53m – 62m, at least a dozen fish in there.
T8 (K2410123) Cleaned 510 at start. FSH file clean.
T9 (K2410143) Clean in echoscape, fish towers at end of run, TS's in the 40's, echoscape separated fish, I would call one fish based on TMA and depth and echoscape called 3 fish?
T10 (K2410204) Bottom noise towers with fish in them, trees would be a good guess, looks like Xmas. Again – echoscape called multiple fish and I'd call one fish! Culled fish #160 -30dB, too close too bottom and on edge of beam with 4 pings.
T11 (K2410224) used KBR bot file, bummer too – there were fish in there.

Dillon Aug 24,2011 CDOW-2010-M243-1xd-15degP1_KBR

Cal File K2362016 Cal file echoscape cal @ -40.05dB, didn't get all quadrants in full, will hafta get a better cal later. Run xsects in reverse.
T7 (K2362124) Cleaned 1st bottom. One fish came in at -36dB, left them, looked good.
T6 (K2362143) Some bottom noise on xsition, clean.
T5 (K2362206) Lost bottom at beginning, averaged bottom. Two fish were deleted in the lost bottom a -17 and a -21dB. Both files mod.

T4 (K2362254) Cleaned up the bottom file, averaged the bottom, there were two fish detected above this point. Took two -16dB tgts out of fsh. Cleaned.
T3 (K2362254) cleaned two FSH out, and Bottom losses. Clean
T2 (K2362321) Clean, some noise on bottom xsitions.
T1 (K2362346) Cleaned 1st bottom. Few fish.

Green Mnt 25Aug2011 CDOW-2010-M243-1xd-15degP1_KBR

T1 (K2372036) cleaned 2 510, fsh file looked clean
T2 (K2372059) Clean in echoscape, noise at bottom transitions with depth
T3 (K2372127) cleaned a 510, echoscape looked good.
T4 (K2372152) cleaned the beginning depth, echoscape looks good.
T5 (K2372216) Clean in echoscape.

Vallecito 2011 CDOW-2010-M243-1xd-15degP1_KBR

Transects were run in reverse.
T1 (K2102246) Clean in echoscape
T2 (K2102227) Clean in echoscape, cleaned 1st depth in reader.
T3 (K2102208) Clean in echoscape
T4 (K2102144) had a bottom drop out in echoscape but not in FSHreader, clean, lots of fish.

McPhee 2011 CDOW-2010-M243-1xd-15degP1_KBR

T1 (K2112213) clean, couple fish deep, verified through echoscape, definite LD @13m
T2 (K2112241) cleaned 1st bottom, clean on echoscape
T3 (K2112300) cleaned 1st bottom, noise along bottom at rises and falls. Echoscape showed a lost bottom, however FSHreader showed clean bottom. One fish tower at ping 1818, echoscape showed multiple fish on top of each other – left them in.
T4 (2112326) Clean
T5 (K2112348) Clean
T6 (K2120017) Clean

Horsetooth CDOW-2010-M243-1xd-15degP1_KBR

Ran two xsects down the middle from the swim beach, last two files auto saved 7.4Km. Used ACCESS file to determine start/ stop, convert Lat/Long into UTM with www. T1 (K2702017) Averaged bottom at start. Cleaned a -20dB fish ping 137.
T2 (K2702034) Clean in echoscape, over 9400 fish, taking some time in compute.
T3 (K2702134) this is the file that auto saved after 60mins, used UTM from conversion Lat/Long. Echoscape looks good, 4648 fish over this xsect..

Carter CDOW-2010-M243-1xd-15degP1_KBR

UTM transects are not correct in GPS file. Used the UTM's from the boat. Need to look into this!

T1 (K2712016) Lost bottom – halved the bottom and saved. Two fish detected in the bottom loss mess KEPT #10 and 56, culled out to ping 1170.

T2 (K2712039) Lost bottom – halved the bottom and saved. Kept four fish out to ping 1200 something, #43, 45, 66 and 80. Noise mid depth at end of run, can't see any fish in echoscape.

Wolford Aug 30,2011 Cal file CDOW-2010-M243-1xd-15degP1_KBR

Ran xsects out of order– going to limit the transects to WDT0 to WDT1 which is the run down to the damn pump house.

T1 (K2422157) Clean in Echoscape ran with the new Strata2.1 and Interpret Fish 8.95 – looks good. Ran summary OK

CHEESMAN CDOW-2010-M243-1xd-15degP1_KBR

Ran out of order, analyzed 0 to 6. Could not find the original data sheet, took UTM off of access and converted with program Pat sent me in Xcel.

T1 (K1820106) Cleaned bot file false bottoms, fsh file looks good, one fish around 44cm, verified. Some bottom noise with fish mixed in, left in.

T2 (K1820052) Cleaned a 510 out, fsh file OK

T3 (K1820041) Cleaned the start, Looks good in Echoscape. Few fish.

T4 (K1820026) looks good in Echoscape some noise on bottom.

T5 (K1820010) Cleaned 510, echoscape has some noise on transitions, and two more lost bottoms, FSH reader didn't read.

T6 (K1812359) Clean run shows layer of fish 15-25m.

CDOW-2010-M243-1xd-15degP1_KBR 02Aug 2011

Ran out ORDER analyzed 0-6.?

(T1) K2142325 Cleaned 510 at start. Deleted fish 1 and 2 > TS. Echoscape checked well.

(T2) K 2142312 FSH/Bot files look good, some noise at bottom transitions.

(T3) K2142302 echoscape checks, file was stopped and had to delete lines in .FSH and .BOT files.

(T4) K214245 Echoscape checks, air bubbles coming off the bottom. Smaller fish <5cm btwn 10-15m.

(T5) K2142233 Deleted fish #17 >15dB, Fish #75 -28.77, checked in echoscape good trace, left in. Noise at bottom transitions.

(T6) K2142223 looks good, smaller fish.

Taylor

not surveyed in 2011

Ruedi

not surveyed in 2011

Keep in mind that I am using start and stop UTM's to determine transect length. Jill and Harry used 5 second GPS locations - their transects will therefore appear longer (in some instances much longer). New version of HAcK will allow distance calculation following this approach – the problem will be trying to standardize with transects where communication with the GPS was not working – a problem that is more common than you would think.

Would still like to see us get better bottom profiles for the "dead pool" in BMR – perhaps should spend the time to map it with the sounder in 2012!

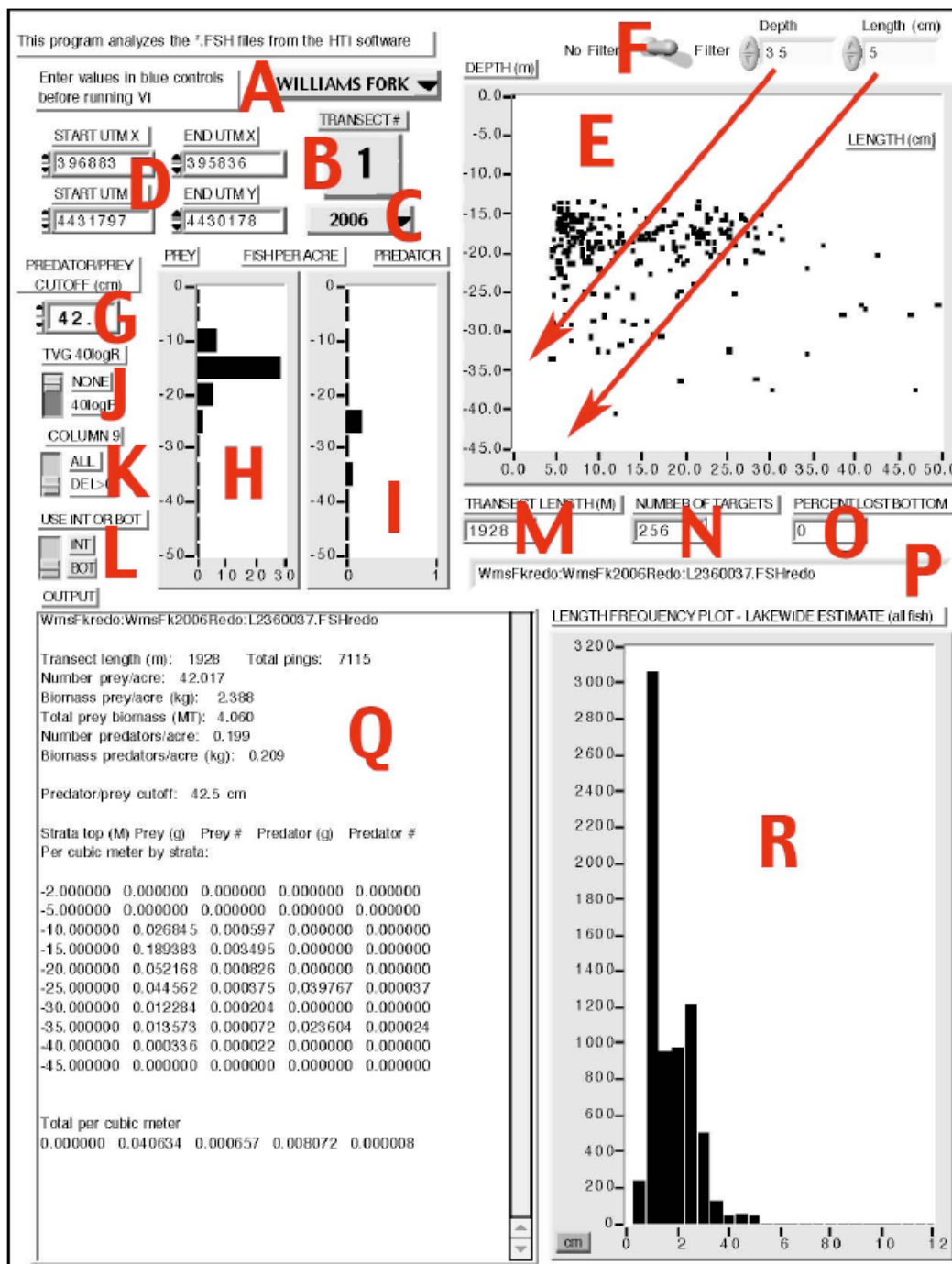


INTERPRET FSH 8.9 BW

Macintosh HD:Users:Kevin:Documents:SONAR:ANALYSIS Vis:INTERPRET FSH 8.9 BW

Last modified on 11/10/07 at 11:43 AM

Printed on 11/11/07 at 4:17 PM



Key for HAcK output from down-looking module:

- A. Select the body of water to be analyzed
- B. Select the transect number
- C. Select the year the transect was run (this will include unique calibration parameters for the sonar beam for that year, as well as year specific strata volumes)
- D. Enter start and stop coordinates of the transect to be analyzed
- E. This plot represents tracked targets captured in the sonar beam (using Love's 1971 equation to convert dB to cm)
- F. This is an additional filter that can be used to crop out small targets at depth created by noise in the system. Depth and Length to crop are specified by the user
- G. Enter the length you want to use to separate predators and prey based on size
- H. Total estimated number of prey items by depth strata (m) divided by surface acres
- I. Total estimated number of predators by depth strata (m) divided by surface acres
- J. Select 40logR if the data needs 40logR and gain reduction correction (1998 and 1999 data only)
- K. Select DEL>0 to eliminate targets that allegedly moved faster than the boat (these presumably represent situations where the sonar tracking system jumped from one target ahead to another, counting a fish where there was none)
- L. Select source of sampled strata volume information (INT or BOT files)
- M. Length of the transect in meters
- N. Number of targets the sounder tracked as fish
- O. Proportion of transect that yielded no information because the processor lost contact with the bottom (rarely a problem)
- P. FSH file path and transect file name
- Q. Output file
 - 1) Filename of processor output (input data file)
 - 2) Surface area statistics – based on fish detected divided by the percent of each strata sampled, summed over all strata, divided by surface acres
 - 3) Biomass and number data – fish detected divided by the volume surveyed (m^3) by 5 m strata (the top of each strata is listed in the left column). These are the best numbers to use because they make no assumption about the volume in each strata of the lake – these are actual densities detected by the transducer
 - 4) Total fish detected divided by total volume surveyed (m^3)
- R. Length-frequency histogram – numbers of fish in each 5 cm size class are estimated for the entire lake basin (based on strata volumes)

INPUT FILES:

WD60GIG:Users:Michael:Documents:Sonar:Blue2011:Blue2011July:2011BMRT1m.out
 WD60GIG:Users:Michael:Documents:Sonar:Blue2011:Blue2011July:2011BMRT2m.out
 WD60GIG:Users:Michael:Documents:Sonar:Blue2011:Blue2011July:2011BMRT4m.out
 WD60GIG:Users:Michael:Documents:Sonar:Blue2011:Blue2011July:2011BMRT5m.out
 WD60GIG:Users:Michael:Documents:Sonar:Blue2011:Blue2011July:2011BMRT3m.out
 WD60GIG:Users:Michael:Documents:Sonar:Blue2011:Blue2011July:2011BMRT6m.out
 WD60GIG:Users:Michael:Documents:Sonar:Blue2011:Blue2011July:2011BMRT7m.out
 WD60GIG:Users:Michael:Documents:Sonar:Blue2011:Blue2011July:2011BMRT8m.out
 WD60GIG:Users:Michael:Documents:Sonar:Blue2011:Blue2011July:2011BMRT9m.out
 WD60GIG:Users:Michael:Documents:Sonar:Blue2011:Blue2011July:2011BMRT10m.out
 WD60GIG:Users:Michael:Documents:Sonar:Blue2011:Blue2011July:2011BMRT11m.out

Total length of transects (m): 18043

Number prey/acre: 2.347 95%CI (1.707, 2.987)

Biomass prey/acre (kg): 0.002 95%CI (0.001, 0.002)

Total prey biomass (MT): 0.015 95%CI (0.011, 0.018)

Number predators/acre: 31.554 95%CI (25.121, 37.987)

Biomass predators/acre (kg): 1.684 95%CI (0.901, 2.467)

Strata (top)	LCL	g PREY	UCL	LCL	# PREY	UCL	LCL	g PRED	UCL	LCL	# PRED	UCL	n
Per cubic meter by strata													
-2	0	0	0	0	0	0	0	0	0	0	0	0	11
-5	-0.000005	0.000011	0.000027	-0.000002	0.000016	0.000035	-0.006951	0.008346	0.023643	0.000035	0.000085	0.000135	11
-10	-0.000003	0.000007	0.000017	-0.000003	0.000007	0.000017	0.001535	0.00604	0.010545	0.000117	0.000178	0.000239	11
-15	0.000005	0.000017	0.000029	0.000008	0.000022	0.000036	0.004151	0.01917	0.034189	0.000241	0.000346	0.000452	11
-20	0.000017	0.00003	0.000043	0.000023	0.00004	0.000057	0.009139	0.021404	0.033669	0.000468	0.000612	0.000755	11
-25	0.000015	0.000033	0.000051	0.000031	0.000048	0.000066	0.0102	0.021412	0.032624	0.000504	0.000606	0.000707	11
-30	0.00001	0.000025	0.000039	0.000018	0.000032	0.000045	0.007574	0.01429	0.021006	0.000246	0.000396	0.000547	11
-35	0.000007	0.00002	0.000033	0.000007	0.000027	0.000048	0.005323	0.014597	0.023871	0.000131	0.00025	0.000369	11
-40	0.000004	0.000014	0.000025	0.000004	0.000016	0.000029	0.006161	0.039524	0.072888	0.000056	0.000204	0.000352	11
-45	-0.000004	0.000008	0.00002	-0.000007	0.000012	0.000032	-0.003489	0.012441	0.028371	-0.000009	0.000201	0.00041	11
-50	-0.000007	0.000005	0.000017	-0.000007	0.000005	0.000017	-0.008233	0.018684	0.0456	0.000008	0.000226	0.000445	11
-55	-0.000003	0.000003	0.000009	-0.000007	0.000006	0.000018	-0.014654	0.02585	0.066354	0.000002	0.000184	0.000365	11
-60	-0.000001	0.000001	0.000003	-0.000002	0.000002	0.000006	-0.031946	0.029583	0.091113	-0.000038	0.000113	0.000265	10
-65	0	0	0	0	0	0	-0.002148	0.003363	0.008874	0.000003	0.000016	0.000028	8
-70	0	0	0	-0.000003	0.000002	0.000007	-0.006313	0.004469	0.015251	-0.000003	0.000008	0.000019	6
-75	-0.000004	0.000004	0.000012	-0.000004	0.000004	0.000012	-0.003898	0.002482	0.008861	-0.000039	0.000027	0.000092	6
-80	0	0	0	0	0	0	-0.000242	0.000154	0.00055	-0.000003	0.000002	0.000008	6
-85	0	0	0	0	0	0	0	0	0	0	0	0	5
-90	0	0	0	0	0	0	0	0	0	0	0	0	4
-95	0	0	0	0	0	0	0	0	0	0	0	0	2
Total per cubic meter													
	0.000009	0.000013	0.000017	0.000011	0.000018	0.000024	0.006234	0.016936	0.027638	0.000144	0.000255	0.000365	



INTERPRET FSH 8.94b BW.vi

WD60GIG:Users:Michael:Documents:Sonar:ANALYSIS VIs:INTERPRET FSH 8.94b BW.vi

Last modified on 11/15/11 at 2:57 PM

Printed on 11/16/11 at 8:53 AM

This program analyzes the *.FSH files from the HTI

Enter values in blue
controls before running VI

BLUE MESA

START UTM X

END UTM X

TRANSECT #

298696

297347

1

START UTM Y

END UTM Y

2011

4258605

4259578

PREDATOR/PREY
CUTOFF (cm)

5.0

TVG 40logR

NONE

40logR

COLUMN 9

ALL

DEL>0

USE INT OR BOT

INT

BOT

PREY

FISH PER ACRE

PREDATOR

0

-10

-20

-30

-40

-50

-60

-70

-80

0

1

0

2

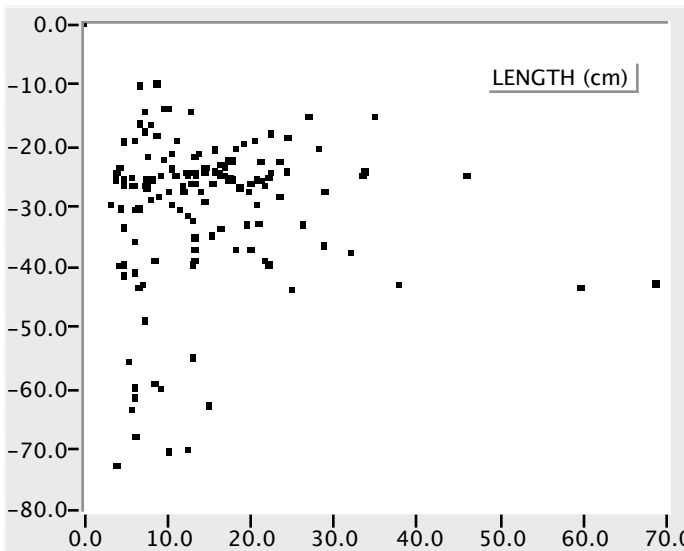
4

6

8

No Filter Filter Depth 35 Length (cm) 10

DEPTH (m)



TRANSECT LENGTH (M)

NUMBER OF TARGETS

PERCENT LOST BOTTOM

1663

139

0

Blue2011:Blue2011July:K2122145.FSHModm

OUTPUT

Blue2011:Blue2011July:K2122145.FSHModm

Transect length (m): 1663 Total pings: 5995

Number prey/acre: 2.035

Biomass prey/acre (kg): 0.002

Total prey biomass (MT): 0.014

Number predators/acre: 24.801

Biomass predators/acre (kg): 1.367

Predator/prey cutoff: 5.0 cm

Strata top (M) Prey (g) Prey # Predator (g) Predator #
Per cubic meter by strata:

```

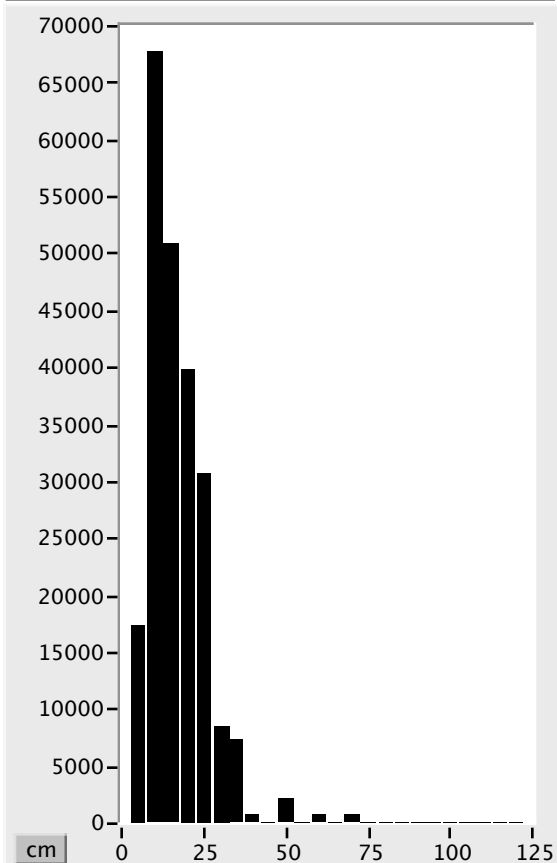
-2.000000 0.000000 0.000000 0.000000 0.000000
-5.000000 0.000000 0.000000 0.000000 0.000000
-10.000000 0.000000 0.000000 0.000583 0.000219
-15.000000 0.000026 0.000026 0.016288 0.000314
-20.000000 0.000041 0.000041 0.035836 0.000630
-25.000000 0.000033 0.000066 0.016212 0.000581
-30.000000 0.000028 0.000028 0.003203 0.000155
-35.000000 0.000025 0.000025 0.007049 0.000153
-40.000000 0.000013 0.000013 0.082753 0.000089
-45.000000 0.000000 0.000000 0.000012 0.000012
-50.000000 0.000000 0.000000 0.000000 0.000000
-55.000000 0.000000 0.000000 0.000089 0.000044
-60.000000 0.000000 0.000000 0.000168 0.000048
-65.000000 0.000000 0.000000 0.000000 0.000012
-70.000000 0.000000 0.000012 0.000111 0.000025
-75.000000 0.000000 0.000000 0.000000 0.000000
-80.000000 0.000000 0.000000 0.000000 0.000000
-85.000000 0.000000 0.000000 0.000000 0.000000
-90.000000 0.000000 0.000000 0.000000 0.000000
-95.000000 0.000000 0.000000 0.000000 0.000000

```

Total per cubic meter

0.000000 0.000008 0.000010 0.008567 0.000101

LENGTH FREQUENCY PLOT - LAKEWIDE ESTIMATE (all fish)





INTERPRET FSH 8.94b BW.vi

WD60GIG:Users:Michael:Documents:Sonar:ANALYSIS VIs:INTERPRET FSH 8.94b BW.vi

Last modified on 11/15/11 at 2:57 PM

Printed on 11/16/11 at 10:30 AM

This program analyzes the *.FSH files from the HTI

Enter values in blue
controls before running VI

BLUE MESA

START UTM X

297356

END UTM X

298977

TRANSECT #

2

START UTM Y

4259609

END UTM Y

4260696

2011

PREDATOR/PREY
CUTOFF (cm)

5.0

TVG 40logR

NONE

40logR

COLUMN 9

ALL

DEL>0

USE INT OR BOT

INT

BOT

PREY

FISH PER ACRE

PREDATOR

0

-10

-20

-30

-40

-50

-60

-70

-80

0

1

0

-10

-20

-30

-40

-50

-60

-70

-80

0

2

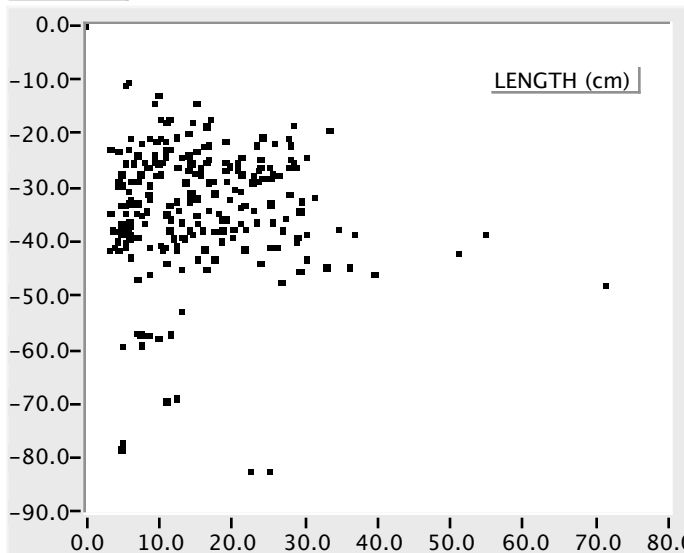
4

6

8

No Filter ☐ Filter ☒ Depth 35 Length (cm) 10

DEPTH (m)



TRANSECT LENGTH (M)

1952

NUMBER OF TARGETS

238

PERCENT LOST BOTTOM

0

Blue2011:Blue2011July:K2122208.FSH

OUTPUT

Blue2011:Blue2011July:K2122208.FSH

Transect length (m): 1952 Total pings: 7044

Number prey/acre: 1.964

Biomass prey/acre (kg): 0.001

Total prey biomass (MT): 0.011

Number predators/acre: 27.341

Biomass predators/acre (kg): 1.346

Predator/prey cutoff: 5.0 cm

Strata top (M) Prey (g) Prey # Predator (g) Predator #
Per cubic meter by strata:

```

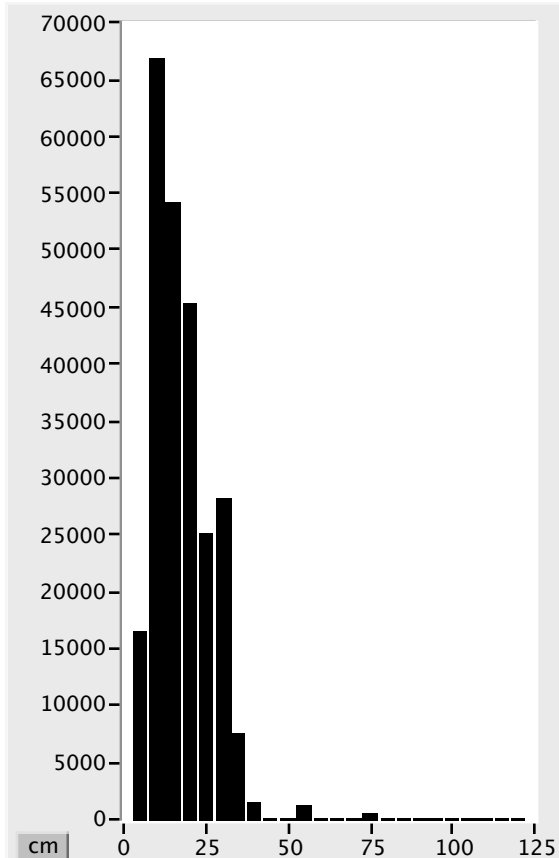
-2.000000 0.000000 0.000000 0.000000 0.000000
-5.000000 0.000000 0.000000 0.000000 0.000000
-10.000000 0.000000 0.000000 0.000559 0.000155
-15.000000 0.000000 0.000000 0.010313 0.000200
-20.000000 0.000017 0.000035 0.015092 0.000485
-25.000000 0.000057 0.000057 0.026492 0.000722
-30.000000 0.000012 0.000012 0.017753 0.000420
-35.000000 0.000044 0.000087 0.037847 0.000513
-40.000000 0.000029 0.000049 0.024945 0.000214
-45.000000 0.000000 0.000000 0.045736 0.000071
-50.000000 0.000000 0.000000 0.000059 0.000008
-55.000000 0.000000 0.000000 0.000095 0.000055
-60.000000 0.000000 0.000000 0.000000 0.000000
-65.000000 0.000000 0.000000 0.000070 0.000014
-70.000000 0.000000 0.000000 0.000000 0.000000
-75.000000 0.000006 0.000006 0.000000 0.000006
-80.000000 0.000000 0.000000 0.000024 0.000013
-85.000000 0.000000 0.000000 0.000000 0.000000
-90.000000 0.000000 0.000000 0.000000 0.000000
-95.000000 0.000000 0.000000 0.000000 0.000000

```

Total per cubic meter

0.000000 0.000008 0.000012 0.009255 0.000125

LENGTH FREQUENCY PLOT - LAKEWIDE ESTIMATE (all fish)





INTERPRET FSH 8.95 BW.vi

WD60GIG:Users:Michael:Documents:Sonar:ANALYSIS VIs:INTERPRET FSH 8.95 BW.vi

Last modified on 12/30/11 at 9:46 AM

Printed on 1/3/12 at 2:18 PM

This program analyzes the *.FSH files from the HTI

Enter values in blue
controls before running VI

BLUE MESA

TRANSECT #

3

START UTM X

END UTM X

299005

299309

START UTM Y

END UTM Y

4260705

4262250

2011

PREDATOR/PREY
CUTOFF (cm)

5.0

TVG 40logR

NONE

40logR

COLUMN 9

ALL

DEL>0

USE INT OR BOT

INT

BOT

PREY

FISH PER ACRE

PREDATOR

0

-10

-20

-30

-40

-50

-60

-70

-80

0

1

0

-10

-20

-30

-40

-50

-60

-70

-80

0

2

4

6

DEPTH (m)

No Filter

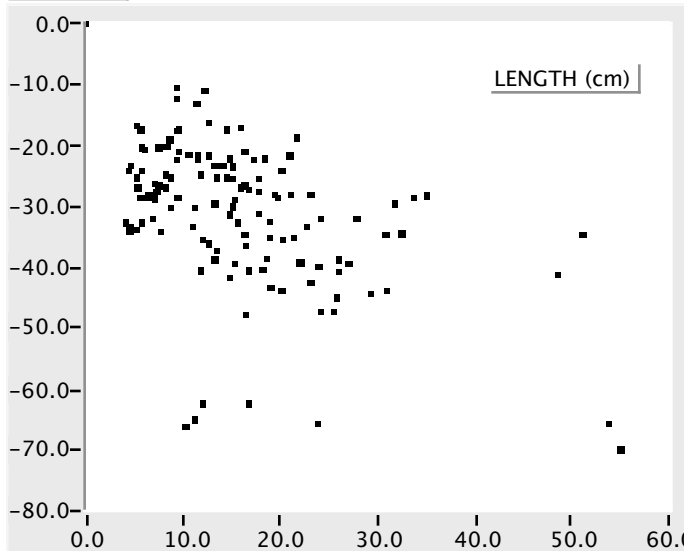
Filter

Depth

Length (cm)

35

10



TRANSECT LENGTH (M)

NUMBER OF TARGETS

PERCENT LOST BOTTOM

1575

128

0

Blue2011:Blue2011July:K2122234.FSH

OUTPUT

Blue2011:Blue2011July:K2122234.FSH

Transect length (m): 1575 Total pings: 5806

Number prey/acre: 0.893

Biomass prey/acre (kg): 0.001

Total prey biomass (MT): 0.008

Number predators/acre: 22.373

Biomass predators/acre (kg): 0.786

Predator/prey cutoff: 5.0 cm

Strata top (M) Prey (g) Prey # Predator (g) Predator #
Per cubic meter by strata:

```

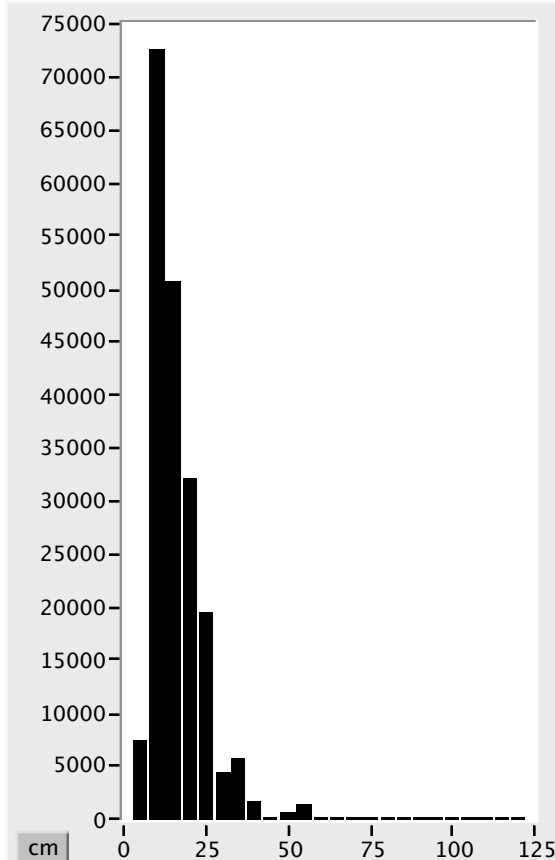
-2.000000 0.000000 0.000000 0.000000 0.000000
-5.000000 0.000000 0.000000 0.000000 0.000000
-10.000000 0.000000 0.000000 0.000539 0.000154
-15.000000 0.000000 0.000000 0.002429 0.000248
-20.000000 0.000043 0.000043 0.005641 0.000493
-25.000000 0.000000 0.000000 0.019591 0.000561
-30.000000 0.000045 0.000045 0.030277 0.000282
-35.000000 0.000000 0.000000 0.006979 0.000180
-40.000000 0.000000 0.000000 0.018991 0.000125
-45.000000 0.000000 0.000000 0.002794 0.000041
-50.000000 0.000000 0.000000 0.000000 0.000000
-55.000000 0.000000 0.000000 0.000000 0.000000
-60.000000 0.000000 0.000000 0.000249 0.000021
-65.000000 0.000000 0.000000 0.018077 0.000046
-70.000000 0.000000 0.000000 0.025416 0.000016
-75.000000 0.000000 0.000000 0.000000 0.000000
-80.000000 0.000000 0.000000 0.000000 0.000000
-85.000000 0.000000 0.000000 0.000000 0.000000

```

Total per cubic meter

0.000000 0.000005 0.000005 0.008756 0.000116

LENGTH FREQUENCY PLOT - LAKEWIDE ESTIMATE (all fish)



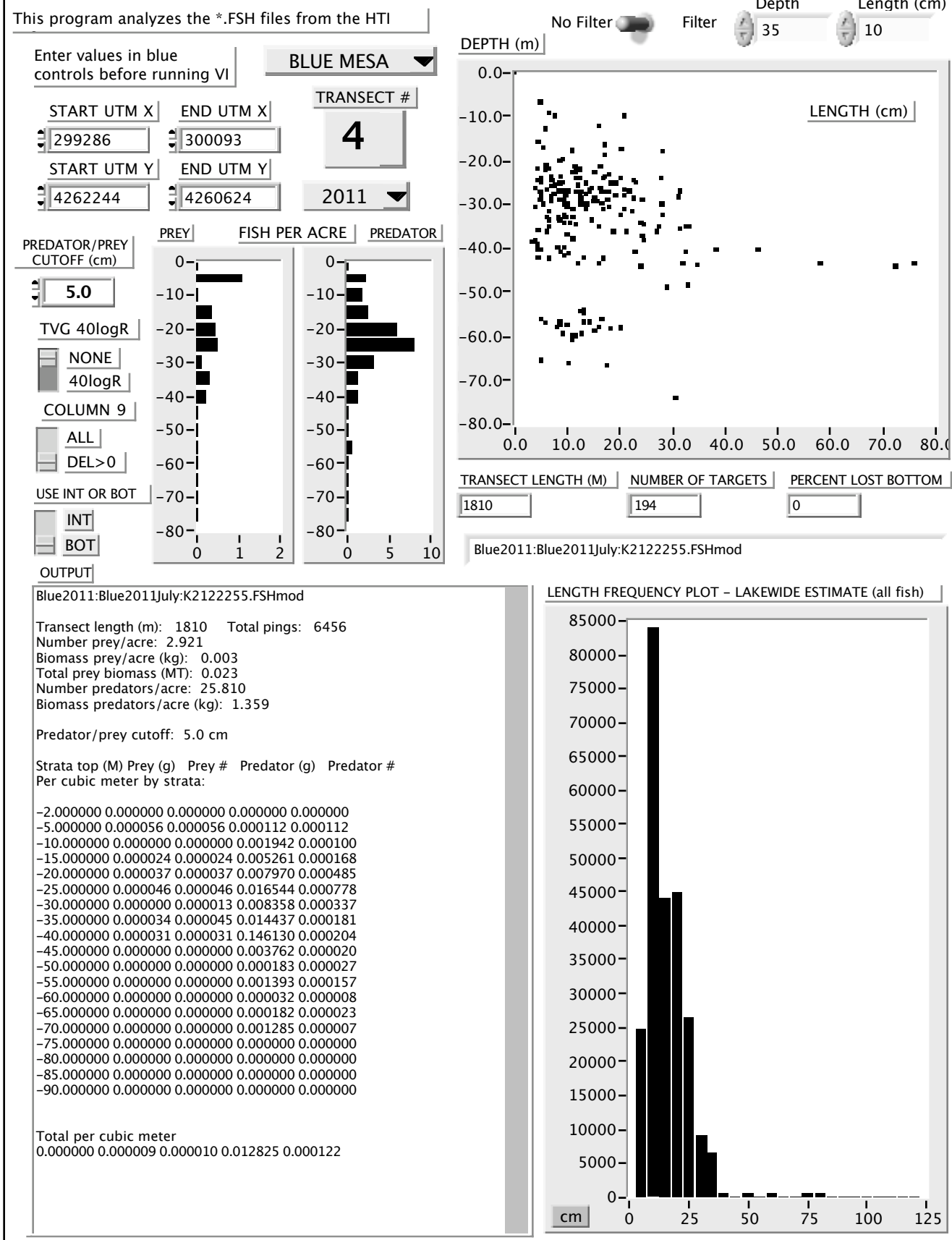


INTERPRET FSH 8.94b BW.vi

WD60GIG:Users:Michael:Documents:Sonar:ANALYSIS VIs:INTERPRET FSH 8.94b BW.vi

Last modified on 11/15/11 at 2:57 PM

Printed on 11/22/11 at 10:56 AM





INTERPRET FSH 8.95 BW.vi

WD60GIG:Users:Michael:Documents:Sonar:ANALYSIS VIs:INTERPRET FSH 8.95 BW.vi

Last modified on 12/30/11 at 9:46 AM

Printed on 1/19/12 at 2:09 PM

This program analyzes the *.FSH files from the HTI

Enter values in blue
controls before running VI

BLUE MESA

START UTM X

300115

END UTM X

301535

TRANSECT #

5

START UTM Y

4260610

END UTM Y

4261500

2011

PREDATOR/PREY
CUTOFF (cm)

5.0

TVG 40logR

NONE
40logR

COLUMN 9

ALL
DEL>0

USE INT OR BOT

INT
BOT

PREY

FISH PER ACRE

PREDATOR

0

-10

-20

-30

-40

-50

-60

-70

-80

0

1

2

0

-10

-20

-30

-40

-50

-60

-70

-80

0

2

4

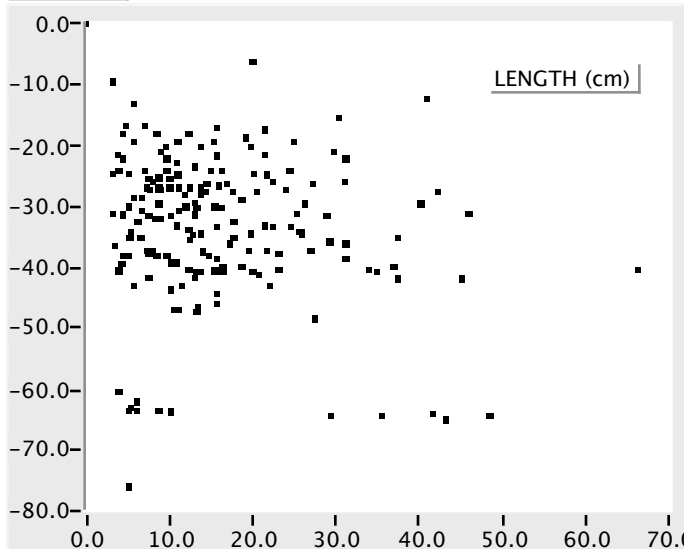
6

8

No Filter Filter Depth Length (cm)

35 10

DEPTH (m)



TRANSECT LENGTH (M)

1676

NUMBER OF TARGETS

179

PERCENT LOST BOTTOM

0

Blue2011:Blue2011July:K2122318.FSH.MOD

OUTPUT

Blue2011:Blue2011July:K2122318.FSH.MOD

Transect length (m): 1676 Total pings: 5848

Number prey/acre: 3.953

Biomass prey/acre (kg): 0.002

Total prey biomass (MT): 0.017

Number predators/acre: 25.654

Biomass predators/acre (kg): 3.146

Predator/prey cutoff: 5.0 cm

Strata top (M) Prey (g) Prey # Predator (g) Predator #
Per cubic meter by strata:

```

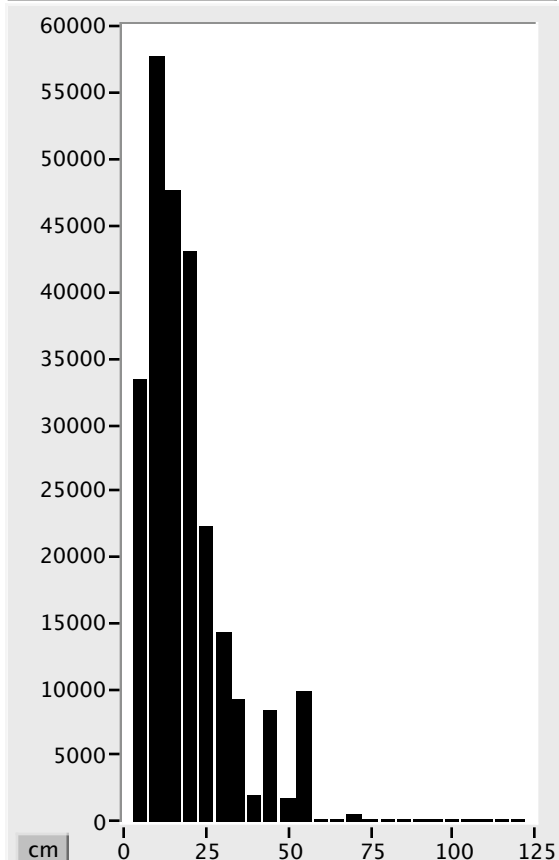
-2.000000 0.000000 0.000000 0.000000 0.000000
-5.000000 0.000000 0.000060 0.076360 0.000121
-10.000000 0.000000 0.000000 0.019672 0.000072
-15.000000 0.000052 0.000052 0.009832 0.000285
-20.000000 0.000060 0.000101 0.013788 0.000383
-25.000000 0.000000 0.000000 0.031531 0.000609
-30.000000 0.000029 0.000043 0.023034 0.000389
-35.000000 0.000038 0.000050 0.016879 0.000315
-40.000000 0.000011 0.000011 0.065192 0.000251
-45.000000 0.000000 0.000000 0.001639 0.000062
-50.000000 0.000000 0.000000 0.000000 0.000000
-55.000000 0.000000 0.000000 0.000000 0.000000
-60.000000 0.000009 0.000018 0.018795 0.000082
-65.000000 0.000000 0.000000 0.008230 0.000012
-70.000000 0.000000 0.000000 0.000000 0.000000
-75.000000 0.000019 0.000019 0.000000 0.000000
-80.000000 0.000000 0.000000 0.000000 0.000000
-85.000000 0.000000 0.000000 0.000000 0.000000
-90.000000 0.000000 0.000000 0.000000 0.000000

```

Total per cubic meter

0.000000 0.000012 0.000017 0.014400 0.000142

LENGTH FREQUENCY PLOT - LAKEWIDE ESTIMATE (all fish)





INTERPRET FSH 8.95 BW.vi

WD60GIG:Users:Michael:Documents:Sonar:ANALYSIS VIs:INTERPRET FSH 8.95 BW.vi

Last modified on 12/30/11 at 9:46 AM

Printed on 1/20/12 at 7:47 AM

This program analyzes the *.FSH files from the HTI

Enter values in blue
controls before running VI

BLUE MESA

TRANSECT #

6

START UTM X

END UTM X

301553

302449

START UTM Y

END UTM Y

4261515

4260303

2011

PREDATOR/PREY
CUTOFF (cm)

5.0

TVG 40logR

NONE

40logR

COLUMN 9

ALL

DEL>0

USE INT OR BOT

INT

BOT

PREY

FISH PER ACRE

PREDATOR

0

-10

-20

-30

-40

-50

-60

-70

-80

0

1

0

-10

-20

-30

-40

-50

-60

-70

-80

0

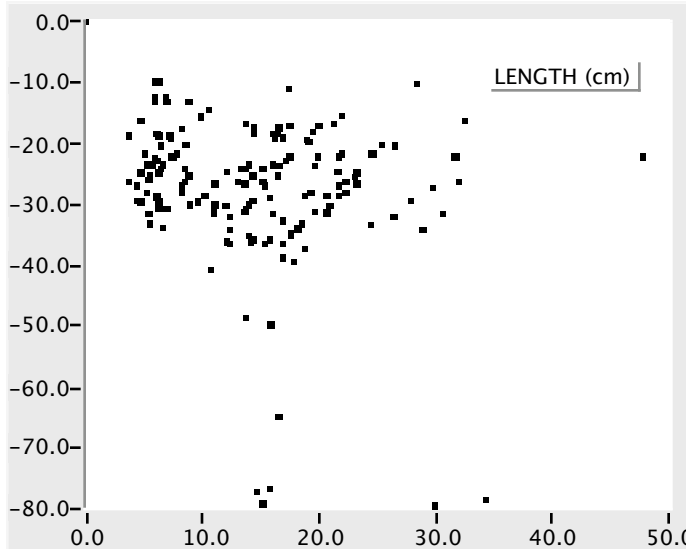
5

10

15

No Filter ☒ Filter ☐ Depth 35 Length (cm) 10

DEPTH (m)



TRANSECT LENGTH (M)

NUMBER OF TARGETS

PERCENT LOST BOTTOM

1507

159

0

Blue2011:Blue2011July:K2122341.FSH

OUTPUT

Blue2011:Blue2011July:K2122341.FSH

Transect length (m): 1507 Total pings: 5660

Number prey/acre: 1.842

Biomass prey/acre (kg): 0.001

Total prey biomass (MT): 0.010

Number predators/acre: 38.062

Biomass predators/acre (kg): 1.288

Predator/prey cutoff: 5.0 cm

Strata top (M) Prey (g) Prey # Predator (g) Predator #
Per cubic meter by strata:

```

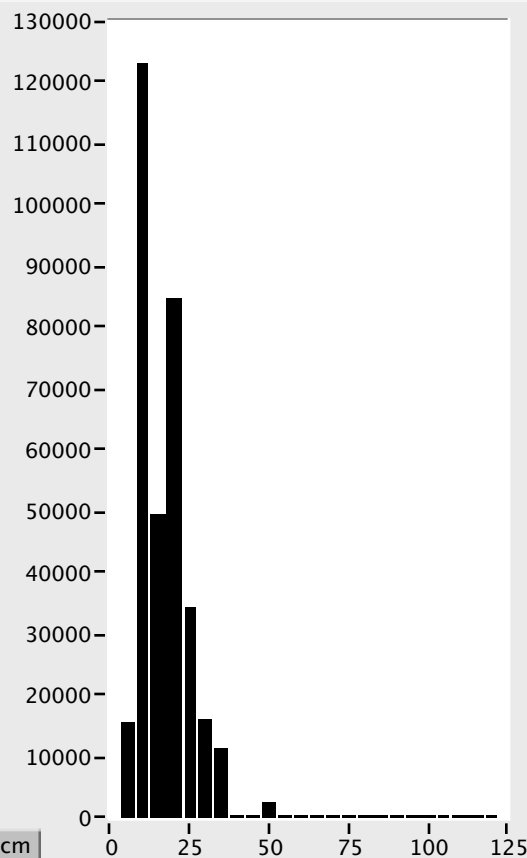
-2.000000 0.000000 0.000000 0.000000 0.000000
-5.000000 0.000000 0.000000 0.000000 0.000067
-10.000000 0.000000 0.000000 0.006555 0.000362
-15.000000 0.000029 0.000058 0.017224 0.000635
-20.000000 0.000022 0.000022 0.047929 0.000829
-25.000000 0.000055 0.000073 0.020420 0.000660
-30.000000 0.000000 0.000000 0.012667 0.000403
-35.000000 0.000000 0.000000 0.002472 0.000161
-40.000000 0.000000 0.000000 0.000041 0.000014
-45.000000 0.000000 0.000000 0.000140 0.000016
-50.000000 0.000000 0.000000 0.000219 0.000015
-55.000000 0.000000 0.000000 0.000000 0.000000
-60.000000 0.000000 0.000000 0.000000 0.000000
-65.000000 0.000000 0.000000 0.000347 0.000019
-70.000000 0.000000 0.000000 0.000000 0.000000
-75.000000 0.000000 0.000000 0.014891 0.000154
-80.000000 0.000000 0.000000 0.000000 0.000000

```

Total per cubic meter

0.000000 0.000006 0.000009 0.007009 0.000192

LENGTH FREQUENCY PLOT - LAKEWIDE ESTIMATE (all fish)





INTERPRET FSH 8.95 BW.vi

WD60GIG:Users:Michael:Documents:Sonar:ANALYSIS VIs:INTERPRET FSH 8.95 BW.vi

Last modified on 12/30/11 at 9:46 AM

Printed on 1/19/12 at 1:46 PM

This program analyzes the *.FSH files from the HTI

Enter values in blue
controls before running VI

BLUE MESA

TRANSECT #

7

START UTM X

END UTM X

305381

306220

START UTM Y

END UTM Y

4259661

4260874

2011

PREDATOR/PREY
CUTOFF (cm)

5.0

TVG 40logR

NONE

40logR

COLUMN 9

ALL

DEL>0

USE INT OR BOT

INT

BOT

PREY

FISH PER ACRE

PREDATOR

0

-10

-20

-30

-40

-50

-60

-70

-80

0

1

0

-10

-20

-30

-40

-50

-60

-70

-80

0

2

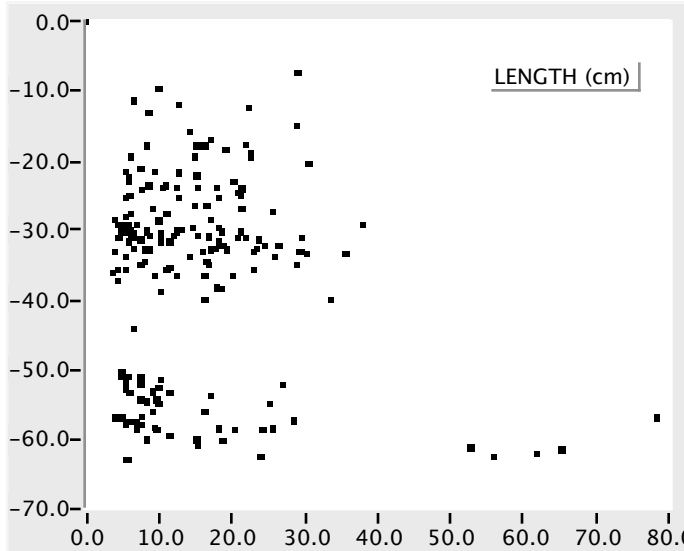
4

6

8

No Filter Filter Depth 35 Length (cm) 10

DEPTH (m)



TRANSECT LENGTH (M)

1475

NUMBER OF TARGETS

185

PERCENT LOST BOTTOM

0

Blue2011:Blue2011July:K2130032.FSH

OUTPUT

Blue2011:Blue2011July:K2130032.FSH

Transect length (m): 1475 Total pings: 5303

Number prey/acre: 1.585

Biomass prey/acre (kg): 0.001

Total prey biomass (MT): 0.009

Number predators/acre: 34.441

Biomass predators/acre (kg): 2.110

Predator/prey cutoff: 5.0 cm

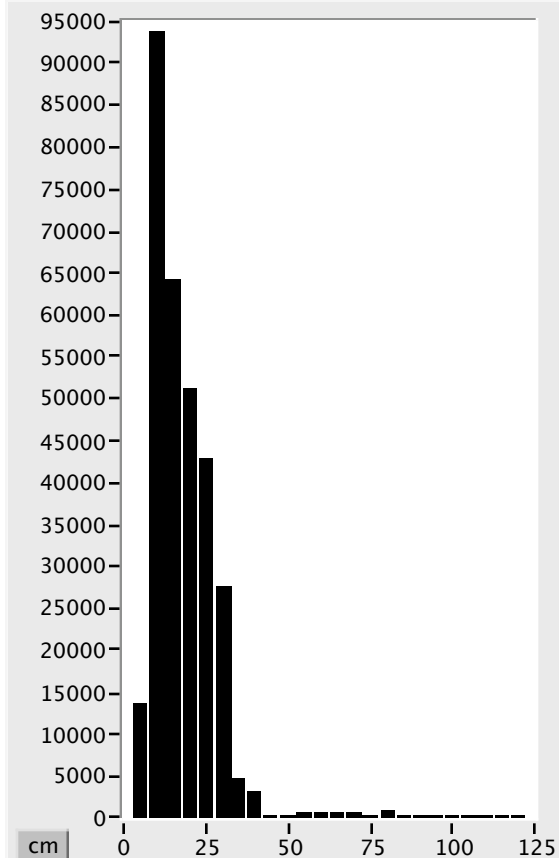
Strata top (M) Prey (g) Prey # Predator (g) Predator #
Per cubic meter by strata:

-2.000000	0.000000	0.000000	0.000000	0.000000
-5.000000	0.000000	0.000000	0.010341	0.000137
-10.000000	0.000000	0.000000	0.008588	0.000205
-15.000000	0.000000	0.000000	0.007929	0.000324
-20.000000	0.000000	0.000000	0.010465	0.000463
-25.000000	0.000021	0.000041	0.015212	0.000537
-30.000000	0.000036	0.000054	0.030943	0.000830
-35.000000	0.000036	0.000054	0.011007	0.000253
-40.000000	0.000000	0.000000	0.000346	0.000038
-45.000000	0.000000	0.000000	0.000000	0.000000
-50.000000	0.000059	0.000059	0.007094	0.000500
-55.000000	0.000030	0.000061	0.200784	0.000606
-60.000000	0.000000	0.000000	0.273814	0.000333
-65.000000	0.000000	0.000000	0.000000	0.000000

Total per cubic meter

0.000000 0.000016 0.000024 0.040475 0.000349

LENGTH FREQUENCY PLOT - LAKEWIDE ESTIMATE (all fish)





INTERPRET FSH 8.94b BW.vi

WD60GIG:Users:Michael:Documents:Sonar:ANALYSIS VIs:INTERPRET FSH 8.94b BW.vi

Last modified on 11/22/11 at 3:22 PM

Printed on 11/23/11 at 9:53 AM

This program analyzes the *.FSH files from the HTI

Enter values in blue
controls before running VI

BLUE MESA

TRANSECT #

8

START UTM X

END UTM X

306241

307401

START UTM Y

END UTM Y

4260887

4259826

2011

PREDATOR/PREY
CUTOFF (cm)

5.0

TVG 40logR

NONE

40logR

COLUMN 9

ALL

DEL>0

USE INT OR BOT

INT

BOT

PREY

FISH PER ACRE

PREDATOR

0

-10

-20

-30

-40

-50

-60

-70

0

1

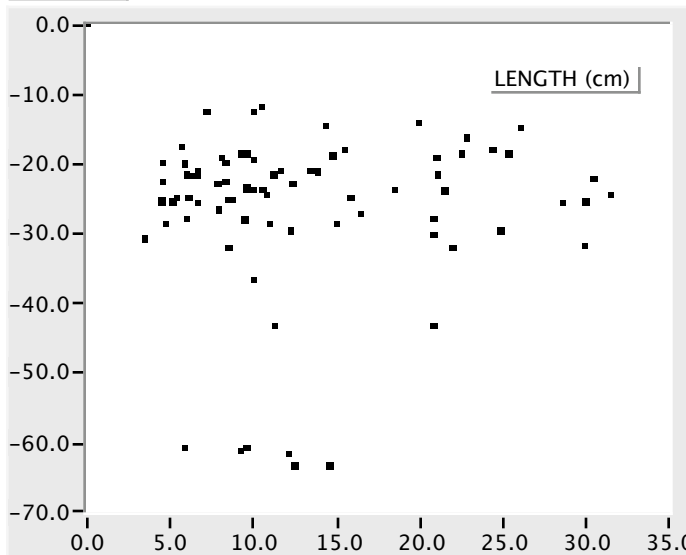
0

5

10

No Filter Filter Depth 35 Length (cm) 10

DEPTH (m)



TRANSECT LENGTH (M)

NUMBER OF TARGETS

PERCENT LOST BOTTOM

1572

78

0

Blue2011:Blue2011July:K2130051.FSH

OUTPUT

Blue2011:Blue2011July:K2130051.FSH

Transect length (m): 1572 Total pings: 5495

Number prey/acre: 1.623

Biomass prey/acre (kg): 0.001

Total prey biomass (MT): 0.011

Number predators/acre: 22.289

Biomass predators/acre (kg): 0.569

Predator/prey cutoff: 5.0 cm

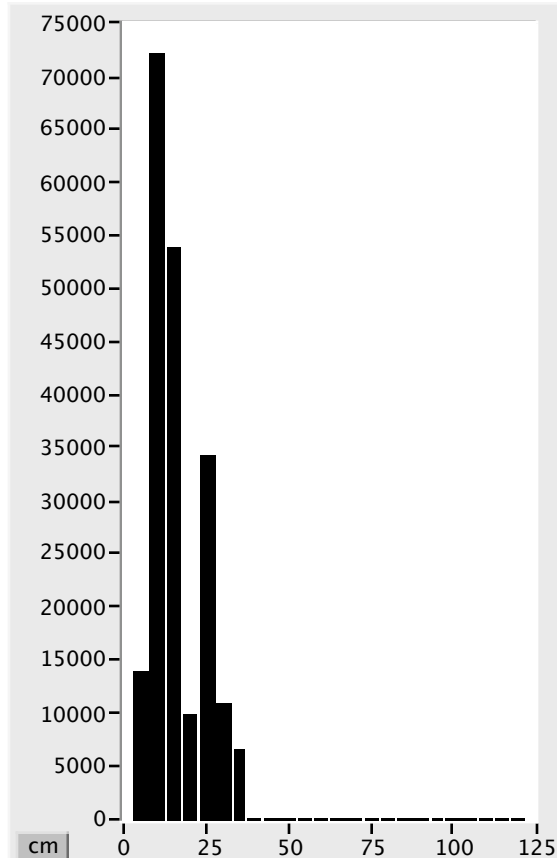
Strata top (M) Prey (g) Prey # Predator (g) Predator #
Per cubic meter by strata:

-2.000000	0.000000	0.000000	0.000000	0.000000
-5.000000	0.000000	0.000000	0.000000	0.000000
-10.000000	0.000000	0.000000	0.002082	0.000193
-15.000000	0.000028	0.000028	0.012723	0.000415
-20.000000	0.000022	0.000022	0.012401	0.000528
-25.000000	0.000069	0.000069	0.010920	0.000343
-30.000000	0.000000	0.000032	0.008275	0.000126
-35.000000	0.000000	0.000000	0.000142	0.000047
-40.000000	0.000000	0.000000	0.002817	0.000122
-45.000000	0.000000	0.000000	0.000000	0.000000
-50.000000	0.000000	0.000000	0.000000	0.000000
-55.000000	0.000000	0.000000	0.000000	0.000000
-60.000000	0.000000	0.000000	0.002776	0.000641
-65.000000	0.000000	0.000000	0.000000	0.000000

Total per cubic meter

0.000000 0.000017 0.000020 0.006452 0.000245

LENGTH FREQUENCY PLOT - LAKEWIDE ESTIMATE (all fish)





INTERPRET FSH 8.94b BW.vi

WD60GIG:Users:Michael:Documents:Sonar:ANALYSIS VIs:INTERPRET FSH 8.94b BW.vi

Last modified on 11/22/11 at 3:22 PM

Printed on 11/23/11 at 10:17 AM

This program analyzes the *.FSH files from the HTI

Enter values in blue
controls before running VI

BLUE MESA

START UTM X

END UTM X

TRANSECT #

307441

307868

9

START UTM Y

END UTM Y

2011

4259815

4261420

PREDATOR/PREY
CUTOFF (cm)

5.0

TVG 40logR

NONE

40logR

COLUMN 9

ALL

DEL>0

USE INT OR BOT

INT

BOT

PREY

FISH PER ACRE

PREDATOR

0

-10

-20

-30

-40

-50

-60

0

1

0

-10

-20

-30

-40

-50

-60

0

5

10

DEPTH (m)

No Filter

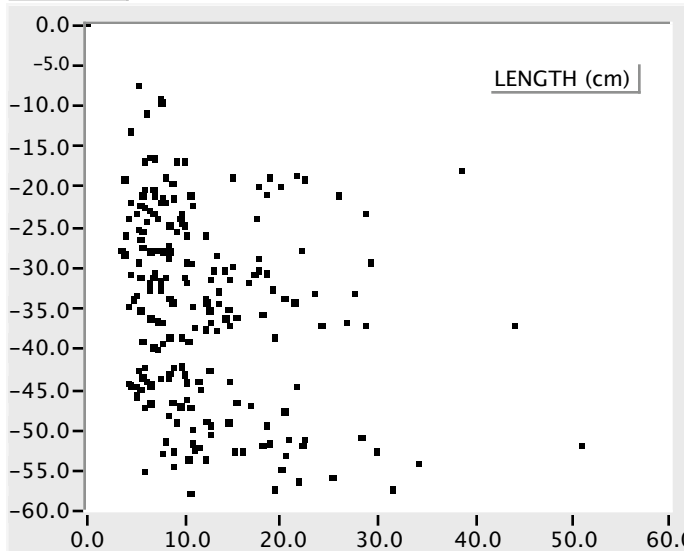
Filter

Depth

35

Length (cm)

10



TRANSECT LENGTH (M)

1661

NUMBER OF TARGETS

207

PERCENT LOST BOTTOM

0

Blue2011:Blue2011July:K2130111.FSHmod

OUTPUT

Blue2011:Blue2011July:K2130111.FSHmod

Transect length (m): 1661 Total pings: 5919

Number prey/acre: 2.979

Biomass prey/acre (kg): 0.002

Total prey biomass (MT): 0.016

Number predators/acre: 38.869

Biomass predators/acre (kg): 0.988

Predator/prey cutoff: 5.0 cm

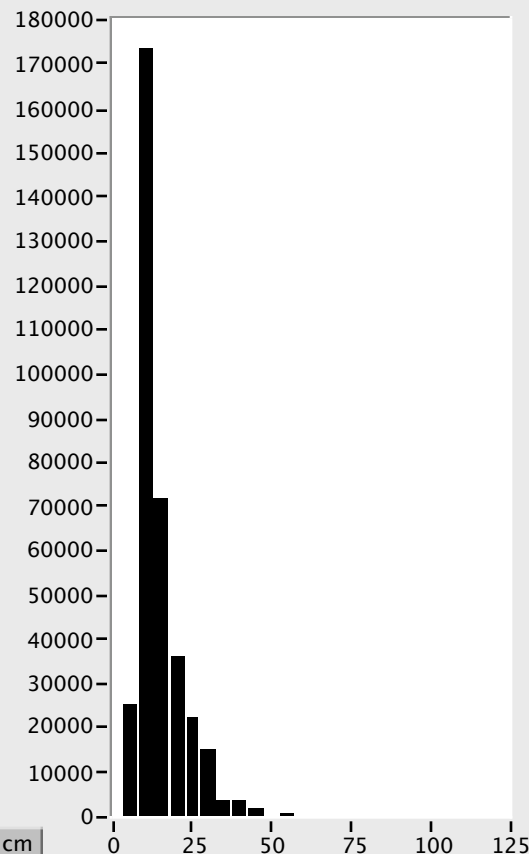
Strata top (M) Prey (g) Prey # Predator (g) Predator #
Per cubic meter by strata:

-2.000000	0.000000	0.000000	0.000000	0.000000
-5.000000	0.000000	0.000000	0.000122	0.000182
-10.000000	0.000036	0.000036	0.000000	0.000036
-15.000000	0.000000	0.000027	0.016560	0.000346
-20.000000	0.000045	0.000045	0.007668	0.000611
-25.000000	0.000000	0.000063	0.005558	0.000421
-30.000000	0.000070	0.000070	0.011717	0.000767
-35.000000	0.000000	0.000000	0.026149	0.000545
-40.000000	0.000039	0.000039	0.001890	0.000433
-45.000000	0.000000	0.000000	0.003105	0.000438
-50.000000	0.000000	0.000000	0.057935	0.000607
-55.000000	0.000000	0.000000	0.044481	0.000710
-60.000000	0.000000	0.000000	0.000000	0.000000

Total per cubic meter

0.000000 0.000019 0.000029 0.013995 0.000467

LENGTH FREQUENCY PLOT - LAKEWIDE ESTIMATE (all fish)



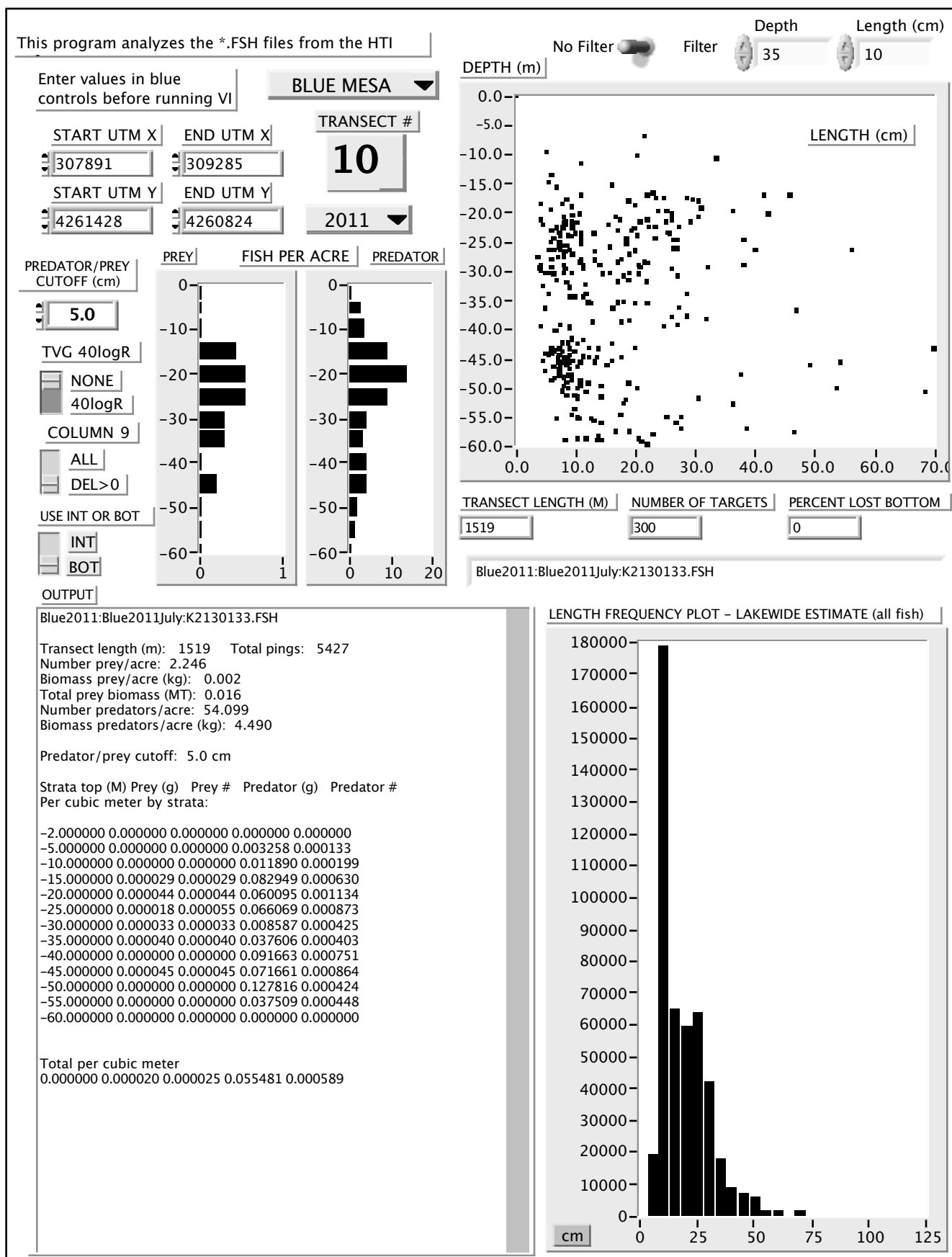


INTERPRET FSH 8.94b BW.vi

WD60GIG:Users:Michael:Documents:Sonar:ANALYSIS VIs:INTERPRET FSH 8.94b BW.vi

Last modified on 11/22/11 at 3:22 PM

Printed on 11/23/11 at 10:46 AM



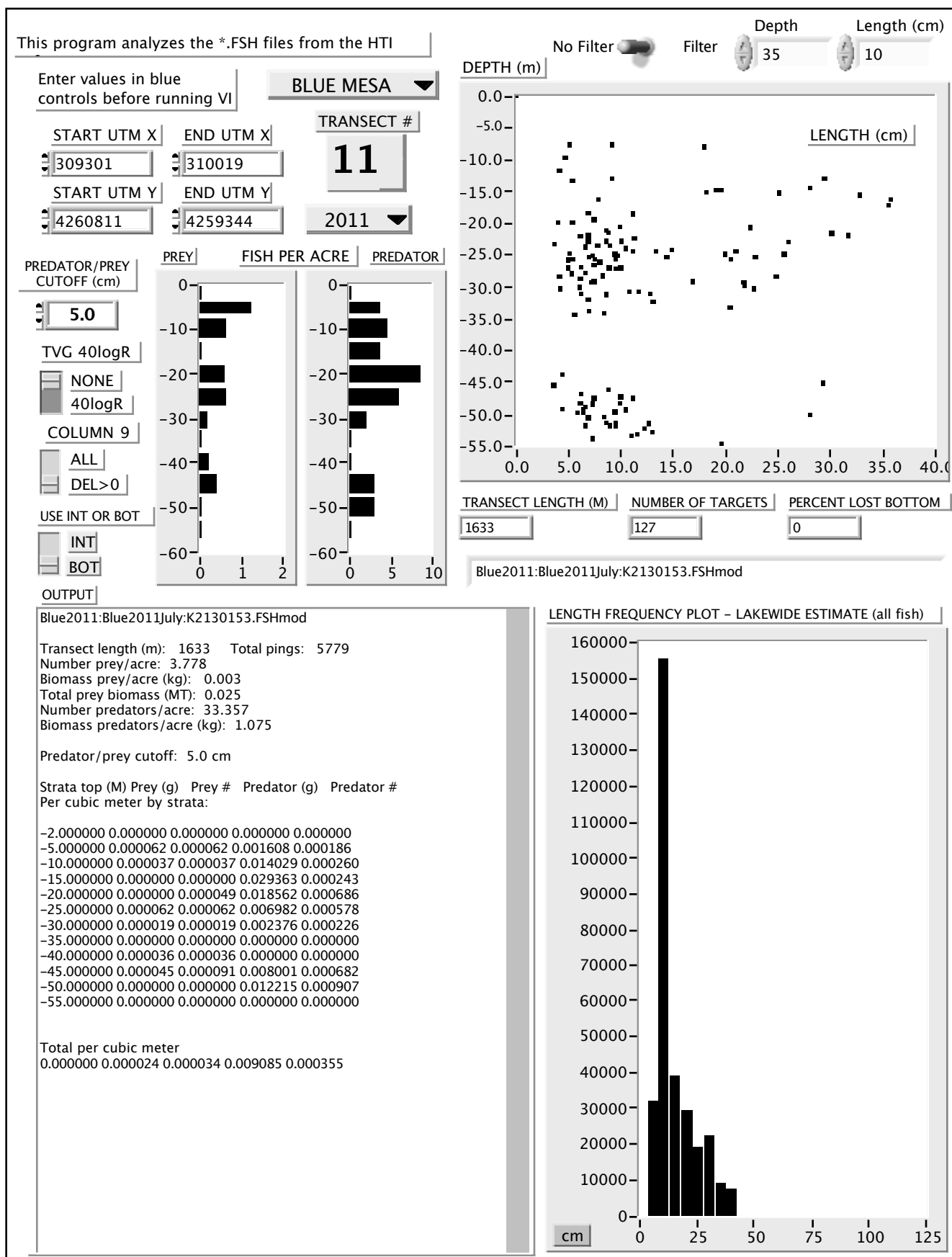


INTERPRET FSH 8.94b BW.vi

WD60GIG:Users:Michael:Documents:Sonar:ANALYSIS VIs:INTERPRET FSH 8.94b BW.vi

Last modified on 11/22/11 at 3:22 PM

Printed on 11/23/11 at 10:53 AM



INPUT FILES:

WD60GIG:Users:Michael:Documents:Sonar:Blue2011:Blue2011August:2011BMRT1m.out
 WD60GIG:Users:Michael:Documents:Sonar:Blue2011:Blue2011August:2011BMRT2.out
 WD60GIG:Users:Michael:Documents:Sonar:Blue2011:Blue2011August:2011BMRT4.out
 WD60GIG:Users:Michael:Documents:Sonar:Blue2011:Blue2011August:2011BMRT5.out
 WD60GIG:Users:Michael:Documents:Sonar:Blue2011:Blue2011August:2011BMRT3.out
 WD60GIG:Users:Michael:Documents:Sonar:Blue2011:Blue2011August:2011BMRT6.out
 WD60GIG:Users:Michael:Documents:Sonar:Blue2011:Blue2011August:2011BMRT7.out
 WD60GIG:Users:Michael:Documents:Sonar:Blue2011:Blue2011August:2011BMRT8.out
 WD60GIG:Users:Michael:Documents:Sonar:Blue2011:Blue2011August:2011BMRT10.out
 WD60GIG:Users:Michael:Documents:Sonar:Blue2011:Blue2011August:2011BMRT9.out
 WD60GIG:Users:Michael:Documents:Sonar:Blue2011:Blue2011August:2011BMRT11.out

Total length of transects (m): 18242

Number prey/acre: 2.379 95%CI (1.677, 3.080)

Biomass prey/acre (kg): 0.002 95%CI (0.001, 0.002)

Total prey biomass (MT): 0.015 95%CI (0.011, 0.019)

Number predators/acre: 29.094 95%CI (23.903, 34.284)

Biomass predators/acre (kg): 1.289 95%CI (0.928, 1.649)

Strata (top)	LCL	g PREY	UCL	LCL	# PREY	UCL	LCL	g PRED	UCL	LCL	# PRED	UCL	n
Per cubic meter by strata													
-2	0	0	0	0	0	0	0	0	0	0	0	0	11
-5	0	0	0	-0.000006	0.000005	0.000016	-0.000054	0.000044	0.000141	-0.000007	0.000005	0.000018	11
-10	0	0	0	0	0	0	-0.000454	0.004742	0.009938	0.000025	0.000046	0.000067	11
-15	-0.000005	0.000007	0.000019	-0.000005	0.000007	0.000019	0.007841	0.0172	0.026558	0.000133	0.000253	0.000373	11
-20	0.000028	0.000042	0.000056	0.000027	0.000044	0.000061	0.007871	0.021273	0.034675	0.000454	0.000666	0.000878	11
-25	0.000023	0.000037	0.00005	0.000033	0.000052	0.000071	0.008924	0.017578	0.026232	0.000425	0.000581	0.000736	11
-30	0.000021	0.000037	0.000054	0.000026	0.000051	0.000077	0.005132	0.011335	0.017538	0.000334	0.000431	0.000528	11
-35	0.000019	0.000036	0.000053	0.000034	0.000055	0.000077	0.008807	0.016813	0.024819	0.000388	0.000575	0.000762	11
-40	0.000015	0.000027	0.000039	0.000021	0.000037	0.000054	0.006377	0.021104	0.035831	0.000213	0.000362	0.00051	11
-45	-0.000009	0.000026	0.00006	-0.000009	0.000033	0.000075	-0.002545	0.039764	0.082072	0.000055	0.000263	0.000472	11
-50	-0.000017	0.000013	0.000043	-0.000019	0.000015	0.00005	-0.000862	0.009355	0.019572	0.000006	0.000213	0.00042	11
-55	0	0	0	0	0	0	-0.010347	0.019369	0.049084	-0.000006	0.000168	0.000342	10
-60	0	0	0	-0.000004	0.000003	0.000009	-0.004456	0.005531	0.015517	0	0.000031	0.000062	10
-65	-0.000003	0.000002	0.000006	-0.000003	0.000002	0.000006	-0.000039	0.000061	0.000161	-0.000004	0.000006	0.000016	8
-70	-0.000004	0.000003	0.000009	-0.000011	0.000008	0.000026	-0.000184	0.000221	0.000627	-0.000004	0.000021	0.000047	7
-75	-0.000008	0.000012	0.000032	-0.000013	0.000016	0.000044	-0.000048	0.000054	0.000155	-0.000035	0.000038	0.000112	6
-80	0	0	0	0	0	0	-0.000013	0.000008	0.000029	-0.000006	0.000004	0.000014	6
-85	0	0	0	0	0	0	0	0	0	0	0	0	4
-90	0	0	0	0	0	0	0	0	0	0	0	0	2
-95	0	0	0	0	0	0	0	0	0	0	0	0	2

Total per cubic meter

0.000011 0.00002 0.000028 0.000014 0.000027 0.000039 0.009999 0.014625 0.01925 0.000205 0.000319 0.000432



INTERPRET FSH 8.94b BW.vi

WD60GIG:Users:Michael:Documents:Sonar:ANALYSIS VIs:INTERPRET FSH 8.94b BW.vi

Last modified on 11/22/11 at 3:22 PM

Printed on 12/5/11 at 9:11 AM

This program analyzes the *.FSH files from the HTI

Enter values in blue
controls before running VI

BLUE MESA

START UTM X END UTM X
298660 297355

START UTM Y END UTM Y
4258549 4259573

TRANSECT #

1

2011

PREDATOR/PREY
CUTOFF (cm)

5.0

TVG 40logR

NONE

40logR

COLUMN 9

ALL

DEL>0

USE INT OR BOT

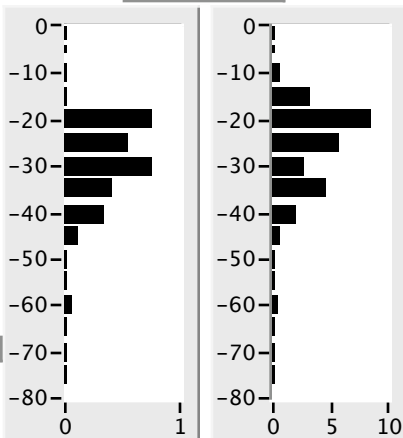
INT

BOT

PREY

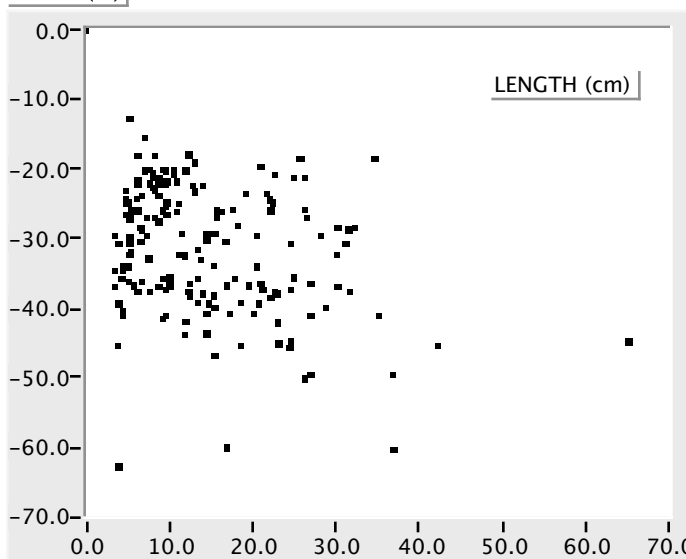
FISH PER ACRE

PREDATOR



No Filter Filter Depth 35 Length (cm) 10

DEPTH (m)



TRANSECT LENGTH (M) NUMBER OF TARGETS PERCENT LOST BOTTOM

1659

170

0

Blue2011:Blue2011August:K2402220.FSH.mod

OUTPUT

Blue2011:Blue2011August:K2402220.FSH.mod

Transect length (m): 1659 Total pings: 5931
 Number prey/acre: 2.877
 Biomass prey/acre (kg): 0.002
 Total prey biomass (MT): 0.017
 Number predators/acre: 27.000
 Biomass predators/acre (kg): 1.290

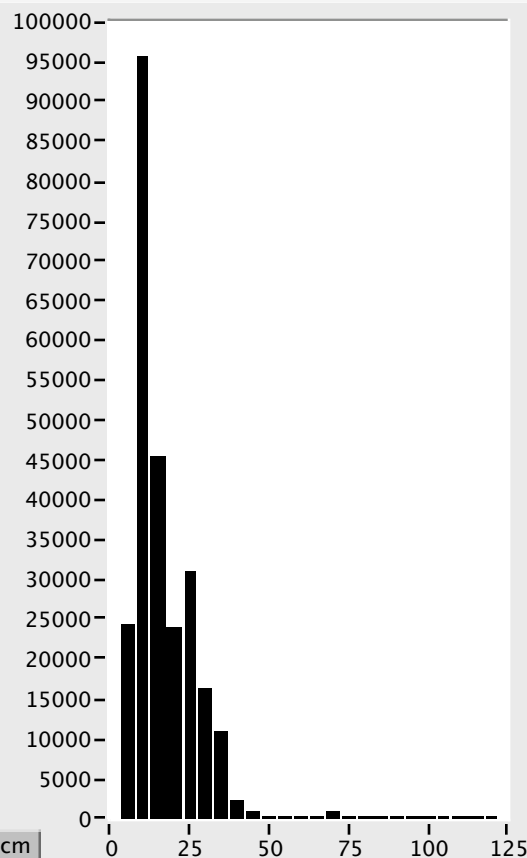
Predator/prey cutoff: 5.0 cm

Strata top (M) Prey (g) Prey # Predator (g) Predator #
 Per cubic meter by strata:

```
-2.000000 0.000000 0.000000 0.000000 0.000000
-5.000000 0.000000 0.000000 0.000000 0.000000
-10.000000 0.000000 0.000000 0.000000 0.000037
-15.000000 0.000000 0.000000 0.011505 0.000210
-20.000000 0.000061 0.000061 0.010121 0.000692
-25.000000 0.000034 0.000051 0.020447 0.000549
-30.000000 0.000054 0.000090 0.009900 0.000306
-35.000000 0.000019 0.000058 0.022191 0.000637
-40.000000 0.000060 0.000060 0.078253 0.000319
-45.000000 0.000000 0.000020 0.025335 0.000142
-50.000000 0.000000 0.000000 0.002106 0.000021
-55.000000 0.000000 0.000000 0.000000 0.000000
-60.000000 0.000000 0.000029 0.011077 0.000057
-65.000000 0.000000 0.000000 0.000000 0.000000
-70.000000 0.000000 0.000000 0.000000 0.000000
-75.000000 0.000000 0.000000 0.000000 0.000000
-80.000000 0.000000 0.000000 0.000000 0.000000
-85.000000 0.000000 0.000000 0.000000 0.000000
-90.000000 0.000000 0.000000 0.000000 0.000000
-95.000000 0.000000 0.000000 0.000000 0.000000
```

Total per cubic meter
 0.000000 0.000018 0.000029 0.014541 0.000231

LENGTH FREQUENCY PLOT – LAKEWIDE ESTIMATE (all fish)



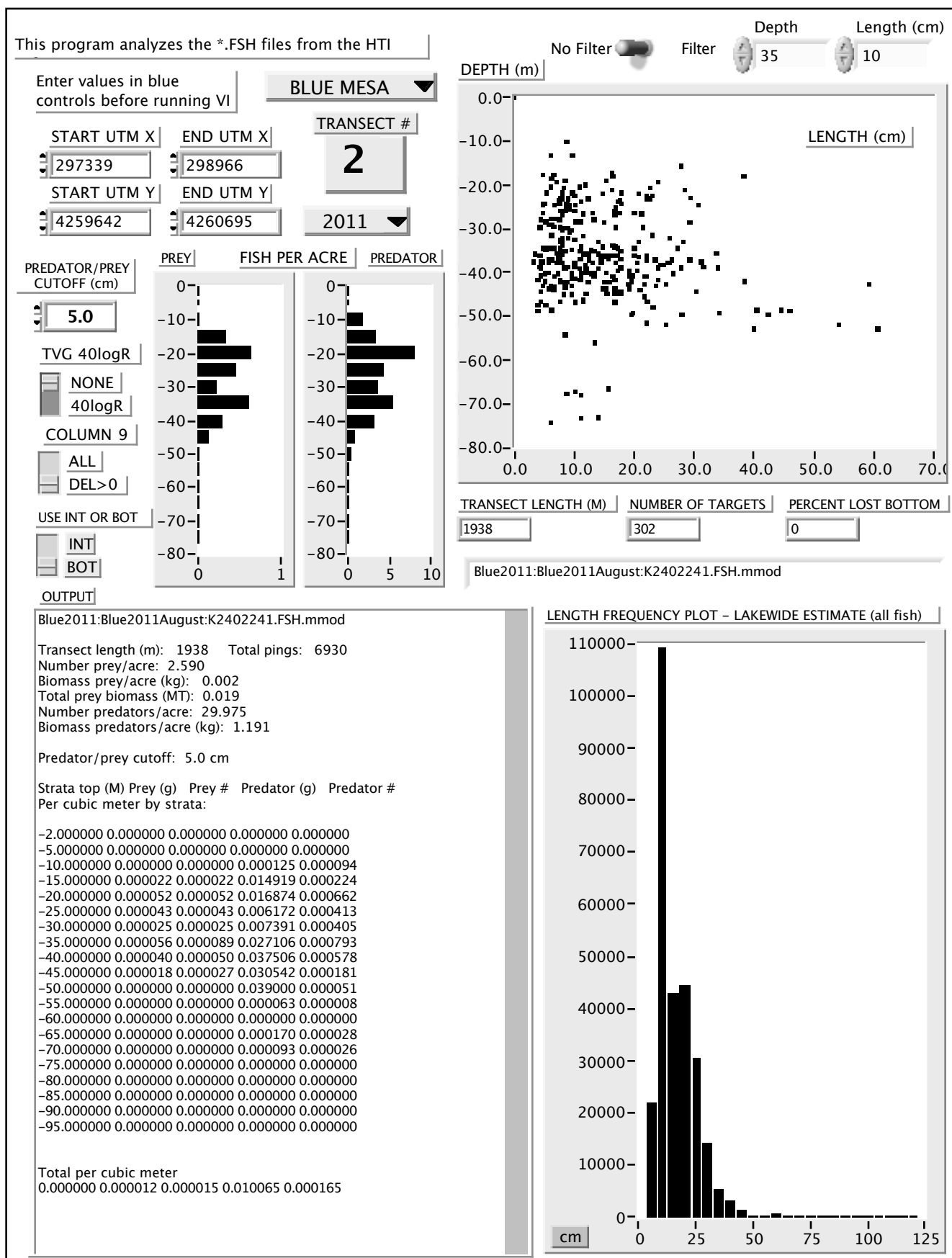


INTERPRET FSH 8.94b BW.vi

WD60GIG:Users:Michael:Documents:Sonar:ANALYSIS VIs:INTERPRET FSH 8.94b BW.vi

Last modified on 11/22/11 at 3:22 PM

Printed on 12/5/11 at 10:35 AM





INTERPRET FSH 8.94b BW.vi

WD60GIG:Users:Michael:Documents:Sonar:ANALYSIS VIs:INTERPRET FSH 8.94b BW.vi

Last modified on 11/22/11 at 3:22 PM

Printed on 12/5/11 at 11:21 AM

This program analyzes the *.FSH files from the HTI

Enter values in blue
controls before running VI

BLUE MESA

START UTM X

END UTM X

TRANSECT #

298984

299306

3

START UTM Y

END UTM Y

2011

4260709

4262237

PREDATOR/PREY
CUTOFF (cm)

5.0

TVG 40logR

NONE

40logR

COLUMN 9

ALL

DEL>0

USE INT OR BOT

INT

BOT

PREY

FISH PER ACRE

PREDATOR

0

-10

-20

-30

-40

-50

-60

-70

-80

0

1

0

-10

-20

-30

-40

-50

-60

-70

-80

0

1

0

-10

-20

-30

-40

-50

-60

-70

-80

0

1

0

-10

-20

-30

-40

-50

-60

-70

-80

0

1

0

-10

-20

-30

-40

-50

-60

-70

-80

0

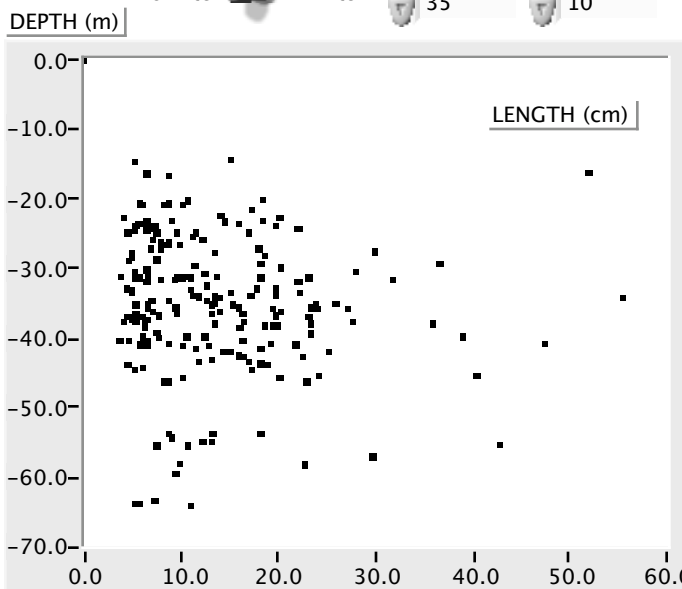
1

0

1

No Filter Filter Depth Length (cm)

DEPTH (m)



TRANSECT LENGTH (M)

1562

NUMBER OF TARGETS

213

PERCENT LOST BOTTOM

0

Blue2011:Blue2011August:K2402306.FSH.mod

OUTPUT

Blue2011:Blue2011August:K2402306.FSH.mod

Transect length (m): 1562 Total pings: 5459

Number prey/acre: 2.104

Biomass prey/acre (kg): 0.002

Total prey biomass (MT): 0.016

Number predators/acre: 25.776

Biomass predators/acre (kg): 1.358

Predator/prey cutoff: 5.0 cm

Strata top (M) Prey (g) Prey # Predator (g) Predator #
Per cubic meter by strata:

```

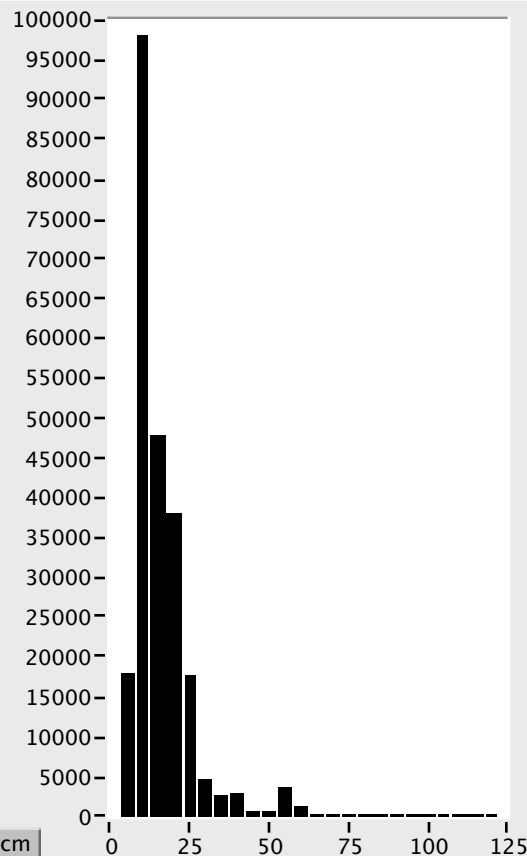
-2.000000 0.000000 0.000000 0.000000 0.000000
-5.000000 0.000000 0.000000 0.000000 0.000000
-10.000000 0.000000 0.000000 0.000466 0.000078
-15.000000 0.000000 0.000000 0.037995 0.000111
-20.000000 0.000043 0.000043 0.005472 0.000606
-25.000000 0.000053 0.000053 0.011973 0.000336
-30.000000 0.000045 0.000060 0.038023 0.000628
-35.000000 0.000052 0.000052 0.023055 0.000622
-40.000000 0.000023 0.000034 0.016131 0.000343
-45.000000 0.000000 0.000000 0.007140 0.000072
-50.000000 0.000000 0.000000 0.000387 0.000041
-55.000000 0.000000 0.000000 0.009653 0.000098
-60.000000 0.000000 0.000000 0.000055 0.000044
-65.000000 0.000000 0.000000 0.000000 0.000000
-70.000000 0.000000 0.000000 0.000000 0.000000
-75.000000 0.000000 0.000000 0.000000 0.000000
-80.000000 0.000000 0.000000 0.000000 0.000000

```

Total per cubic meter

0.000000 0.000015 0.000017 0.010078 0.000205

LENGTH FREQUENCY PLOT - LAKEWIDE ESTIMATE (all fish)





INTERPRET FSH 8.94b BW.vi

WD60GIG:Users:Michael:Documents:Sonar:ANALYSIS VIs:INTERPRET FSH 8.94b BW.vi

Last modified on 11/22/11 at 3:22 PM

Printed on 12/6/11 at 9:01 AM

This program analyzes the *.FSH files from the HTI

Enter values in blue
controls before running VI

BLUE MESA

TRANSECT #

4

START UTM X

END UTM X

299320

300086

START UTM Y

END UTM Y

4262283

4260630

2011

PREDATOR/PREY
CUTOFF (cm)

5.0

TVG 40logR

NONE

40logR

COLUMN 9

ALL

DEL>0

USE INT OR BOT

INT

BOT

PREY

FISH PER ACRE

PREDATOR

0

0

0

-10

-10

-10

-20

-20

-20

-30

-30

-30

-40

-40

-40

-50

-50

-50

-60

-60

-60

-70

-70

-70

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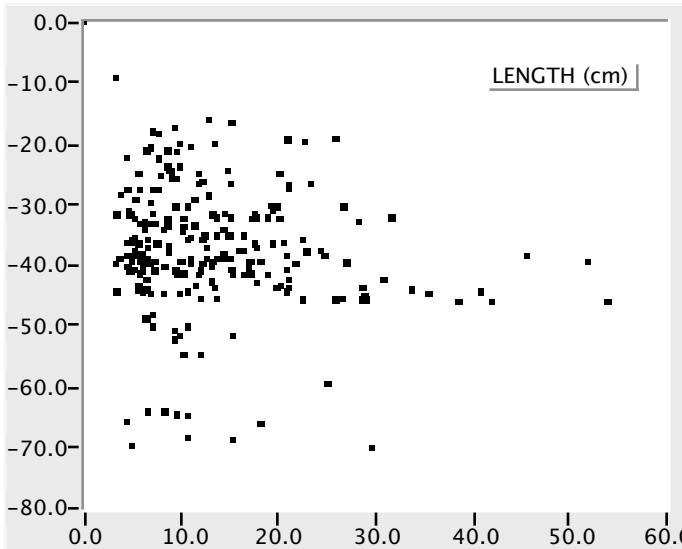
0

0

0

No Filter ☐ Filter ☒ Depth 35 Length (cm) 10

DEPTH (m)



TRANSECT LENGTH (M)

NUMBER OF TARGETS

PERCENT LOST BOTTOM

1822

234

0

Blue2011:Blue2011August:K2402326.FSH

OUTPUT

Blue2011:Blue2011August:K2402326.FSH

Transect length (m): 1822 Total pings: 6793

Number prey/acre: 2.784

Biomass prey/acre (kg): 0.001

Total prey biomass (MT): 0.011

Number predators/acre: 19.288

Biomass predators/acre (kg): 0.696

Predator/prey cutoff: 5.0 cm

Strata top (M) Prey (g) Prey # Predator (g) Predator #
Per cubic meter by strata:

```

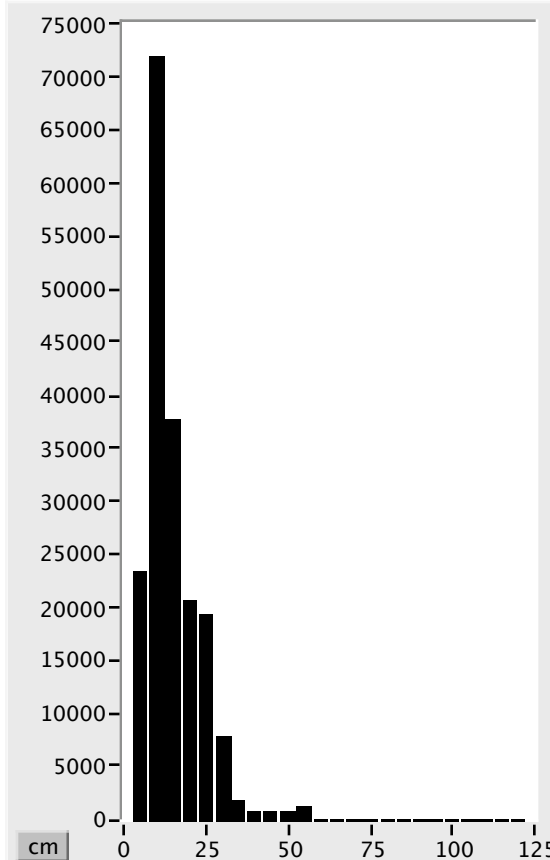
-2.000000 0.000000 0.000000 0.000000 0.000000
-5.000000 0.000000 0.000055 0.000000 0.000000
-10.000000 0.000000 0.000000 0.000000 0.000000
-15.000000 0.000000 0.000000 0.005298 0.000191
-20.000000 0.000019 0.000019 0.001465 0.000278
-25.000000 0.000015 0.000030 0.003047 0.000258
-30.000000 0.000039 0.000052 0.009831 0.000426
-35.000000 0.000067 0.000079 0.033083 0.000674
-40.000000 0.000041 0.000061 0.020937 0.000458
-45.000000 0.000000 0.000000 0.044199 0.000139
-50.000000 0.000000 0.000000 0.000345 0.000082
-55.000000 0.000000 0.000000 0.000723 0.000009
-60.000000 0.000000 0.000000 0.000056 0.000032
-65.000000 0.000015 0.000015 0.000319 0.000022
-70.000000 0.000000 0.000000 0.001201 0.000008
-75.000000 0.000000 0.000000 0.000000 0.000000
-80.000000 0.000000 0.000000 0.000000 0.000000
-85.000000 0.000000 0.000000 0.000000 0.000000

```

Total per cubic meter

0.000000 0.000012 0.000016 0.007995 0.000148

LENGTH FREQUENCY PLOT - LAKEWIDE ESTIMATE (all fish)





INTERPRET FSH 8.94b BW.vi

WD60GIG:Users:Michael:Documents:Sonar:ANALYSIS VIs:INTERPRET FSH 8.94b BW.vi

Last modified on 11/22/11 at 3:22 PM

Printed on 12/6/11 at 9:21 AM

This program analyzes the *.FSH files from the HTI

Enter values in blue
controls before running VI

BLUE MESA

TRANSECT #

5

START UTM X

END UTM X

300081

301525

START UTM Y

END UTM Y

4260612

4261499

2011

PREDATOR/PREY
CUTOFF (cm)

5.0

TVG 40logR

NONE

40logR

COLUMN 9

ALL

DEL>0

USE INT OR BOT

INT

BOT

OUTPUT

Blue2011:Blue2011August:K2402350.FSHmod

Transect length (m): 1695 Total pings: 6043

Number prey/acre: 2.633

Biomass prey/acre (kg): 0.002

Total prey biomass (MT): 0.017

Number predators/acre: 19.918

Biomass predators/acre (kg): 0.952

Predator/prey cutoff: 5.0 cm

Strata top (M) Prey (g) Prey # Predator (g) Predator #
Per cubic meter by strata:

```

-2.000000 0.000000 0.000000 0.000000 0.000000
-5.000000 0.000000 0.000000 0.000000 0.000000
-10.000000 0.000000 0.000000 0.000858 0.000036
-15.000000 0.000000 0.000000 0.011440 0.000128
-20.000000 0.000040 0.000040 0.011082 0.000239
-25.000000 0.000065 0.000098 0.014260 0.000407
-30.000000 0.000028 0.000028 0.006996 0.000483
-35.000000 0.000064 0.000089 0.015235 0.000703
-40.000000 0.000035 0.000046 0.013305 0.000208
-45.000000 0.000021 0.000032 0.074001 0.000318
-50.000000 0.000000 0.000000 0.000084 0.000021
-55.000000 0.000000 0.000000 0.000010 0.000010
-60.000000 0.000000 0.000000 0.000011 0.000022
-65.000000 0.000000 0.000000 0.000000 0.000000
-70.000000 0.000018 0.000053 0.000211 0.000070
-75.000000 0.000043 0.000065 0.000239 0.000174
-80.000000 0.000000 0.000000 0.000048 0.000024
-85.000000 0.000000 0.000000 0.000000 0.000000

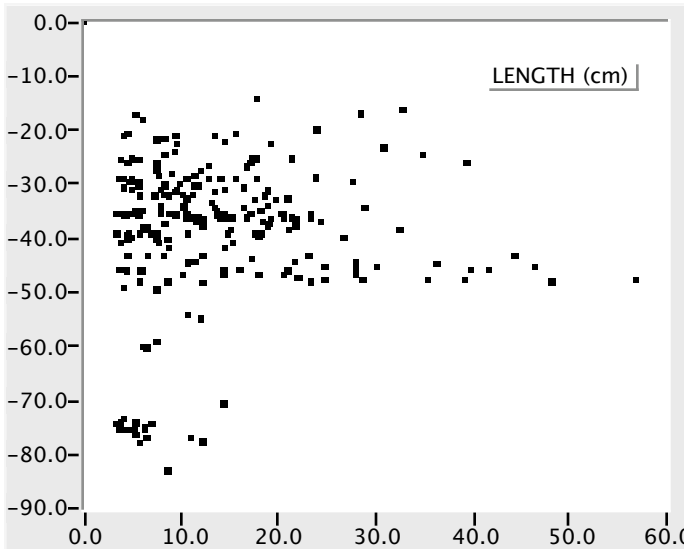
```

Total per cubic meter

0.000000 0.000020 0.000028 0.011102 0.000187

No Filter ☒ Filter ☐ Depth 35 Length (cm) 10

DEPTH (m)



TRANSECT LENGTH (M)

1695

NUMBER OF TARGETS

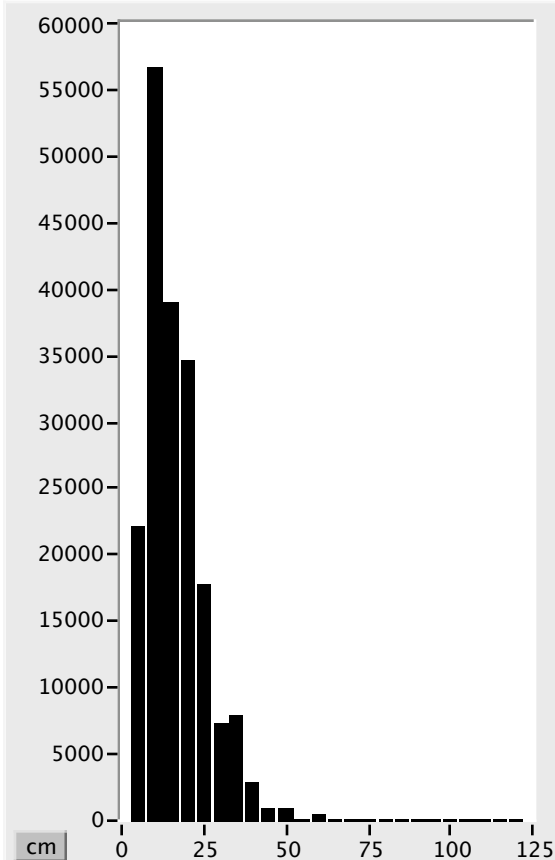
228

PERCENT LOST BOTTOM

0

Blue2011:Blue2011August:K2402350.FSHmod

LENGTH FREQUENCY PLOT - LAKEWIDE ESTIMATE (all fish)





INTERPRET FSH 8.94b BW.vi

WD60GIG:Users:Michael:Documents:Sonar:ANALYSIS VIs:INTERPRET FSH 8.94b BW.vi

Last modified on 11/22/11 at 3:22 PM

Printed on 12/6/11 at 9:37 AM

This program analyzes the *.FSH files from the HTI

Enter values in blue controls before running VI

BLUE MESA

TRANSECT #

6

START UTM X

END UTM X

301549

302434

START UTM Y

END UTM Y

4261512

4260294

2011

PREDATOR/PREY CUTOFF (cm)

5.0

TVG 40logR

NONE

40logR

COLUMN 9

ALL

DEL>0

USE INT OR BOT

INT

BOT

PREY

FISH PER ACRE

PREDATOR

0

-10

-20

-30

-40

-50

-60

-70

0

1

0

-10

-20

-30

-40

-50

-60

-70

0

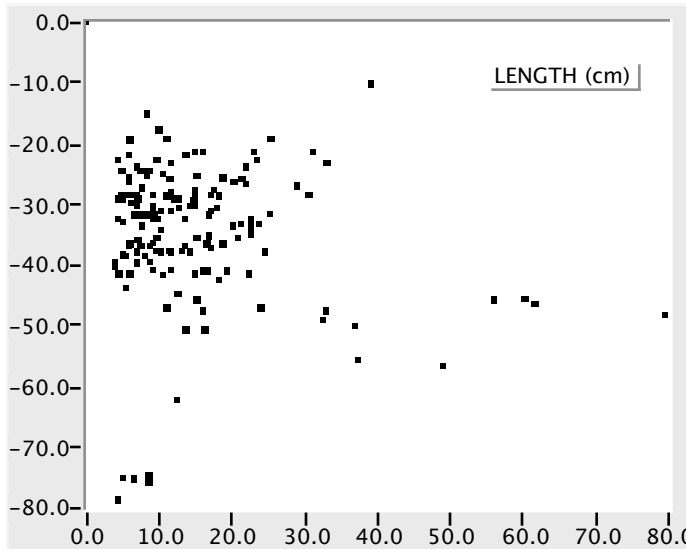
2

4

6

No Filter Filter Depth 35 Length (cm) 10

DEPTH (m)



TRANSECT LENGTH (M)

NUMBER OF TARGETS

PERCENT LOST BOTTOM

1506

150

0

Blue2011:Blue2011August:K2410012.FSH

OUTPUT

Blue2011:Blue2011August:K2410012.FSH

Transect length (m): 1506 Total pings: 5494

Number prey/acre: 1.392

Biomass prey/acre (kg): 0.001

Total prey biomass (MT): 0.010

Number predators/acre: 19.585

Biomass predators/acre (kg): 1.636

Predator/prey cutoff: 5.0 cm

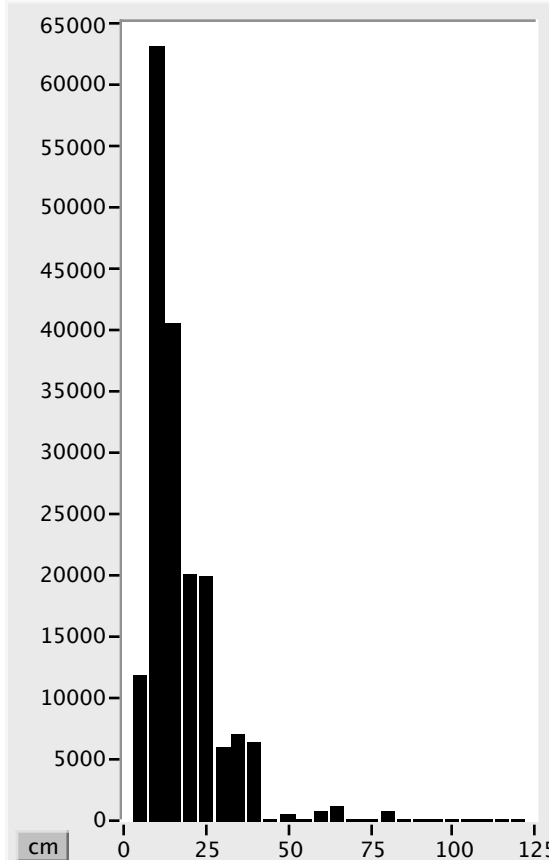
Strata top (M) Prey (g) Prey # Predator (g) Predator #
Per cubic meter by strata:

-2.000000	0.000000	0.000000	0.000000	0.000000
-5.000000	0.000000	0.000000	0.000000	0.000000
-10.000000	0.000000	0.000000	0.018270	0.000040
-15.000000	0.000000	0.000000	0.002858	0.000144
-20.000000	0.000045	0.000045	0.014851	0.000336
-25.000000	0.000055	0.000055	0.011923	0.000569
-30.000000	0.000016	0.000016	0.008331	0.000434
-35.000000	0.000000	0.000013	0.003670	0.000376
-40.000000	0.000013	0.000026	0.002259	0.000155
-45.000000	0.000000	0.000000	0.217401	0.000170
-50.000000	0.000000	0.000000	0.000383	0.000029
-55.000000	0.000000	0.000000	0.021850	0.000030
-60.000000	0.000000	0.000000	0.000096	0.000016
-65.000000	0.000000	0.000000	0.000000	0.000000
-70.000000	0.000000	0.000000	0.000045	0.000045
-75.000000	0.000028	0.000028	0.000083	0.000055
-80.000000	0.000000	0.000000	0.000000	0.000000

Total per cubic meter

0.000000 0.000010 0.000012 0.022629 0.000172

LENGTH FREQUENCY PLOT - LAKEWIDE ESTIMATE (all fish)





INTERPRET FSH 8.94b BW.vi

WD60GIG:Users:Michael:Documents:Sonar:ANALYSIS VIs:INTERPRET FSH 8.94b BW.vi

Last modified on 11/22/11 at 3:22 PM

Printed on 12/6/11 at 9:49 AM

This program analyzes the *.FSH files from the HTI

Enter values in blue
controls before running VI

BLUE MESA

TRANSECT #

7

START UTM X

END UTM X

305260

306223

START UTM Y

END UTM Y

4259594

4260872

2011

PREDATOR/PREY
CUTOFF (cm)

5.0

TVG 40logR

NONE

40logR

COLUMN 9

ALL

DEL>0

USE INT OR BOT

INT

BOT

PREY

FISH PER ACRE

PREDATOR

0

-10

-20

-30

-40

-50

-60

-70

0

1

0

-10

-20

-30

-40

-50

-60

-70

0

5

10

DEPTH (m)

No Filter

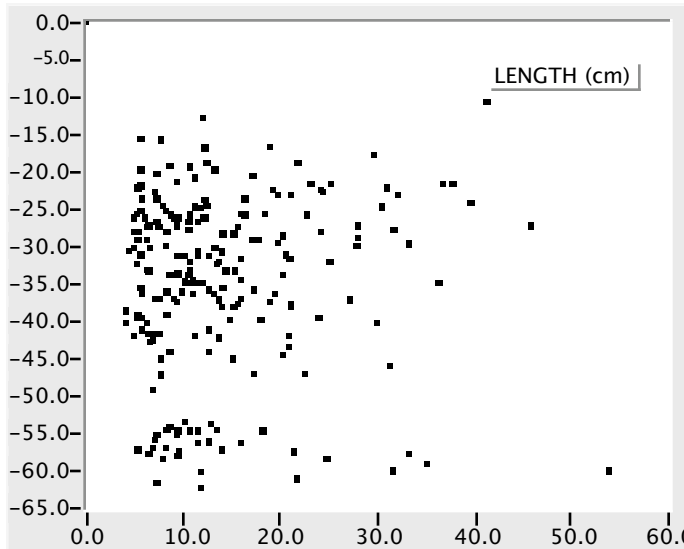
Filter

Depth

35

Length (cm)

10



TRANSECT LENGTH (M)

1600

NUMBER OF TARGETS

212

PERCENT LOST BOTTOM

0

Blue2011:Blue2011August:K2410103.FSH

OUTPUT

Blue2011:Blue2011August:K2410103.FSH

Transect length (m): 1600 Total pings: 5656

Number prey/acre: 0.582

Biomass prey/acre (kg): 0.001

Total prey biomass (MT): 0.005

Number predators/acre: 33.761

Biomass predators/acre (kg): 1.794

Predator/prey cutoff: 5.0 cm

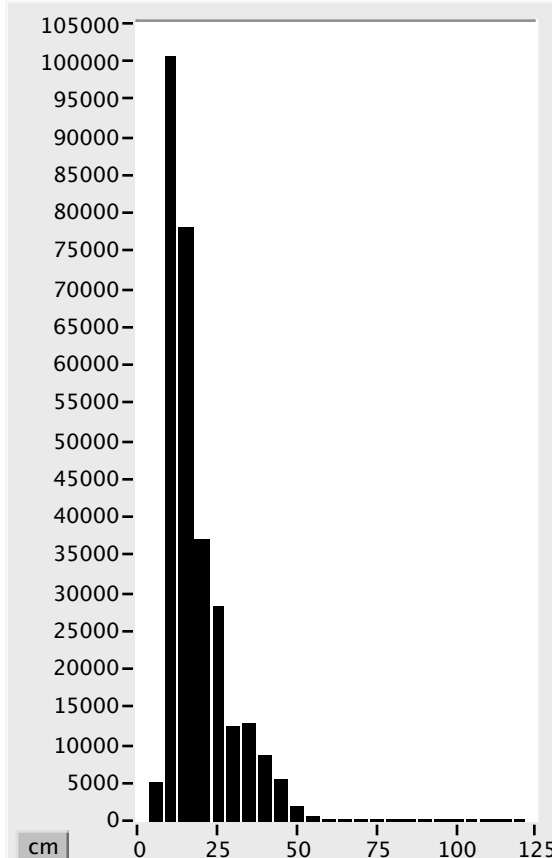
Strata top (M) Prey (g) Prey # Predator (g) Predator #
Per cubic meter by strata:

-2.000000	0.000000	0.000000	0.000000	0.000000
-5.000000	0.000000	0.000000	0.000000	0.000000
-10.000000	0.000000	0.000000	0.021364	0.000076
-15.000000	0.000000	0.000000	0.007566	0.000314
-20.000000	0.000000	0.000000	0.053326	0.000625
-25.000000	0.000000	0.000000	0.039830	0.000853
-30.000000	0.000034	0.000034	0.005949	0.000541
-35.000000	0.000018	0.000018	0.014934	0.000584
-40.000000	0.000039	0.000039	0.006959	0.000366
-45.000000	0.000000	0.000000	0.006888	0.000144
-50.000000	0.000000	0.000000	0.001638	0.000282
-55.000000	0.000000	0.000000	0.024902	0.000511
-60.000000	0.000000	0.000000	0.044013	0.000140
-65.000000	0.000000	0.000000	0.000000	0.000000
-70.000000	0.000000	0.000000	0.000000	0.000000

Total per cubic meter

0.000000 0.000010 0.000010 0.018634 0.000403

LENGTH FREQUENCY PLOT - LAKEWIDE ESTIMATE (all fish)





INTERPRET FSH 8.94b BW.vi

WD60GIG:Users:Michael:Documents:Sonar:ANALYSIS VIs:INTERPRET FSH 8.94b BW.vi

Last modified on 11/22/11 at 3:22 PM

Printed on 12/6/11 at 10:11 AM

This program analyzes the *.FSH files from the HTI

Enter values in blue
controls before running VI

BLUE MESA

START UTM X

END UTM X

TRANSECT #

306228

307397

8

START UTM Y

END UTM Y

2011

4260894

4259825

PREDATOR/PREY
CUTOFF (cm)

5.0

TVG 40logR

NONE

40logR

COLUMN 9

ALL

DEL>0

USE INT OR BOT

INT

BOT

PREY

FISH PER ACRE

PREDATOR

0

-10

-20

-30

-40

-50

-60

-70

0

1

0

-10

-20

-30

-40

-50

-60

-70

0

10

20

DEPTH (m)

No Filter

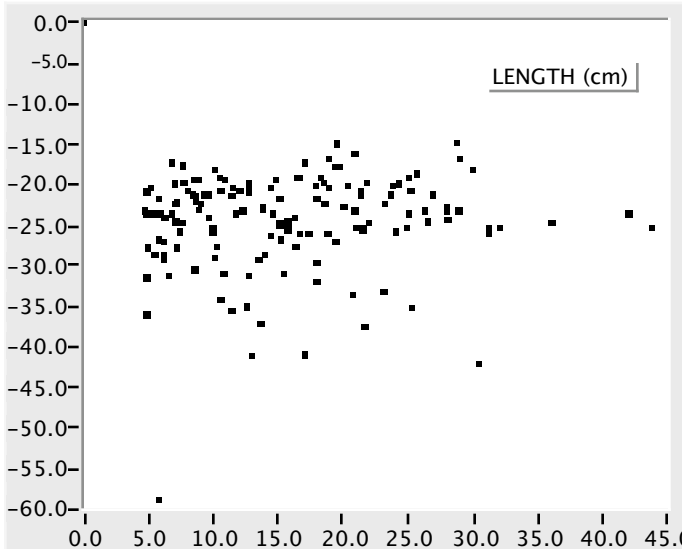
Filter

Depth

35

Length (cm)

10



TRANSECT LENGTH (M)

1584

NUMBER OF TARGETS

141

PERCENT LOST BOTTOM

0

Blue2011:Blue2011August:K2410123.FSH

OUTPUT

Blue2011:Blue2011August:K2410123.FSH

Transect length (m): 1584 Total pings: 5547

Number prey/acre: 1.614

Biomass prey/acre (kg): 0.002

Total prey biomass (MT): 0.014

Number predators/acre: 37.802

Biomass predators/acre (kg): 1.691

Predator/prey cutoff: 5.0 cm

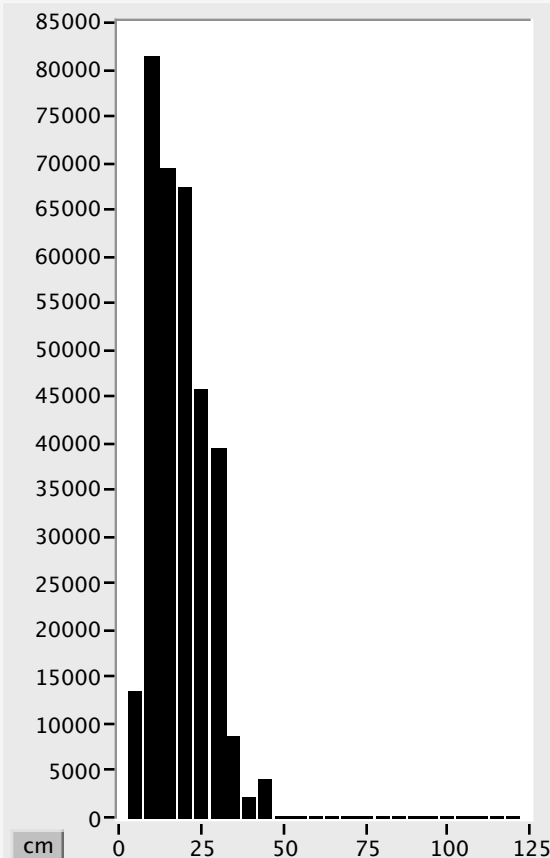
Strata top (M) Prey (g) Prey # Predator (g) Predator #
Per cubic meter by strata:

-2.000000	0.000000	0.000000	0.000000	0.000000
-5.000000	0.000000	0.000000	0.000000	0.000000
-10.000000	0.000000	0.000000	0.005510	0.000038
-15.000000	0.000000	0.000000	0.025198	0.000714
-20.000000	0.000064	0.000064	0.057309	0.001237
-25.000000	0.000024	0.000024	0.043686	0.000763
-30.000000	0.000038	0.000038	0.006081	0.000344
-35.000000	0.000053	0.000053	0.008338	0.000264
-40.000000	0.000000	0.000000	0.013628	0.000198
-45.000000	0.000000	0.000000	0.000000	0.000000
-50.000000	0.000000	0.000000	0.000000	0.000000
-55.000000	0.000000	0.000000	0.000000	0.000116
-60.000000	0.000000	0.000000	0.000000	0.000000
-65.000000	0.000000	0.000000	0.000000	0.000000

Total per cubic meter

0.000000 0.000022 0.000022 0.022217 0.000491

LENGTH FREQUENCY PLOT - LAKEWIDE ESTIMATE (all fish)





INTERPRET FSH 8.94b BW.vi

WD60GIG:Users:Michael:Documents:Sonar:ANALYSIS VIs:INTERPRET FSH 8.94b BW.vi

Last modified on 11/22/11 at 3:22 PM

Printed on 12/6/11 at 10:21 AM

This program analyzes the *.FSH files from the HTI

Enter values in blue
controls before running VI

BLUE MESA

START UTM X

END UTM X

TRANSECT #

307413

307868

9

START UTM Y

END UTM Y

2011

4259815

4261414

PREDATOR/PREY
CUTOFF (cm)

5.0

TVG 40logR

NONE

40logR

COLUMN 9

ALL

DEL>0

USE INT OR BOT

INT

BOT

PREY

FISH PER ACRE

PREDATOR

0

-10

-20

-30

-40

-50

-60

0

1

2

0

-10

-20

-30

-40

-50

-60

0

5

10

DEPTH (m)

No Filter

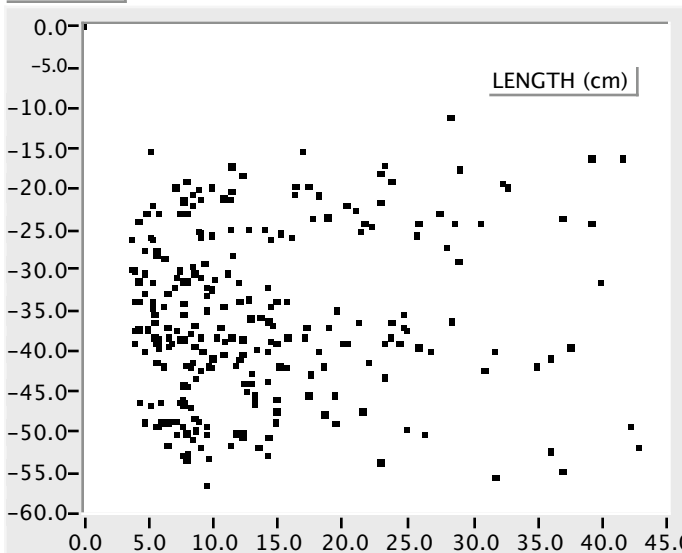
Filter

Depth

35

Length (cm)

10



TRANSECT LENGTH (M)

1662

NUMBER OF TARGETS

256

PERCENT LOST BOTTOM

0

Blue2011:Blue2011August:K2410143.FSH

OUTPUT

Blue2011:Blue2011August:K2410143.FSH

Transect length (m): 1662 Total pings: 5847

Number prey/acre: 3.297

Biomass prey/acre (kg): 0.002

Total prey biomass (MT): 0.019

Number predators/acre: 41.433

Biomass predators/acre (kg): 2.296

Predator/prey cutoff: 5.0 cm

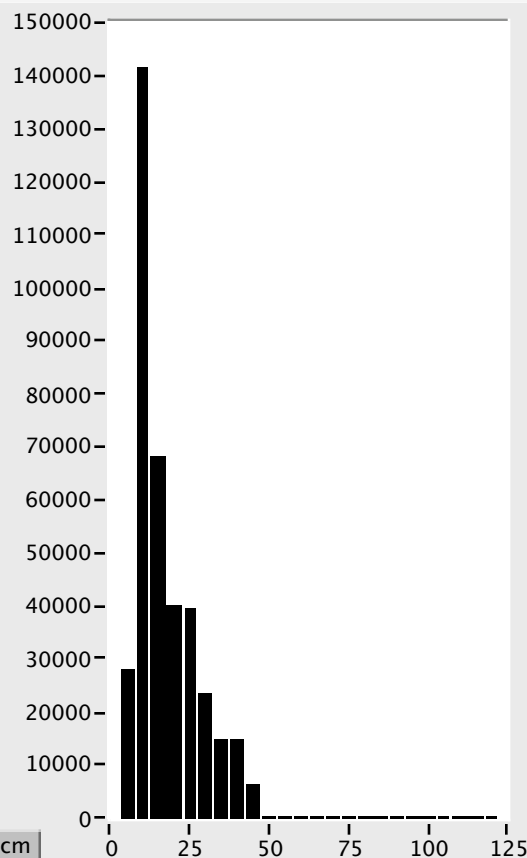
Strata top (M) Prey (g) Prey # Predator (g) Predator #
Per cubic meter by strata:

-2.000000	0.000000	0.000000	0.000000	0.000000
-5.000000	0.000000	0.000000	0.000000	0.000000
-10.000000	0.000000	0.000000	0.004850	0.000036
-15.000000	0.000000	0.000000	0.045545	0.000419
-20.000000	0.000044	0.000044	0.043080	0.000657
-25.000000	0.000021	0.000064	0.010381	0.000467
-30.000000	0.000098	0.000147	0.014389	0.000661
-35.000000	0.000045	0.000091	0.033575	0.001113
-40.000000	0.000021	0.000021	0.029581	0.000739
-45.000000	0.000081	0.000081	0.025451	0.000835
-50.000000	0.000000	0.000000	0.034133	0.000625
-55.000000	0.000000	0.000000	0.134485	0.000700
-60.000000	0.000000	0.000000	0.000000	0.000000

Total per cubic meter

0.000000 0.000033 0.000049 0.027052 0.000607

LENGTH FREQUENCY PLOT - LAKEWIDE ESTIMATE (all fish)



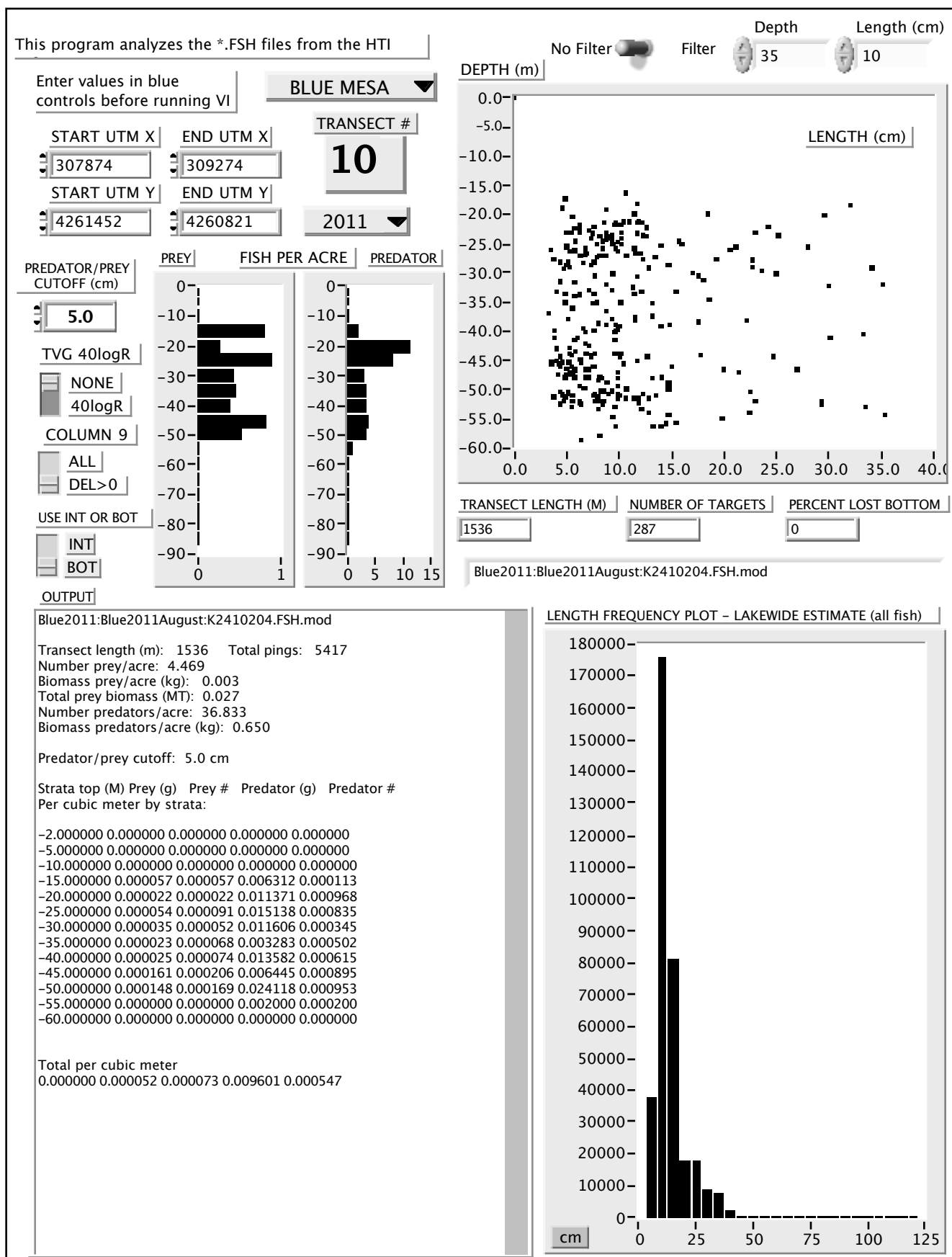


INTERPRET FSH 8.94b BW.vi

WD60GIG:Users:Michael:Documents:Sonar:ANALYSIS VIs:INTERPRET FSH 8.94b BW.vi

Last modified on 11/22/11 at 3:22 PM

Printed on 12/6/11 at 10:44 AM



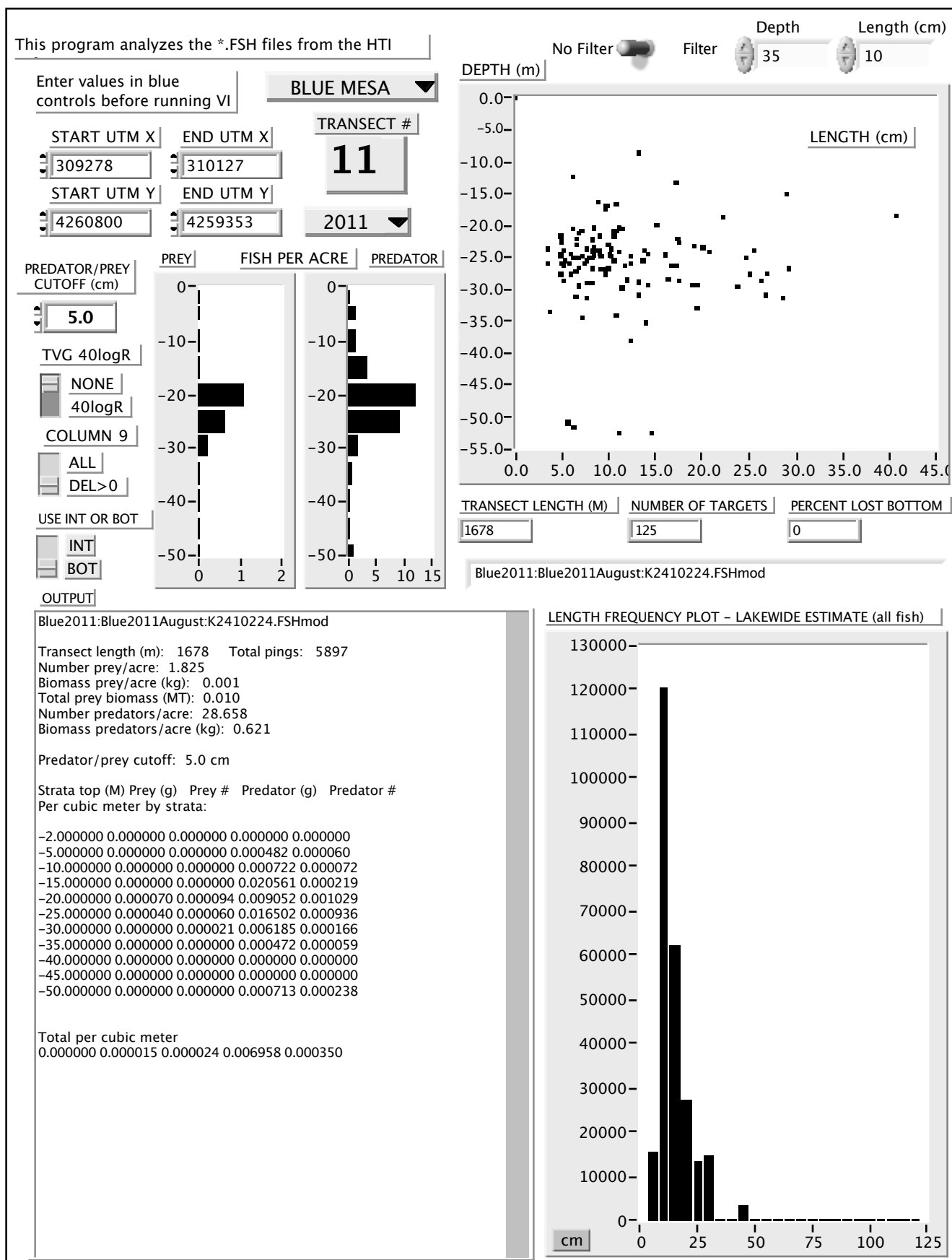


INTERPRET FSH 8.94b BW.vi

WD60GIG:Users:Michael:Documents:Sonar:ANALYSIS VIs:INTERPRET FSH 8.94b BW.vi

Last modified on 11/22/11 at 3:22 PM

Printed on 12/6/11 at 10:51 AM



INPUT FILES:

WD60GIG:Users:Michael:Documents:Sonar:Carter2011:2011CarterT1.out
WD60GIG:Users:Michael:Documents:Sonar:Carter2011:2011CarterT2.out

Total length of transects (m): 3068
Number prey/acre: 3.583 95%CI (-41.943, 49.109)
Biomass prey/acre (kg): 0.003 95%CI (-0.035, 0.041)
Total prey biomass (MT): 0.003 95%CI (-0.035, 0.041)
Number predators/acre: 12.829 95%CI (-61.057, 86.715)
Biomass predators/acre (kg): 2.146 95%CI (-10.173, 14.464)

Strata (top)	LCL	g PREY	UCL	LCL	# PREY	UCL	LCL	g PRED	UCL	LCL	# PRED	UCL	n
Per cubic meter by strata													
-2	0	0	0	0	0	0	0	0	0	0	0	0	2
-5	-0.001516	0.00013	0.001775	-0.001896	0.000162	0.00222	-0.828597	0.111055	1.050706	-0.004107	0.000632	0.005371	2
-10	-0.000685	0.000058	0.000802	-0.000685	0.000058	0.000802	-0.211605	0.018992	0.24959	-0.000078	0.000138	0.000354	2
-15	0	0	0	0	0	0	-0.000164	0.000014	0.000192	-0.000164	0.000014	0.000192	2
-20	0	0	0	0	0	0	0	0	0	0	0	0	2
-25	0	0	0	0	0	0	0	0	0	0	0	0	2
-30	0	0	0	0	0	0	0	0	0	0	0	0	2
-35	0	0	0	0	0	0	0	0	0	0	0	0	2
Total per cubic meter													
	-0.000135	0.000011	0.000158	-0.000152	0.000013	0.000178	-0.048226	0.009555	0.067337	-0.000334	0.00006	0.000454	



INTERPRET FSH 8.94b BW.vi

WD60GIG:Users:Michael:Documents:Sonar:ANALYSIS VIs:INTERPRET FSH 8.94b BW.vi

Last modified on 12/8/11 at 9:26 AM

Printed on 12/8/11 at 10:37 AM

This program analyzes the *.FSH files from the HTI

Enter values in blue
controls before running VI

CARTER

TRANSECT #

1

START UTM X

END UTM X

481469

481438

START UTM Y

END UTM Y

4463382

4464890

2011

PREDATOR/PREY
CUTOFF (cm)

5.0

TVG 40logR

NONE

40logR

COLUMN 9

ALL

DEL>0

USE INT OR BOT

INT

BOT

PREY

FISH PER ACRE

PREDATOR

0

-5

-10

-15

-20

-25

-30

-35

-1

0

1

0

-5

-10

-15

-20

-25

-30

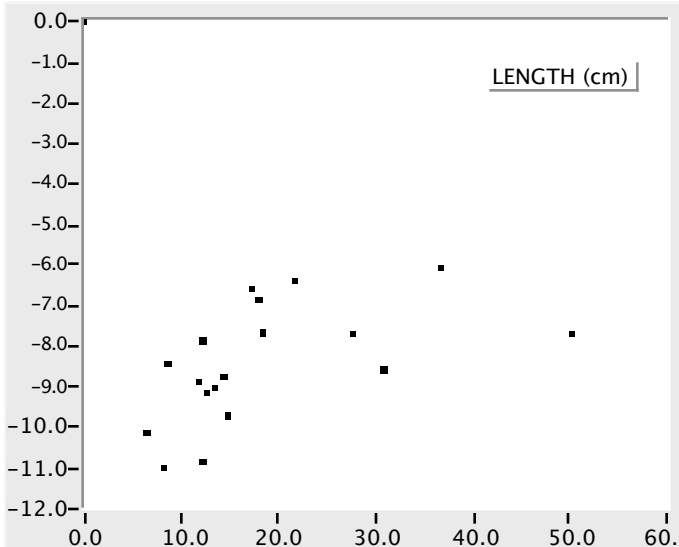
-35

0

10

20

DEPTH (m)



TRANSECT LENGTH (M)

1508

NUMBER OF TARGETS

18

PERCENT LOST BOTTOM

0

Carter2011:Carter2011:K2712016.FSH.mod

OUTPUT

Carter2011:Carter2011:K2712016.FSH.mod

Transect length (m): 1508 Total pings: 6155

Number prey/acre: 0.000

Biomass prey/acre (kg): 0.000

Total prey biomass (MT): 0.000

Number predators/acre: 18.644

Biomass predators/acre (kg): 3.115

Predator/prey cutoff: 5.0 cm

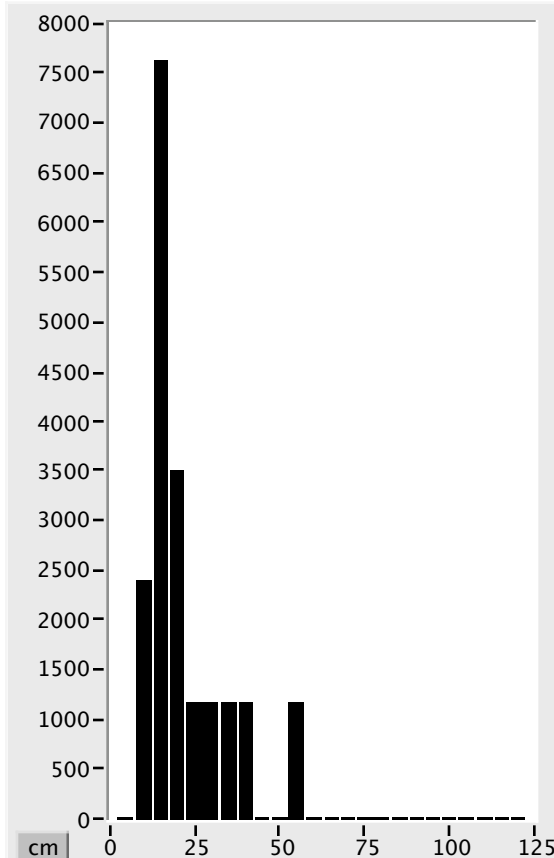
Strata top (M) Prey (g) Prey # Predator (g) Predator #
Per cubic meter by strata:

-2.000000	0.000000	0.000000	0.000000	0.000000
-5.000000	0.000000	0.000000	0.185007	0.001005
-10.000000	0.000000	0.000000	0.000844	0.000121
-15.000000	0.000000	0.000000	0.000000	0.000000
-20.000000	0.000000	0.000000	0.000000	0.000000
-25.000000	0.000000	0.000000	0.000000	0.000000
-30.000000	0.000000	0.000000	0.000000	0.000000
-35.000000	0.000000	0.000000	0.000000	0.000000

Total per cubic meter

0.000000 0.000000 0.000000 0.014103 0.000091

LENGTH FREQUENCY PLOT - LAKEWIDE ESTIMATE (all fish)



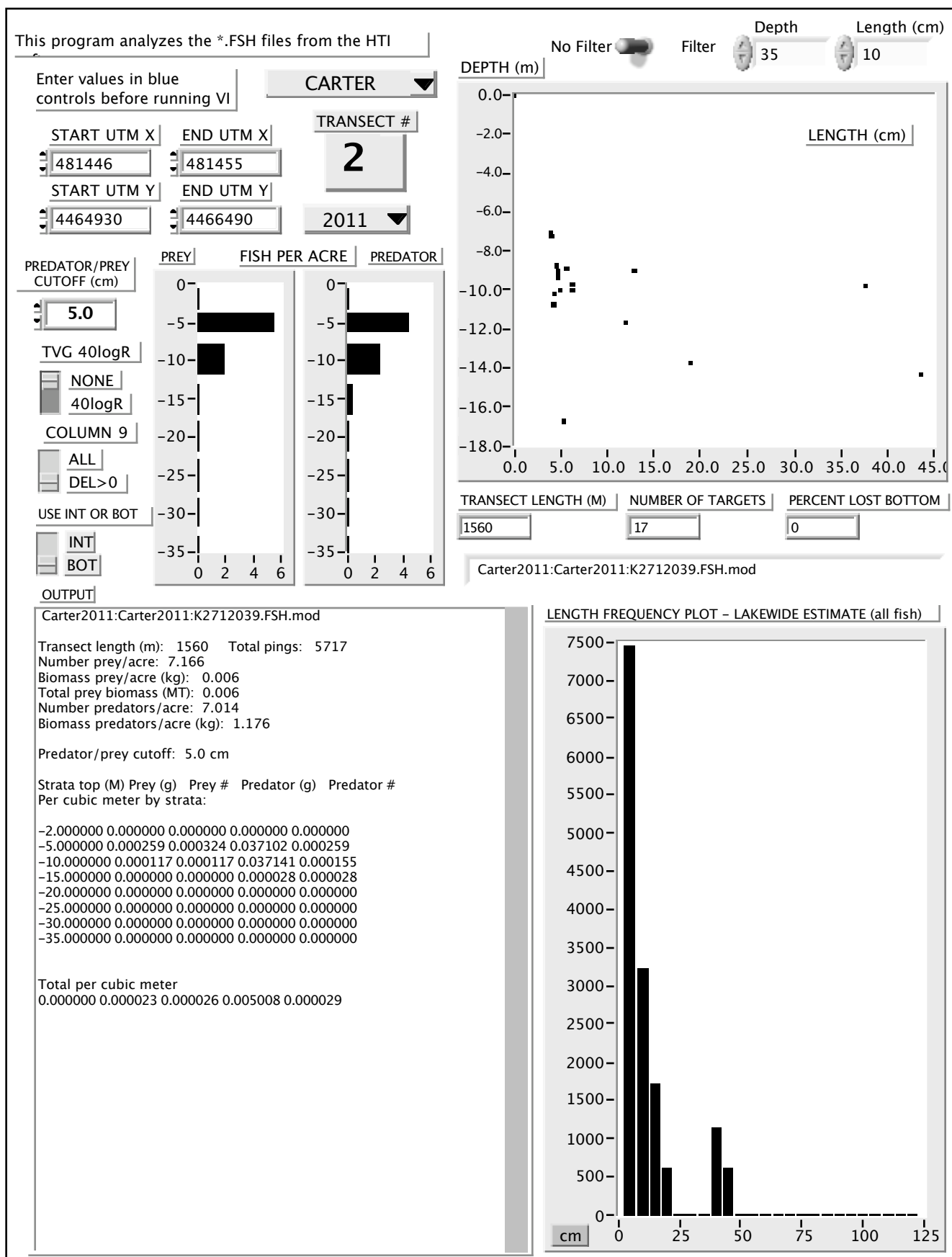


INTERPRET FSH 8.94b BW.vi

WD60GIG:Users:Michael:Documents:Sonar:ANALYSIS VIs:INTERPRET FSH 8.94b BW.vi

Last modified on 12/8/11 at 9:26 AM

Printed on 12/8/11 at 11:19 AM



INPUT FILES:

WD60GIG:Users:Michael:Documents:Sonar:Cheesman2011June:2011ChsT2.out
WD60GIG:Users:Michael:Documents:Sonar:Cheesman2011June:2011ChsT1.out
WD60GIG:Users:Michael:Documents:Sonar:Cheesman2011June:2011ChsT3.out
WD60GIG:Users:Michael:Documents:Sonar:Cheesman2011June:2011ChsT5.out
WD60GIG:Users:Michael:Documents:Sonar:Cheesman2011June:2011ChsT4.out
WD60GIG:Users:Michael:Documents:Sonar:Cheesman2011June:2011ChsT6.out

Total length of transects (m): 5073

Number prey/acre: 4.714 95%CI (0.075, 9.353)

Biomass prey/acre (kg): 0.004 95%CI (-0.001, 0.008)

Total prey biomass (MT): 0.003 95%CI (-0.001, 0.007)

Number predators/acre: 85.531 95%CI (23.529, 147.534)

Biomass predators/acre (kg): 2.849 95%CI (1.361, 4.338)

Strata (top)	LCL	g PREY	UCL	LCL	# PREY	UCL	LCL	g PRED	UCL	LCL	# PRED	UCL	n
Per cubic meter by strata													
-2	0	0	0	0	0	0	0	0	0	0	0	0	6
-5	0	0	0	0	0	0	-0.000159	0.000101	0.000361	-0.00004	0.000025	0.00009	6
-10	-0.000017	0.000025	0.000067	-0.000023	0.000051	0.000126	-0.006142	0.011598	0.029339	-0.000205	0.000596	0.001396	6
-15	-0.000011	0.000096	0.000202	0.000004	0.000103	0.000202	0.021878	0.066567	0.111256	0.000823	0.00202	0.003217	6
-20	-0.000014	0.000009	0.000031	-0.000011	0.000017	0.000046	-0.008508	0.025138	0.058785	0.000239	0.000545	0.000852	6
-25	-0.00001	0.000006	0.000023	-0.00001	0.000006	0.000023	0.002188	0.013062	0.023935	0.000033	0.000279	0.000526	6
-30	-0.000016	0.000017	0.000049	-0.000016	0.000017	0.000049	-0.004025	0.016297	0.036619	-0.000058	0.000288	0.000634	6
-35	-0.000018	0.000017	0.000052	-0.000018	0.000017	0.000052	-0.00433	0.007783	0.019895	-0.000092	0.000139	0.000371	6
-40	0	0	0	0	0	0	-0.001033	0.001694	0.004422	-0.000064	0.000086	0.000237	6
-45	-0.000006	0.000003	0.000012	-0.000011	0.000006	0.000024	-0.002283	0.001285	0.004854	-0.000074	0.000041	0.000156	5
-50	-0.00001	0.000006	0.000022	-0.00001	0.000006	0.000022	-0.00011	0.000138	0.000386	-0.000032	0.000037	0.000105	5
-55	0	0	0	0	0	0	0	0	0	0	0	0	3
-60	NaN	0	NaN	NaN	0	NaN	NaN	0	NaN	NaN	0	NaN	1
Total per cubic meter													
-0.000004	0.000018	0.00004	0.000001	0.000022	0.000044	0.00506	0.01524	0.025419	0.000092	0.000404	0.000717		



INTERPRET FSH 8.95 BW.vi

WD60GIG:Users:Michael:Documents:Sonar:ANALYSIS VIs:INTERPRET FSH 8.95 BW.vi

Last modified on 12/30/11 at 9:46 AM

Printed on 12/30/11 at 10:06 AM

This program analyzes the *.FSH files from the HTI

Enter values in blue
controls before running VI

CHEESMAN

TRANSECT #

1

START UTM X

END UTM X

476293

475976

START UTM Y

END UTM Y

4340441

4341028

2011

PREDATOR/PREY
CUTOFF (cm)

5.0

TVG 40logR

NONE

40logR

COLUMN 9

ALL

DEL>0

USE INT OR BOT

INT

BOT

PREY

FISH PER ACRE

PREDATOR

0

0

0

-10

-10

-10

-20

-20

-20

-30

-30

-30

-40

-40

-40

-50

-50

-50

0

2

0

2

4

50

4

6

100

6

8

8

0

2

0

2

4

50

4

6

100

6

8

8

0

2

0

2

4

50

4

6

100

6

8

8

0

2

0

2

4

50

4

6

100

6

8

8

0

2

0

2

4

50

4

6

100

6

8

8

0

2

0

2

4

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8

8

0

2

0

2

4

50

4

6

100

6

8

8

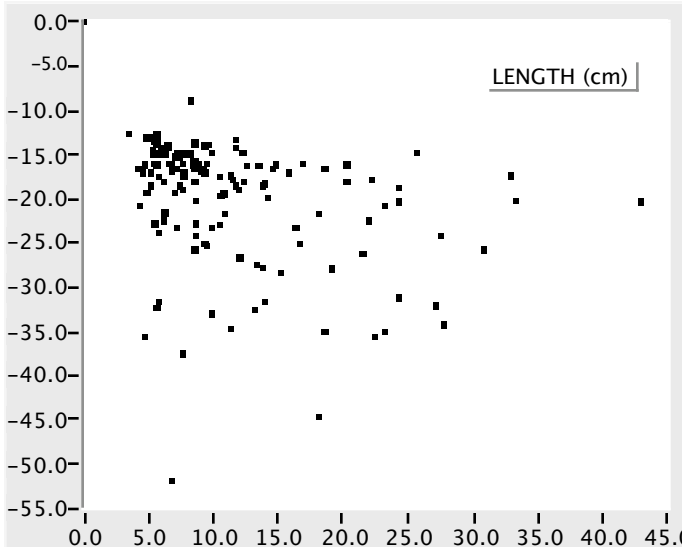
0

2

0

No Filter ☐ Filter ☒ Depth 35 Length (cm) 10

DEPTH (m)



TRANSECT LENGTH (M)

NUMBER OF TARGETS

PERCENT LOST BOTTOM

667

139

0

Sonar:Cheesman2011June:K1820106.FSH

OUTPUT

Sonar:Cheesman2011June:K1820106.FSH

Transect length (m): 667 Total pings: 2537

Number prey/acre: 13.149

Biomass prey/acre (kg): 0.011

Total prey biomass (MT): 0.010

Number predators/acre: 199.508

Biomass predators/acre (kg): 5.068

Predator/prey cutoff: 5.0 cm

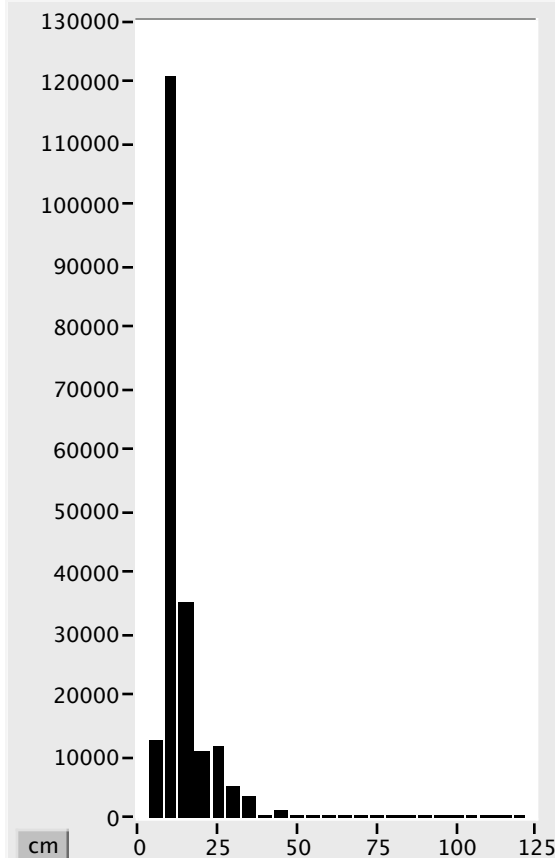
Strata top (M) Prey (g) Prey # Predator (g) Predator #
Per cubic meter by strata:

-2.000000	0.000000	0.000000	0.000000	0.000000
-5.000000	0.000000	0.000000	0.000606	0.000151
-10.000000	0.000091	0.000182	0.020353	0.002090
-15.000000	0.000261	0.000261	0.070986	0.003911
-20.000000	0.000052	0.000052	0.088041	0.001045
-25.000000	0.000000	0.000000	0.029926	0.000649
-30.000000	0.000000	0.000000	0.050374	0.000821
-35.000000	0.000083	0.000083	0.007849	0.000165
-40.000000	0.000000	0.000000	0.004310	0.000094
-45.000000	0.000000	0.000000	0.000000	0.000000
-50.000000	0.000000	0.000000	0.000250	0.000125
-55.000000	0.000000	0.000000	0.000000	0.000000

Total per cubic meter

0.000000 0.000053 0.000060 0.032880 0.000985

LENGTH FREQUENCY PLOT - LAKEWIDE ESTIMATE (all fish)





INTERPRET FSH 8.95 BW.vi

WD60GIG:Users:Michael:Documents:Sonar:ANALYSIS VIs:INTERPRET FSH 8.95 BW.vi

Last modified on 12/30/11 at 9:46 AM

Printed on 12/30/11 at 10:59 AM

This program analyzes the *.FSH files from the HTI

Enter values in blue
controls before running VI

CHEESMAN

TRANSECT #

2

START UTM X

END UTM X

475997

476348

START UTM Y

END UTM Y

4339411

4340405

2011

PREDATOR/PREY
CUTOFF (cm)

5.0

TVG 40logR

NONE

40logR

COLUMN 9

ALL

DEL>0

USE INT OR BOT

INT

BOT

PREY

FISH PER ACRE

PREDATOR

0

-10

-20

-30

-40

-50

0

1

2

0

-10

-20

-30

-40

-50

0

20

40

60

DEPTH (m)

0.0

-5.0

-10.0

-15.0

-20.0

-25.0

-30.0

-35.0

-40.0

-45.0

-50.0

-55.0

0.0

5.0

10.0

15.0

20.0

25.0

30.0

LENGTH (cm)

TRANSECT LENGTH (M)

1054

NUMBER OF TARGETS

187

PERCENT LOST BOTTOM

0

Sonar:Cheesman2011June:K1820052.FSH

OUTPUT

Sonar:Cheesman2011June:K1820052.FSH

Transect length (m): 1054 Total pings: 3797

Number prey/acre: 4.240

Biomass prey/acre (kg): 0.004

Total prey biomass (MT): 0.004

Number predators/acre: 90.450

Biomass predators/acre (kg): 2.403

Predator/prey cutoff: 5.0 cm

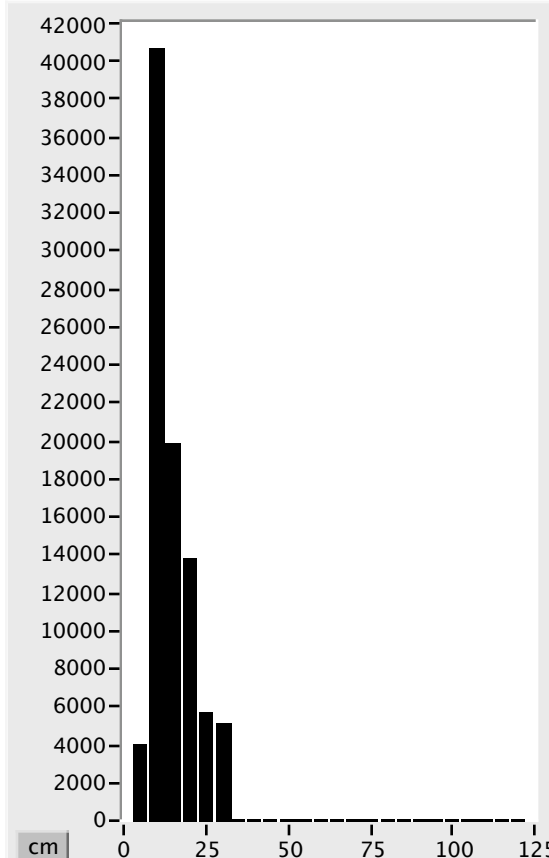
Strata top (M) Prey (g) Prey # Predator (g) Predator #
Per cubic meter by strata:

-2.000000	0.000000	0.000000	0.000000	0.000000
-5.000000	0.000000	0.000000	0.000000	0.000000
-10.000000	0.000058	0.000058	0.005405	0.000460
-15.000000	0.000083	0.000083	0.035146	0.001939
-20.000000	0.000000	0.000000	0.025226	0.000673
-25.000000	0.000000	0.000000	0.019237	0.000262
-30.000000	0.000023	0.000023	0.028467	0.000565
-35.000000	0.000020	0.000020	0.029996	0.000572
-40.000000	0.000000	0.000000	0.005692	0.000368
-45.000000	0.000016	0.000032	0.006427	0.000207
-50.000000	0.000029	0.000029	0.000438	0.000058
-55.000000	0.000000	0.000000	0.000000	0.000000
-60.000000	0.000000	0.000000	0.000000	0.000000

Total per cubic meter

0.000000 0.000017 0.000019 0.012525 0.000371

LENGTH FREQUENCY PLOT - LAKEWIDE ESTIMATE (all fish)



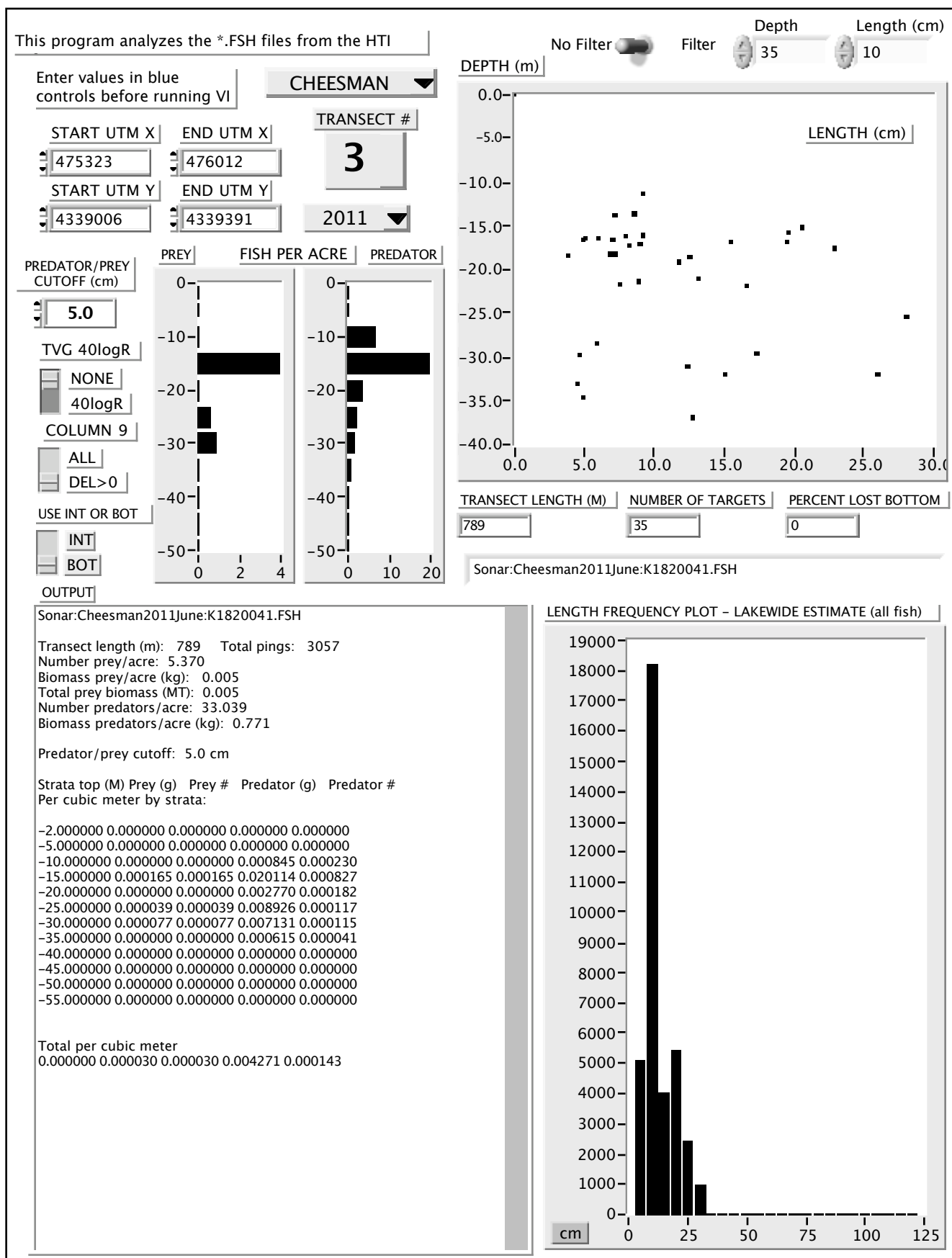


INTERPRET FSH 8.95 BW.vi

WD60GIG:Users:Michael:Documents:Sonar:ANALYSIS VIs:INTERPRET FSH 8.95 BW.vi

Last modified on 12/30/11 at 9:46 AM

Printed on 12/30/11 at 11:07 AM



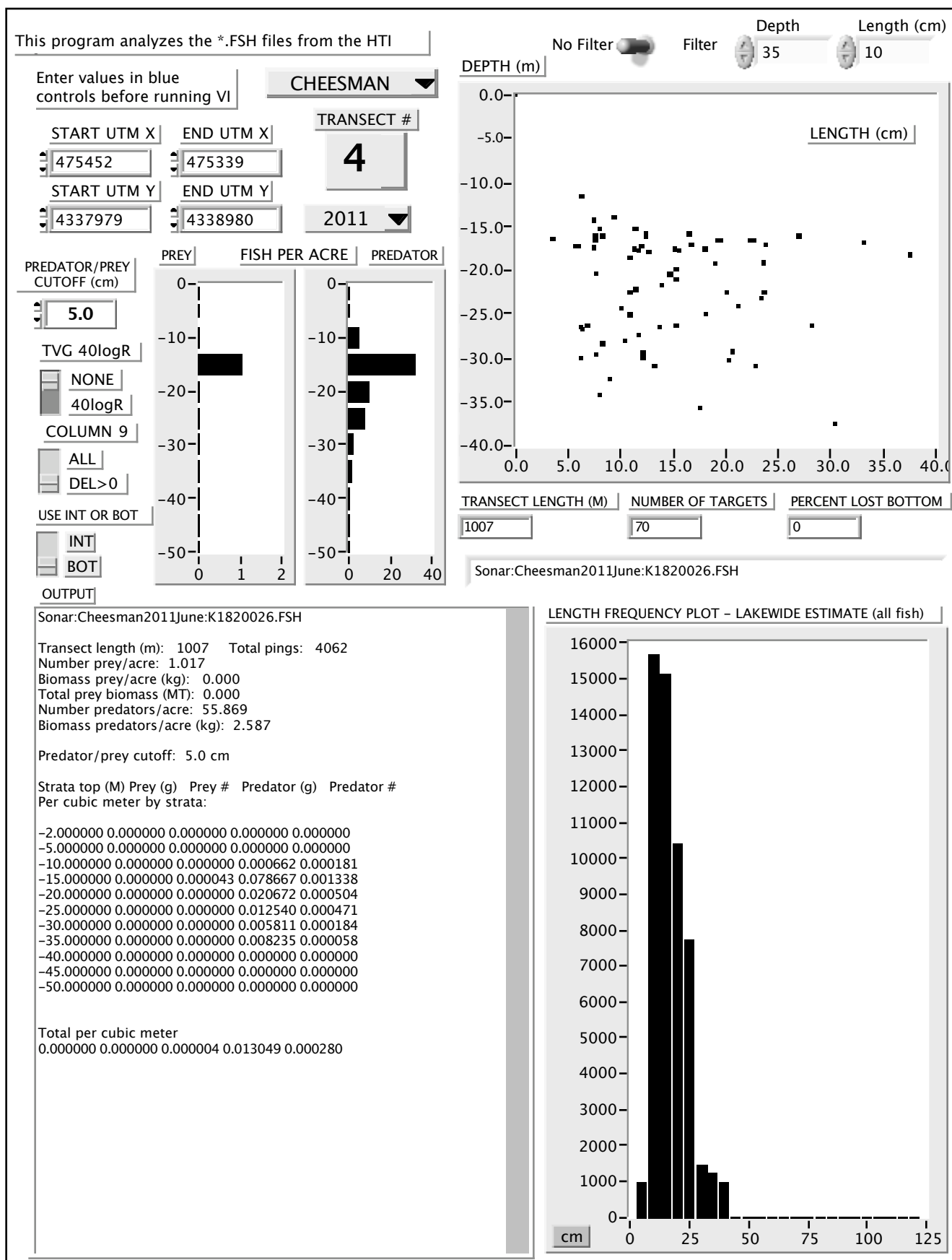


INTERPRET FSH 8.95 BW.vi

WD60GIG:Users:Michael:Documents:Sonar:ANALYSIS VIs:INTERPRET FSH 8.95 BW.vi

Last modified on 12/30/11 at 9:46 AM

Printed on 12/30/11 at 11:10 AM



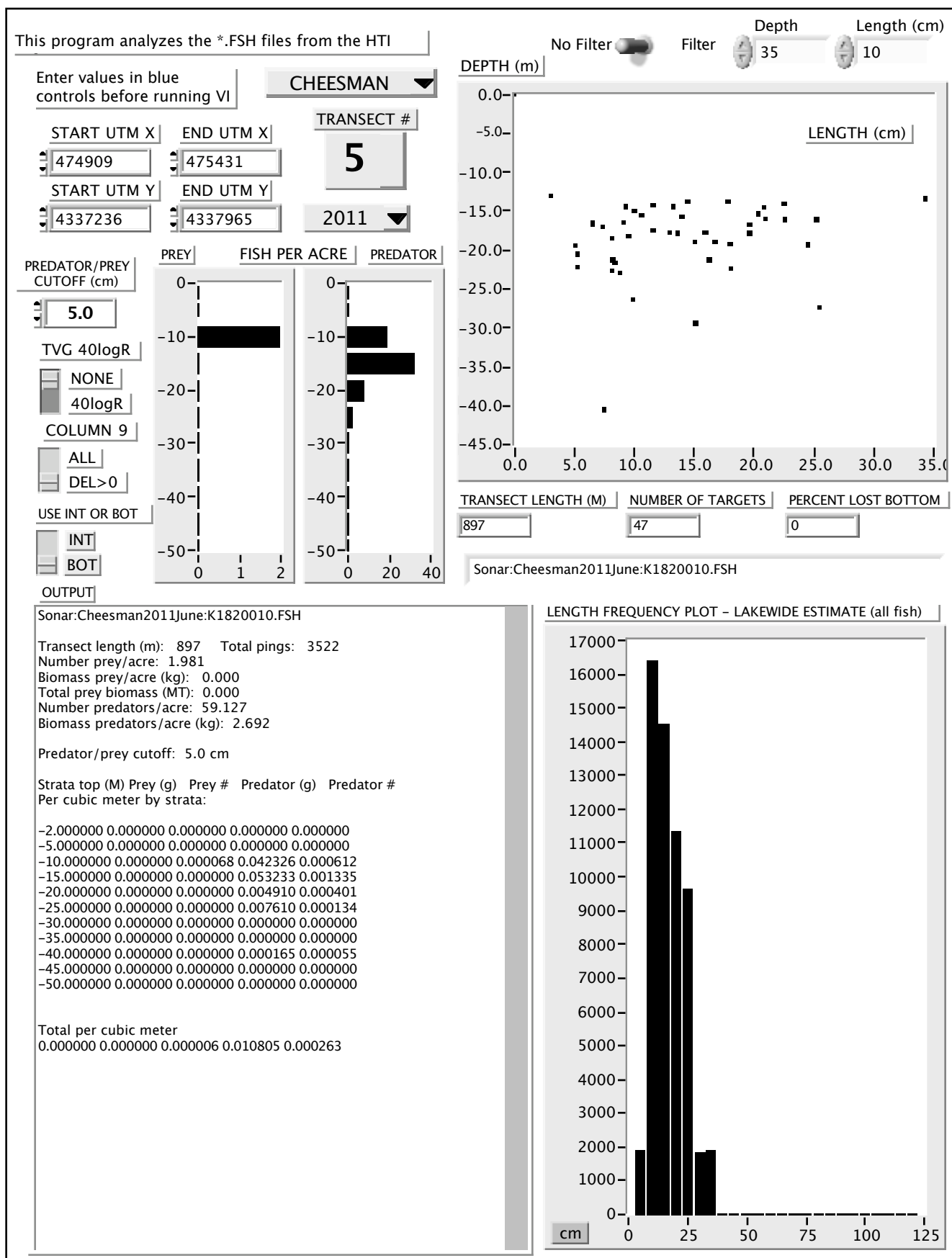


INTERPRET FSH 8.95 BW.vi

WD60GIG:Users:Michael:Documents:Sonar:ANALYSIS VIs:INTERPRET FSH 8.95 BW.vi

Last modified on 12/30/11 at 9:46 AM

Printed on 12/30/11 at 11:17 AM



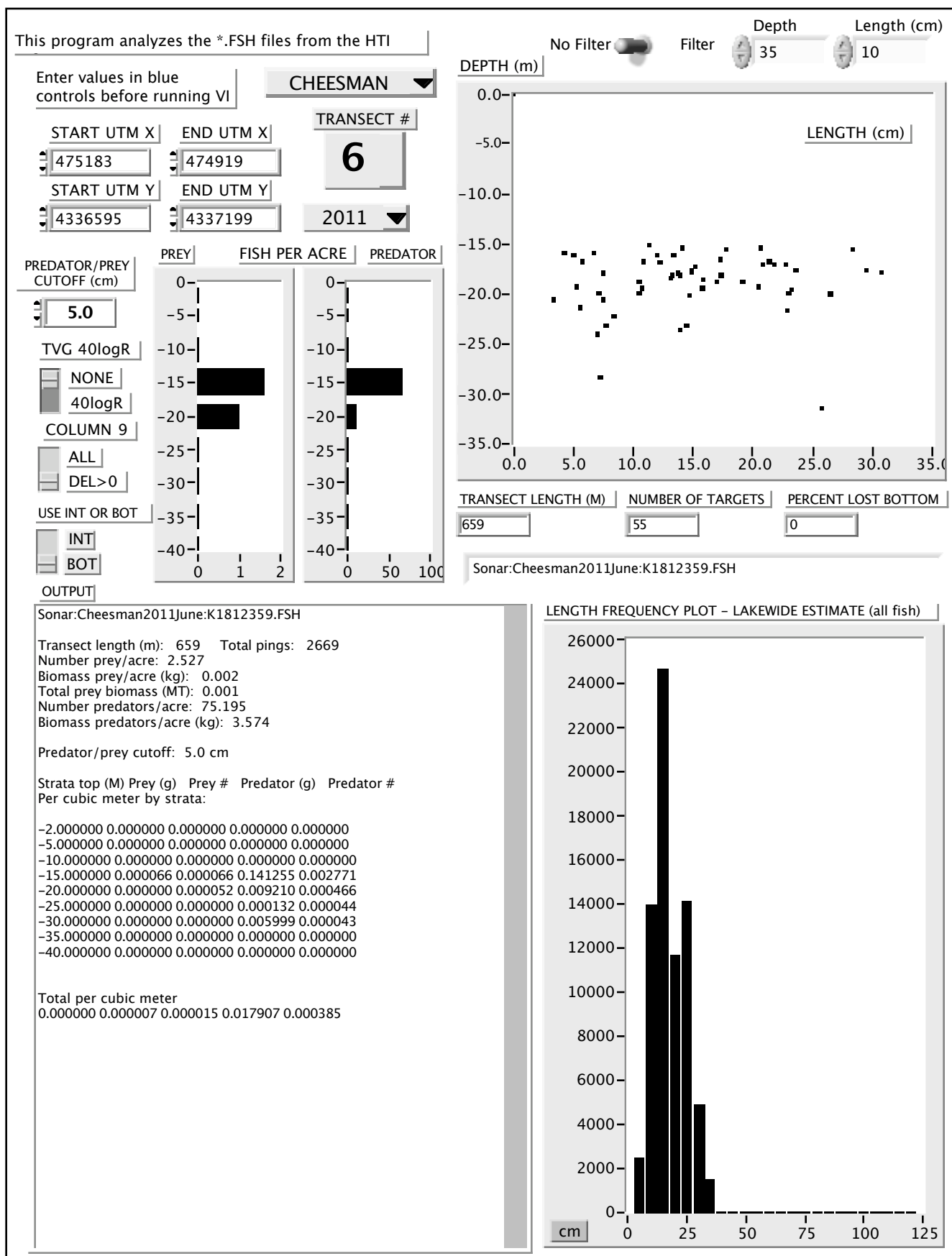


INTERPRET FSH 8.95 BW.vi

WD60GIG:Users:Michael:Documents:Sonar:ANALYSIS VIs:INTERPRET FSH 8.95 BW.vi

Last modified on 12/30/11 at 9:46 AM

Printed on 12/30/11 at 11:20 AM



INPUT FILES:

WD60GIG:Users:Michael:Documents:Sonar:Cheesman2011Aug:2011CHST2.out
 WD60GIG:Users:Michael:Documents:Sonar:Cheesman2011Aug:2011CHST3.out
 WD60GIG:Users:Michael:Documents:Sonar:Cheesman2011Aug:2011CHST4.out
 WD60GIG:Users:Michael:Documents:Sonar:Cheesman2011Aug:2011CHST5.out
 WD60GIG:Users:Michael:Documents:Sonar:Cheesman2011Aug:2011CHST1.out
 WD60GIG:Users:Michael:Documents:Sonar:Cheesman2011Aug:2011CHST6.out

Total length of transects (m): 5107

Number prey/acre: 42.513 95%CI (21.920, 63.106)

Biomass prey/acre (kg): 0.014 95%CI (0.010, 0.019)

Total prey biomass (MT): 0.013 95%CI (0.009, 0.018)

Number predators/acre: 100.657 95%CI (47.971, 153.343)

Biomass predators/acre (kg): 4.458 95%CI (0.255, 8.660)

Strata (top)	LCL	g PREY	UCL	LCL	# PREY	UCL	LCL	g PRED	UCL	LCL	# PRED	UCL	n
Per cubic meter by strata													
-2	0	0	0	0	0	0	0	0	0	0	0	0	6
-5	0.000016	0.00009	0.000164	0.000031	0.000348	0.000665	-0.000117	0.000074	0.000265	-0.000029	0.000019	0.000067	6
-10	0.000057	0.000198	0.000339	0.000312	0.000817	0.001323	-0.077946	0.05026	0.178466	-0.000043	0.000181	0.000405	6
-15	-0.00001	0.000053	0.000115	-0.000012	0.000066	0.000145	0.008714	0.043304	0.077893	0.000442	0.001228	0.002015	6
-20	0	0.000103	0.000206	0.000001	0.000128	0.000254	0.022754	0.072486	0.122217	0.001016	0.002315	0.003614	6
-25	0.000005	0.00006	0.000114	0.000005	0.00006	0.000114	0.000222	0.027754	0.055287	0.000421	0.000955	0.001489	6
-30	0.000008	0.000083	0.000159	0.000021	0.000098	0.000174	0.004359	0.011747	0.019134	0.000178	0.000481	0.000783	6
-35	-0.000008	0.000012	0.000032	-0.000008	0.000012	0.000032	-0.002276	0.005574	0.013424	-0.000039	0.000212	0.000462	6
-40	-0.000006	0.000025	0.000057	-0.000013	0.000031	0.000075	-0.001288	0.001355	0.003999	-0.000073	0.000084	0.000242	6
-45	0	0	0	0	0	0	-0.002016	0.001135	0.004285	-0.000063	0.000035	0.000133	5
-50	-0.000008	0.000004	0.000016	-0.000008	0.000004	0.000016	-0.003585	0.001643	0.00687	-0.000159	0.000073	0.000305	4
-55	0	0	0	0	0	0	-0.002218	0.000189	0.002597	-0.000527	0.000045	0.000617	2
-60	NaN	0	NaN	NaN	0	NaN	NaN	0	NaN	NaN	0	NaN	1
Total per cubic meter													
	0.00004	0.000058	0.000076	0.00005	0.000128	0.000206	0.006019	0.021952	0.037886	0.000269	0.000607	0.000946	



INTERPRET FSH 8.95 BW.vi

WD60GIG:Users:Michael:Documents:Sonar:ANALYSIS VIs:INTERPRET FSH 8.95 BW.vi

Last modified on 12/30/11 at 9:46 AM

Printed on 1/3/12 at 8:42 AM

This program analyzes the *.FSH files from the HTI

Enter values in blue
controls before running VI

CHEESMAN

TRANSECT #

1

START UTM X

END UTM X

476297

475975

START UTM Y

END UTM Y

4340444

4341049

2011

PREDATOR/PREY
CUTOFF (cm)

5.0

TVG 40logR

NONE

40logR

COLUMN 9

ALL

DEL>0

USE INT OR BOT

INT

BOT

PREY

FISH PER ACRE

PREDATOR

0

-10

-20

-30

-40

-50

0

20

40

60

0

-10

-20

-30

-40

-50

0

20

40

60

DEPTH (m)

0.0

-5.0

-10.0

-15.0

-20.0

-25.0

-30.0

-35.0

-40.0

0.0

5.0

10.0

15.0

20.0

25.0

30.0

35.0

No Filter

Filter

Depth

35

Length (cm)

10

LENGTH (cm)

TRANSECT LENGTH (M)

685

NUMBER OF TARGETS

84

PERCENT LOST BOTTOM

0

Sonar:Cheesman2011Aug:K2142325.FSH.mod

OUTPUT

Sonar:Cheesman2011Aug:K2142325.FSH.mod

Transect length (m): 685 Total pings: 2468

Number prey/acre: 71.116

Biomass prey/acre (kg): 0.019

Total prey biomass (MT): 0.018

Number predators/acre: 71.899

Biomass predators/acre (kg): 1.503

Predator/prey cutoff: 5.0 cm

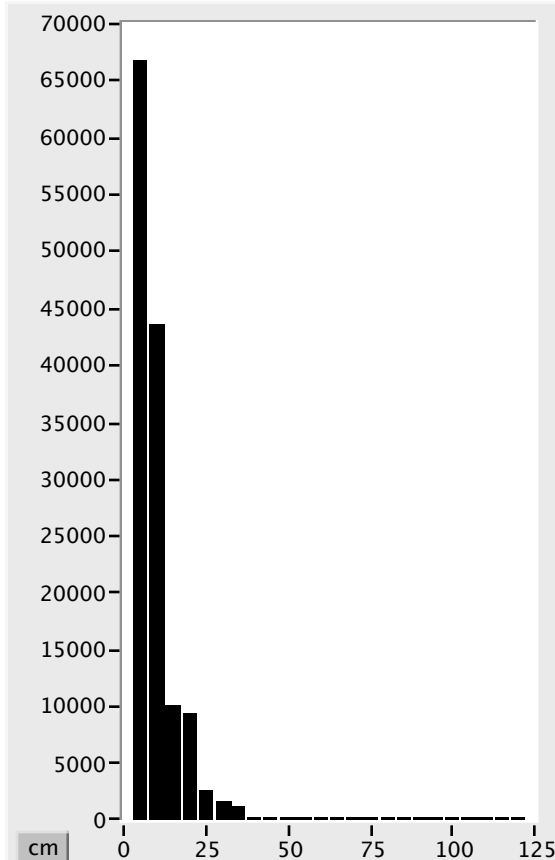
Strata top (M) Prey (g) Prey # Predator (g) Predator #
Per cubic meter by strata:

-2.000000	0.000000	0.000000	0.000000	0.000000
-5.000000	0.000147	0.000590	0.000000	0.000000
-10.000000	0.000265	0.001504	0.000354	0.000088
-15.000000	0.000127	0.000127	0.020692	0.000889
-20.000000	0.000060	0.000060	0.029302	0.001390
-25.000000	0.000000	0.000000	0.012093	0.000949
-30.000000	0.000181	0.000181	0.019966	0.000632
-35.000000	0.000000	0.000000	0.004861	0.000103
-40.000000	0.000000	0.000000	0.000000	0.000000
-45.000000	0.000000	0.000000	0.000000	0.000000

Total per cubic meter

0.000000 0.000092 0.000266 0.012638 0.000593

LENGTH FREQUENCY PLOT - LAKEWIDE ESTIMATE (all fish)





INTERPRET FSH 8.95 BW.vi

WD60GIG:Users:Michael:Documents:Sonar:ANALYSIS VIs:INTERPRET FSH 8.95 BW.vi

Last modified on 12/30/11 at 9:46 AM

Printed on 1/3/12 at 8:50 AM

This program analyzes the *.FSH files from the HTI

Enter values in blue
controls before running VI

CHEESMAN

START UTM X

END UTM X

TRANSECT #

476003

476293

2

START UTM Y

END UTM Y

2011

4339407

4340420

PREDATOR/PREY
CUTOFF (cm)

5.0

TVG 40logR

NONE

40logR

COLUMN 9

ALL

DEL>0

USE INT OR BOT

INT

BOT

PREY

FISH PER ACRE

PREDATOR

0

0

0

-10

-10

-10

-20

-20

-20

-30

-30

-30

-40

-40

-40

-50

-50

-50

0

5

10

15

20

25

30

35

40

45

50

55

60

65

70

75

80

85

90

95

100

105

110

115

120

125

130

135

140

145

150

155

160

165

170

175

180

185

190

195

200

205

210

215

220

225

230

235

240

245

250

255

260

265

270

275

280

285

290

295

300

305

310

315

320

325

330

335

340

345

350

355

360

365

370

375

380

385

390

395

400

405

410

415

420

425

430

435

440

445

450

455

460

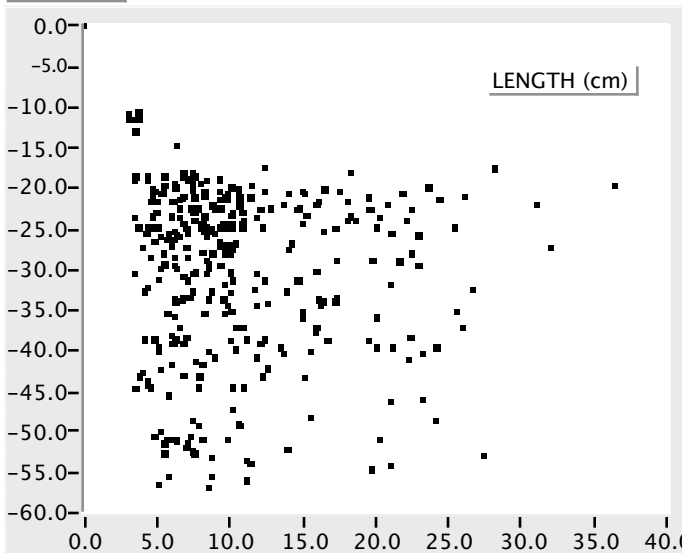
465

470

475

No Filter ☐ Filter ☒ Depth 35 Length (cm) 10

DEPTH (m)



TRANSECT LENGTH (M)

NUMBER OF TARGETS

PERCENT LOST BOTTOM

1054

332

0

Sonar:Cheesman2011Aug:K2142312.FSH

OUTPUT

Sonar:Cheesman2011Aug:K2142312.FSH

Transect length (m): 1054 Total pings: 3743

Number prey/acre: 25.598

Biomass prey/acre (kg): 0.010

Total prey biomass (MT): 0.010

Number predators/acre: 115.282

Biomass predators/acre (kg): 2.993

Predator/prey cutoff: 5.0 cm

Strata top (M) Prey (g) Prey # Predator (g) Predator #
Per cubic meter by strata:

```

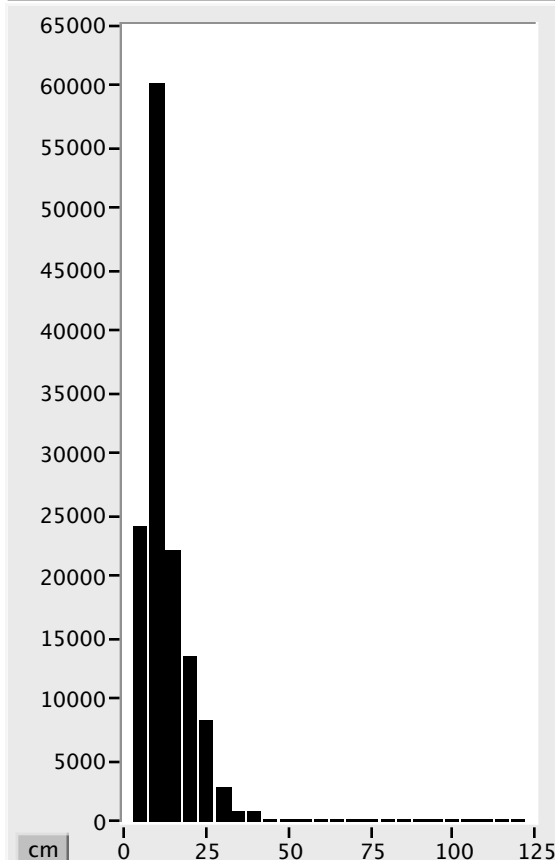
-2.000000 0.000000 0.000000 0.000000 0.000000
-5.000000 0.000000 0.000000 0.000000 0.000000
-10.000000 0.000000 0.000403 0.000115 0.000058
-15.000000 0.000083 0.000165 0.034238 0.000784
-20.000000 0.000288 0.000353 0.070196 0.002981
-25.000000 0.000105 0.000105 0.029800 0.001284
-30.000000 0.000046 0.000068 0.014687 0.000911
-35.000000 0.000039 0.000039 0.020202 0.000671
-40.000000 0.000071 0.000106 0.006405 0.000388
-45.000000 0.000000 0.000000 0.005674 0.000176
-50.000000 0.000015 0.000015 0.006570 0.000292
-55.000000 0.000000 0.000000 0.000379 0.000090
-60.000000 0.000000 0.000000 0.000000 0.000000

```

Total per cubic meter

0.000000 0.000051 0.000081 0.014871 0.000623

LENGTH FREQUENCY PLOT - LAKEWIDE ESTIMATE (all fish)





INTERPRET FSH 8.95 BW.vi

WD60GIG:Users:Michael:Documents:Sonar:ANALYSIS VIs:INTERPRET FSH 8.95 BW.vi

Last modified on 12/30/11 at 9:46 AM

Printed on 2/1/12 at 9:57 AM

This program analyzes the *.FSH files from the HTI

Enter values in blue
controls before running VI

CHEESMAN

TRANSECT #

3

START UTM X

END UTM X

475337

475975

START UTM Y

END UTM Y

4339038

4339395

2011

PREDATOR/PREY
CUTOFF (cm)

5.0

TVG 40logR

NONE

40logR

COLUMN 9

ALL

DEL>0

USE INT OR BOT

INT

BOT

PREY

FISH PER ACRE

PREDATOR

0

0

0

-10

-10

-10

-20

-20

-20

-30

-30

-30

-40

-40

-40

-50

-50

-50

0

0

0

5

5

5

10

10

10

15

15

15

20

20

20

25

25

25

30

30

30

DEPTH (m)

No Filter

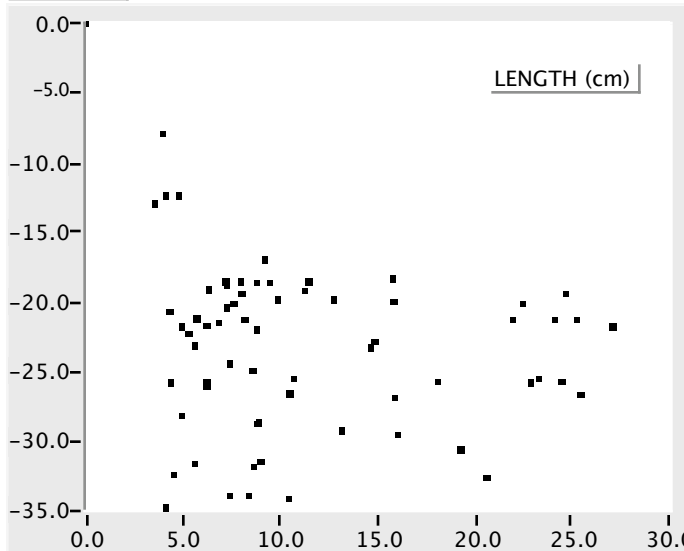
Filter

Depth

Length (cm)

35

10



TRANSECT LENGTH (M)

NUMBER OF TARGETS

PERCENT LOST BOTTOM

731

65

0

Sonar:Cheesman2011Aug:K2142302.FSHmod

OUTPUT

Sonar:Cheesman2011Aug:K2142302.FSHmod

Transect length (m): 731 Total pings: 2356

Number prey/acre: 16.386

Biomass prey/acre (kg): 0.014

Total prey biomass (MT): 0.013

Number predators/acre: 52.632

Biomass predators/acre (kg): 1.512

Predator/prey cutoff: 5.0 cm

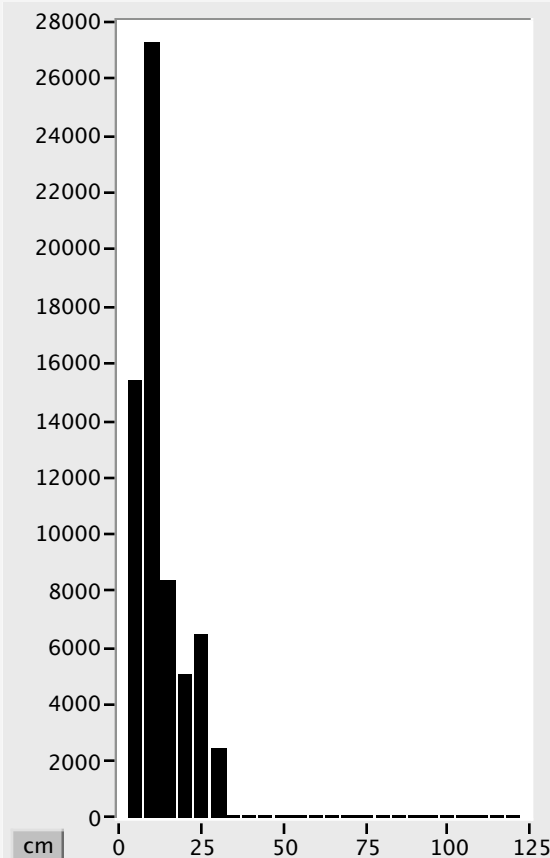
Strata top (M) Prey (g) Prey # Predator (g) Predator #
Per cubic meter by strata:

-2.000000	0.000000	0.000000	0.000000	0.000000
-5.000000	0.000138	0.000138	0.000000	0.000000
-10.000000	0.000166	0.000249	0.000000	0.000000
-15.000000	0.000000	0.000000	0.016198	0.000942
-20.000000	0.000103	0.000103	0.034762	0.000930
-25.000000	0.000089	0.000089	0.027391	0.000620
-30.000000	0.000082	0.000082	0.006319	0.000328
-35.000000	0.000000	0.000000	0.000000	0.000000
-40.000000	0.000000	0.000000	0.000000	0.000000
-45.000000	0.000000	0.000000	0.000000	0.000000
-50.000000	0.000000	0.000000	0.000000	0.000000
-55.000000	0.000000	0.000000	0.000000	0.000000

Total per cubic meter

0.000000 0.000045 0.000050 0.008434 0.000272

LENGTH FREQUENCY PLOT - LAKEWIDE ESTIMATE (all fish)





INTERPRET FSH 8.95 BW.vi

WD60GIG:Users:Michael:Documents:Sonar:ANALYSIS VIs:INTERPRET FSH 8.95 BW.vi

Last modified on 12/30/11 at 9:46 AM

Printed on 1/3/12 at 9:45 AM

This program analyzes the *.FSH files from the HTI

Enter values in blue
controls before running VI

CHEESMAN

TRANSECT #

4

START UTM X

END UTM X

475460

475340

START UTM Y

END UTM Y

4337986

4338993

2011

PREDATOR/PREY
CUTOFF (cm)

5.0

TVG 40logR

NONE

40logR

COLUMN 9

ALL

DEL>0

USE INT OR BOT

INT

BOT

PREY

FISH PER ACRE

PREDATOR

0

0

0

-10

-10

-10

-20

-20

-20

-30

-30

-30

-40

-40

-40

-50

-50

-50

0

0

0

20

20

20

40

40

40

DEPTH (m)

No Filter

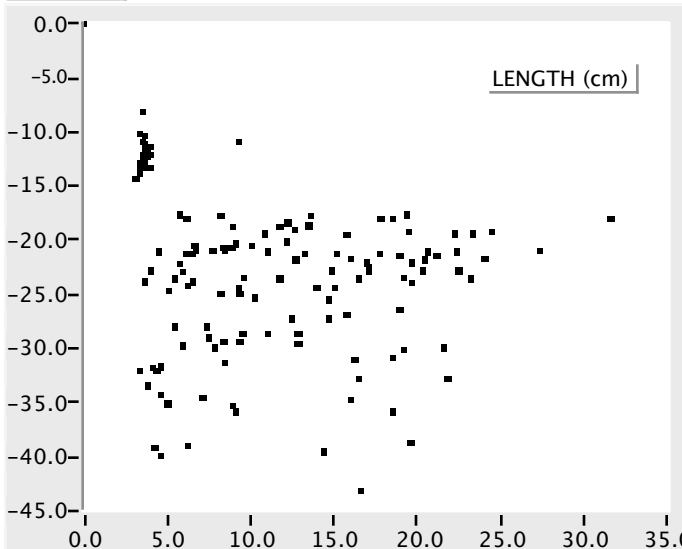
Filter

Depth

35

Length (cm)

10



TRANSECT LENGTH (M)

1014

NUMBER OF TARGETS

134

PERCENT LOST BOTTOM

0

Sonar:Cheesman2011Aug:K2142245.FSH

OUTPUT

Sonar:Cheesman2011Aug:K2142245.FSH

Transect length (m): 1014 Total pings: 3566

Number prey/acre: 41.349

Biomass prey/acre (kg): 0.009

Total prey biomass (MT): 0.008

Number predators/acre: 67.320

Biomass predators/acre (kg): 2.294

Predator/prey cutoff: 5.0 cm

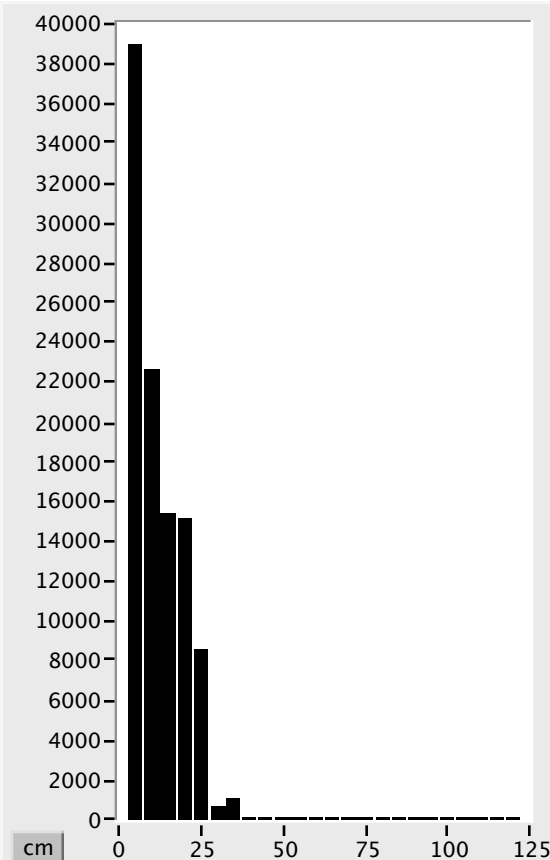
Strata top (M) Prey (g) Prey # Predator (g) Predator #
Per cubic meter by strata:

-2.000000	0.000000	0.000000	0.000000	0.000000
-5.000000	0.000000	0.000100	0.000000	0.000000
-10.000000	0.000179	0.001136	0.000359	0.000060
-15.000000	0.000000	0.000000	0.039619	0.000815
-20.000000	0.000072	0.000107	0.056098	0.001719
-25.000000	0.000000	0.000000	0.007341	0.000580
-30.000000	0.000157	0.000188	0.011799	0.000282
-35.000000	0.000033	0.000033	0.004791	0.000230
-40.000000	0.000034	0.000034	0.001242	0.000034
-45.000000	0.000000	0.000000	0.000000	0.000000
-50.000000	0.000000	0.000000	0.000000	0.000000

Total per cubic meter

0.000000 0.000049 0.000127 0.013436 0.000422

LENGTH FREQUENCY PLOT - LAKEWIDE ESTIMATE (all fish)





INTERPRET FSH 8.95 BW.vi

WD60GIG:Users:Michael:Documents:Sonar:ANALYSIS VIs:INTERPRET FSH 8.95 BW.vi

Last modified on 12/30/11 at 9:46 AM

Printed on 1/3/12 at 9:59 AM

This program analyzes the *.FSH files from the HTI

Enter values in blue
controls before running VI

CHEESMAN

TRANSECT #

5

START UTM X

474911

END UTM X

475441

START UTM Y

4337234

END UTM Y

4337967

2011

PREDATOR/PREY
CUTOFF (cm)

5.0

TVG 40logR

NONE

40logR

COLUMN 9

ALL

DEL>0

USE INT OR BOT

INT

BOT

PREY

FISH PER ACRE

PREDATOR

0

-10

-20

-30

-40

-50

0

20

40

0

-10

-20

-30

-40

-50

0

20

40

60

DEPTH (m)

0.0

-5.0

-10.0

-15.0

-20.0

-25.0

-30.0

-35.0

-40.0

-45.0

0.0

10.0

20.0

30.0

40.0

50.0

60.0

70.0

80.0

Depth

35

Length (cm)

10

No Filter

Filter

LENGTH (cm)

TRANSECT LENGTH (M)

905

NUMBER OF TARGETS

123

PERCENT LOST BOTTOM

0

Sonar:Cheesman2011Aug:K2142233.FSH.mod

OUTPUT

Sonar:Cheesman2011Aug:K2142233.FSH.mod

Transect length (m): 905 Total pings: 3258

Number prey/acre: 53.086

Biomass prey/acre (kg): 0.019

Total prey biomass (MT): 0.018

Number predators/acre: 106.070

Biomass predators/acre (kg): 11.519

Predator/prey cutoff: 5.0 cm

Strata top (M) Prey (g) Prey # Predator (g) Predator #
Per cubic meter by strata:

```

-2.000000 0.000000 0.000000 0.000000 0.000000
-5.000000 0.000112 0.000558 0.000446 0.000112
-10.000000 0.000408 0.001020 0.299636 0.000544
-15.000000 0.000106 0.000106 0.041834 0.001216
-20.000000 0.000000 0.000000 0.085477 0.002547
-25.000000 0.000045 0.000045 0.011906 0.000494
-30.000000 0.000000 0.000000 0.000937 0.000122
-35.000000 0.000000 0.000000 0.000209 0.000084
-40.000000 0.000047 0.000047 0.000047 0.000047
-45.000000 0.000000 0.000000 0.000000 0.000000
-50.000000 0.000000 0.000000 0.000000 0.000000

```

Total per cubic meter

0.000000 0.000058 0.000127 0.037852 0.000522

LENGTH FREQUENCY PLOT - LAKEWIDE ESTIMATE (all fish)

50000

47500

45000

42500

40000

37500

35000

32500

30000

27500

25000

22500

20000

17500

15000

12500

10000

7500

5000

2500

0

0

25

50

75

100

125

cm

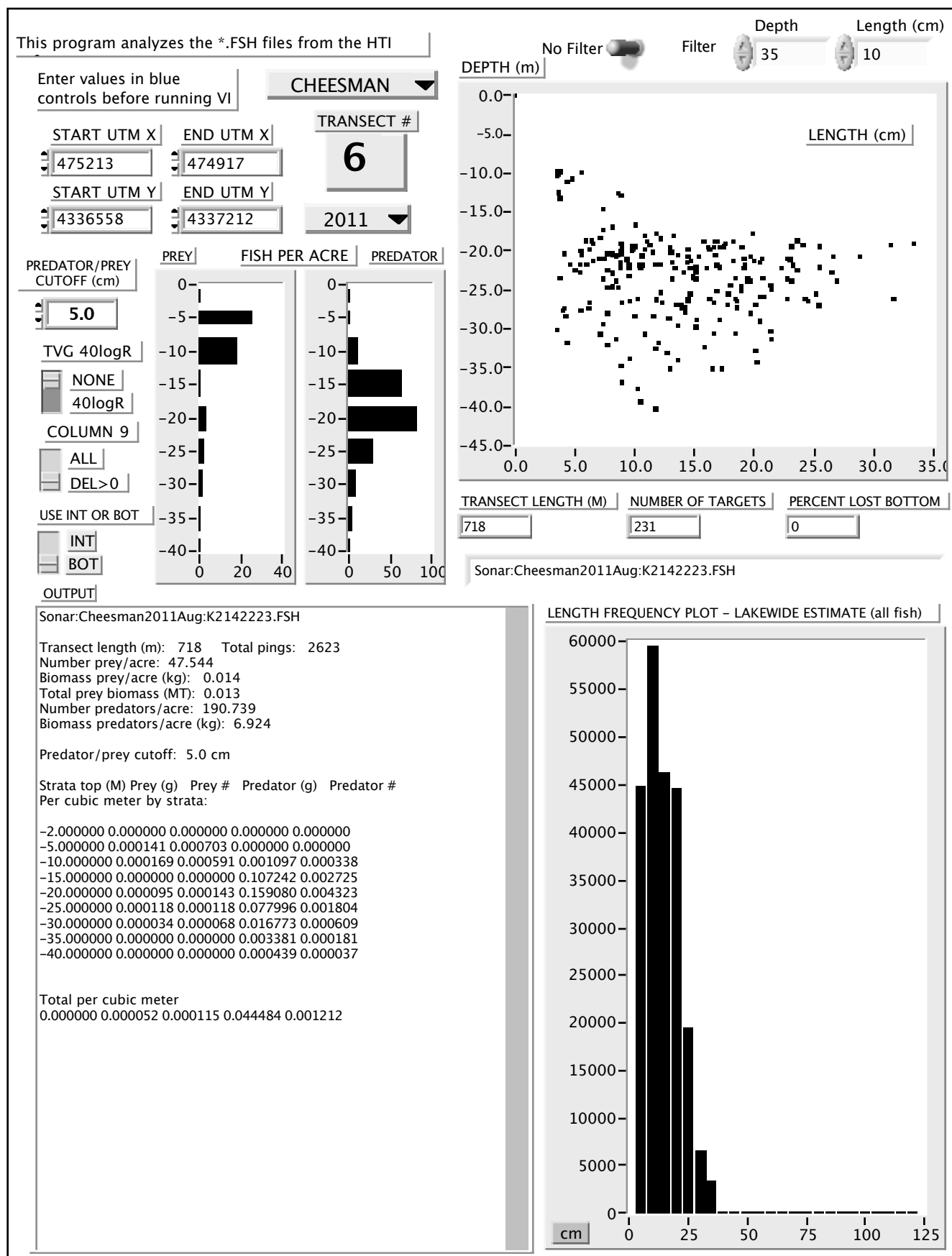


INTERPRET FSH 8.95 BW.vi

WD60GIG:Users:Michael:Documents:Sonar:ANALYSIS VIs:INTERPRET FSH 8.95 BW.vi

Last modified on 12/30/11 at 9:46 AM

Printed on 1/3/12 at 10:07 AM



INPUT FILES:

WD60GIG:Users:Michael:Documents:Sonar:Dillon2011August:2011DillonT5m.out
 WD60GIG:Users:Michael:Documents:Sonar:Dillon2011August:2011DillonT4m.out
 WD60GIG:Users:Michael:Documents:Sonar:Dillon2011August:2011DillonT6m.out
 WD60GIG:Users:Michael:Documents:Sonar:Dillon2011August:2011DillonT1m.out
 WD60GIG:Users:Michael:Documents:Sonar:Dillon2011August:2011DillonT2m.out
 WD60GIG:Users:Michael:Documents:Sonar:Dillon2011August:2011DillonT3m.out
 WD60GIG:Users:Michael:Documents:Sonar:Dillon2011August:2011DillonT7m.out

Total length of transects (m): 11680

Number prey/acre: 0.306 95%CI (0.187, 0.425)

Biomass prey/acre (kg): 0.000 95%CI (0.000, 0.000)

Total prey biomass (MT): 0.001 95%CI (0.001, 0.001)

Number predators/acre: 7.481 95%CI (3.579, 11.382)

Biomass predators/acre (kg): 0.482 95%CI (0.225, 0.740)

Strata (top)	LCL	g PREY	UCL	LCL	# PREY	UCL	LCL	g PRED	UCL	LCL	# PRED	UCL	n
Per cubic meter by strata													
-2	0	0	0	0	0	0	0	0	0	0	0	0	7
-5	0	0	0	0	0	0	-0.002625	0.001815	0.006255	-0.000012	0.000009	0.000003	7
-10	0	0	0	0	0	0	-0.00278	0.00549	0.013761	0.000036	0.000071	0.000106	7
-15	-0.000006	0.000009	0.000023	-0.000003	0.000013	0.000028	0.004346	0.011264	0.018183	0.000057	0.000153	0.000248	7
-20	-0.000003	0.000006	0.000015	-0.000003	0.000006	0.000015	-0.000266	0.007972	0.016211	0.000014	0.000119	0.000225	7
-25	-0.000004	0.000003	0.00001	-0.000004	0.000003	0.00001	0.001668	0.011842	0.022016	0.000076	0.000187	0.000297	7
-30	-0.000002	0.000013	0.000028	-0.000002	0.000013	0.000028	-0.003548	0.011867	0.027282	-0.000018	0.000222	0.000461	7
-35	0	0	0	0	0	0	0.000745	0.004185	0.007624	-0.000004	0.00013	0.000264	7
-40	-0.000003	0.000002	0.000007	-0.000003	0.000002	0.000007	-0.000594	0.000804	0.002203	-0.000014	0.000032	0.000079	6
-45	0	0	0	0	0	0	-0.000694	0.000253	0.001201	-0.000019	0.000016	0.000051	3
-50	-0.0001	0.000008	0.000117	-0.0001	0.000008	0.000117	-0.003618	0.000791	0.0052	-0.000076	0.000026	0.000128	2
-55	0	0	0	0	0	0	0	0	0	0	0	0	2
-60	NaN	0	NaN	NaN	0	NaN	NaN	0	NaN	NaN	0	NaN	1
Total per cubic meter													
	0.000004	0.000005	0.000007	0.000004	0.000005	0.000007	0.002564	0.008023	0.013483	0.000052	0.000132	0.000212	



INTERPRET FSH 8.94b BW.vi

WD60GIG:Users:Michael:Documents:Sonar:ANALYSIS VIs:INTERPRET FSH 8.94b BW.vi

Last modified on 11/22/11 at 3:22 PM

Printed on 12/2/11 at 1:56 PM

This program analyzes the *.FSH files from the HTI

Enter values in blue
controls before running VI

DILLON

TRANSECT #

1

START UTM X

END UTM X

409032

407930

START UTM Y

END UTM Y

4384127

4383029

2011

PREDATOR/PREY
CUTOFF (cm)

5.0

TVG 40logR

NONE

40logR

COLUMN 9

ALL

DEL>0

USE INT OR BOT

INT

BOT

PREY

FISH PER ACRE

PREDATOR

0

-5

-10

-15

-20

-25

-30

-35

-40

0

1

0

-5

-10

-15

-20

-25

-30

-35

-40

0

129

No Filter ☒ Filter ☐ Depth 35 Length (cm) 10

DEPTH (m)

0.0

-5.0

-10.0

-15.0

-20.0

-25.0

-30.0

-35.0

LENGTH (cm)

0.0

5.0

10.0

15.0

20.0

25.0

30.0

35.0

40.0

TRANSECT LENGTH (M)

1556

NUMBER OF TARGETS

37

PERCENT LOST BOTTOM

0

Sonar:Dillon2011August:K2362346.FSH

OUTPUT

Sonar:Dillon2011August:K2362346.FSH

Transect length (m): 1556 Total pings: 5522

Number prey/acre: 0.207

Biomass prey/acre (kg): 0.000

Total prey biomass (MT): 0.001

Number predators/acre: 9.290

Biomass predators/acre (kg): 0.694

Predator/prey cutoff: 5.0 cm

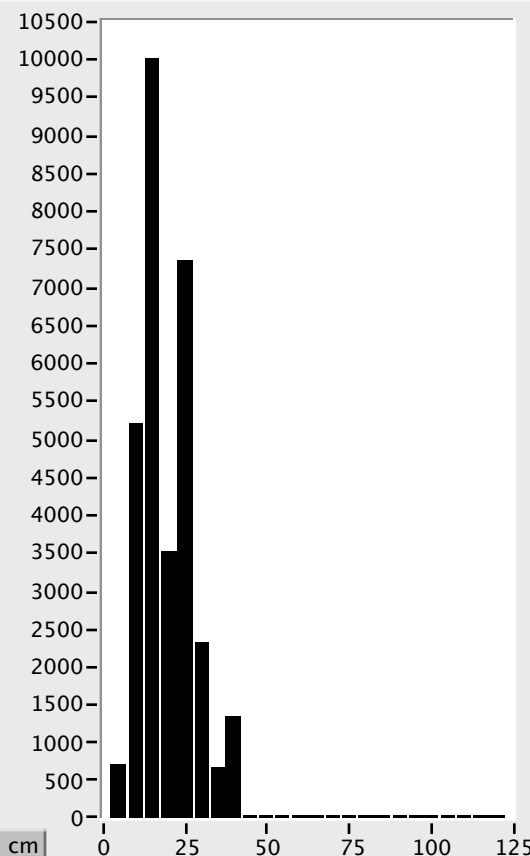
Strata top (M) Prey (g) Prey # Predator (g) Predator #
Per cubic meter by strata:

-2.000000	0.000000	0.000000	0.000000	0.000000
-5.000000	0.000000	0.000000	0.000000	0.000000
-10.000000	0.000000	0.000000	0.004596	0.000117
-15.000000	0.000000	0.000000	0.017855	0.000363
-20.000000	0.000000	0.000000	0.020740	0.000139
-25.000000	0.000000	0.000000	0.027305	0.000232
-30.000000	0.000031	0.000031	0.008241	0.000154
-35.000000	0.000000	0.000000	0.000000	0.000000
-40.000000	0.000000	0.000000	0.000000	0.000000

Total per cubic meter

0.000000 0.000005 0.000005 0.013974 0.000169

LENGTH FREQUENCY PLOT - LAKEWIDE ESTIMATE (all fish)





INTERPRET FSH 8.94b BW.vi

WD60GIG:Users:Michael:Documents:Sonar:ANALYSIS VIs:INTERPRET FSH 8.94b BW.vi

Last modified on 11/22/11 at 3:22 PM

Printed on 12/2/11 at 1:57 PM

This program analyzes the *.FSH files from the HTI

Enter values in blue controls before running VI

DILLON

START UTM X: 409911 END UTM X: 409052

START UTM Y: 4382302 END UTM Y: 4384088

TRANSECT #: 2

2011

PREDATOR/PREY CUTOFF (cm): 5.0

TVG 40logR: NONE

COLUMN 9: ALL

USE INT OR BOT: INT

PREY: 0 5 10 15 20 25 30 35 40

FISH PER ACRE: 0 1

PREDATOR: 0 129

DEPTH (m): 0.0 -5.0 -10.0 -15.0 -20.0 -25.0 -30.0 -35.0 -40.0

LENGTH (cm): 0.0 5.0 10.0 15.0 20.0 25.0 30.0 35.0

TRANSECT LENGTH (M): 1982

NUMBER OF TARGETS: 45

PERCENT LOST BOTTOM: 0

Sonar:Dillon2011August:K2362321.FSH

OUTPUT

Sonar:Dillon2011August:K2362321.FSH

Transect length (m): 1982 Total pings: 6918

Number prey/acre: 0.428

Biomass prey/acre (kg): 0.000

Total prey biomass (MT): 0.001

Number predators/acre: 9.605

Biomass predators/acre (kg): 0.425

Predator/prey cutoff: 5.0 cm

Strata top (M) Prey (g) Prey # Predator (g) Predator #

Per cubic meter by strata:

-2.000000	0.000000	0.000000	0.000000	0.000000
-5.000000	0.000000	0.000000	0.000000	0.000000
-10.000000	0.000000	0.000000	0.000063	0.000031
-15.000000	0.000023	0.000023	0.003951	0.000162
-20.000000	0.000021	0.000021	0.006380	0.000170
-25.000000	0.000000	0.000000	0.027471	0.000357
-30.000000	0.000000	0.000000	0.009830	0.000206
-35.000000	0.000000	0.000000	0.008420	0.000337
-40.000000	0.000000	0.000000	0.000000	0.000000

Total per cubic meter

0.000000 0.000008 0.000008 0.008790 0.000179

LENGTH FREQUENCY PLOT - LAKEWIDE ESTIMATE (all fish)



INTERPRET FSH 8.95 BW.vi

WD60GIG:Users:Michael:Documents:Sonar:ANALYSIS VIs:INTERPRET FSH 8.95 BW.vi

Last modified on 3/20/12 at 6:18 PM

Printed on 3/20/12 at 6:30 PM

This program analyzes the *.FSH files from the HTI

Enter values in blue
controls before running VI

DILLON

TRANSECT #

3

START UTM X

END UTM X

0

0

START UTM Y

END UTM Y

0

1874

2011

PREDATOR/PREY
CUTOFF (cm)

42.5

TVG 40logR

NONE

40logR

COLUMN 9

ALL

DEL>0

USE INT OR BOT

INT

BOT

PREY

FISH PER ACRE

PREDATOR

0

-5

-10

-15

-20

-25

-30

-35

-40

0

2

4

6

0

-5

-10

-15

-20

-25

-30

-35

-40

0

1

DEPTH (m)

No

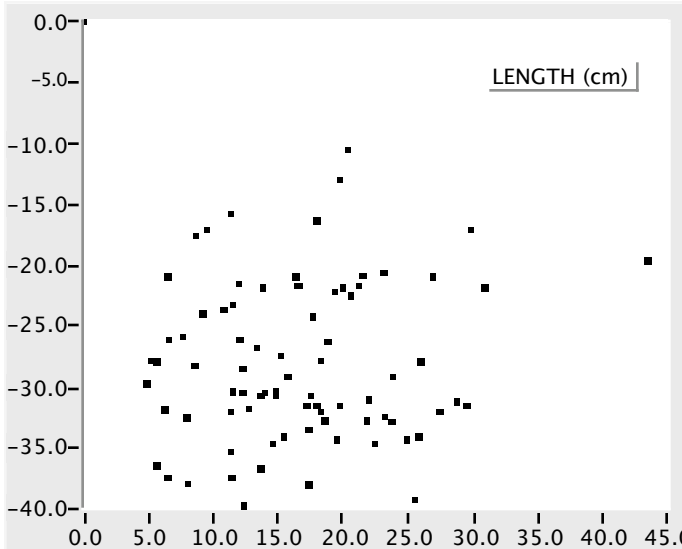
Filter

Depth

35

Length (cm)

10



TRANSECT LENGTH (M)

1874

NUMBER OF TARGETS

80

PERCENT LOST BOTTOM

0

Sonar:Dillon2011August:K2362254.FSHmod

OUTPUT

Sonar:Dillon2011August:K2362254.FSHmod

Transect length (m): 1874 Total pings: 7021

Number prey/acre: 14.615

Biomass prey/acre (kg): 1.031

Total prey biomass (MT): 3.368

Number predators/acre: 0.242

Biomass predators/acre (kg): 0.185

Predator/prey cutoff: 42.5 cm

Strata top (M) Prey (g) Prey # Predator (g) Predator #
Per cubic meter by strata:

```

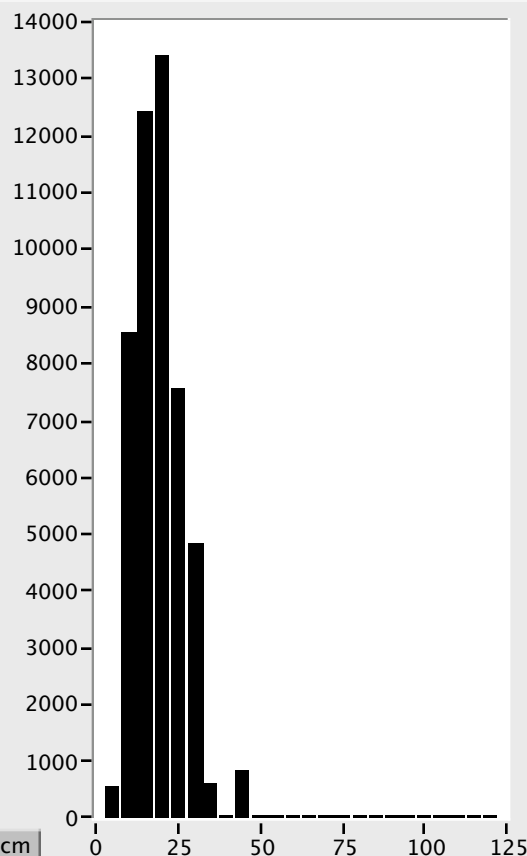
-2.000000 0.000000 0.000000 0.000000 0.000000
-5.000000 0.000000 0.000000 0.000000 0.000000
-10.000000 0.005595 0.000065 0.000000 0.000000
-15.000000 0.009034 0.000116 0.017858 0.000023
-20.000000 0.028093 0.000344 0.000000 0.000000
-25.000000 0.013353 0.000315 0.000000 0.000000
-30.000000 0.067184 0.000790 0.000000 0.000000
-35.000000 0.011786 0.000326 0.000000 0.000000
-40.000000 0.000000 0.000000 0.000000 0.000000

```

Total per cubic meter

0.000000 0.020012 0.000285 0.002768 0.000004

LENGTH FREQUENCY PLOT - LAKEWIDE ESTIMATE (all fish)





INTERPRET FSH 8.94b BW.vi

WD60GIG:Users:Michael:Documents:Sonar:ANALYSIS VIs:INTERPRET FSH 8.94b BW.vi

Last modified on 11/22/11 at 3:22 PM

Printed on 12/2/11 at 2:00 PM

This program analyzes the *.FSH files from the HTI

Enter values in blue
controls before running VI

DILLON

TRANSECT #

START UTM X

END UTM X

408858

409888

4

START UTM Y

END UTM Y

4385429

4384183

2011

PREDATOR/PREY
CUTOFF (cm)

5.0

TVG 40logR

NONE

40logR

COLUMN 9

ALL

DEL>0

USE INT OR BOT

INT

BOT

PREY

FISH PER ACRE

PREDATOR

0

-10

-20

-30

-40

-50

-60

-70

0

-10

-20

-30

-40

-50

-60

-70

0

-10

-20

-30

-40

-50

-60

-70

0

-10

-20

-30

-40

-50

-60

-70

0

-10

-20

-30

-40

-50

-60

-70

0

-10

-20

-30

-40

-50

-60

-70

0

-10

-20

-30

-40

-50

-60

-70

No Filter Filter Depth Length (cm)

35

10

DEPTH (m)

0.0

-5.0

-10.0

-15.0

-20.0

-25.0

-30.0

-35.0

-40.0

-45.0

-50.0

-55.0

LENGTH (cm)

0.0

5.0

10.0

15.0

20.0

25.0

30.0

35.0

TRANSECT LENGTH (M)

1617

NUMBER OF TARGETS

28

PERCENT LOST BOTTOM

0

Sonar:Dillon2011August:K2362229.FSH

OUTPUT

Sonar:Dillon2011August:K2362229.FSH

Transect length (m): 1617 Total pings: 5991

Number prey/acre: 0.193

Biomass prey/acre (kg): 0.000

Total prey biomass (MT): 0.001

Number predators/acre: 2.434

Biomass predators/acre (kg): 0.138

Predator/prey cutoff: 5.0 cm

Strata top (M) Prey (g) Prey # Predator (g) Predator #
Per cubic meter by strata:

```

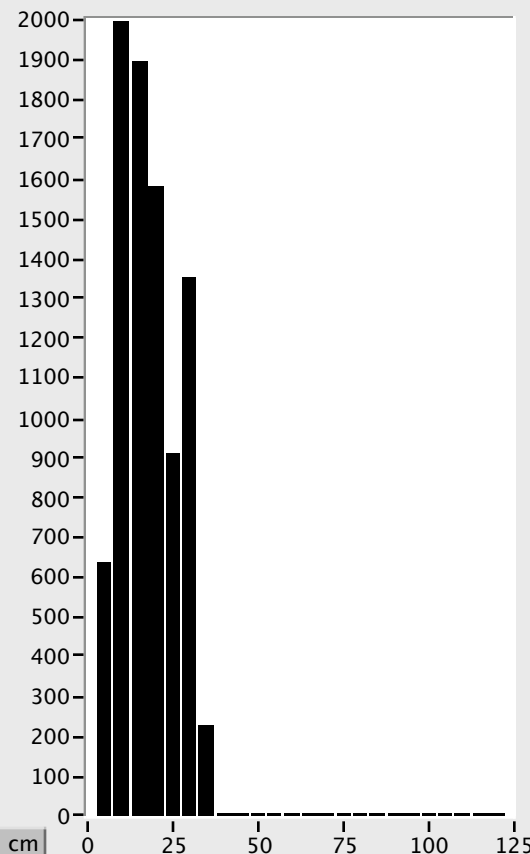
-2.000000 0.000000 0.000000 0.000000 0.000000
-5.000000 0.000000 0.000000 0.000000 0.000000
-10.000000 0.000000 0.000000 0.000187 0.000037
-15.000000 0.000000 0.000000 0.004840 0.000027
-20.000000 0.000000 0.000000 0.000000 0.000000
-25.000000 0.000000 0.000000 0.003314 0.000051
-30.000000 0.000029 0.000029 0.001011 0.000058
-35.000000 0.000000 0.000000 0.005971 0.000063
-40.000000 0.000000 0.000000 0.003280 0.000099
-45.000000 0.000000 0.000000 0.000692 0.000021
-50.000000 0.000000 0.000000 0.001138 0.000018
-55.000000 0.000000 0.000000 0.000000 0.000000

```

Total per cubic meter

0.000000 0.000003 0.000003 0.002251 0.000043

LENGTH FREQUENCY PLOT - LAKEWIDE ESTIMATE (all fish)





INTERPRET FSH 8.94b BW.vi

WD60GIG:Users:Michael:Documents:Sonar:ANALYSIS VIs:INTERPRET FSH 8.94b BW.vi

Last modified on 11/22/11 at 3:22 PM

Printed on 12/2/11 at 2:02 PM

This program analyzes the *.FSH files from the HTI

Enter values in blue
controls before running VI

DILLON

TRANSECT #

START UTM X

END UTM X

410551

408881

START UTM Y

END UTM Y

4385318

4385429

2011

PREDATOR/PREY
CUTOFF (cm)

5.0

TVG 40logR

NONE

40logR

COLUMN 9

ALL

DEL>0

USE INT OR BOT

INT

BOT

PREY

FISH PER ACRE

PREDATOR

0

-10

-20

-30

-40

-50

-60

-70

0

-10

-20

-30

-40

-50

-60

-70

0

-10

-20

-30

-40

-50

-60

-70

1

129

No Filter ☒ Filter ☐ Depth 35 Length (cm) 10

DEPTH (m)

0.0

-5.0

-10.0

-15.0

-20.0

-25.0

-30.0

-35.0

-40.0

-45.0

-50.0

-55.0

LENGTH (cm)

0.0

5.0

10.0

15.0

20.0

25.0

30.0

35.0

TRANSECT LENGTH (M)

1674

NUMBER OF TARGETS

30

PERCENT LOST BOTTOM

0

Sonar:Dillon2011August:K2362206.FSH.mod

OUTPUT

Sonar:Dillon2011August:K2362206.FSH.mod

Transect length (m): 1674 Total pings: 6009

Number prey/acre: 0.267

Biomass prey/acre (kg): 0.000

Total prey biomass (MT): 0.001

Number predators/acre: 3.297

Biomass predators/acre (kg): 0.179

Predator/prey cutoff: 5.0 cm

Strata top (M) Prey (g) Prey # Predator (g) Predator #
Per cubic meter by strata:

```

-2.000000 0.000000 0.000000 0.000000 0.000000
-5.000000 0.000000 0.000000 0.000000 0.000000
-10.000000 0.000000 0.000000 0.000000 0.000036
-15.000000 0.000000 0.000000 0.011610 0.000104
-20.000000 0.000020 0.000020 0.001655 0.000061
-25.000000 0.000000 0.000000 0.001007 0.000033
-30.000000 0.000000 0.000000 0.001340 0.000028
-35.000000 0.000000 0.000000 0.001318 0.000048
-40.000000 0.000011 0.000011 0.001408 0.000078
-45.000000 0.000000 0.000000 0.000068 0.000027
-50.000000 0.000017 0.000017 0.000444 0.000034
-55.000000 0.000000 0.000000 0.000000 0.000000
-60.000000 0.000000 0.000000 0.000000 0.000000

```

Total per cubic meter

0.000000 0.000005 0.000005 0.001504 0.000041

LENGTH FREQUENCY PLOT - LAKEWIDE ESTIMATE (all fish)

6000

5500

5000

4500

4000

3500

3000

2500

2000

1500

1000

500

0

0

25

50

75

100

125

cm



INTERPRET FSH 8.94b BW.vi

WD60GIG:Users:Michael:Documents:Sonar:ANALYSIS VIs:INTERPRET FSH 8.94b BW.vi

Last modified on 11/22/11 at 3:22 PM

Printed on 12/2/11 at 2:03 PM

This program analyzes the *.FSH files from the HTI

Enter values in blue
controls before running VI

DILLON

TRANSECT #

6

START UTM X

END UTM X

409579

410563

START UTM Y

END UTM Y

4386695

4385336

2011

PREDATOR/PREY
CUTOFF (cm)

5.0

TVG 40logR

NONE

40logR

COLUMN 9

ALL

DEL>0

USE INT OR BOT

INT

BOT

PREY

FISH PER ACRE

PREDATOR

0

-5

-10

-15

-20

-25

-30

-35

-40

-45

0

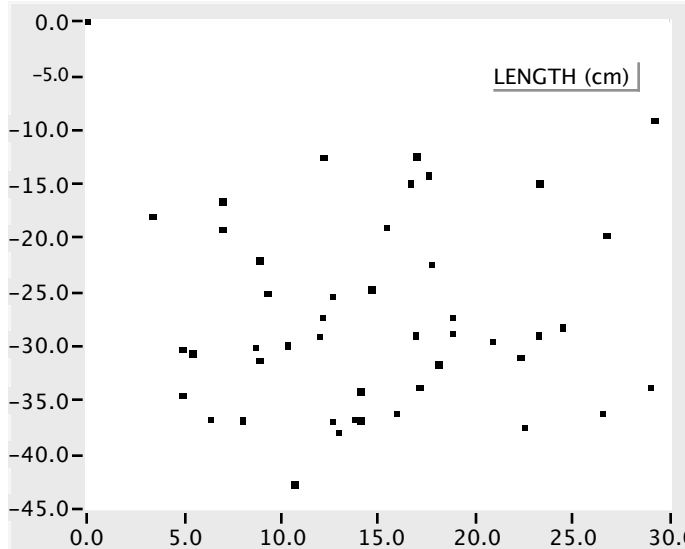
1

0

129

No Filter ☐ Filter ☒ Depth 35 Length (cm) 10

DEPTH (m)



TRANSECT LENGTH (M)

1678

NUMBER OF TARGETS

45

PERCENT LOST BOTTOM

0

Sonar:Dillon2011August:K2362143.FSH

OUTPUT

Sonar:Dillon2011August:K2362143.FSH

Transect length (m): 1678 Total pings: 6355

Number prey/acre: 0.479

Biomass prey/acre (kg): 0.000

Total prey biomass (MT): 0.001

Number predators/acre: 7.566

Biomass predators/acre (kg): 0.470

Predator/prey cutoff: 5.0 cm

Strata top (M) Prey (g) Prey # Predator (g) Predator #
Per cubic meter by strata:

```

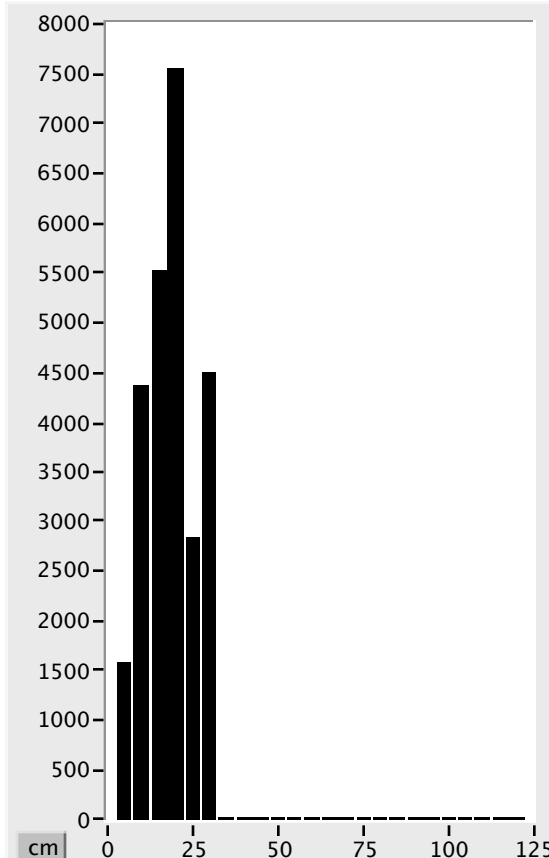
-2.000000 0.000000 0.000000 0.000000 0.000000
-5.000000 0.000000 0.000000 0.012702 0.000060
-10.000000 0.000000 0.000000 0.003251 0.000108
-15.000000 0.000000 0.000026 0.008395 0.000155
-20.000000 0.000000 0.000000 0.001369 0.000060
-25.000000 0.000000 0.000000 0.008292 0.000191
-30.000000 0.000031 0.000031 0.006363 0.000126
-35.000000 0.000000 0.000000 0.005207 0.000135
-40.000000 0.000000 0.000000 0.000139 0.000017
-45.000000 0.000000 0.000000 0.000000 0.000000

```

Total per cubic meter

0.000000 0.000005 0.000007 0.004679 0.000102

LENGTH FREQUENCY PLOT - LAKEWIDE ESTIMATE (all fish)



INPUT FILES:

WD60GIG:Users:Michael:Documents:Sonar:ElevenMile2011:2011ElevenmileT5m.out
 WD60GIG:Users:Michael:Documents:Sonar:ElevenMile2011:2011ElevenmileT4m.out
 WD60GIG:Users:Michael:Documents:Sonar:ElevenMile2011:2011ElevenmileT3m.out
 WD60GIG:Users:Michael:Documents:Sonar:ElevenMile2011:2011ElevenmileT2m.out
 WD60GIG:Users:Michael:Documents:Sonar:ElevenMile2011:2011ElevenmileT1m.out

Total length of transects (m): 8658

Number prey/acre: 1.774 95%CI (-0.031, 3.580)

Biomass prey/acre (kg): 0.001 95%CI (-0.000, 0.003)

Total prey biomass (MT): 0.006 95%CI (0.000, 0.011)

Number predators/acre: 12.421 95%CI (-0.712, 25.554)

Biomass predators/acre (kg): 0.533 95%CI (0.181, 0.886)

Strata (top)	LCL	g PREY	UCL	LCL	# PREY	UCL	LCL	g PRED	UCL	LCL	# PRED	UCL	n
Per cubic meter by strata													
-2	0	0	0	0	0	0	-0.000134	0.000075	0.000284	-0.000134	0.000075	0.000284	5
-5	-0.000062	0.000075	0.000212	-0.000062	0.000075	0.000212	-0.010405	0.014283	0.038971	0.000047	0.000275	0.000504	5
-10	-0.000031	0.000076	0.000183	-0.000032	0.000082	0.000197	0.003744	0.038605	0.073467	0.000152	0.00048	0.000808	5
-15	-0.000147	0.000236	0.000619	-0.000152	0.000299	0.00075	-0.134094	0.088811	0.311715	-0.003742	0.002833	0.009409	4
-20	-0.00019	0.000109	0.000408	-0.00019	0.000109	0.000408	-0.202916	0.06165	0.326215	-0.009238	0.00293	0.015098	3
-25	-0.001311	0.000112	0.001535	-0.001838	0.000157	0.002152	-0.006304	0.000539	0.007381	-0.001838	0.000157	0.002152	2
-30	NaN	0	NaN	NaN	0	NaN	NaN	0	NaN	NaN	0	NaN	1
Total per cubic meter													
	0.000009	0.000114	0.000219	0.000006	0.000134	0.000263	-0.007808	0.038648	0.085105	-0.000758	0.001099	0.002957	

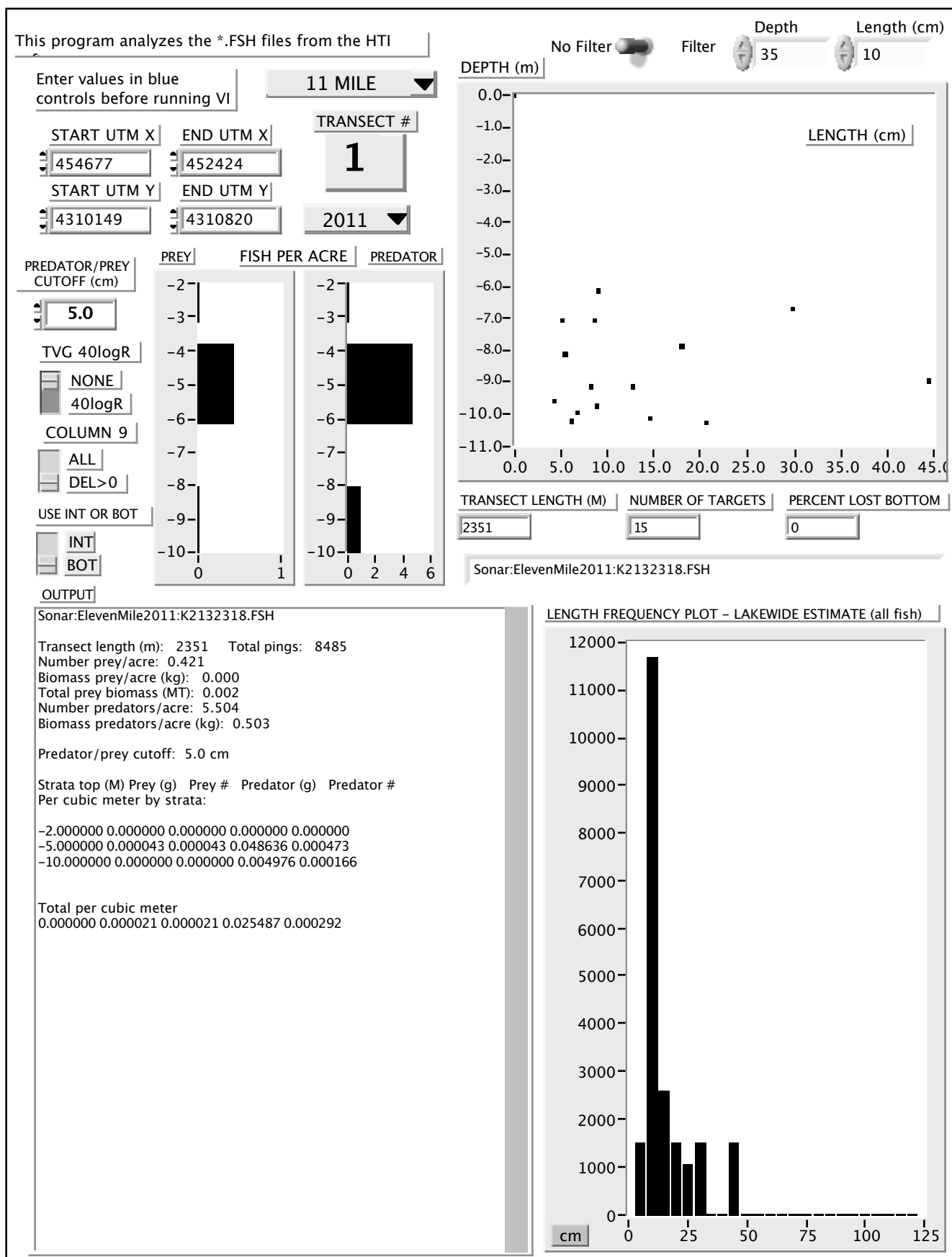


INTERPRET FSH 8.94b BW.vi

WD60GIG:Users:Michael:Documents:Sonar:ANALYSIS VIs:INTERPRET FSH 8.94b BW.vi

Last modified on 12/8/11 at 9:26 AM

Printed on 12/12/11 at 2:58 PM





INTERPRET FSH 8.94b BW.vi

WD60GIG:Users:Michael:Documents:Sonar:ANALYSIS VIs:INTERPRET FSH 8.94b BW.vi

Last modified on 12/8/11 at 9:26 AM

Printed on 12/12/11 at 2:59 PM

This program analyzes the *.FSH files from the HTI

Enter values in blue
controls before running VI

11 MILE

TRANSECT #

2

START UTM X

END UTM X

456311

454702

START UTM Y

END UTM Y

4309132

4310143

2011

PREDATOR/PREY
CUTOFF (cm)

5.0

TVG 40logR

NONE

40logR

COLUMN 9

ALL

DEL>0

USE INT OR BOT

INT

BOT

PREY

FISH PER ACRE

PREDATOR

-2

-4

-6

-8

-10

-12

-14

-16

0

1

2

3

-2

-4

-6

-8

-10

-12

-14

-16

0

2

4

6

DEPTH (m)

0.0

-2.0

-4.0

-6.0

-8.0

-10.0

-12.0

-14.0

-16.0

-18.0

0.0

5.0

10.0

15.0

20.0

25.0

30.0

35.0

40.0

TRANSECT LENGTH (M)

1900

NUMBER OF TARGETS

41

PERCENT LOST BOTTOM

0

Sonar:ElevenMile2011:K2132254.FSH

OUTPUT

Sonar:ElevenMile2011:K2132254.FSH

Transect length (m): 1900 Total pings: 6806

Number prey/acre: 3.631

Biomass prey/acre (kg): 0.003

Total prey biomass (MT): 0.012

Number predators/acre: 10.597

Biomass predators/acre (kg): 0.244

Predator/prey cutoff: 5.0 cm

Strata top (M) Prey (g) Prey # Predator (g) Predator #
Per cubic meter by strata:

-2.000000 0.000000 0.000000 0.000376 0.000376

-5.000000 0.000266 0.000266 0.012068 0.000478

-10.000000 0.000128 0.000159 0.023030 0.000415

-15.000000 0.000042 0.000084 0.000587 0.000210

Total per cubic meter

0.000000 0.000126 0.000151 0.012164 0.000366

LENGTH FREQUENCY PLOT - LAKEWIDE ESTIMATE (all fish)

24000

22000

20000

18000

16000

14000

12000

10000

8000

6000

4000

2000

0

0

25

50

75

100

125

cm



INTERPRET FSH 8.94b BW.vi

WD60GIG:Users:Michael:Documents:Sonar:ANALYSIS VIs:INTERPRET FSH 8.94b BW.vi

Last modified on 12/8/11 at 9:26 AM

Printed on 12/12/11 at 3:01 PM

This program analyzes the *.FSH files from the HTI

Enter values in blue
controls before running VI

11 MILE

TRANSECT #

3

START UTM X

END UTM X

456833

456320

START UTM Y

END UTM Y

4307682

4309113

2011

PREDATOR/PREY
CUTOFF (cm)

5.0

TVG 40logR

NONE

40logR

COLUMN 9

ALL

DEL>0

USE INT OR BOT

INT

BOT

PREY

FISH PER ACRE

PREDATOR

-2

-4

-6

-8

-10

-12

-14

-16

-18

-20

0

1

2

-2

-4

-6

-8

-10

-12

-14

-16

-18

-20

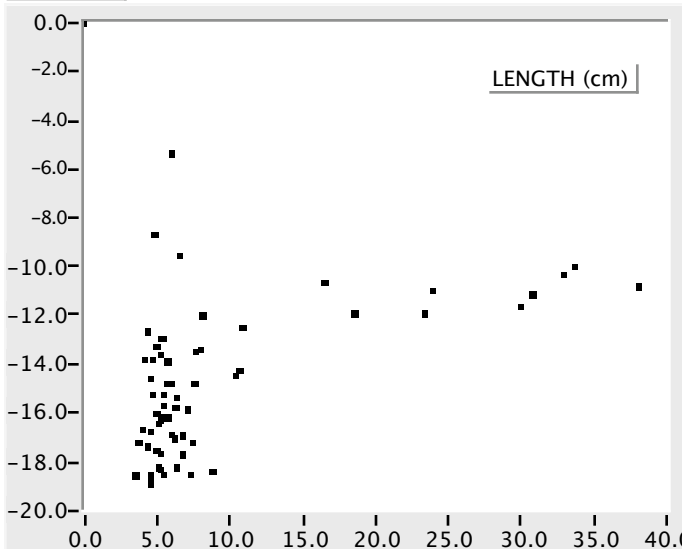
0

2

4

6

DEPTH (m)



TRANSECT LENGTH (M)

1520

NUMBER OF TARGETS

63

PERCENT LOST BOTTOM

0

Sonar:ElevenMile2011:K2132235.FSH.mod

OUTPUT

Sonar:ElevenMile2011:K2132235.FSH.mod

Transect length (m): 1520 Total pings: 5364

Number prey/acre: 2.582

Biomass prey/acre (kg): 0.002

Total prey biomass (MT): 0.008

Number predators/acre: 7.680

Biomass predators/acre (kg): 0.417

Predator/prey cutoff: 5.0 cm

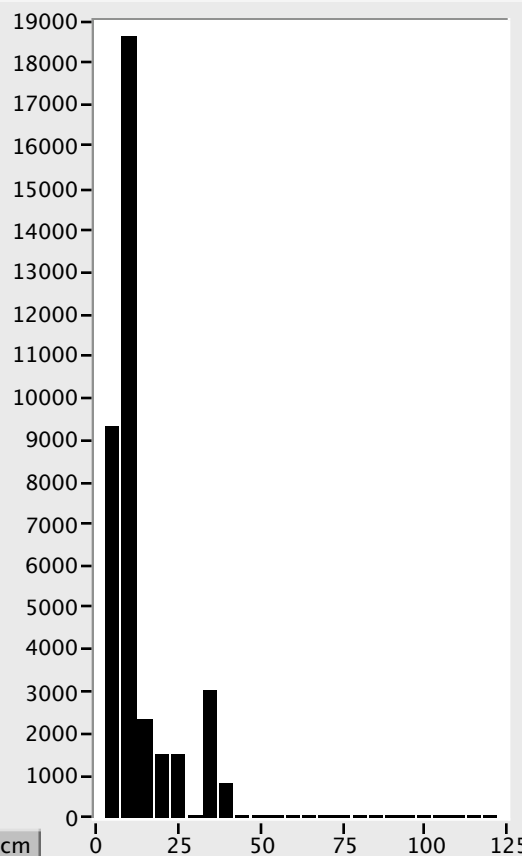
Strata top (M) Prey (g) Prey # Predator (g) Predator #
Per cubic meter by strata:

-2.000000	0.000000	0.000000	0.000000	0.000000
-5.000000	0.000066	0.000066	0.000199	0.000133
-10.000000	0.000199	0.000199	0.078429	0.000877
-15.000000	0.000287	0.000395	0.001185	0.000790
-20.000000	0.000000	0.000000	0.000000	0.000000

Total per cubic meter

0.000000 0.000164 0.000200 0.023527 0.000540

LENGTH FREQUENCY PLOT - LAKEWIDE ESTIMATE (all fish)



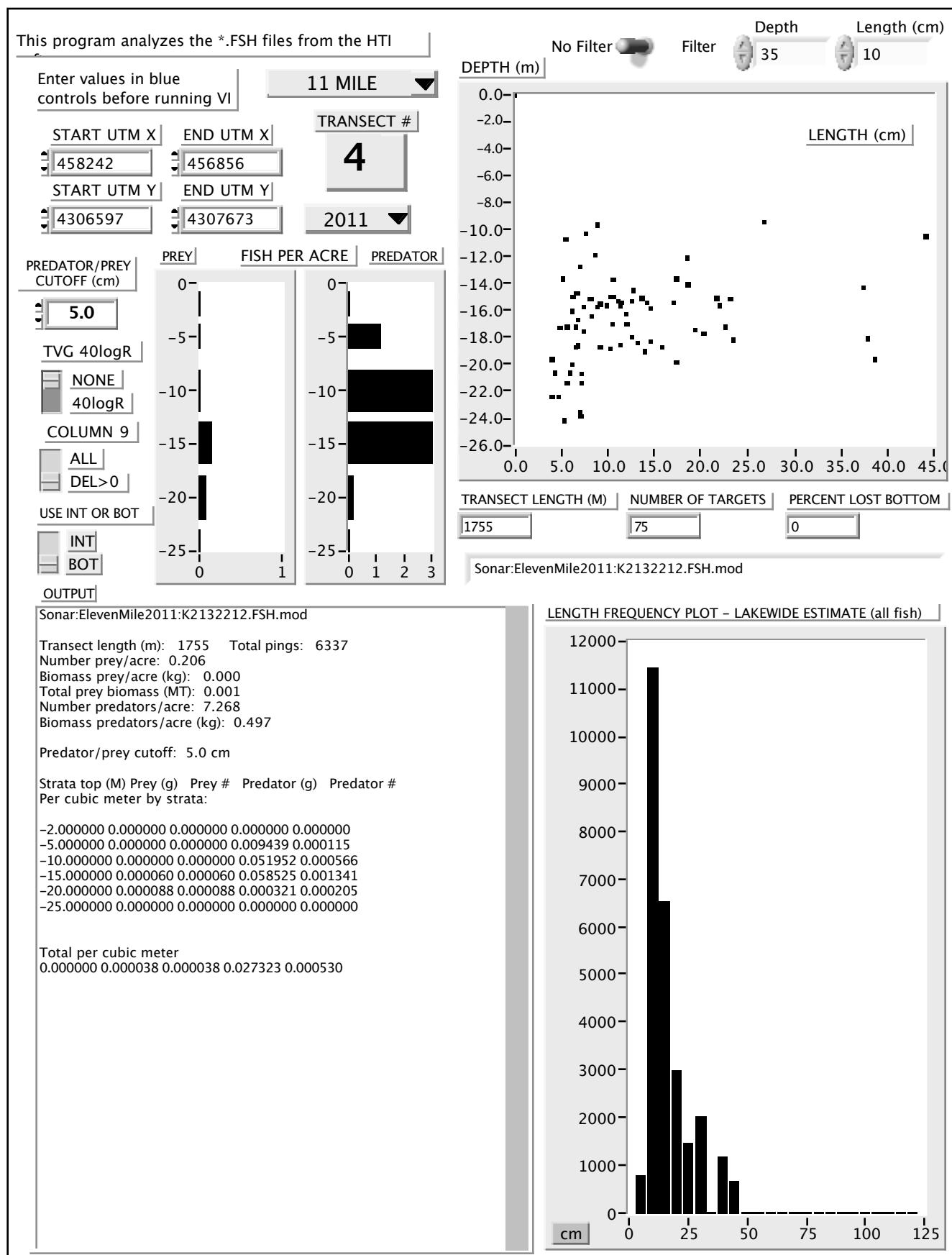


INTERPRET FSH 8.94b BW.vi

WD60GIG:Users:Michael:Documents:Sonar:ANALYSIS VIs:INTERPRET FSH 8.94b BW.vi

Last modified on 12/8/11 at 9:26 AM

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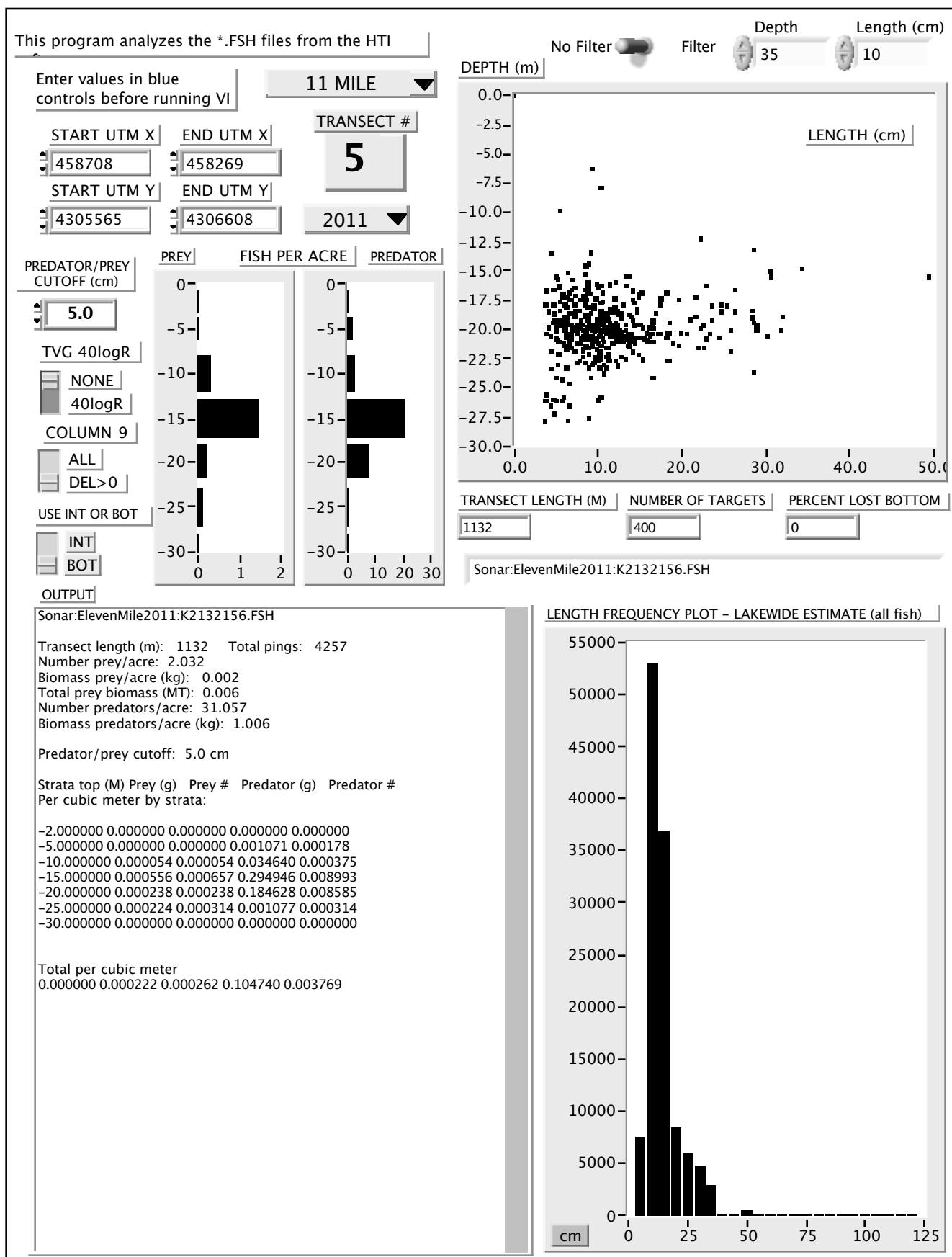


INTERPRET FSH 8.94b BW.vi

WD60GIG:Users:Michael:Documents:Sonar:ANALYSIS VIs:INTERPRET FSH 8.94b BW.vi

Last modified on 12/8/11 at 9:26 AM

Printed on 12/12/11 at 3:04 PM



INPUT FILES:

WD60GIG:Users:Michael:Documents:Sonar:Granby2011:2011GranbyT4m.out
 WD60GIG:Users:Michael:Documents:Sonar:Granby2011:2011GranbyT5m.out
 WD60GIG:Users:Michael:Documents:Sonar:Granby2011:2011GranbyT6m.out
 WD60GIG:Users:Michael:Documents:Sonar:Granby2011:2011GranbyT3m.out
 WD60GIG:Users:Michael:Documents:Sonar:Granby2011:2011GranbyT2m.out
 WD60GIG:Users:Michael:Documents:Sonar:Granby2011:2011GranbyT7m.out
 WD60GIG:Users:Michael:Documents:Sonar:Granby2011:2011GranbyT8m.out
 WD60GIG:Users:Michael:Documents:Sonar:Granby2011:2011GranbyT9m.out
 WD60GIG:Users:Michael:Documents:Sonar:Granby2011:2011GranbyT1m.out
 WD60GIG:Users:Michael:Documents:Sonar:Granby2011:2011GranbyT10m.out

Total length of transects (m): 15008

Number prey/acre: 1.335 95%CI (0.677, 1.992)

Biomass prey/acre (kg): 0.001 95%CI (0.000, 0.002)

Total prey biomass (MT): 0.007 95%CI (0.003, 0.010)

Number predators/acre: 24.164 95%CI (18.481, 29.847)

Biomass predators/acre (kg): 1.897 95%CI (1.233, 2.560)

Strata (top)	LCL	g PREY	UCL	LCL	# PREY	UCL	LCL	g PRED	UCL	LCL	# PRED	UCL	n
Per cubic meter by strata													
-2	0	0	0	0	0	0	0	0	0	0	0	0	10
-5	-0.000008	0.000006	0.00002	-0.000008	0.000006	0.00002	-0.000126	0.003471	0.007068	0.00005	0.000141	0.000231	10
-10	-0.000001	0.00003	0.000062	0.000003	0.000042	0.000081	0.017892	0.040736	0.063581	0.000451	0.000674	0.000897	10
-15	-0.000001	0.000008	0.000017	-0.000003	0.000013	0.000029	0.009093	0.03231	0.055528	0.000136	0.000278	0.00042	10
-20	-0.000002	0.000004	0.000011	0	0.000011	0.000021	0.008828	0.030497	0.052166	0.000092	0.000275	0.000457	10
-25	0	0.000009	0.000018	0.000003	0.000016	0.000028	0.012708	0.032325	0.051943	0.000154	0.000348	0.000543	10
-30	-0.000009	0.000021	0.00005	-0.000007	0.000022	0.000051	0.017452	0.040335	0.063218	0.000209	0.000351	0.000492	8
-35	-0.000004	0.000026	0.000055	-0.000012	0.000033	0.000077	0.012528	0.035728	0.058928	0.00042	0.000597	0.000775	7
-40	-0.000015	0.000013	0.000042	-0.000015	0.000013	0.000042	-0.00168	0.019883	0.041447	-0.000045	0.000218	0.000481	6
-45	-0.000009	0.000069	0.000148	0.000004	0.000082	0.000159	-0.021563	0.084725	0.191013	0.000168	0.000398	0.000628	4
-50	-0.000137	0.000051	0.000239	-0.00027	0.000154	0.000579	-0.032426	0.010675	0.053776	-0.000122	0.000151	0.000423	3
-55	0	0	0	-0.00015	0.000045	0.00024	-0.008185	0.002478	0.013142	-0.000401	0.000121	0.000643	3
Total per cubic meter	0.000008	0.000017	0.000025	0.000016	0.000025	0.000034	0.022243	0.033272	0.0443	0.000288	0.000371	0.000455	



INTERPRET FSH 8.94b BW.vi

WD60GIG:Users:Michael:Documents:Sonar:ANALYSIS VIs:INTERPRET FSH 8.94b BW.vi

Last modified on 11/22/11 at 3:22 PM

Printed on 11/30/11 at 12:00 PM

This program analyzes the *.FSH files from the HTI

Enter values in blue
controls before running VI

GRANBY

TRANSECT #

1

START UTM X

END UTM X

424978

424951

START UTM Y

END UTM Y

4445942

4444933

2011

PREDATOR/PREY
CUTOFF (cm)

5.0

TVG 40logR

NONE

40logR

COLUMN 9

ALL

DEL>0

USE INT OR BOT

INT

BOT

PREY

FISH PER ACRE

PREDATOR

0

-5

-10

-15

-20

-25

0

-5

-10

-15

-20

-25

0

-5

-10

-15

-20

-25

0

-5

-10

-15

-20

-25

0

-5

-10

-15

-20

-25

0

-5

-10

-15

-20

-25

DEPTH (m)

No Filter

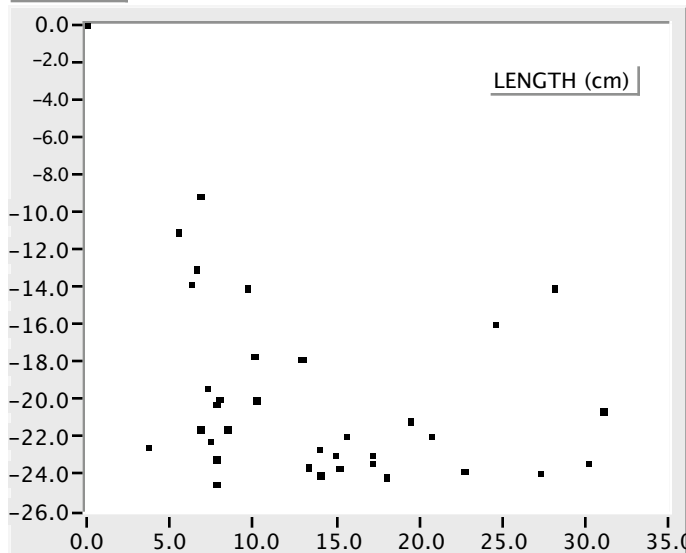
Filter

Depth

35

Length (cm)

10



TRANSECT LENGTH (M)

1009

NUMBER OF TARGETS

34

PERCENT LOST BOTTOM

0

Sonar:Granby2011:K2420006.FSH

OUTPUT

Sonar:Granby2011:K2420006.FSH

Transect length (m): 1009 Total pings: 3603

Number prey/acre: 0.358

Biomass prey/acre (kg): 0.000

Total prey biomass (MT): 0.000

Number predators/acre: 16.799

Biomass predators/acre (kg): 0.690

Predator/prey cutoff: 5.0 cm

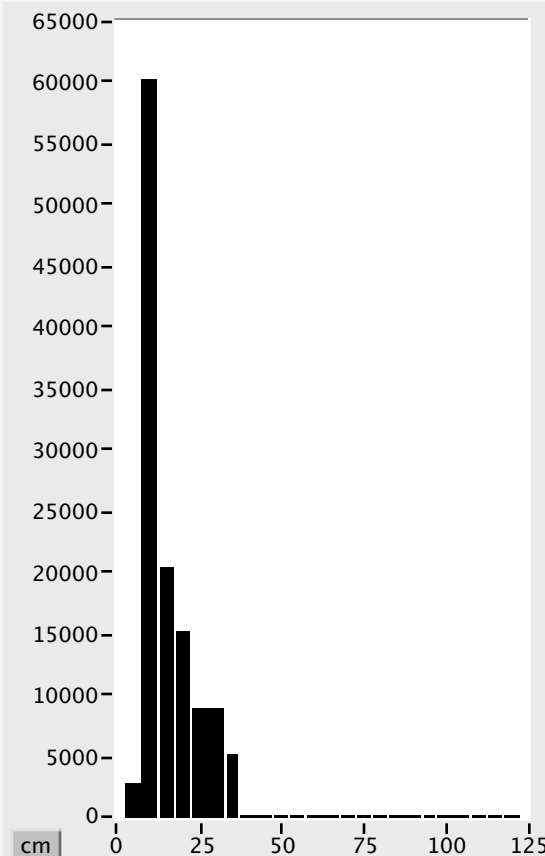
Strata top (M) Prey (g) Prey # Predator (g) Predator #
Per cubic meter by strata:

-2.000000	0.000000	0.000000	0.000000	0.000000
-5.000000	0.000000	0.000000	0.000200	0.000100
-10.000000	0.000000	0.000000	0.011893	0.000300
-15.000000	0.000000	0.000000	0.006593	0.000215
-20.000000	0.000000	0.000035	0.042100	0.000780
-25.000000	0.000000	0.000000	0.000000	0.000000

Total per cubic meter

0.000000 0.000000 0.000010 0.014773 0.000316

LENGTH FREQUENCY PLOT - LAKEWIDE ESTIMATE (all fish)



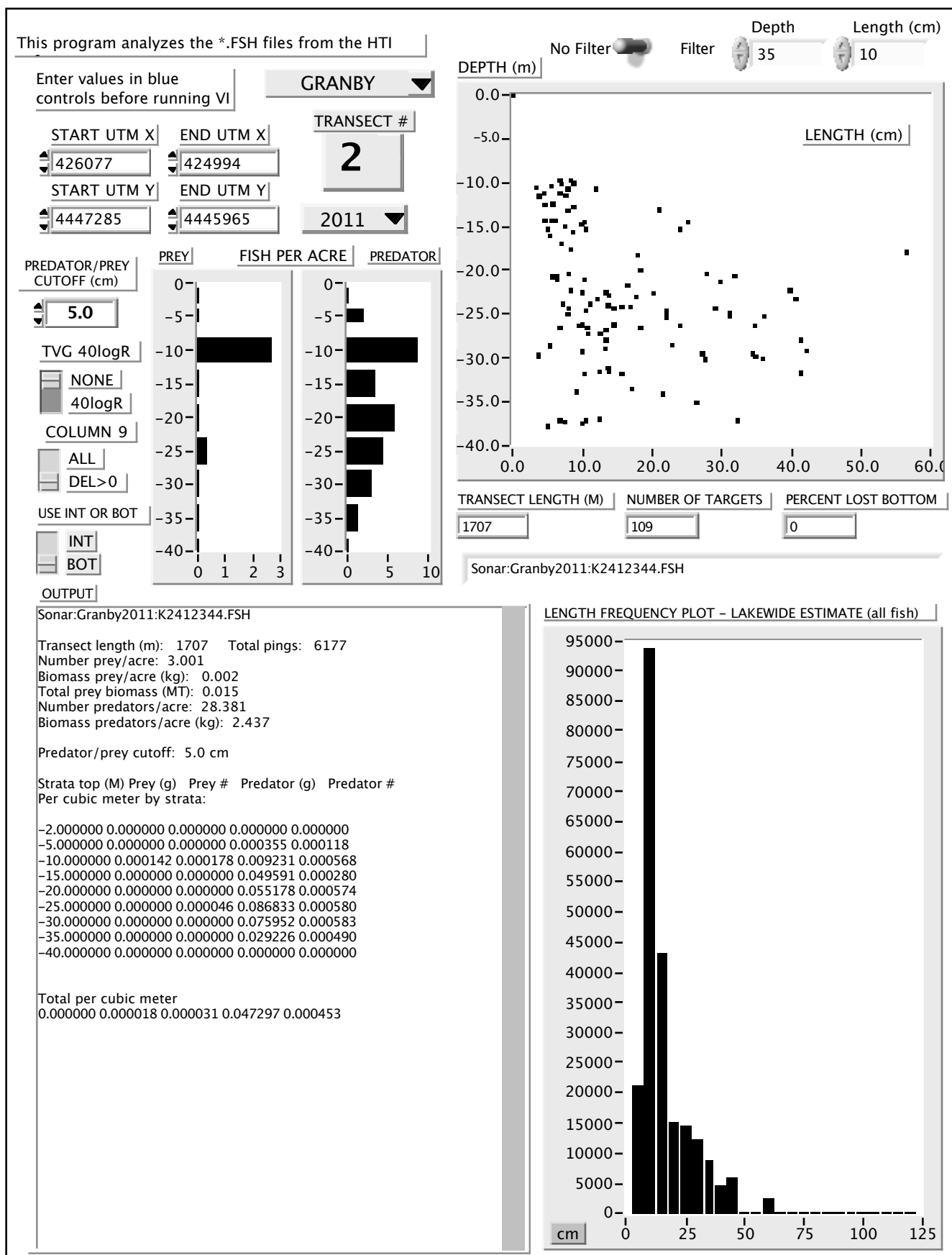


INTERPRET FSH 8.94b BW.vi

WD60GIG:Users:Michael:Documents:Sonar:ANALYSIS VIs:INTERPRET FSH 8.94b BW.vi

Last modified on 11/22/11 at 3:22 PM

Printed on 11/30/11 at 11:58 AM





INTERPRET FSH 8.94b BW.vi

WD60GIG:Users:Michael:Documents:Sonar:ANALYSIS VIs:INTERPRET FSH 8.94b BW.vi

Last modified on 11/22/11 at 3:22 PM

Printed on 11/30/11 at 11:57 AM

This program analyzes the *.FSH files from the HTI

Enter values in blue
controls before running VI

GRANBY

TRANSECT #

3

START UTM X

END UTM X

425664

426064

START UTM Y

END UTM Y

4445683

4447267

2011

PREDATOR/PREY
CUTOFF (cm)

5.0

TVG 40logR

NONE

40logR

COLUMN 9

ALL

DEL>0

USE INT OR BOT

INT

BOT

PREY

FISH PER ACRE

PREDATOR

0

-5

-10

-15

-20

-25

-30

-35

-40

-45

0

1

2

0

-5

-10

-15

-20

-25

-30

-35

-40

-45

0

5

10

DEPTH (m)

No Filter

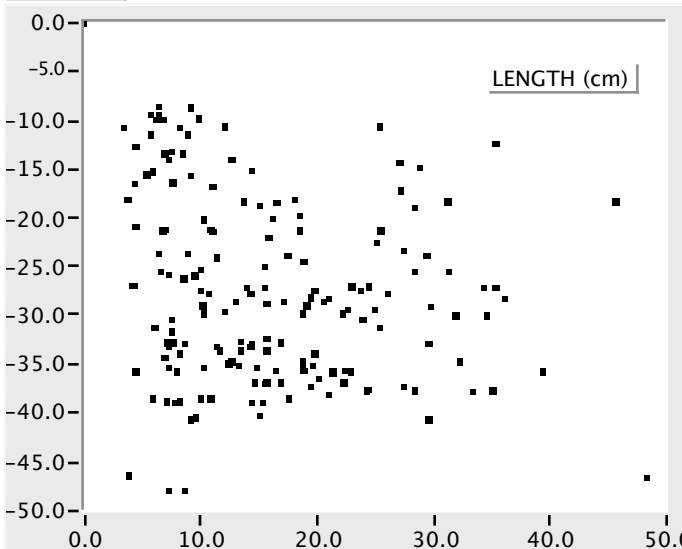
Filter

Depth

35

Length (cm)

10



TRANSECT LENGTH (M)

1634

NUMBER OF TARGETS

171

PERCENT LOST BOTTOM

0

Sonar:Granby2011:K2412323.FSH

OUTPUT

Sonar:Granby2011:K2412323.FSH

Transect length (m): 1634 Total pings: 5874

Number prey/acre: 2.408

Biomass prey/acre (kg): 0.002

Total prey biomass (MT): 0.011

Number predators/acre: 33.525

Biomass predators/acre (kg): 2.220

Predator/prey cutoff: 5.0 cm

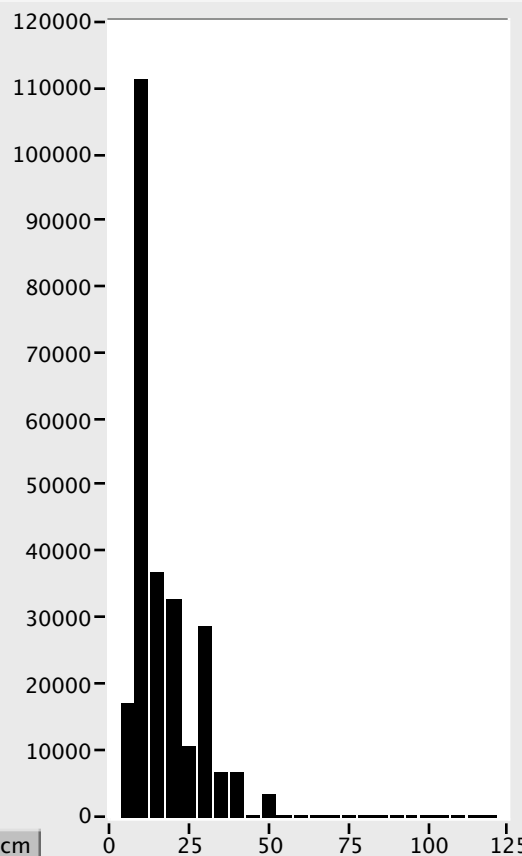
Strata top (M) Prey (g) Prey # Predator (g) Predator #
Per cubic meter by strata:

-2.000000	0.000000	0.000000	0.000000	0.000000
-5.000000	0.000000	0.000000	0.001298	0.000433
-10.000000	0.000037	0.000074	0.035125	0.000482
-15.000000	0.000027	0.000053	0.045873	0.000399
-20.000000	0.000021	0.000021	0.019621	0.000372
-25.000000	0.000034	0.000034	0.054606	0.000592
-30.000000	0.000000	0.000000	0.035054	0.000537
-35.000000	0.000024	0.000024	0.073802	0.000970
-40.000000	0.000000	0.000000	0.010558	0.000163
-45.000000	0.000128	0.000128	0.135893	0.000384

Total per cubic meter

0.000000 0.000022 0.000028 0.041045 0.000512

LENGTH FREQUENCY PLOT - LAKEWIDE ESTIMATE (all fish)





INTERPRET FSH 8.94b BW.vi

WD60GIG:Users:Michael:Documents:Sonar:ANALYSIS VIs:INTERPRET FSH 8.94b BW.vi

Last modified on 11/22/11 at 3:22 PM

Printed on 11/30/11 at 11:55 AM

This program analyzes the *.FSH files from the HTI

Enter values in blue
controls before running VI

GRANBY

TRANSECT #

4

START UTM X

END UTM X

427270

425695

START UTM Y

END UTM Y

4445983

4445694

2011

PREDATOR/PREY
CUTOFF (cm)

5.0

TVG 40logR

NONE

40logR

COLUMN 9

ALL

DEL>0

USE INT OR BOT

INT

BOT

PREY

FISH PER ACRE

PREDATOR

0

-10

-20

-30

-40

-50

-60

0

1

0

5

10

DEPTH (m)

No Filter

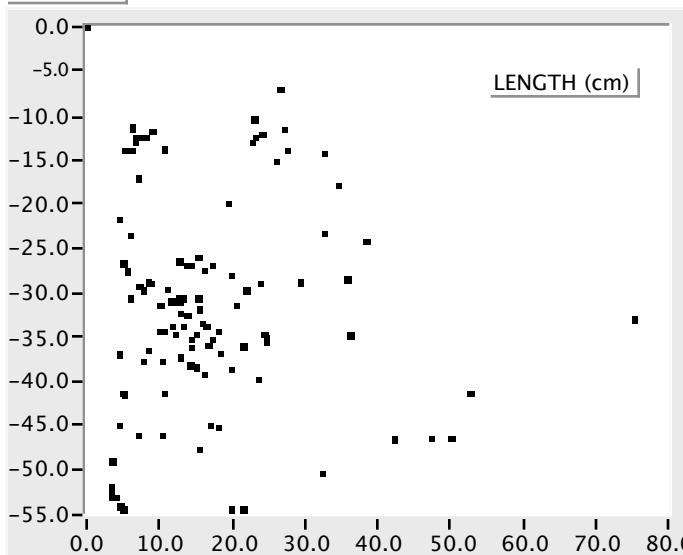
Filter

Depth

35

Length (cm)

10



TRANSECT LENGTH (M)

1601

NUMBER OF TARGETS

110

PERCENT LOST BOTTOM

0

Sonar:Granby2011:K2412302.FSH

OUTPUT

Sonar:Granby2011:K2412302.FSH

Transect length (m): 1601 Total pings: 5688

Number prey/acre: 0.526

Biomass prey/acre (kg): 0.000

Total prey biomass (MT): 0.003

Number predators/acre: 18.357

Biomass predators/acre (kg): 1.948

Predator/prey cutoff: 5.0 cm

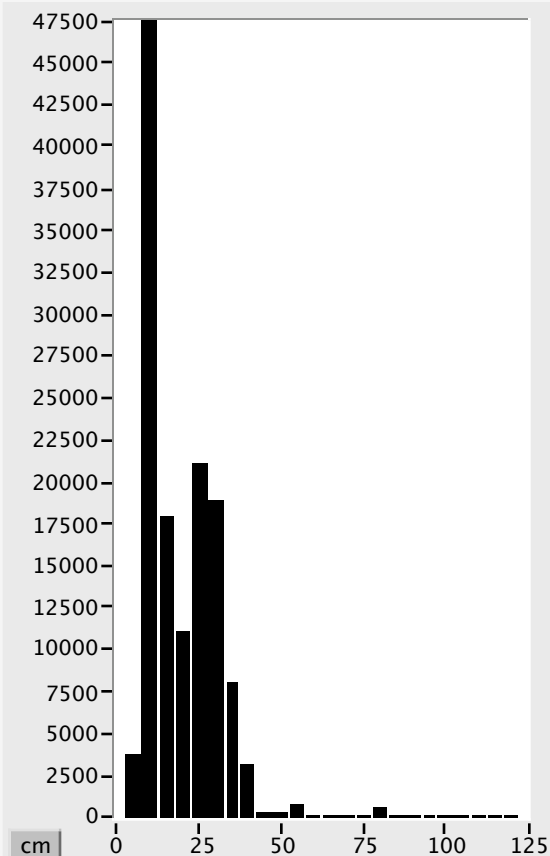
Strata top (M) Prey (g) Prey # Predator (g) Predator #
Per cubic meter by strata:

-2.000000	0.000000	0.000000	0.000000	0.000000
-5.000000	0.000000	0.000000	0.010221	0.000063
-10.000000	0.000000	0.000000	0.042208	0.000644
-15.000000	0.000000	0.000000	0.013904	0.000081
-20.000000	0.000021	0.000021	0.018485	0.000084
-25.000000	0.000000	0.000000	0.018859	0.000328
-30.000000	0.000000	0.000000	0.079113	0.000360
-35.000000	0.000020	0.000020	0.016353	0.000347
-40.000000	0.000000	0.000000	0.043863	0.000126
-45.000000	0.000049	0.000097	0.144813	0.000390
-50.000000	0.000138	0.000345	0.030705	0.000276
-55.000000	0.000000	0.000000	0.000000	0.000000

Total per cubic meter

0.000000 0.000013 0.000024 0.038560 0.000266

LENGTH FREQUENCY PLOT - LAKEWIDE ESTIMATE (all fish)





INTERPRET FSH 8.94b BW.vi

WD60GIG:Users:Michael:Documents:Sonar:ANALYSIS VIs:INTERPRET FSH 8.94b BW.vi

Last modified on 11/22/11 at 3:22 PM

Printed on 11/30/11 at 11:53 AM

This program analyzes the *.FSH files from the HTI

Enter values in blue
controls before running VI

GRANBY

TRANSECT #

5

START UTM X

END UTM X

426357

427268

START UTM Y

END UTM Y

4444722

4445947

2011

PREDATOR/PREY
CUTOFF (cm)

5.0

TVG 40logR

NONE

40logR

COLUMN 9

ALL

DEL>0

USE INT OR BOT

INT

BOT

PREY

FISH PER ACRE

PREDATOR

0

-10

-20

-30

-40

-50

-60

-70

0

1

0

2

4

6

DEPTH (m)

No Filter

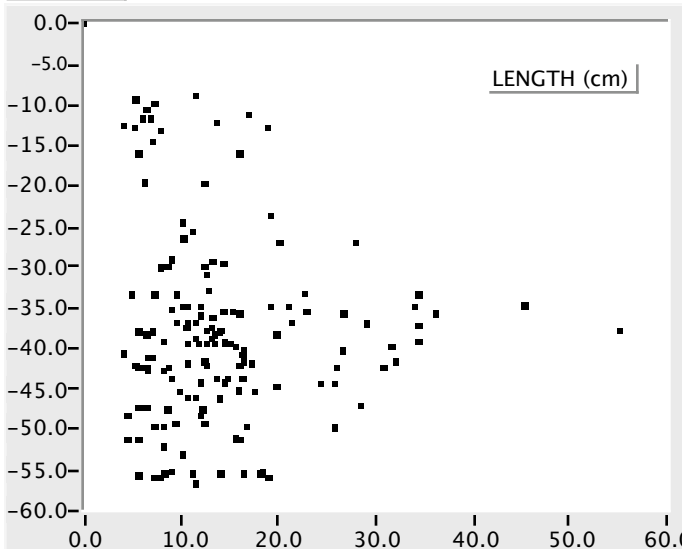
Filter

Depth

35

Length (cm)

10



TRANSECT LENGTH (M)

1527

NUMBER OF TARGETS

151

PERCENT LOST BOTTOM

0

Sonar:Granby2011:K2412241.FSH

OUTPUT

Sonar:Granby2011:K2412241.FSH

Transect length (m): 1527 Total pings: 5501

Number prey/acre: 0.705

Biomass prey/acre (kg): 0.001

Total prey biomass (MT): 0.005

Number predators/acre: 15.322

Biomass predators/acre (kg): 0.459

Predator/prey cutoff: 5.0 cm

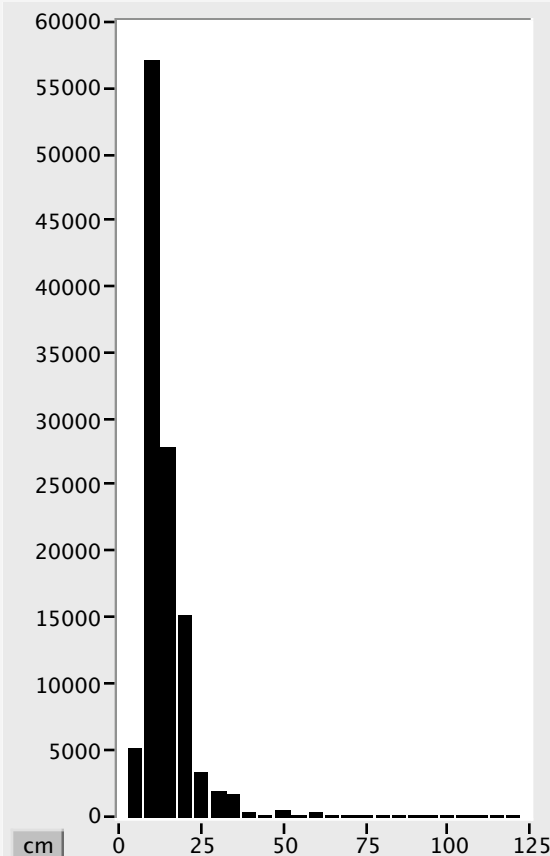
Strata top (M) Prey (g) Prey # Predator (g) Predator #
Per cubic meter by strata:

-2.000000	0.000000	0.000000	0.000000	0.000000
-5.000000	0.000000	0.000000	0.000992	0.000198
-10.000000	0.000040	0.000040	0.004763	0.000397
-15.000000	0.000000	0.000000	0.001367	0.000114
-20.000000	0.000000	0.000000	0.001416	0.000044
-25.000000	0.000000	0.000000	0.006874	0.000145
-30.000000	0.000015	0.000015	0.021008	0.000153
-35.000000	0.000000	0.000000	0.061148	0.000591
-40.000000	0.000012	0.000012	0.019340	0.000375
-45.000000	0.000013	0.000013	0.007102	0.000233
-50.000000	0.000015	0.000015	0.001047	0.000073
-55.000000	0.000000	0.000000	0.007435	0.000364

Total per cubic meter

0.000000 0.000009 0.000009 0.015482 0.000252

LENGTH FREQUENCY PLOT - LAKEWIDE ESTIMATE (all fish)





INTERPRET FSH 8.94b BW.vi

WD60GIG:Users:Michael:Documents:Sonar:ANALYSIS VIs:INTERPRET FSH 8.94b BW.vi

Last modified on 11/22/11 at 3:22 PM

Printed on 11/30/11 at 11:51 AM

This program analyzes the *.FSH files from the HTI

Enter values in blue
controls before running VI

GRANBY

TRANSECT #

6

START UTM X

427567

END UTM X

426386

START UTM Y

4443982

END UTM Y

4444719

2011

PREDATOR/PREY
CUTOFF (cm)

5.0

TVG 40logR

NONE

40logR

COLUMN 9

ALL

DEL>0

USE INT OR BOT

INT

BOT

PREY

FISH PER ACRE

PREDATOR

0

-10

-20

-30

-40

-50

-60

0

1

0

-10

-20

-30

-40

-50

-60

0

10

20

30

DEPTH (m)

0.0

-5.0

-10.0

-15.0

-20.0

-25.0

-30.0

-35.0

-40.0

-45.0

-50.0

-55.0

-60.0

0.0

10.0

20.0

30.0

40.0

50.0

No Filter

Filter

Depth

35

Length (cm)

10

LENGTH (cm)

TRANSECT LENGTH (M)

1392

NUMBER OF TARGETS

194

PERCENT LOST BOTTOM

0

Sonar:Granby2011:K2412223.FSH

OUTPUT

Sonar:Granby2011:K2412223.FSH

Transect length (m): 1392 Total pings: 4997

Number prey/acre: 1.074

Biomass prey/acre (kg): 0.000

Total prey biomass (MT): 0.002

Number predators/acre: 36.668

Biomass predators/acre (kg): 2.448

Predator/prey cutoff: 5.0 cm

Strata top (M) Prey (g) Prey # Predator (g) Predator #

Per cubic meter by strata:

```

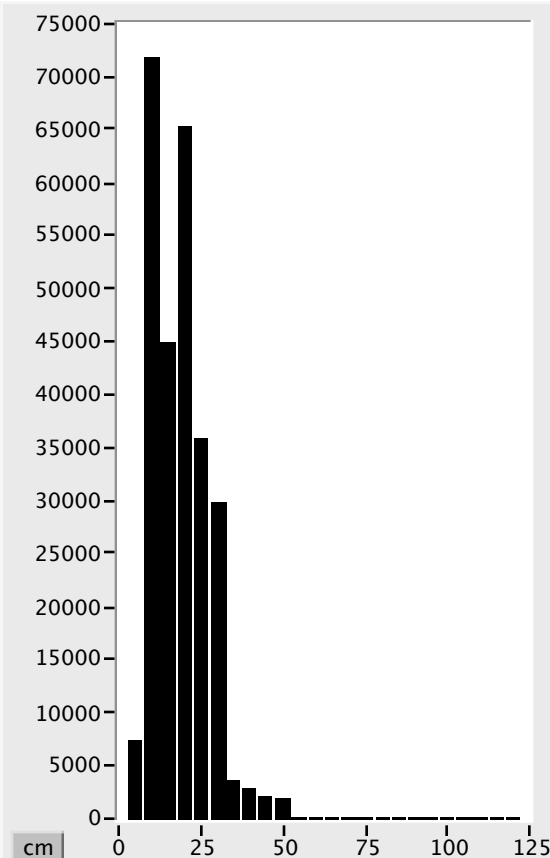
-2.000000 0.000000 0.000000 0.000000 0.000000
-5.000000 0.000000 0.000000 0.007547 0.000145
-10.000000 0.000000 0.000044 0.076846 0.001437
-15.000000 0.000000 0.000000 0.019084 0.000250
-20.000000 0.000000 0.000000 0.021552 0.000218
-25.000000 0.000000 0.000000 0.038043 0.000258
-30.000000 0.000035 0.000035 0.041918 0.000489
-35.000000 0.000000 0.000000 0.045568 0.000644
-40.000000 0.000069 0.000069 0.045538 0.000645
-45.000000 0.000088 0.000088 0.051091 0.000585
-50.000000 0.000000 0.000103 0.000274 0.000103
-55.000000 0.000000 0.000136 0.000000 0.000000

```

Total per cubic meter

0.000000 0.000020 0.000033 0.035704 0.000460

LENGTH FREQUENCY PLOT - LAKEWIDE ESTIMATE (all fish)





INTERPRET FSH 8.94b BW.vi

WD60GIG:Users:Michael:Documents:Sonar:ANALYSIS VIs:INTERPRET FSH 8.94b BW.vi

Last modified on 11/22/11 at 3:22 PM

Printed on 11/30/11 at 11:50 AM

This program analyzes the *.FSH files from the HTI

Enter values in blue
controls before running VI

GRANBY

TRANSECT #

7

START UTM X

END UTM X

428633

427586

START UTM Y

END UTM Y

4444487

4443984

2011

PREDATOR/PREY
CUTOFF (cm)

5.0

TVG 40logR

NONE

40logR

COLUMN 9

ALL

DEL>0

USE INT OR BOT

INT

BOT

PREY

FISH PER ACRE

PREDATOR

0

-5

-10

-15

-20

-25

-30

-35

-40

0

1

-5

-10

-15

-20

-25

-30

-35

-40

0

5

10

15

DEPTH (m)

No Filter

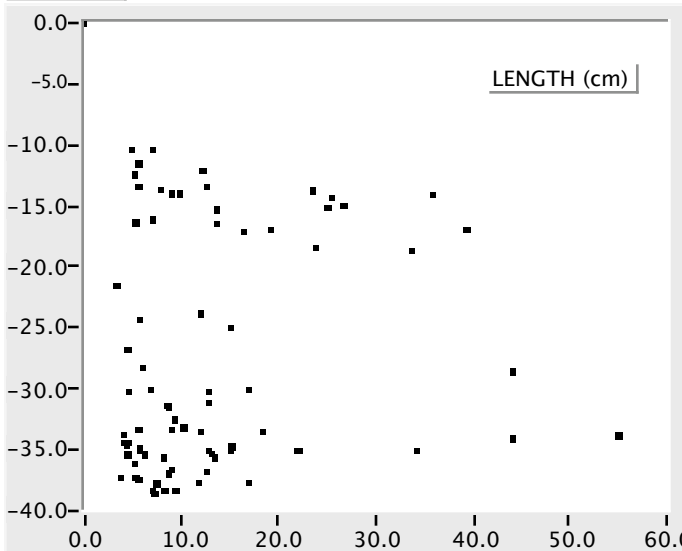
Filter

Depth

35

Length (cm)

10



TRANSECT LENGTH (M)

1162

NUMBER OF TARGETS

77

PERCENT LOST BOTTOM

0

Sonar:Granby2011:K2412208.FSH

OUTPUT

Sonar:Granby2011:K2412208.FSH

Transect length (m): 1162 Total pings: 4195

Number prey/acre: 1.893

Biomass prey/acre (kg): 0.002

Total prey biomass (MT): 0.011

Number predators/acre: 19.428

Biomass predators/acre (kg): 1.772

Predator/prey cutoff: 5.0 cm

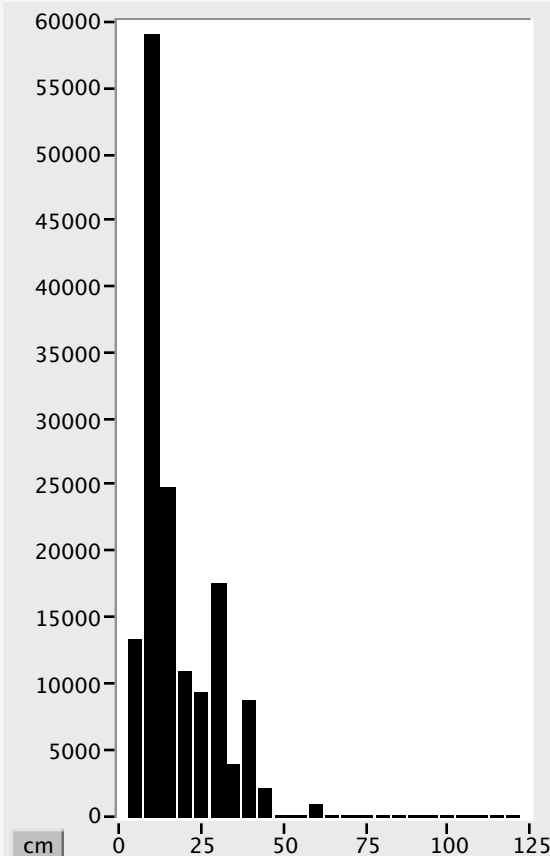
Strata top (M) Prey (g) Prey # Predator (g) Predator #
Per cubic meter by strata:

-2.000000	0.000000	0.000000	0.000000	0.000000
-5.000000	0.000000	0.000000	0.000000	0.000000
-10.000000	0.000052	0.000052	0.044855	0.000678
-15.000000	0.000000	0.000000	0.052009	0.000412
-20.000000	0.000000	0.000029	0.000378	0.000058
-25.000000	0.000024	0.000024	0.019256	0.000071
-30.000000	0.000101	0.000101	0.051253	0.000302
-35.000000	0.000053	0.000053	0.016443	0.000612
-40.000000	0.000000	0.000000	0.000000	0.000000

Total per cubic meter

0.000000 0.000040 0.000044 0.027708 0.000298

LENGTH FREQUENCY PLOT - LAKEWIDE ESTIMATE (all fish)





INTERPRET FSH 8.94b BW.vi

WD60GIG:Users:Michael:Documents:Sonar:ANALYSIS VIs:INTERPRET FSH 8.94b BW.vi

Last modified on 11/22/11 at 3:22 PM

Printed on 11/30/11 at 11:48 AM

This program analyzes the *.FSH files from the HTI

Enter values in blue
controls before running VI

GRANBY

TRANSECT #

8

START UTM X

429716

END UTM X

428668

START UTM Y

4443050

END UTM Y

4444482

2011

PREDATOR/PREY
CUTOFF (cm)

5.0

TVG 40logR

NONE

40logR

COLUMN 9

ALL

DEL>0

USE INT OR BOT

INT

BOT

PREY

FISH PER ACRE

PREDATOR

0

-5

-10

-15

-20

-25

-30

-35

0

1

0

-5

-10

-15

-20

-25

-30

-35

0

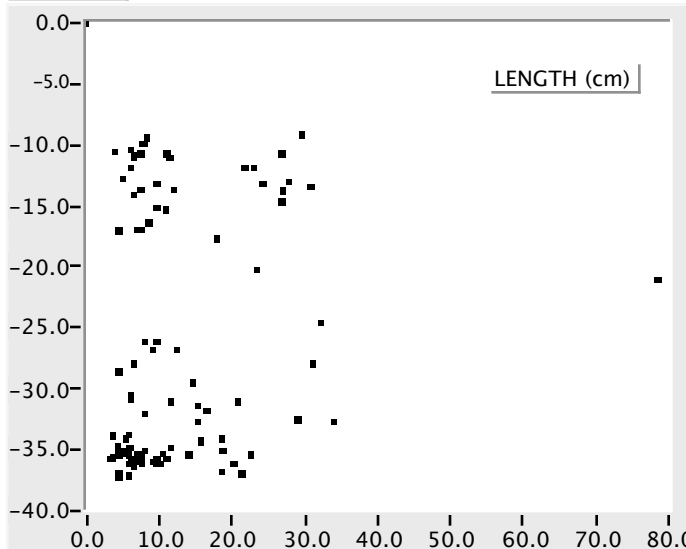
5

10

15

No Filter ☐ Filter ☒ Depth 35 Length (cm) 10

DEPTH (m)



TRANSECT LENGTH (M)

1775

NUMBER OF TARGETS

100

PERCENT LOST BOTTOM

0

Sonar:Granby2011:K2412145.FSH

OUTPUT

Sonar:Granby2011:K2412145.FSH

Transect length (m): 1775 Total pings: 6376

Number prey/acre: 1.389

Biomass prey/acre (kg): 0.001

Total prey biomass (MT): 0.008

Number predators/acre: 19.660

Biomass predators/acre (kg): 2.036

Predator/prey cutoff: 5.0 cm

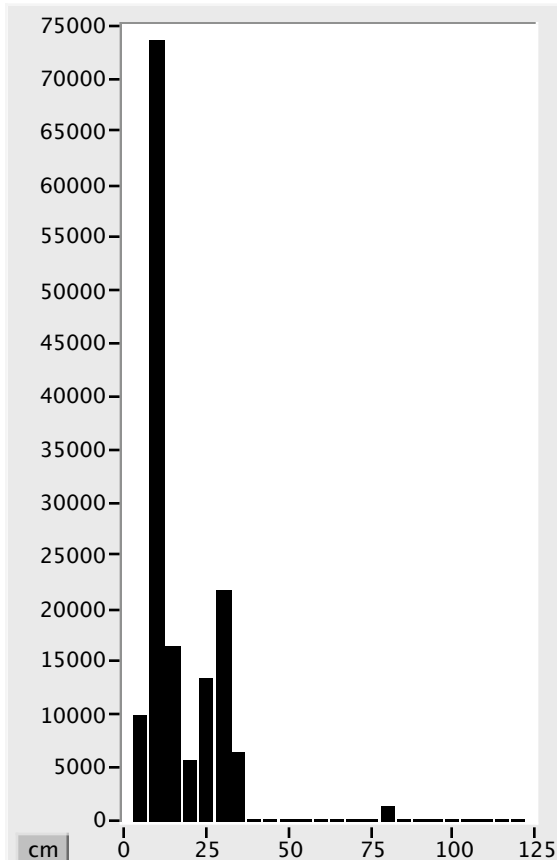
Strata top (M) Prey (g) Prey # Predator (g) Predator #
Per cubic meter by strata:

-2.000000	0.000000	0.000000	0.000000	0.000000
-5.000000	0.000000	0.000000	0.013544	0.000228
-10.000000	0.000034	0.000034	0.043739	0.000683
-15.000000	0.000024	0.000024	0.001739	0.000147
-20.000000	0.000000	0.000000	0.100324	0.000057
-25.000000	0.000016	0.000016	0.004902	0.000109
-30.000000	0.000013	0.000027	0.011303	0.000199
-35.000000	0.000082	0.000132	0.007555	0.000528

Total per cubic meter

0.000000 0.000026 0.000038 0.024565 0.000252

LENGTH FREQUENCY PLOT - LAKEWIDE ESTIMATE (all fish)





INTERPRET FSH 8.94b BW.vi

WD60GIG:Users:Michael:Documents:Sonar:ANALYSIS VIs:INTERPRET FSH 8.94b BW.vi

Last modified on 11/22/11 at 3:22 PM

Printed on 11/30/11 at 11:46 AM

This program analyzes the *.FSH files from the HTI

Enter values in blue
controls before running VI

GRANBY

TRANSECT #

9

START UTM X

END UTM X

431167

429744

START UTM Y

END UTM Y

4443679

4443047

2011

PREDATOR/PREY
CUTOFF (cm)

5.0

TVG 40logR

NONE

40logR

COLUMN 9

ALL

DEL>0

USE INT OR BOT

INT

BOT

PREY

FISH PER ACRE

PREDATOR

0

-5

-10

-15

-20

-25

-30

0

0

-5

-10

-15

-20

-25

-30

0

0

-5

-10

-15

-20

-25

-30

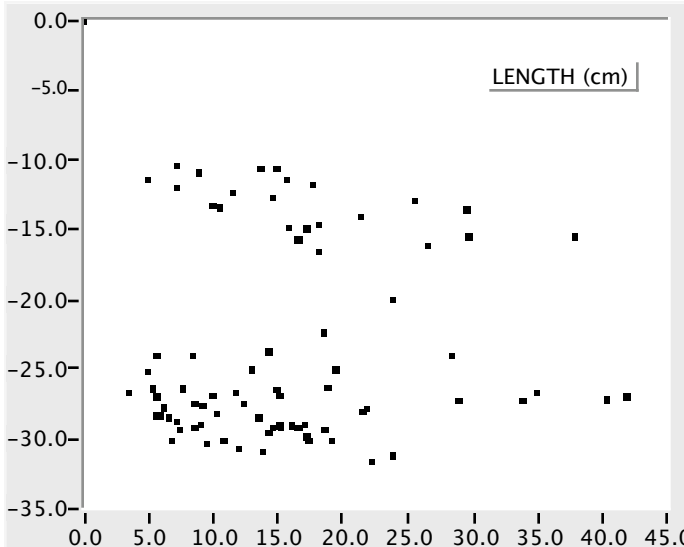
0

No Filter Filter Depth Length (cm)

35

10

DEPTH (m)



TRANSECT LENGTH (M)

NUMBER OF TARGETS

PERCENT LOST BOTTOM

1557

80

0

Sonar:Granby2011:K2412125.FSH

OUTPUT

Sonar:Granby2011:K2412125.FSH

Transect length (m): 1557 Total pings: 5603

Number prey/acre: 0.268

Biomass prey/acre (kg): 0.000

Total prey biomass (MT): 0.001

Number predators/acre: 20.270

Biomass predators/acre (kg): 1.293

Predator/prey cutoff: 5.0 cm

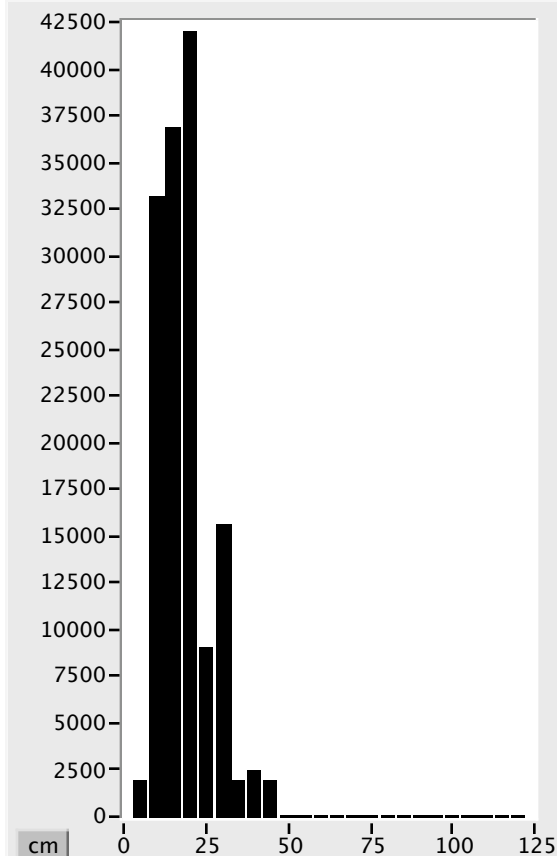
Strata top (M) Prey (g) Prey # Predator (g) Predator #
Per cubic meter by strata:

-2.000000	0.000000	0.000000	0.000000	0.000000
-5.000000	0.000000	0.000000	0.000000	0.000000
-10.000000	0.000000	0.000000	0.030245	0.000740
-15.000000	0.000000	0.000000	0.026416	0.000140
-20.000000	0.000000	0.000000	0.008310	0.000130
-25.000000	0.000018	0.000035	0.051647	0.000692
-30.000000	0.000000	0.000000	0.007078	0.000183

Total per cubic meter

0.000000 0.000004 0.000009 0.023037 0.000335

LENGTH FREQUENCY PLOT - LAKEWIDE ESTIMATE (all fish)





INTERPRET FSH 8.94b BW.vi

WD60GIG:Users:Michael:Documents:Sonar:ANALYSIS VIs:INTERPRET FSH 8.94b BW.vi

Last modified on 11/22/11 at 3:22 PM

Printed on 11/30/11 at 11:42 AM

This program analyzes the *.FSH files from the HTI

Enter values in blue
controls before running VI

GRANBY

TRANSECT #

10

START UTM X

END UTM X

432654

431196

START UTM Y

END UTM Y

4442909

4443668

2011

PREDATOR/PREY
CUTOFF (cm)

5.0

TVG 40logR

NONE

40logR

COLUMN 9

ALL

DEL>0

USE INT OR BOT

INT

BOT

PREY

FISH PER ACRE

PREDATOR

0

-5

-10

-15

-20

-25

0

1

2

0

-5

-10

-15

-20

-25

0

5

10

15

DEPTH (m)

No Filter

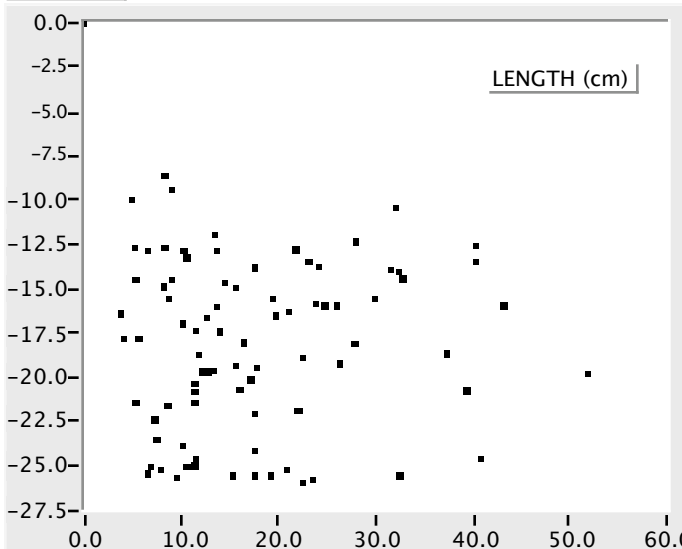
Filter

Depth

35

Length (cm)

10



TRANSECT LENGTH (M)

1644

NUMBER OF TARGETS

84

PERCENT LOST BOTTOM

0

Sonar:Granby2011:K2412105.FSH

OUTPUT

Sonar:Granby2011:K2412105.FSH

Transect length (m): 1644 Total pings: 5782

Number prey/acre: 1.724

Biomass prey/acre (kg): 0.001

Total prey biomass (MT): 0.010

Number predators/acre: 33.231

Biomass predators/acre (kg): 3.664

Predator/prey cutoff: 5.0 cm

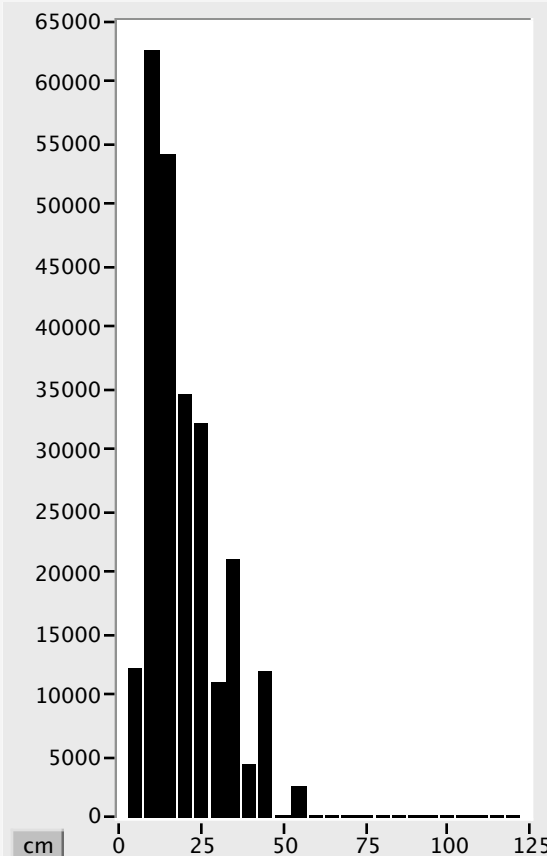
Strata top (M) Prey (g) Prey # Predator (g) Predator #
Per cubic meter by strata:

-2.000000	0.000000	0.000000	0.000000	0.000000
-5.000000	0.000061	0.000061	0.000553	0.000123
-10.000000	0.000000	0.000000	0.108457	0.000811
-15.000000	0.000026	0.000053	0.106527	0.000741
-20.000000	0.000000	0.000000	0.037608	0.000431
-25.000000	0.000000	0.000000	0.042232	0.000709

Total per cubic meter

0.000000 0.000014 0.000021 0.064545 0.000570

LENGTH FREQUENCY PLOT - LAKEWIDE ESTIMATE (all fish)



INPUT FILES:

WD60GIG:Users:Michael:Documents:Sonar:GrnMtn2011:GrnMtn2011:2011GrnMtnT1.out
 WD60GIG:Users:Michael:Documents:Sonar:GrnMtn2011:GrnMtn2011:2011GrnMtnT2.out
 WD60GIG:Users:Michael:Documents:Sonar:GrnMtn2011:GrnMtn2011:2011GrnMtnT3.out
 WD60GIG:Users:Michael:Documents:Sonar:GrnMtn2011:GrnMtn2011:2011GrnMtnT4.out
 WD60GIG:Users:Michael:Documents:Sonar:GrnMtn2011:GrnMtn2011:2011GrnMtnT5.out

Total length of transects (m): 8645

Number prey/acre: 0.947 95%CI (0.333, 1.561)

Biomass prey/acre (kg): 0.001 95%CI (0.000, 0.001)

Total prey biomass (MT): 0.001 95%CI (0.000, 0.003)

Number predators/acre: 15.522 95%CI (9.227, 21.817)

Biomass predators/acre (kg): 1.560 95%CI (0.011, 3.108)

Strata (top)	LCL	g PREY	UCL	LCL	# PREY	UCL	LCL	g PRED	UCL	LCL	# PRED	UCL	n
Per cubic meter by strata													
-2	0	0	0	0	0	0	0	0	0	0	0	0	5
-5	-0.000019	0.000011	0.00004	-0.000019	0.000011	0.00004	-0.000185	0.000264	0.000712	-0.000015	0.000022	0.000059	5
-10	-0.000032	0.000018	0.000068	-0.000032	0.000018	0.000068	-0.000898	0.010387	0.021671	0.000056	0.00028	0.000503	5
-15	-0.000014	0.000017	0.000048	-0.000014	0.000017	0.000048	0.003479	0.027687	0.051895	0.00012	0.00043	0.00074	5
-20	-0.000006	0.000004	0.000014	-0.000006	0.000004	0.000014	-0.000584	0.019092	0.038768	0.000119	0.000386	0.000652	5
-25	-0.000011	0.000011	0.000034	-0.000013	0.000015	0.000043	0.003376	0.027004	0.050631	0.00015	0.000296	0.000442	4
-30	0	0	0	-0.000068	0.000037	0.000142	-0.098013	0.099083	0.296179	0.000212	0.000338	0.000464	4
-35	-0.000062	0.00004	0.000141	-0.000062	0.00004	0.000141	-0.210463	0.130852	0.472167	0.000061	0.000318	0.000575	4
-40	0	0	0	0	0	0	-0.056063	0.021251	0.098565	-0.000135	0.000103	0.000342	3
-45	-0.000129	0.000011	0.000151	-0.000263	0.000023	0.000308	-0.114071	0.009744	0.13356	-0.000392	0.000034	0.000459	2
-50	0	0	0	0	0	0	-0.075587	0.006457	0.088501	-0.000263	0.000023	0.000308	2
-55	NaN	0	NaN	NaN	0	NaN	NaN	0.002746	NaN	NaN	0.000043	NaN	1
-60	NaN	0	NaN	NaN	0	NaN	NaN	0	NaN	NaN	0	NaN	1
-65	NaN	0	NaN	NaN	0	NaN	NaN	0	NaN	NaN	0	NaN	1
-70	NaN	0	NaN	NaN	0	NaN	NaN	0	NaN	NaN	0	NaN	1
Total per cubic meter													
	0.000001	0.000012	0.000023	0.000004	0.000015	0.000025	0.00644	0.032023	0.057606	0.000139	0.00031	0.000481	



INTERPRET FSH 8.94b BW.vi

WD60GIG:Users:Michael:Documents:Sonar:ANALYSIS VIs:INTERPRET FSH 8.94b BW.vi

Last modified on 11/15/11 at 2:57 PM

Printed on 11/22/11 at 2:28 PM

This program analyzes the *.FSH files from the HTI

Enter values in blue
controls before running VI

GREEN MTN

START UTM X

386580

END UTM X

388260

TRANSECT #

1

START UTM Y

4414927

END UTM Y

4415609

2011

PREDATOR/PREY
CUTOFF (cm)

5.0

TVG 40logR

NONE

40logR

COLUMN 9

ALL

DEL>0

USE INT OR BOT

INT

BOT

PREY

FISH PER ACRE

PREDATOR

0

-10

-20

-30

-40

-50

0

1

0

-10

-20

-30

-40

-50

0

2

4

DEPTH (m)

No Filter

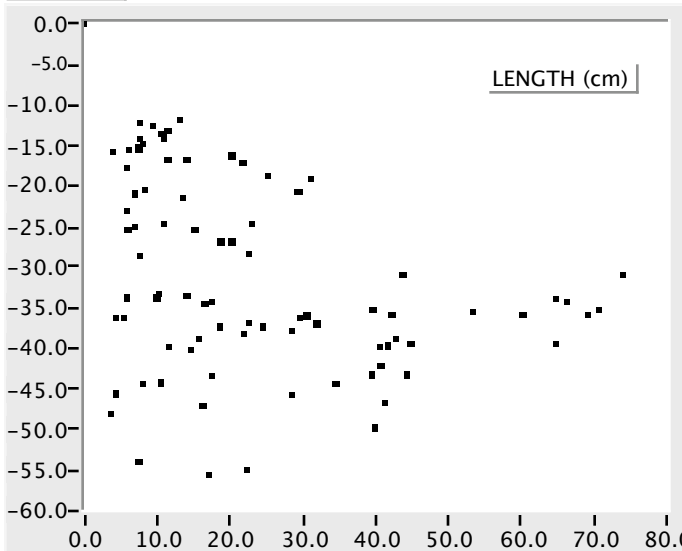
Filter

Depth

35

Length (cm)

10



TRANSECT LENGTH (M)

1813

NUMBER OF TARGETS

84

PERCENT LOST BOTTOM

0

GrnMtn2011:GrnMtn2011:K2372036.FSH

OUTPUT

GrnMtn2011:GrnMtn2011:K2372036.FSH

Transect length (m): 1813 Total pings: 6641

Number prey/acre: 0.732

Biomass prey/acre (kg): 0.001

Total prey biomass (MT): 0.001

Number predators/acre: 12.948

Biomass predators/acre (kg): 3.657

Predator/prey cutoff: 5.0 cm

Strata top (M) Prey (g) Prey # Predator (g) Predator #
Per cubic meter by strata:

```

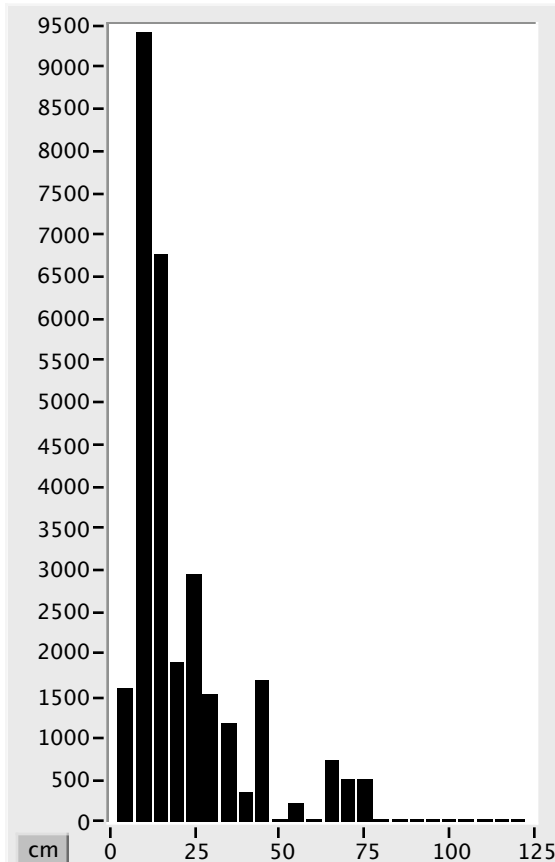
-2.000000 0.000000 0.000000 0.000000 0.000000
-5.000000 0.000000 0.000000 0.000000 0.000000
-10.000000 0.000000 0.000000 0.002111 0.000277
-15.000000 0.000055 0.000055 0.015874 0.000275
-20.000000 0.000000 0.000000 0.008779 0.000175
-25.000000 0.000000 0.000000 0.006298 0.000178
-30.000000 0.000000 0.000000 0.282424 0.000271
-35.000000 0.000025 0.000025 0.452110 0.000518
-40.000000 0.000000 0.000000 0.057019 0.000214
-45.000000 0.000022 0.000045 0.019489 0.000067
-50.000000 0.000000 0.000000 0.012914 0.000045
-55.000000 0.000000 0.000000 0.002746 0.000043
-60.000000 0.000000 0.000000 0.000000 0.000000
-65.000000 0.000000 0.000000 0.000000 0.000000
-70.000000 0.000000 0.000000 0.000000 0.000000

```

Total per cubic meter

0.000000 0.000008 0.000010 0.066784 0.000155

LENGTH FREQUENCY PLOT - LAKEWIDE ESTIMATE (all fish)



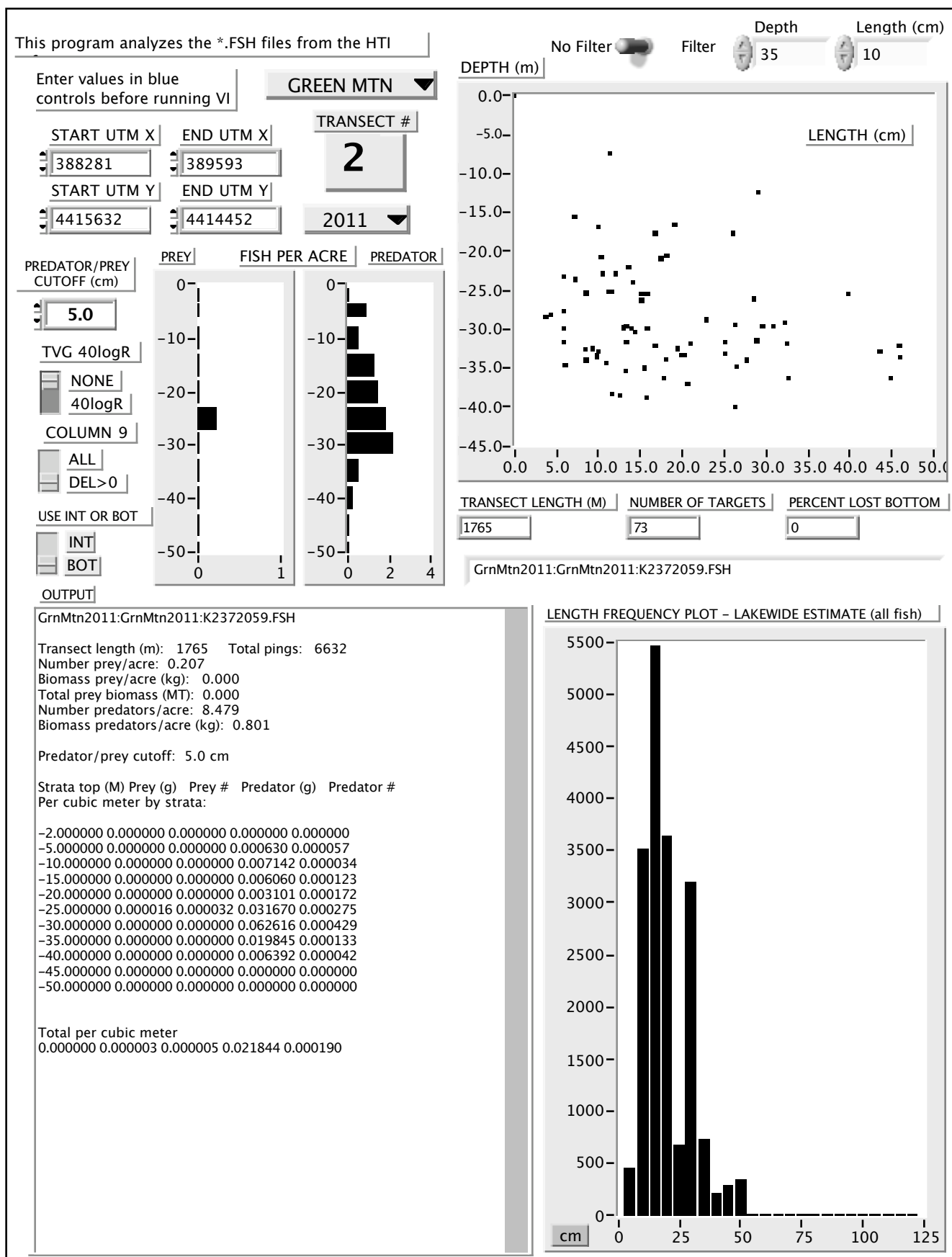


INTERPRET FSH 8.94b BW.vi

WD60GIG:Users:Michael:Documents:Sonar:ANALYSIS VIs:INTERPRET FSH 8.94b BW.vi

Last modified on 11/15/11 at 2:57 PM

Printed on 11/22/11 at 2:39 PM





INTERPRET FSH 8.94b BW.vi

WD60GIG:Users:Michael:Documents:Sonar:ANALYSIS VIs:INTERPRET FSH 8.94b BW.vi

Last modified on 11/15/11 at 2:57 PM

Printed on 11/22/11 at 3:05 PM

This program analyzes the *.FSH files from the HTI

Enter values in blue
controls before running VI

GREEN MTN

START UTM X

389556

END UTM X

391269

TRANSECT #

3

START UTM Y

4414595

END UTM Y

4413751

2011

PREDATOR/PREY
CUTOFF (cm)

5.0

TVG 40logR

NONE
40logR

COLUMN 9

ALL
DEL>0

USE INT OR BOT

INT
BOT

PREY

FISH PER ACRE

PREDATOR

0

-5

-10

-15

-20

-25

-30

-35

-40

0

1

-5

-10

-15

-20

-25

-30

-35

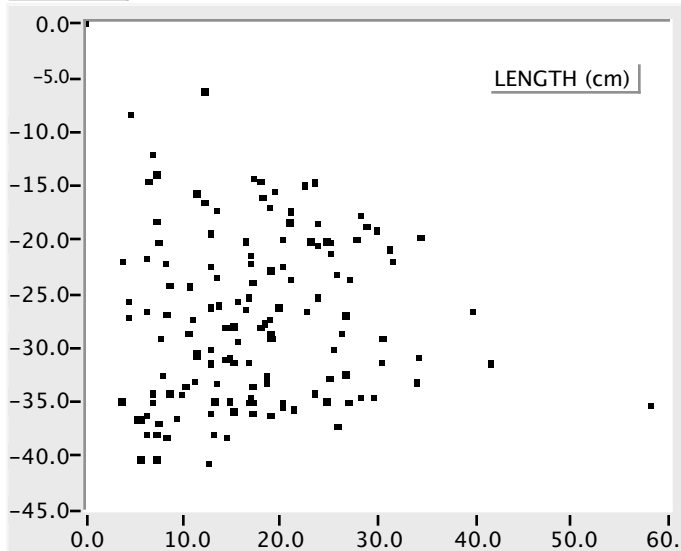
-40

0

2

4

DEPTH (m)



TRANSECT LENGTH (M)

1910

NUMBER OF TARGETS

139

PERCENT LOST BOTTOM

0

GrnMtn2011:GrnMtn2011:K2372127.FSH

OUTPUT

GrnMtn2011:GrnMtn2011:K2372127.FSH

Transect length (m): 1910 Total pings: 7029

Number prey/acre: 1.144

Biomass prey/acre (kg): 0.001

Total prey biomass (MT): 0.002

Number predators/acre: 16.654

Biomass predators/acre (kg): 1.304

Predator/prey cutoff: 5.0 cm

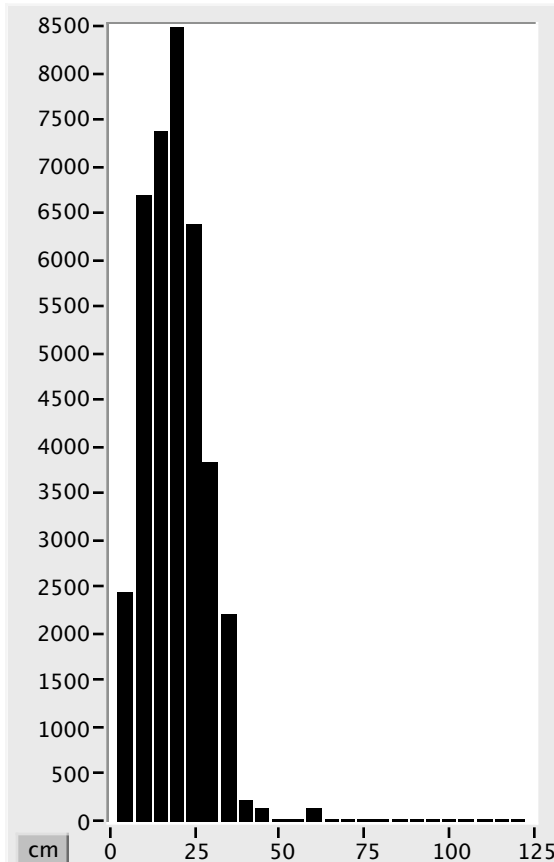
Strata top (M) Prey (g) Prey # Predator (g) Predator #
Per cubic meter by strata:

-2.000000	0.000000	0.000000	0.000000	0.000000
-5.000000	0.000053	0.000053	0.000688	0.000053
-10.000000	0.000000	0.000000	0.006346	0.000190
-15.000000	0.000000	0.000000	0.037332	0.000387
-20.000000	0.000018	0.000018	0.037109	0.000442
-25.000000	0.000029	0.000029	0.028608	0.000391
-30.000000	0.000000	0.000012	0.037848	0.000379
-35.000000	0.000000	0.000000	0.039822	0.000354
-40.000000	0.000000	0.000000	0.000342	0.000054

Total per cubic meter

0.000000 0.000009 0.000012 0.027276 0.000311

LENGTH FREQUENCY PLOT - LAKEWIDE ESTIMATE (all fish)





INTERPRET FSH 8.94b BW.vi

WD60GIG:Users:Michael:Documents:Sonar:ANALYSIS VIs:INTERPRET FSH 8.94b BW.vi

Last modified on 11/15/11 at 2:57 PM

Printed on 11/22/11 at 3:02 PM

This program analyzes the *.FSH files from the HTI

Enter values in blue
controls before running VI

GREEN MTN

START UTM X

391279

END UTM X

392751

TRANSECT #

4

START UTM Y

4413786

END UTM Y

4412733

2011

PREDATOR/PREY
CUTOFF (cm)

5.0

TVG 40logR

NONE

40logR

COLUMN 9

ALL

DEL>0

USE INT OR BOT

INT

BOT

PREY

FISH PER ACRE

PREDATOR

0

-5

-10

-15

-20

-25

-30

-35

0

1

0

-5

-10

-15

-20

-25

-30

-35

0

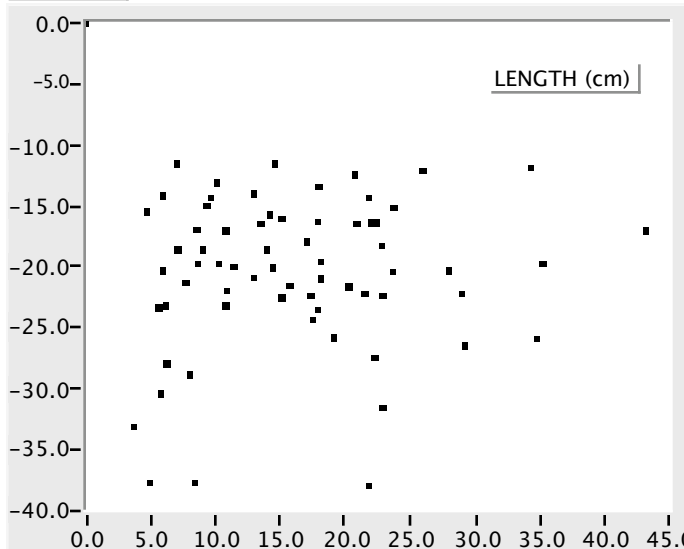
2

4

6

8

DEPTH (m)



TRANSECT LENGTH (M)

1810

NUMBER OF TARGETS

68

PERCENT LOST BOTTOM

0

GrnMtn2011:GrnMtn2011:K2372152.FSH

OUTPUT

GrnMtn2011:GrnMtn2011:K2372152.FSH

Transect length (m): 1810 Total pings: 6560

Number prey/acre: 1.495

Biomass prey/acre (kg): 0.001

Total prey biomass (MT): 0.002

Number predators/acre: 21.921

Biomass predators/acre (kg): 1.563

Predator/prey cutoff: 5.0 cm

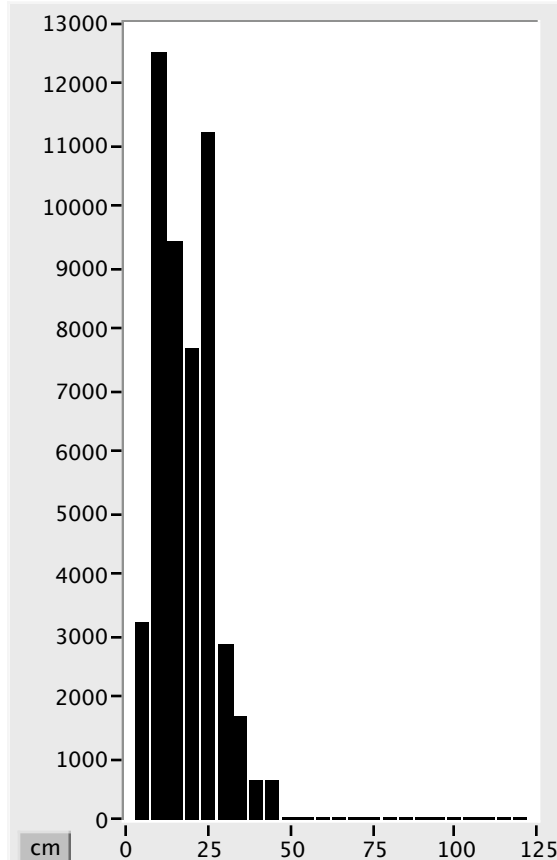
Strata top (M) Prey (g) Prey # Predator (g) Predator #
Per cubic meter by strata:

-2.000000	0.000000	0.000000	0.000000	0.000000
-5.000000	0.000000	0.000000	0.000000	0.000000
-10.000000	0.000000	0.000000	0.025716	0.000402
-15.000000	0.000029	0.000029	0.055972	0.000657
-20.000000	0.000000	0.000000	0.035141	0.000677
-25.000000	0.000000	0.000000	0.041439	0.000339
-30.000000	0.000000	0.000136	0.013444	0.000272
-35.000000	0.000134	0.000134	0.011632	0.000267

Total per cubic meter

0.000000 0.000013 0.000020 0.031240 0.000434

LENGTH FREQUENCY PLOT - LAKEWIDE ESTIMATE (all fish)



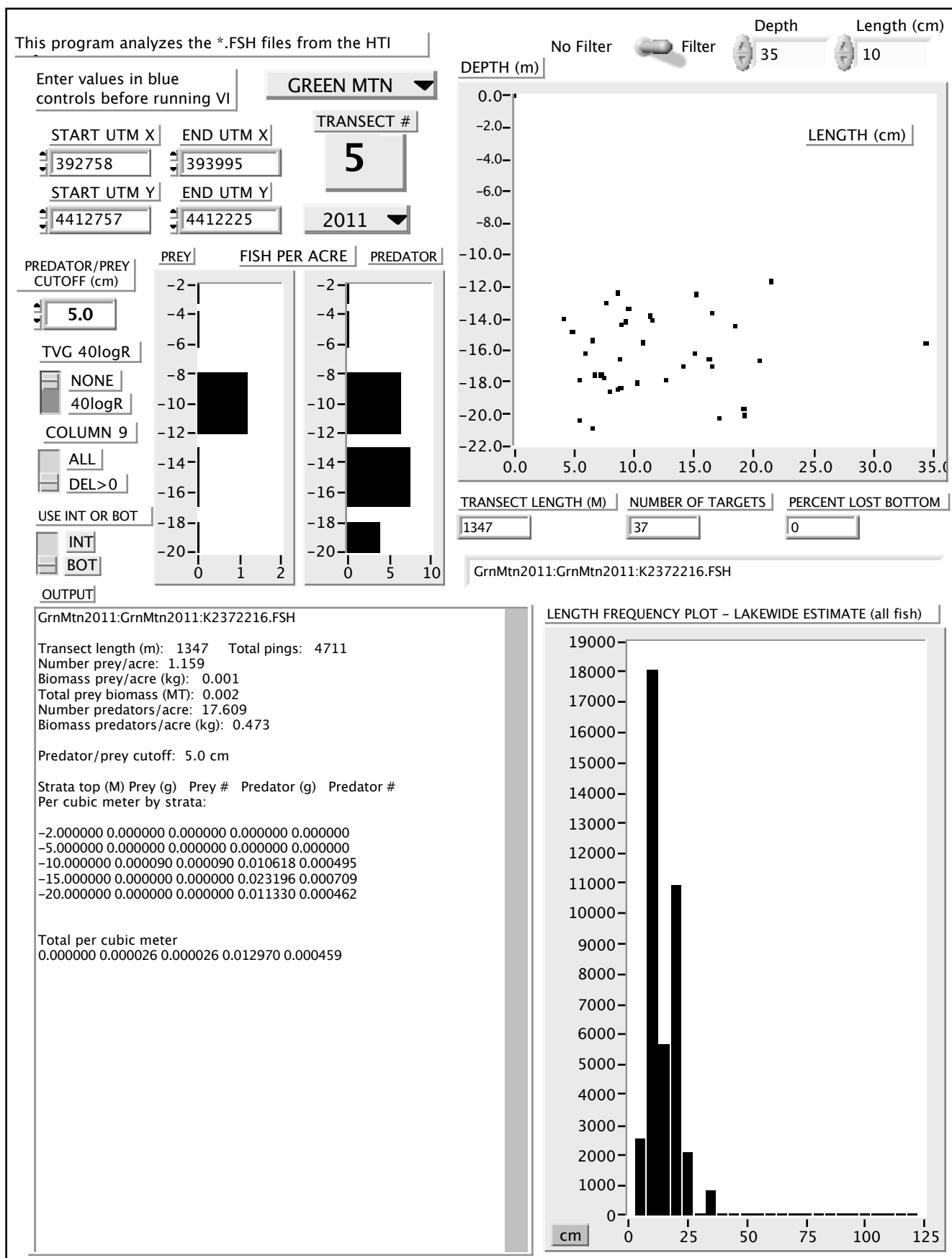


INTERPRET FSH 8.95 BW.vi

WD60GIG:Users:Michael:Documents:Sonar:ANALYSIS VIs:INTERPRET FSH 8.95 BW.vi

Last modified on 12/30/11 at 9:46 AM

Printed on 1/20/12 at 8:51 AM



INPUT FILES:

WD60GIG:Users:Michael:Documents:Sonar:Horsetooth2011:HorsetoothNov2011:2011HstT1.out

WD60GIG:Users:Michael:Documents:Sonar:Horsetooth2011:HorsetoothNov2011:2011HstT2.out

Total length of transects (m): 6188

Number prey/acre: 312.110 95%CI (173.644, 450.575)

Biomass prey/acre (kg): 0.000 95%CI (0.000, 0.000)

Total prey biomass (MT): 0.000 95%CI (0.000, 0.000)

Number predators/acre: 651.851 95%CI (536.981, 766.720)

Biomass predators/acre (kg): 6.290 95%CI (4.404, 8.177)

Strata (top)	LCL	g PREY	UCL	LCL	# PREY	UCL	LCL	g PRED	UCL	LCL	# PRED	UCL	n
Per cubic meter by strata													
-2	0	0	0	0	0	0	-0.019883	0.001698	0.02328	-0.000661	0.000056	0.000774	2
-5	0	0	0	-0.004627	0.00102	0.006668	-0.278219	0.064168	0.406554	-0.004403	0.001315	0.007033	2
-10	0	0	0	-0.000071	0.009643	0.019356	-0.255849	0.097776	0.451401	-0.021018	0.009763	0.040543	2
-15	0	0	0	0.007583	0.011236	0.01489	0.092427	0.136505	0.180583	-0.002328	0.029069	0.060466	2
-20	0	0	0	-0.003737	0.00653	0.016797	-0.141558	0.094693	0.330945	-0.027975	0.017176	0.062328	2
-25	0	0	0	-0.00649	0.001966	0.010421	0.099995	0.166308	0.232621	-0.003103	0.008606	0.020314	2
-30	0	0	0	0.000078	0.000535	0.000992	0.102929	0.260873	0.418816	0.008642	0.009805	0.010967	2
-35	0	0	0	-0.000228	0.000019	0.000267	-0.062591	0.114183	0.290958	-0.001903	0.003942	0.009787	2
Total per cubic meter	0	0	0	0.003515	0.005097	0.006678	0.124044	0.137596	0.151147	0.006593	0.013282	0.019972	



INTERPRET FSH 8.94b BW.vi

WD60GIG:Users:Michael:Documents:Sonar:ANALYSIS VIs:INTERPRET FSH 8.94b BW.vi

Last modified on 12/8/11 at 9:26 AM

Printed on 12/15/11 at 3:34 PM

This program analyzes the *.FSH files from the HTI

Enter values in blue controls before running VI

HORSETOOTH

START UTM X: 487447 END UTM X: 486678
 START UTM Y: 448659 END UTM Y: 4489594
 TRANSECT #: 1
 YEAR: 2011

PREDATOR/PREY CUTOFF (cm): 5.0

TVG 40logR: NONE

COLUMN 9: ALL

USE INT OR BOT: INT

PREY FISH PER ACRE PREDATOR

0 0 0
 -5 0 0
 -10 0 0
 -15 0 0
 -20 0 0
 -25 0 0
 -30 0 0
 -35 0 0
 -40 0 0
 -45 0 0

0 425 0 858

DEPTH (m) No Filter Filter 35 10

LENGTH (cm)

0.0 -5.0 -10.0 -15.0 -20.0 -25.0 -30.0 -35.0 -40.0

0.0 10.0 20.0 30.0 40.0 50.0

TRANSECT LENGTH (M) NUMBER OF TARGETS PERCENT LOST BOTTOM

3034 6518 0

Horsetooth2011:HorsetoothNov2011:K3121736.FSH

OUTPUT

Horsetooth2011:HorsetoothNov2011:K3121736.FSH

Transect length (m): 3034 Total pings: 13200
 Number prey/acre: 323.007
 Biomass prey/acre (kg): 0.000
 Total prey biomass (MT): 0.000
 Number predators/acre: 642.810
 Biomass predators/acre (kg): 6.142

Predator/prey cutoff: 5.0 cm

Strata top (M) Prey (g) Prey # Predator (g) Predator #

Per cubic meter by strata:

-2.000000	0.000000	0.000000	0.000000	0.000000
-5.000000	0.000000	0.001465	0.037221	0.001765
-10.000000	0.000000	0.010407	0.125607	0.012185
-15.000000	0.000000	0.010949	0.133036	0.026598
-20.000000	0.000000	0.005722	0.076100	0.013623
-25.000000	0.000000	0.002631	0.171527	0.009527
-30.000000	0.000000	0.000499	0.273303	0.009713
-35.000000	0.000000	0.000000	0.128096	0.004402

Total per cubic meter

0.000000 0.000000 0.005221 0.138662 0.012756

LENGTH FREQUENCY PLOT - LAKEWIDE ESTIMATE (all fish)

cm

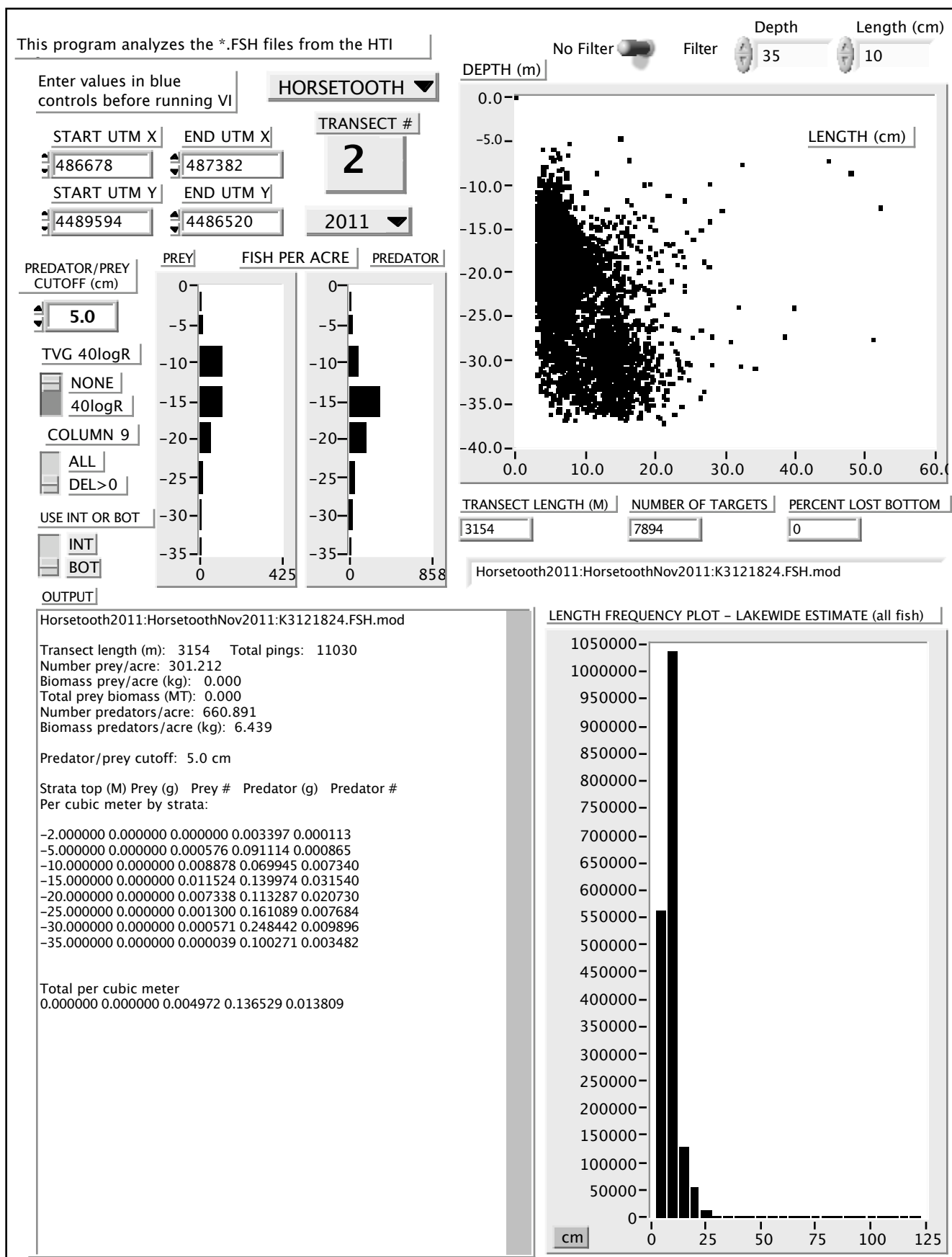


INTERPRET FSH 8.94b BW.vi

WD60GIG:Users:Michael:Documents:Sonar:ANALYSIS VIs:INTERPRET FSH 8.94b BW.vi

Last modified on 12/8/11 at 9:26 AM

Printed on 12/15/11 at 3:22 PM



INPUT FILES:

WD60GIG:Users:Michael:Documents:Sonar:McPhee2011:2011McPheeT1m.out
 WD60GIG:Users:Michael:Documents:Sonar:McPhee2011:2011McPheeT2m.out
 WD60GIG:Users:Michael:Documents:Sonar:McPhee2011:2011McPheeT3m.out
 WD60GIG:Users:Michael:Documents:Sonar:McPhee2011:2011McPheeT4m.out
 WD60GIG:Users:Michael:Documents:Sonar:McPhee2011:2011McPheeT6m.out
 WD60GIG:Users:Michael:Documents:Sonar:McPhee2011:2011McPheeT5m.out

Total length of transects (m): 10723

Number prey/acre: 4.712 95%CI (0.431, 8.994)

Biomass prey/acre (kg): 0.008 95%CI (-0.001, 0.017)

Total prey biomass (MT): 0.036 95%CI (0.002, 0.071)

Number predators/acre: 67.843 95%CI (33.622, 102.064)

Biomass predators/acre (kg): 2.893 95%CI (1.120, 4.666)

Strata (top)	LCL	g PREY	UCL	LCL	# PREY	UCL	LCL	g PRED	UCL	LCL	# PRED	UCL	n
Per cubic meter by strata													
-2	0	0	0	0	0	0	0	0	0	0	0	0	6
-5	0	0	0	0	0	0	-0.000169	0.000381	0.000932	0.000006	0.000037	0.000068	6
-10	-0.000023	0.000158	0.000339	-0.000011	0.000081	0.000173	0.01393	0.082039	0.150149	0.000735	0.001369	0.002002	6
-15	-0.000039	0.000385	0.000809	0.000029	0.000226	0.000423	0.034961	0.121241	0.207521	0.001248	0.003113	0.004977	6
-20	-0.000008	0.000096	0.0002	0.000002	0.000053	0.000104	0.001906	0.014361	0.026816	0.000162	0.000609	0.001057	6
-25	-0.000004	0.00003	0.0001	-0.000017	0.000015	0.000047	0.000383	0.003036	0.005689	0.000006	0.000121	0.000236	6
-30	-0.000008	0.000005	0.000018	-0.000004	0.000003	0.00001	-0.000542	0.000717	0.001975	-0.000036	0.000047	0.00013	6
-35	0	0	0	0	0	0	-0.000024	0.000034	0.000092	-0.000001	0.000012	0.000026	4
-40	0	0	0	0	0	0	0	0	0	0	0	0	4
-45	0	0	0	0	0	0	0	0	0	0	0	0	3
-50	0	0	0	0	0	0	0	0	0	0	0	0	3
-55	0	0	0	0	0	0	0	0	0	0	0	0	2
-60	NaN	0	NaN	NaN	0	NaN	NaN	0.002244	NaN	NaN	0.000022	NaN	1
-65	NaN	0	NaN	NaN	0	NaN	NaN	0	NaN	NaN	0	NaN	1
Total per cubic meter													
-0.000006	0.00007	0.000147	0.000003	0.000037	0.000071	0.000845	0.027387	0.053929	0.00029	0.00057	0.00085		



INTERPRET FSH 8.94b BW.vi

WD60GIG:Users:Michael:Documents:Sonar:ANALYSIS VIs:INTERPRET FSH 8.94b BW.vi

Last modified on 12/8/11 at 9:26 AM

Printed on 12/12/11 at 1:18 PM

This program analyzes the *.FSH files from the HTI

Enter values in blue
controls before running VI

MCPHEE

TRANSECT #

1

START UTM X

END UTM X

716298

717243

START UTM Y

END UTM Y

4160539

4158640

2011

PREDATOR/PREY
CUTOFF (cm)

5.0

TVG 40logR

NONE

40logR

COLUMN 9

ALL

DEL>0

USE INT OR BOT

INT

BOT

PREY

FISH PER ACRE

PREDATOR

0

-10

-20

-30

-40

-50

-60

-70

0

1

2

3

4

0

10

20

30

40

50

60

70

0

10

20

30

40

50

60

70

DEPTH (m)

0.0

-5.0

-10.0

-15.0

-20.0

-25.0

-30.0

-35.0

-40.0

-45.0

-50.0

-55.0

-60.0

-65.0

-70.0

-75.0

-80.0

-85.0

-90.0

-95.0

-100.0

-105.0

-110.0

-115.0

-120.0

-125.0

-130.0

-135.0

-140.0

-145.0

-150.0

-155.0

-160.0

-165.0

-170.0

-175.0

-180.0

-185.0

-190.0

-195.0

-200.0

-205.0

-210.0

-215.0

-220.0

-225.0

-230.0

-235.0

-240.0

-245.0

-250.0

-255.0

-260.0

No Filter

Filter

Depth

35

Length (cm)

10

LENGTH (cm)

TRANSECT LENGTH (M)

2121

NUMBER OF TARGETS

354

PERCENT LOST BOTTOM

0

Sonar:McPhee2011:K2112213.FSH

OUTPUT

Sonar:McPhee2011:K2112213.FSH

Transect length (m): 2121 Total pings: 7762

Number prey/acre: 4.728

Biomass prey/acre (kg): 0.011

Total prey biomass (MT): 0.043

Number predators/acre: 78.813

Biomass predators/acre (kg): 2.878

Predator/prey cutoff: 5.0 cm

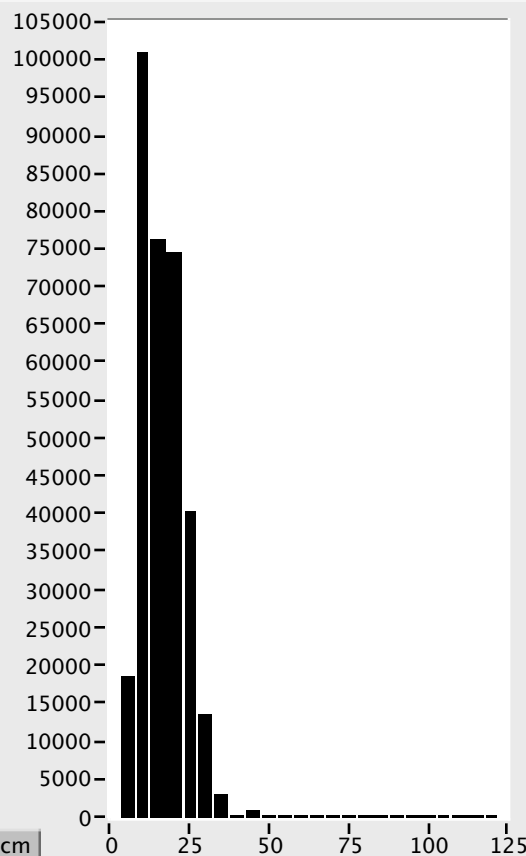
Strata top (M) Prey (g) Prey # Predator (g) Predator #
Per cubic meter by strata:

-2.000000	0.000000	0.000000	0.000000	0.000000
-5.000000	0.000000	0.000000	0.000048	0.000048
-10.000000	0.000057	0.000029	0.045919	0.001057
-15.000000	0.000676	0.000287	0.162372	0.004243
-20.000000	0.000191	0.000080	0.021376	0.000940
-25.000000	0.000039	0.000013	0.005522	0.000260
-30.000000	0.000000	0.000000	0.000837	0.000044
-35.000000	0.000000	0.000000	0.000057	0.000019
-40.000000	0.000000	0.000000	0.000000	0.000000
-45.000000	0.000000	0.000000	0.000000	0.000000
-50.000000	0.000000	0.000000	0.000000	0.000000
-55.000000	0.000000	0.000000	0.000000	0.000000
-60.000000	0.000000	0.000000	0.003183	0.000022
-65.000000	0.000000	0.000000	0.000000	0.000000

Total per cubic meter

0.000000 0.000043 0.000018 0.010152 0.000286

LENGTH FREQUENCY PLOT - LAKEWIDE ESTIMATE (all fish)



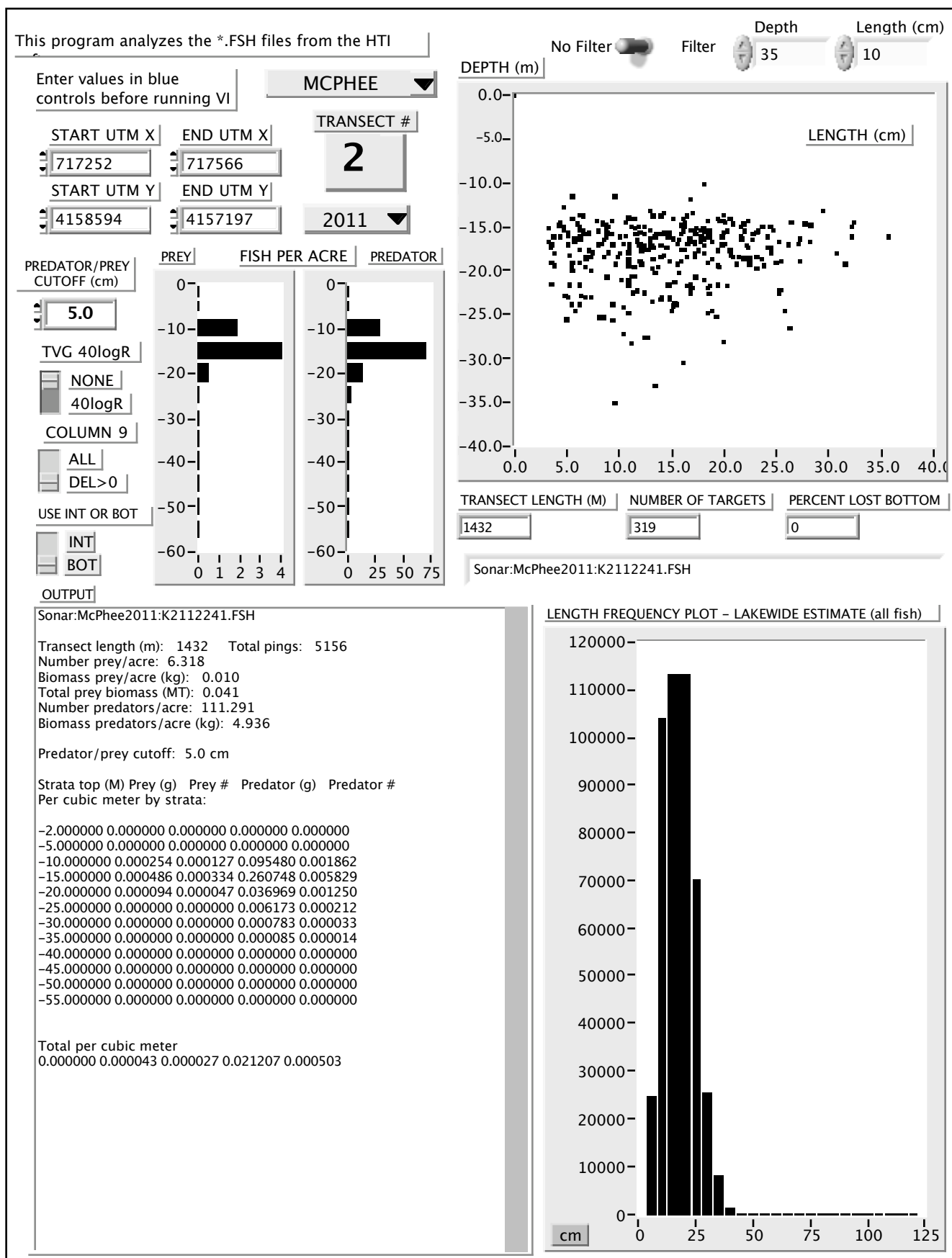


INTERPRET FSH 8.94b BW.vi

WD60GIG:Users:Michael:Documents:Sonar:ANALYSIS VIs:INTERPRET FSH 8.94b BW.vi

Last modified on 12/8/11 at 9:26 AM

Printed on 12/12/11 at 1:20 PM



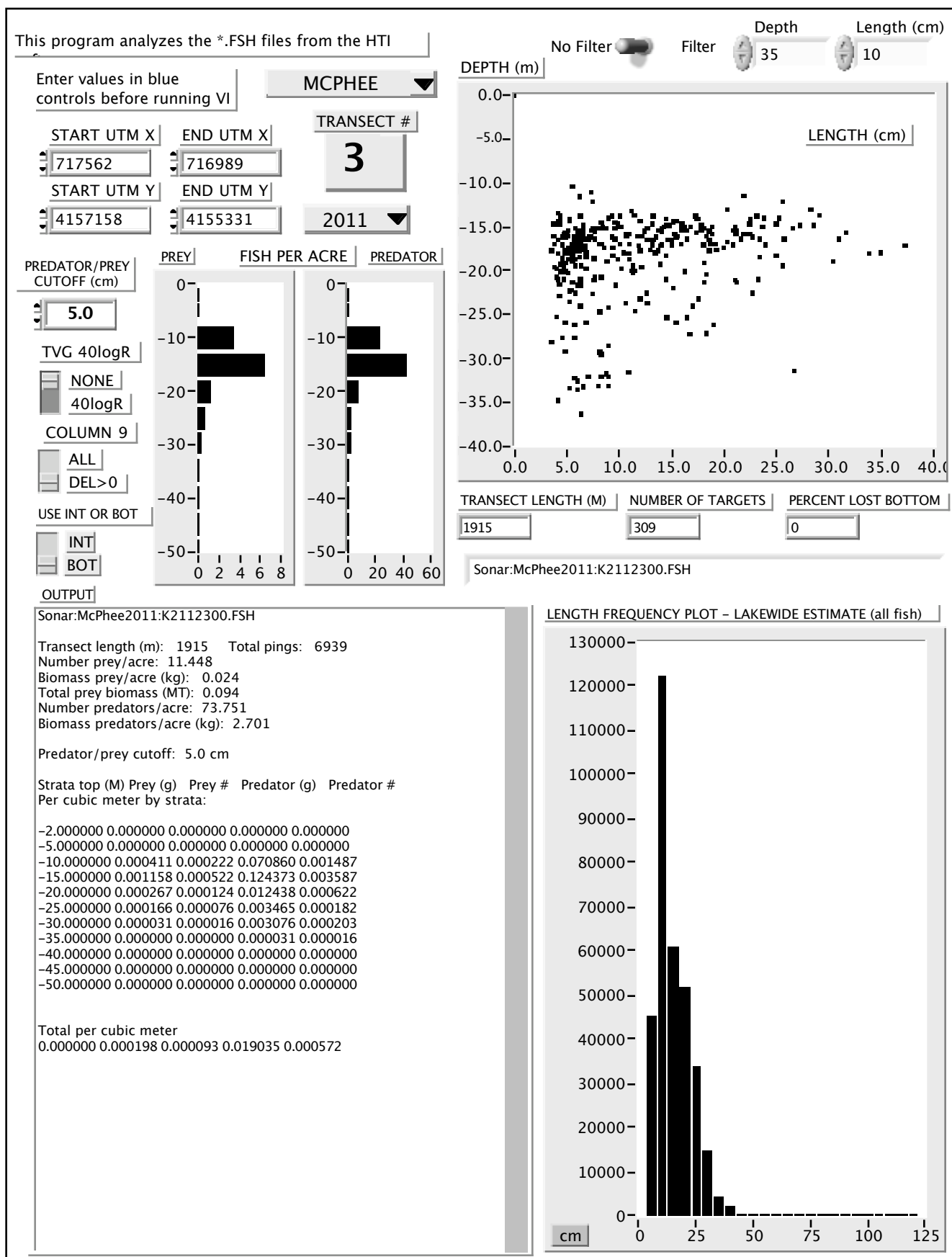


INTERPRET FSH 8.94b BW.vi

WD60GIG:Users:Michael:Documents:Sonar:ANALYSIS VIs:INTERPRET FSH 8.94b BW.vi

Last modified on 12/8/11 at 9:26 AM

Printed on 12/12/11 at 1:22 PM



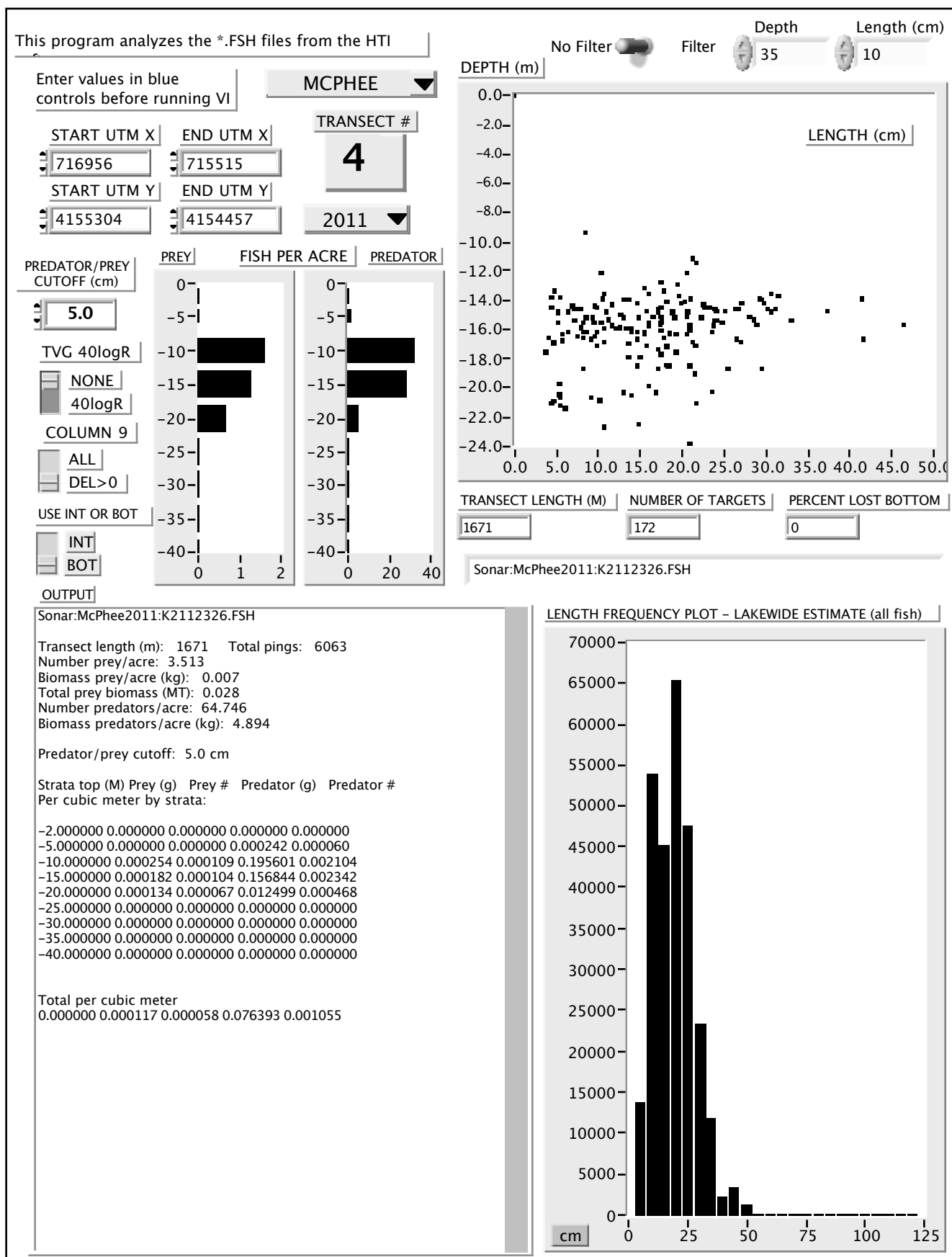


INTERPRET FSH 8.94b BW.vi

WD60GIG:Users:Michael:Documents:Sonar:ANALYSIS VIs:INTERPRET FSH 8.94b BW.vi

Last modified on 12/8/11 at 9:26 AM

Printed on 12/12/11 at 1:23 PM





INTERPRET FSH 8.94b BW.vi

WD60GIG:Users:Michael:Documents:Sonar:ANALYSIS VIs:INTERPRET FSH 8.94b BW.vi

Last modified on 12/8/11 at 9:26 AM

Printed on 12/12/11 at 1:25 PM

This program analyzes the *.FSH files from the HTI

Enter values in blue
controls before running VI

MCPHEE

TRANSECT #

5

START UTM X

END UTM X

715471

717227

START UTM Y

END UTM Y

4154454

4153606

2011

PREDATOR/PREY
CUTOFF (cm)

5.0

TVG 40logR

NONE

40logR

COLUMN 9

ALL

DEL>0

USE INT OR BOT

INT

BOT

PREY

FISH PER ACRE

PREDATOR

0

-10

-20

-30

-40

-50

-60

-70

0

1

0

10

20

DEPTH (m)

0.0

-2.5

-5.0

-7.5

-10.0

-12.5

-15.0

-17.5

-20.0

-22.5

-25.0

-27.5

0.0

5.0

10.0

15.0

20.0

25.0

30.0

35.0

40.0

No Filter

Filter

Depth

35

Length (cm)

10

LENGTH (cm)

TRANSECT LENGTH (M)

1950

NUMBER OF TARGETS

95

PERCENT LOST BOTTOM

0

Sonar:McPhee2011:K2112348.FSH

OUTPUT

Sonar:McPhee2011:K2112348.FSH

Transect length (m): 1950 Total pings: 7614

Number prey/acre: 0.681

Biomass prey/acre (kg): 0.001

Total prey biomass (MT): 0.004

Number predators/acre: 38.531

Biomass predators/acre (kg): 1.952

Predator/prey cutoff: 5.0 cm

Strata top (M) Prey (g) Prey # Predator (g) Predator #
Per cubic meter by strata:

-2.000000	0.000000	0.000000	0.000000	0.000000
-5.000000	0.000000	0.000000	0.001243	0.000052
-10.000000	0.000000	0.000000	0.089974	0.001294
-15.000000	0.000086	0.000057	0.037503	0.001291
-20.000000	0.000000	0.000000	0.010568	0.000273
-25.000000	0.000000	0.000000	0.005314	0.000043
-30.000000	0.000000	0.000000	0.000000	0.000000

Total per cubic meter

0.000000 0.000020 0.000013 0.029487 0.000614

LENGTH FREQUENCY PLOT - LAKEWIDE ESTIMATE (all fish)

50000

47500

45000

42500

40000

37500

35000

32500

30000

27500

25000

22500

20000

17500

15000

12500

10000

7500

5000

2500

0

0

25

50

75

100

125

cm

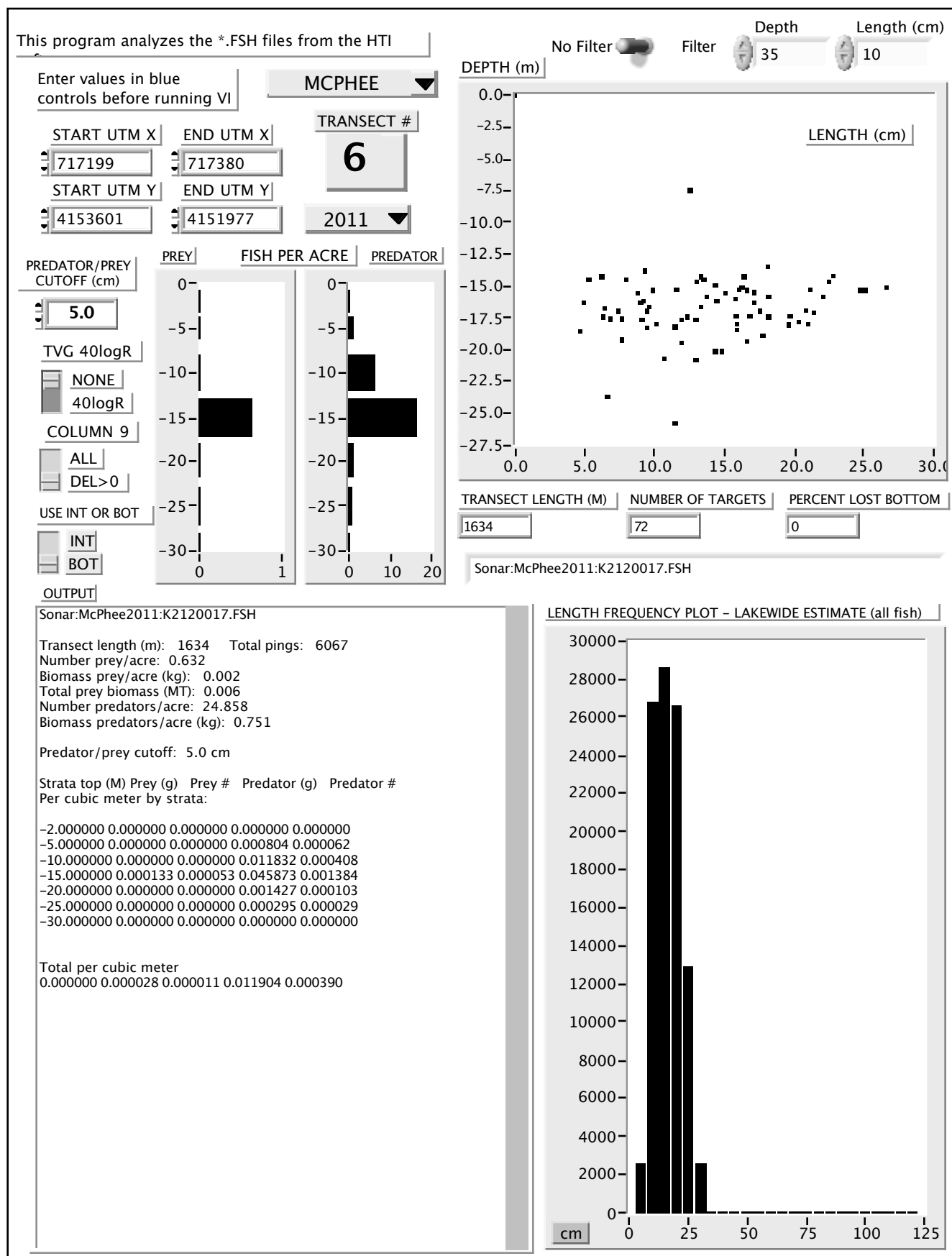


INTERPRET FSH 8.94b BW.vi

WD60GIG:Users:Michael:Documents:Sonar:ANALYSIS VIs:INTERPRET FSH 8.94b BW.vi

Last modified on 12/8/11 at 9:26 AM

Printed on 12/12/11 at 1:26 PM



INPUT FILES:

WD60GIG:Users:Michael:Documents:Sonar:Vallecito2011:2011VallecitoT4m.out
WD60GIG:Users:Michael:Documents:Sonar:Vallecito2011:2011VallecitoT3m.out
WD60GIG:Users:Michael:Documents:Sonar:Vallecito2011:2011VallecitoT2m.out
WD60GIG:Users:Michael:Documents:Sonar:Vallecito2011:2011VallecitoT1m.out

Total length of transects (m): 6039
Number prey/acre: 4.570 95%CI (0.940, 8.201)
Biomass prey/acre (kg): 0.005 95%CI (0.000, 0.009)
Total prey biomass (MT): 0.011 95%CI (0.001, 0.020)
Number predators/acre: 75.731 95%CI (17.841, 133.622)
Biomass predators/acre (kg): 2.236 95%CI (0.275, 4.198)

Strata (top)	LCL	g PREY	UCL	LCL	# PREY	UCL	LCL	g PRED	UCL	LCL	# PRED	UCL	n
Per cubic meter by strata													
-2	0	0	0	0	0	0	0	0	0	0	0	0	4
-5	0	0	0	0	0	0	-0.000399	0.000183	0.000764	-0.000033	0.000015	0.000064	4
-10	0.00005	0.000104	0.000158	0.00005	0.000104	0.000158	-0.001068	0.005489	0.012045	0.000452	0.000606	0.00076	4
-15	-0.00012	0.000245	0.000609	-0.000086	0.000262	0.000609	0.046161	0.175625	0.305088	0.002233	0.005611	0.008989	4
-20	-0.000047	0.000298	0.000643	-0.000047	0.000298	0.000643	-0.080791	0.189975	0.460742	-0.002185	0.005786	0.013757	4
-25	-0.000111	0.00001	0.00013	-0.000111	0.00001	0.00013	-0.264668	0.023012	0.310692	-0.007227	0.000657	0.008542	2
-30	NaN	0	NaN	NaN	0	NaN	NaN	0	NaN	NaN	0	NaN	1
Total per cubic meter													
	0.000004	0.000162	0.00032	0.000011	0.000166	0.000322	0.001278	0.101999	0.20272	0.000358	0.003251	0.006144	

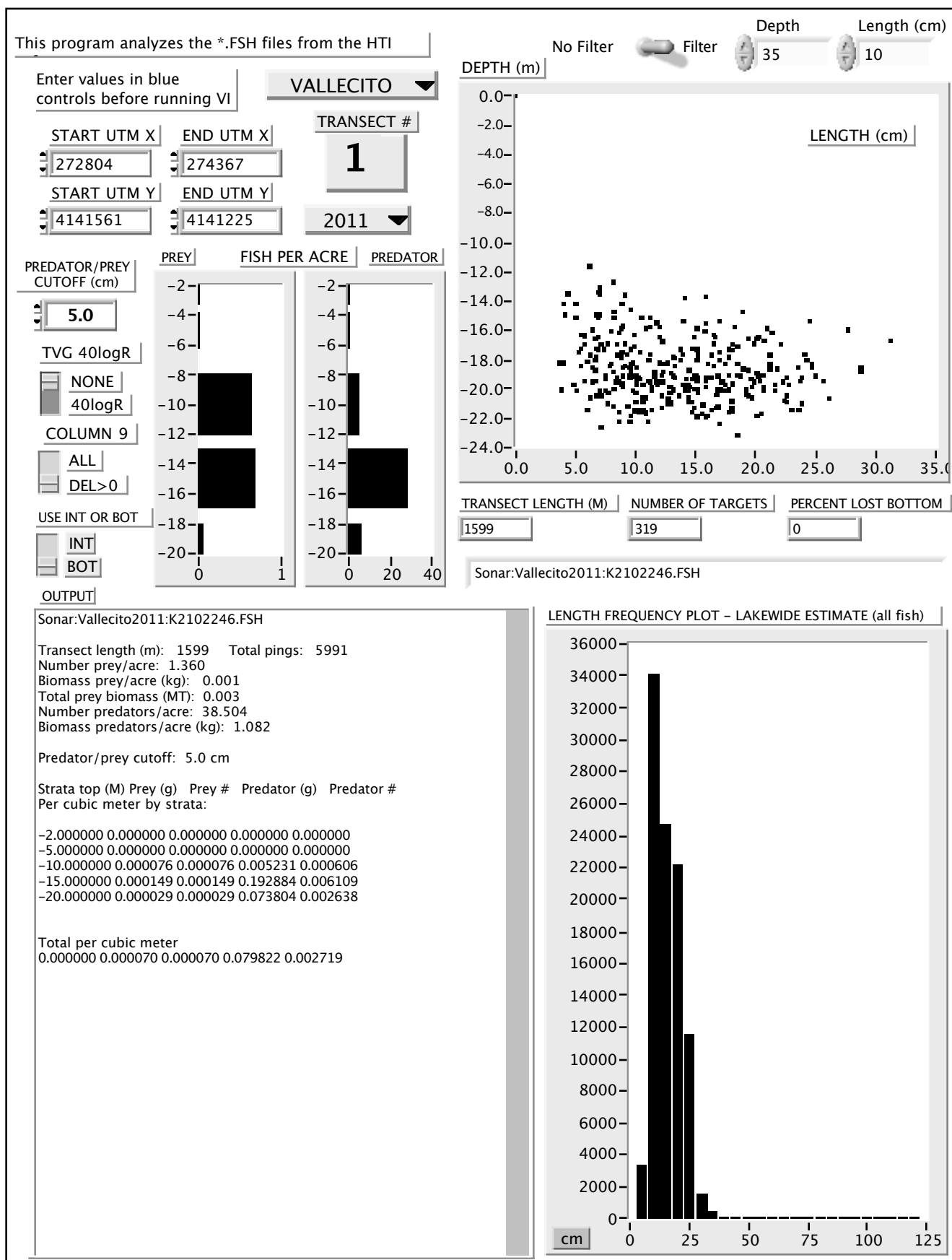


INTERPRET FSH 8.95 BW.vi

WD60GIG:Users:Michael:Documents:Sonar:ANALYSIS VIs:INTERPRET FSH 8.95 BW.vi

Last modified on 12/30/11 at 9:46 AM

Printed on 2/1/12 at 8:18 AM





INTERPRET FSH 8.95 BW.vi

WD60GIG:Users:Michael:Documents:Sonar:ANALYSIS VIs:INTERPRET FSH 8.95 BW.vi

Last modified on 12/30/11 at 9:46 AM

Printed on 2/1/12 at 8:20 AM

This program analyzes the *.FSH files from the HTI

Enter values in blue
controls before running VI

VALLECITO

TRANSECT #

2

START UTM X

END UTM X

272097

272808

START UTM Y

END UTM Y

4140465

4141545

2011

PREDATOR/PREY
CUTOFF (cm)

5.0

TVG 40logR

NONE
40logR

COLUMN 9

ALL
DEL>0

USE INT OR BOT

INT
BOT

PREY

FISH PER ACRE

PREDATOR

-2

-4

-6

-8

-10

-12

-14

-16

-18

-20

0

1

2

-2

-4

-6

-8

-10

-12

-14

-16

-18

-20

0

10

20

DEPTH (m)

No Filter

Filter

Depth

Length (cm)

35

10

0.0

-2.0

-4.0

-6.0

-8.0

-10.0

-12.0

-14.0

-16.0

-18.0

-20.0

-22.0

-24.0

0.0

5.0

10.0

15.0

20.0

25.0

30.0

LENGTH (cm)

TRANSECT LENGTH (M)

NUMBER OF TARGETS

PERCENT LOST BOTTOM

1293

144

0

Sonar:Vallecito2011:K2102227.FSH

OUTPUT

Sonar:Vallecito2011:K2102227.FSH

Transect length (m): 1293 Total pings: 4938

Number prey/acre: 2.638

Biomass prey/acre (kg): 0.002

Total prey biomass (MT): 0.006

Number predators/acre: 26.399

Biomass predators/acre (kg): 0.896

Predator/prey cutoff: 5.0 cm

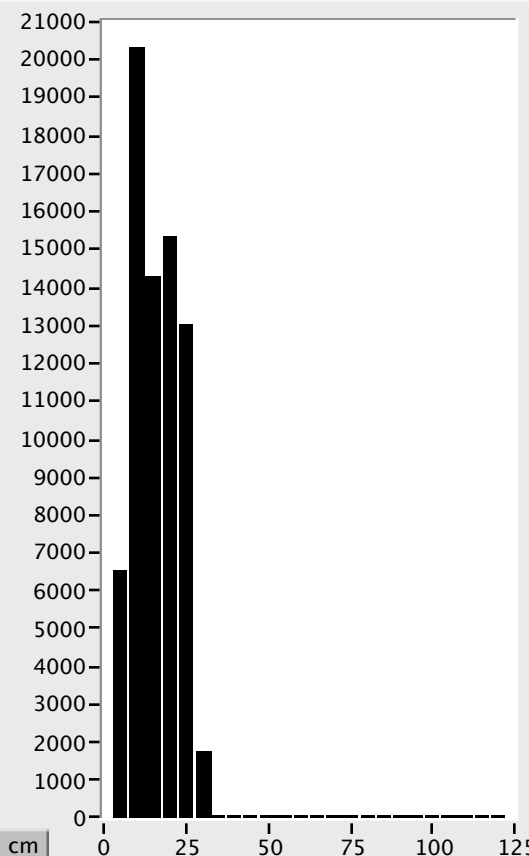
Strata top (M) Prey (g) Prey # Predator (g) Predator #
Per cubic meter by strata:

-2.000000	0.000000	0.000000	0.000000	0.000000
-5.000000	0.000000	0.000000	0.000000	0.000000
-10.000000	0.000150	0.000150	0.011323	0.000499
-15.000000	0.000164	0.000205	0.129479	0.003900
-20.000000	0.000226	0.000226	0.098941	0.002110

Total per cubic meter

0.000000 0.000135 0.000148 0.063348 0.001795

LENGTH FREQUENCY PLOT - LAKEWIDE ESTIMATE (all fish)





INTERPRET FSH 8.95 BW.vi

WD60GIG:Users:Michael:Documents:Sonar:ANALYSIS VIs:INTERPRET FSH 8.95 BW.vi

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This program analyzes the *.FSH files from the HTI

Enter values in blue
controls before running VI

VALLECITO

TRANSECT #

3

START UTM X

END UTM X

273460

272123

START UTM Y

END UTM Y

4141134

4140479

2011

PREDATOR/PREY
CUTOFF (cm)

5.0

TVG 40logR

NONE

40logR

COLUMN 9

ALL

DEL>0

USE INT OR BOT

INT

BOT

PREY

FISH PER ACRE

PREDATOR

0

-5

-10

-15

-20

-25

0

1

2

3

0

-5

-10

-15

-20

-25

0

20

40

DEPTH (m)

No Filter

Filter

Depth

Length (cm)

35

10

0.0

-2.5

-5.0

-7.5

-10.0

-12.5

-15.0

-17.5

-20.0

-22.5

-25.0

-27.5

LENGTH (cm)

0.0

5.0

10.0

15.0

20.0

25.0

30.0

35.0

40.0

TRANSECT LENGTH (M)

NUMBER OF TARGETS

PERCENT LOST BOTTOM

1489

924

0

Sonar:Vallecito2011:K2102208.FSH

OUTPUT

Sonar:Vallecito2011:K2102208.FSH

Transect length (m): 1489 Total pings: 5481

Number prey/acre: 4.447

Biomass prey/acre (kg): 0.004

Total prey biomass (MT): 0.011

Number predators/acre: 72.149

Biomass predators/acre (kg): 2.262

Predator/prey cutoff: 5.0 cm

Strata top (M) Prey (g) Prey # Predator (g) Predator #
Per cubic meter by strata:

-2.000000	0.000000	0.000000	0.000000	0.000000
-5.000000	0.000000	0.000000	0.000000	0.000000
-10.000000	0.000081	0.000081	0.003500	0.000733
-15.000000	0.000584	0.000584	0.282302	0.008409
-20.000000	0.000522	0.000522	0.441254	0.012978
-25.000000	0.000000	0.000000	0.000371	0.000037

Total per cubic meter

0.000000 0.000303 0.000303 0.196382 0.005909

LENGTH FREQUENCY PLOT - LAKEWIDE ESTIMATE (all fish)

60000

55000

50000

45000

40000

35000

30000

25000

20000

15000

10000

5000

0

0

25

50

75

100

125

cm

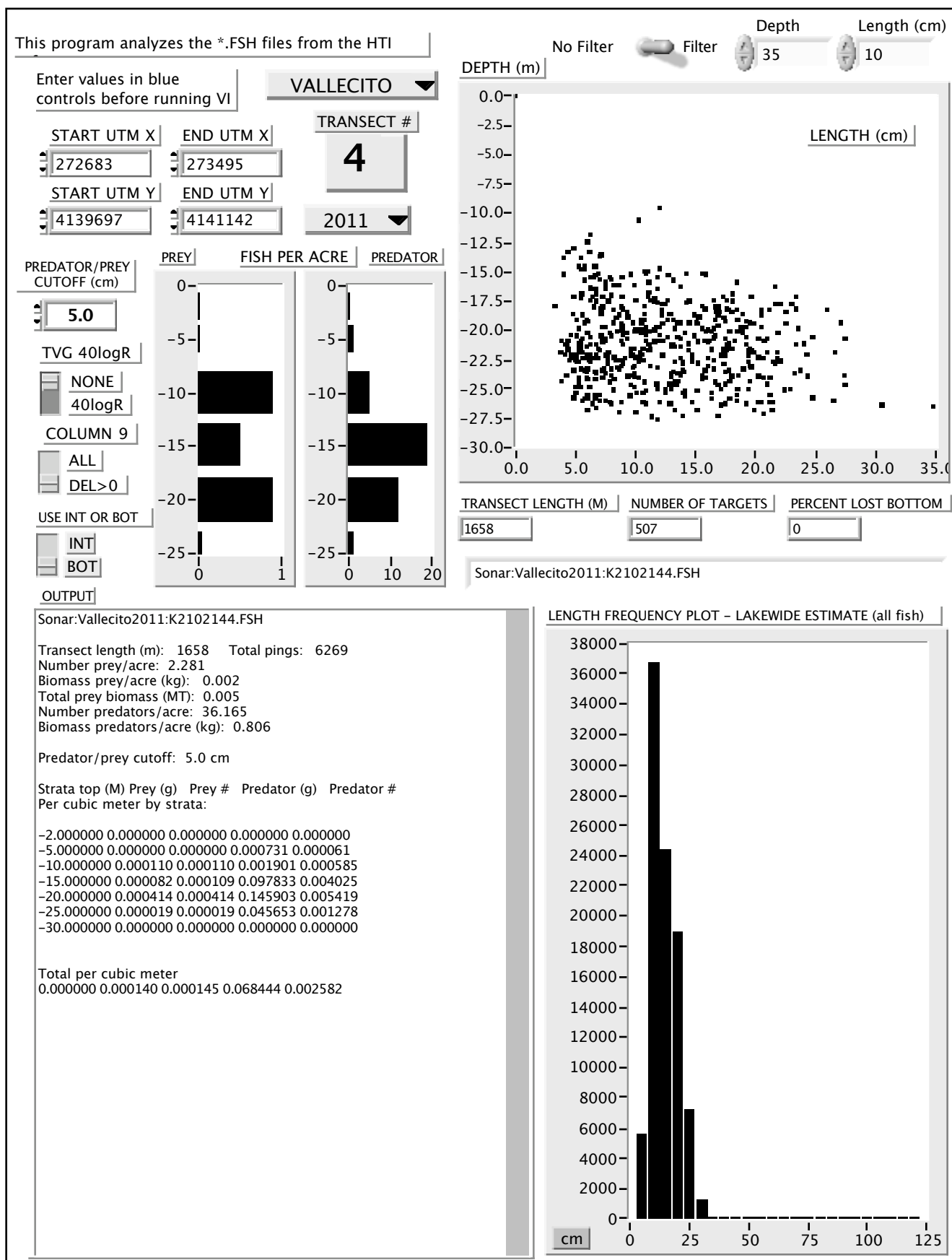


INTERPRET FSH 8.95 BW.vi

WD60GIG:Users:Michael:Documents:Sonar:ANALYSIS VIs:INTERPRET FSH 8.95 BW.vi

Last modified on 12/30/11 at 9:46 AM

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INPUT FILES:

WD60GIG:Users:Michael:Documents:Sonar:WmsFk2011:2011WmsFkT1m.out

WD60GIG:Users:Michael:Documents:Sonar:WmsFk2011:2011WmsFkT2m.out

Total length of transects (m): 4708

Number prey/acre: 3.611 95%CI (-4.031, 11.254)

Biomass prey/acre (kg): 0.003 95%CI (-0.004, 0.009)

Total prey biomass (MT): 0.004 95%CI (-0.009, 0.017)

Number predators/acre: 22.053 95%CI (-28.848, 72.954)

Biomass predators/acre (kg): 1.224 95%CI (-3.770, 6.218)

Strata (top)	LCL	g PREY	UCL	LCL	# PREY	UCL	LCL	g PRED	UCL	LCL	# PRED	UCL	n
Per cubic meter by strata													
-2	0	0	0	0	0	0	-0.020076	0.001715	0.023506	-0.000743	0.000063	0.00087	2
-5	-0.000211	0.000018	0.000247	-0.000211	0.000018	0.000247	-0.01472	0.001257	0.017235	-0.001475	0.000126	0.001727	2
-10	-0.000267	0.00007	0.000406	-0.000491	0.000112	0.000716	-0.100053	0.015725	0.131503	0.000399	0.000622	0.000844	2
-15	-0.000742	0.000116	0.000973	-0.000413	0.00014	0.000692	-0.167256	0.044664	0.256583	-0.00126	0.00078	0.002819	2
-20	-0.000454	0.000061	0.000575	-0.000406	0.000077	0.00056	-0.129946	0.022368	0.174683	-0.002548	0.000603	0.003754	2
-25	-0.000562	0.000048	0.000658	-0.000377	0.00008	0.000537	-0.082316	0.092889	0.268094	-0.000664	0.000505	0.001674	2
-30	-0.000263	0.000023	0.000308	0.000062	0.000068	0.000075	0.019588	0.035738	0.051888	-0.000272	0.000269	0.000809	2
-35	-0.000299	0.000025	0.00035	-0.000299	0.000025	0.00035	-0.052127	0.004453	0.061033	-0.002248	0.000192	0.002632	2
-40	NaN	0.000048	NaN	NaN	0.000048	NaN	NaN	0.005388	NaN	NaN	0.000191	NaN	1
-45	NaN	0	NaN	NaN	0	NaN	NaN	0	NaN	NaN	0	NaN	1
Total per cubic meter													
	-0.000032	0.000051	0.000133	0.000017	0.000074	0.000132	-0.119458	0.035653	0.190763	-0.00074	0.000467	0.001674	

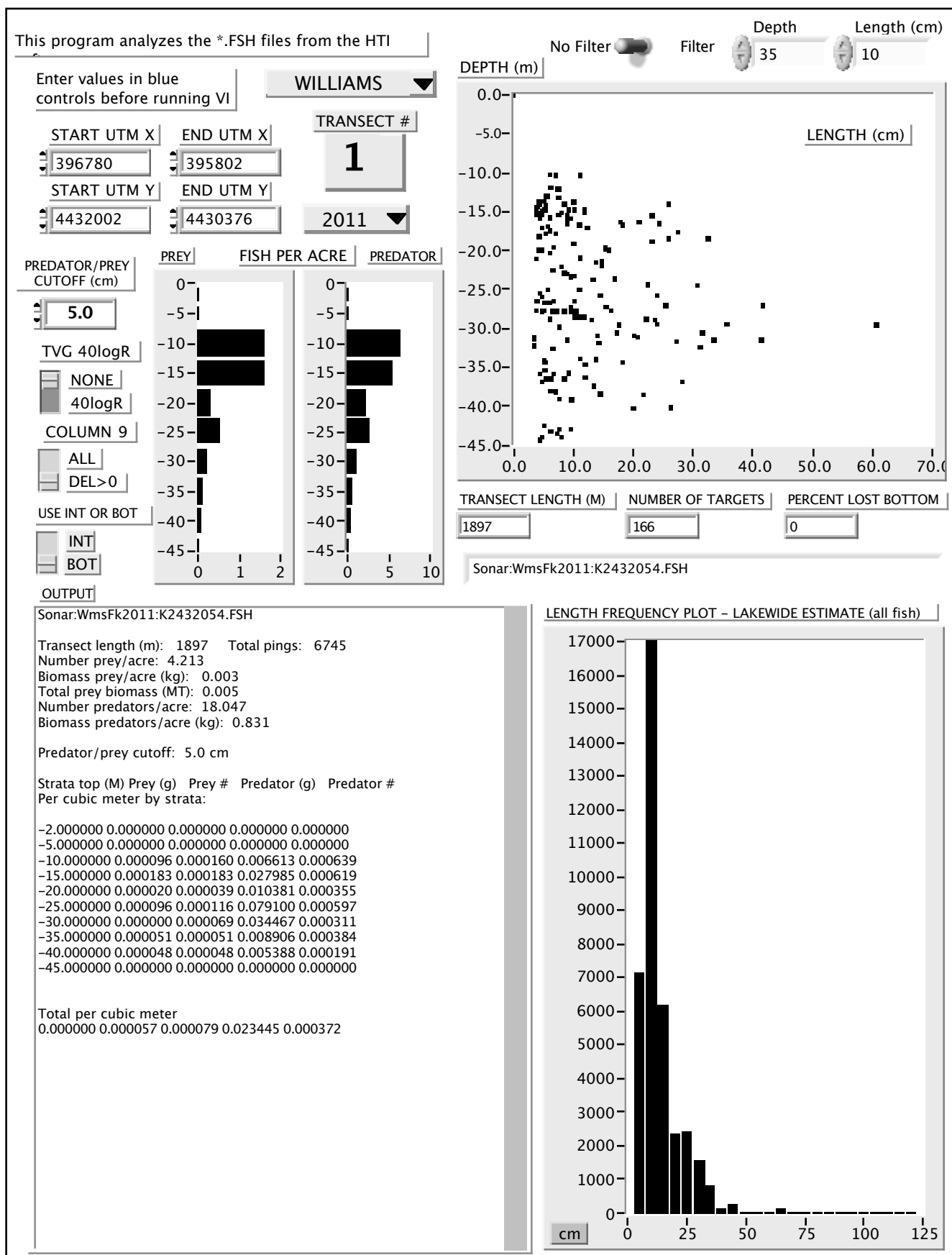


INTERPRET FSH 8.94b BW.vi

WD60GIG:Users:Michael:Documents:Sonar:ANALYSIS VIs:INTERPRET FSH 8.94b BW.vi

Last modified on 12/8/11 at 9:26 AM

Printed on 12/9/11 at 9:49 AM



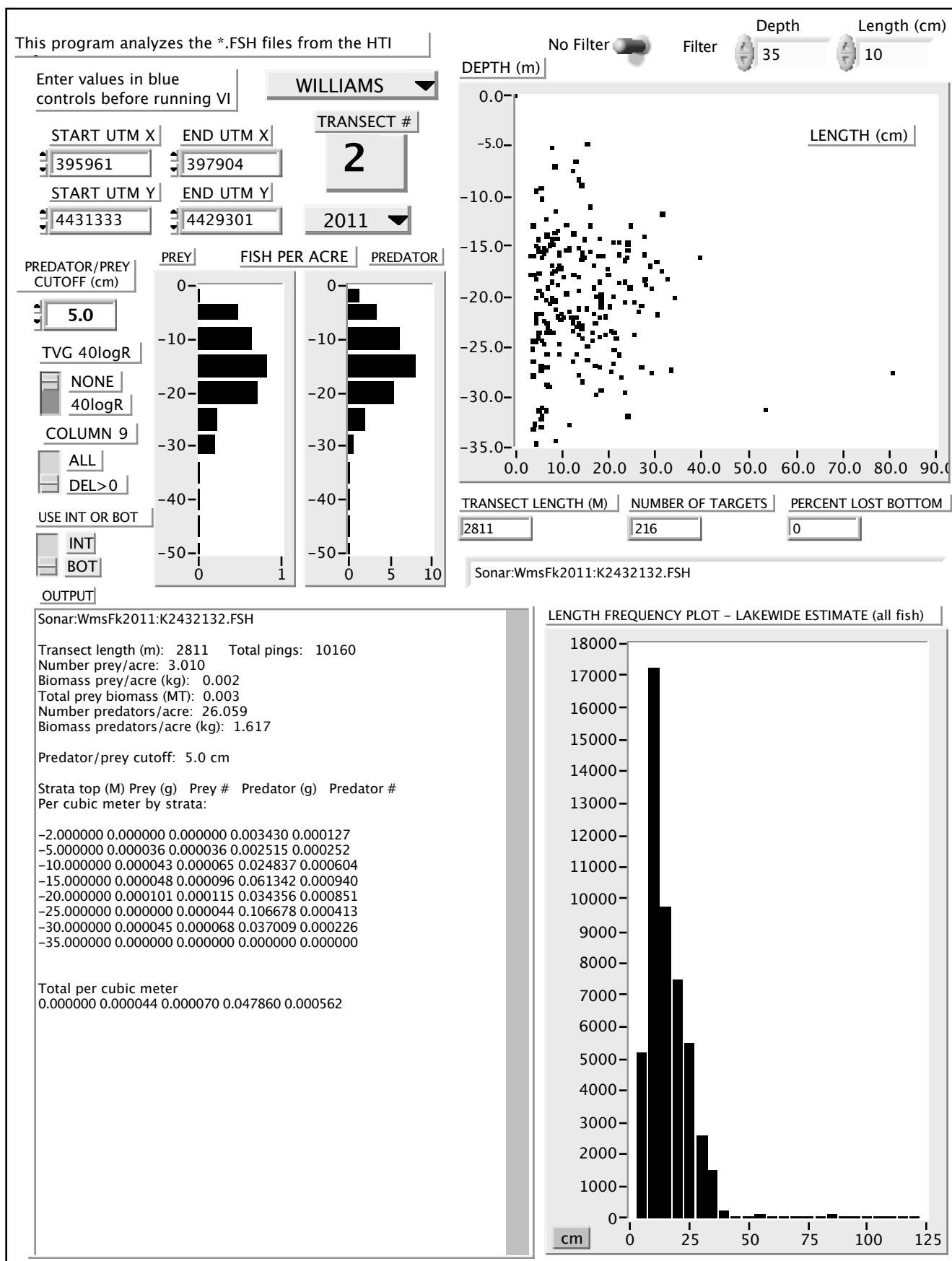


INTERPRET FSH 8.95 BW.vi

WD60GIG:Users:Michael:Documents:Sonar:ANALYSIS VIs:INTERPRET FSH 8.95 BW.vi

Last modified on 12/30/11 at 9:46 AM

Printed on 1/30/12 at 2:04 PM





INTERPRET FSH 8.94b BW.vi

WD60GIG:Users:Michael:Documents:Sonar:ANALYSIS VIs:INTERPRET FSH 8.94b BW.vi

Last modified on 12/8/11 at 9:26 AM

Printed on 12/9/11 at 9:53 AM

This program analyzes the *.FSH files from the HTI

Enter values in blue
controls before running VI

WILLIAMS

TRANSECT #

3

START UTM X

END UTM X

395961

397904

START UTM Y

END UTM Y

4431333

4429301

2011

PREDATOR/PREY
CUTOFF (cm)

5.0

TVG 40logR

NONE

40logR

COLUMN 9

ALL

DEL>0

USE INT OR BOT

INT

BOT

PREY

FISH PER ACRE

PREDATOR

0

0

0

-10

-10

-10

-20

-20

-20

-30

-30

-30

-40

-40

-40

-50

-50

-50

0

1

0

-10

-10

-10

-20

-20

-20

-30

-30

-30

-40

-40

-40

-50

-50

-50

DEPTH (m)

No Filter

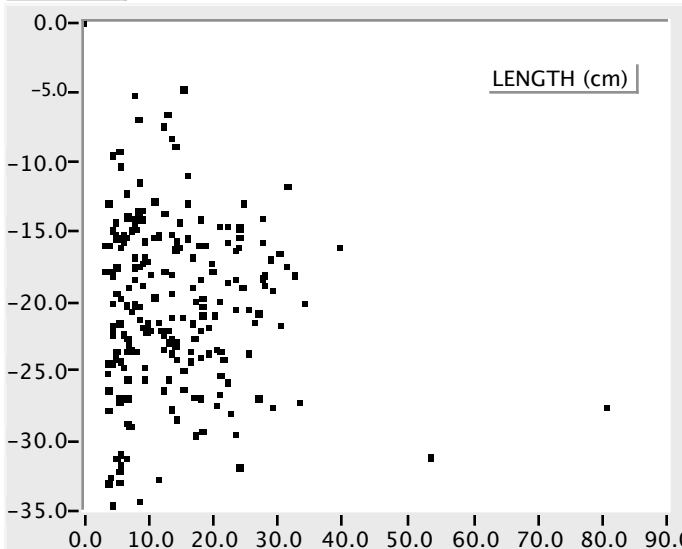
Filter

Depth

35

Length (cm)

10



TRANSECT LENGTH (M)

2811

NUMBER OF TARGETS

216

PERCENT LOST BOTTOM

0

Sonar:WmsFk2011:K2432132.FSH

OUTPUT

Sonar:WmsFk2011:K2432132.FSH

Transect length (m): 2811 Total pings: 10160

Number prey/acre: 3.010

Biomass prey/acre (kg): 0.002

Total prey biomass (MT): 0.003

Number predators/acre: 26.059

Biomass predators/acre (kg): 1.617

Predator/prey cutoff: 5.0 cm

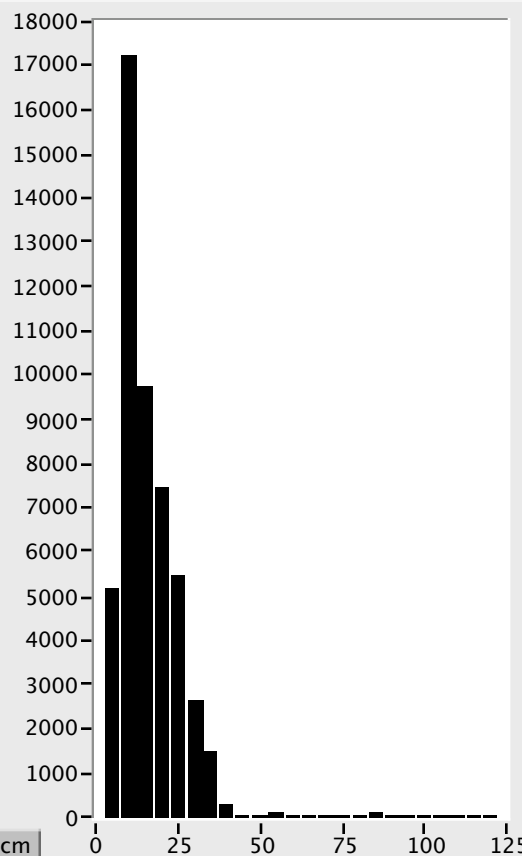
Strata top (M) Prey (g) Prey # Predator (g) Predator #
Per cubic meter by strata:

-2.000000	0.000000	0.000000	0.003430	0.000127
-5.000000	0.000036	0.000036	0.002515	0.000252
-10.000000	0.000043	0.000065	0.024837	0.000604
-15.000000	0.000048	0.000096	0.061342	0.000940
-20.000000	0.000101	0.000115	0.034356	0.000851
-25.000000	0.000000	0.000044	0.106678	0.000413
-30.000000	0.000045	0.000068	0.037009	0.000226
-35.000000	0.000000	0.000000	0.000000	0.000000

Total per cubic meter

0.000000 0.000044 0.000070 0.047860 0.000562

LENGTH FREQUENCY PLOT - LAKEWIDE ESTIMATE (all fish)



INPUT FILES:

WD60GIG:Users:Michael:Documents:Sonar:Wolford2011:2011WolfordT1.out

Total length of transects (m): 2866

Number prey/acre: 4.455 95%CI (NaN, NaN)

Biomass prey/acre (kg): 0.004 95%CI (NaN, NaN)

Total prey biomass (MT): 0.006 95%CI (NaN, NaN)

Number predators/acre: 105.523 95%CI (NaN, NaN)

Biomass predators/acre (kg): 7.086 95%CI (NaN, NaN)

Strata (top)	LCL	g PREY	UCL	LCL	# PREY	UCL	LCL	g PRED	UCL	LCL	# PRED	UCL	n
Per cubic meter by strata													
-2	NaN	0	NaN	NaN	0	NaN	NaN	0	NaN	NaN	0	NaN	1
-5	NaN	0	NaN	NaN	0	NaN	NaN	0.005815	NaN	NaN	0.000176	NaN	1
-10	NaN	0.000127	NaN	NaN	0.000148	NaN	NaN	0.262915	NaN	NaN	0.003976	NaN	1
-15	NaN	0.000076	NaN	NaN	0.000106	NaN	NaN	0.105449	NaN	NaN	0.001608	NaN	1
-20	NaN	0.000035	NaN	NaN	0.000035	NaN	NaN	0.075654	NaN	NaN	0.000837	NaN	1
-25	NaN	0	NaN	NaN	0	NaN	NaN	0.008511	NaN	NaN	0.000099	NaN	1
-30	NaN	0	NaN	NaN	0	NaN	NaN	0	NaN	NaN	0	NaN	1
Total per cubic meter													
	NaN	0.000048	NaN	NaN	0.000058	NaN	NaN	0.090511	NaN	NaN	0.001286	NaN	



INTERPRET FSH 8.95 BW.vi

WD60GIG:Users:Michael:Documents:Sonar:ANALYSIS VIs:INTERPRET FSH 8.95 BW.vi

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