

Average Gold per Hour for Fishing

- In general, the chances to catch each fish can be found in BlaDe's fishing spreadsheet for patch 1.5:
https://docs.google.com/spreadsheets/d/1HRc2zsEz-Ar_EFyS28HhNNXwGmd5llg9DjQ12mZqDYk/edit

- The formula for determining fish catch rate (in milliseconds) is:
 $\text{random}(600, 30000 - (250 * \text{fishingLevel}) - (5000 \text{ if Spinner}) - (10000 \text{ if Dressed Spinner}))$

- Thus, the average milliseconds per catch at fishing level 10 without using any tackle is 14050.

- Using Bait is a 0.5x multiplier, which makes the average 7025.

- We apply a penalty of 250 milliseconds to account for human reaction time post-nibble, making the total 7275.

- The following data shows the amount of milliseconds in the casting and catching animations:

Level 0 with Maximum Cast (sorted best to worst)

Facing Direction	Cast Animation Length	Catch Animation Length	Total
Left	370	820	1190
Right	370	976	1346
Up	643	920	1563
Down	778	1039	1817

Level 4 with Maximum Cast (sorted best to worst)

Facing Direction	Cast Animation Length	Catch Animation Length	Total
Up	715	800	1515
Left	435	1113	1548
Right	435	1230	1665
Down	969	1106	2075

- Depending on where we are fishing, we will be facing a different direction.

- Thus, the catch rate will be slightly different for each area. Further details are listed on the tab for each area.

Constants:

Unadjusted minimum fish catch time:	600	(in milliseconds)
Unadjusted maximum fish catch time:	30000	(in milliseconds)
Fishing level bonus:	250	(in milliseconds, per fishing level)
Spinner modifier:	5000	
Dressed Spinner modifier:	10000	
Penalty for human reaction time:	250	
Milliseconds per in-game minute:	700	
Milliseconds per in-game hour:	42000	
Hours in an in-game day:	20	(6 AM to 2 PM)
Cost of Bait:	5	
Fisher/Angler profession gold bonus:	0.25	
Iridium energy multiplier:	2.6	

Variables:

Fishing level:	10	(between 0 and 10)
Using Spinner:	0	(0 if false, 1 if true)
Using Dressed Spinner:	0	(0 if false, 1 if true)
Using Bait:	1	(0 if false, 1 if true)
Fishing zone / depth:	5	(5 is the value for a max cast into deep water)
Fisher profession (i.e. >= level 5)	1	(0 if false, 1 if true)
Angler profession (i.e. level 10)	1	(0 if false, 1 if true)

Calculations:

Adjusted maximum fish catch time:	27500	(see formula on the left hand side of this page)
Average fish catch time:	14050	(i.e. between minimum and maximum)
Average fish catch time (with bait):	7025	
Average fish catch time (after reaction):	7275	
Fishing profession bonus multiplier:	1.5	

Caveats

Fishing Chests

- The analysis assumes that you are (mostly) catching all Iridium-quality fish. However, when a treasure chest appears, you will prioritize the chest and will not get Iridium-quality.

- The loss in fish quality is counteracted by the value of the contents of the chest. On average, the value of the chest contents will be more than the marginal loss from the quality.

- Thus, we should account for a bonus, C, to account for the value of items received from fishing chests.

Eating

- Typically, just eating Green Algae & Joja Cola will not be sufficient to keep yourself at a neutral energy. When fishing for an extended period of time, you will occasionally need to eat an Iridium-quality Chub.

- Thus, we should account for a penalty, E, to account for the value lost from eating Chubs.

Overall

- C is greater than E, so if anything, the expected value from fishing is slightly higher than the numbers this spreadsheet calculates.

Fish Info									
Notes									
- Green Algae has a price of 0 because it is assumed to be eaten.									
- Trash has a price of 0 because it is assumed to be destroyed.									
- Fish that are almost impossible to get a perfect catch on have an assumed quality of gold.									
Quality Info									
<i>Name</i>	<i>Value</i>	<i>Multiplier</i>							
Normal	0	1							
Silver	1	1.25							
Gold	2	1.5							
Iridium	4	2							
Fish Info									
<i>Name</i>	<i>Base Price</i>	<i>Base Edibility</i>	<i>Assumed Quality</i>	<i>Quality Value</i>	<i>Quality Multiplier</i>	<i>Price w/ Quality</i>	<i>Price w/ Profession</i>	<i>Base Energy</i>	<i>Energy w/ Quality</i>
Anchovy	30	5	Iridium	4	2	60	90	13	73
Bream	45	5	Iridium	4	2	90	135	13	73
Bullhead	75	10	Iridium	4	2	150	225	25	85
Carp	30	5	Iridium	4	2	60	90	13	73
Catfish	200	20	Gold	2	1.5	300	450	50	80
Chub	50	10	Iridium	4	2	100	150	25	85
Eel	85	12	Gold	2	1.5	127.5	191.25	30	60
Flounder	100	15	Iridium	4	2	200	300	38	98
Green Algae	0	5	Normal	0	1	0	0	13	13
Halibut	80	10	Iridium	4	2	160	240	25	85
Herring	30	5	Iridium	4	2	60	90	13	73
Largemouth Bass	100	15	Iridium	4	2	200	300	38	98
Random Trash	0	0	Normal	0	1	0	0	0	0
Sardine	40	5	Iridium	4	2	80	120	13	73
Seaweed	0	5	Iridium	4	2	0	0	13	73
Shad	60	10	Iridium	4	2	120	180	25	85
Sunfish	30	5	Iridium	4	2	60	90	13	73

Area Summary				
- The table is sorted by average gold per hour.				
- The combined averages are used (i.e. from 6 AM to 2 PM).				
<i>Area Name</i>	<i>Season</i>	<i>Weather</i>	<i>Average Gold per Hour</i>	<i>Average Energy per Hour</i>
Forest River	Spring	Rainy	815.90	14.68
Mountain Lake	Spring	Sunny	639.58	14.86
Mountain Lake	Spring	Rainy	639.58	14.86
Ocean	Spring	Rainy	566.12	15.75
Ocean	Spring	Sunny	515.05	16.01
Forest River	Spring	Sunny	379.30	12.96

Forest River

Variables:

Facing direction for this area: Down

Calculations:

Average fish catch time (base): 7275
 Animation penalty: 2075
 Adjusted average fish catch time: 9350
 Fish catches per hour: 4.49
 Cost of bait per hour: 22.46

Spring (Sunny)

6 AM to 6 PM (12 hours)

Fish	Chance	Price	Energy	Adjusted Price	Adjusted Energy
Sunfish	0.3467	90	73	31.20	25.31
Green Algae	0.2454	0	13	0.00	3.19
Chub	0.3467	150	85	52.01	29.47
Random Trash	0.0612	0	0	0.00	0.00
Total	1			83.21	57.97

Average gold per hour: 373.77
 Average gold per hour w/ bait cost: 351.31
 Average energy per hour: 12.90

6 PM to 7 PM (1 hour)

Fish	Chance	Price	Energy	Adjusted Price	Adjusted Energy
Sunfish	0.263	90	73	23.67	19.20
Bream	0.263	135	73	35.51	19.20
Green Algae	0.1894	0	13	0.00	2.46
Chub	0.263	150	85	39.45	22.36
Random Trash	0.0216	0	0	0.00	0.00
Total	1			98.63	63.22

Average gold per hour: 443.02
 Average gold per hour w/ bait cost: 420.56
 Average energy per hour: 14.07

7 PM to 2 AM (7 hours)

Fish	Chance	Price	Energy	Adjusted Price	Adjusted Energy
Bream	0.3467	135	73	46.80	25.31
Green Algae	0.2454	0	13	0.00	3.19
Chub	0.3467	150	85	52.01	29.47
Random Trash	0.0612	0	0	0.00	0.00
Total	1			98.81	57.97

Average gold per hour: 443.85
 Average gold per hour w/ bait cost: 421.39
 Average energy per hour: 12.90

Combined

Time Frame	Avg. Gold per Hour	Avg. Energy per Hour	Num. Hours	Percentage of the Day	Weighted Gold per Hour	Weighted Energy per Hour
6 AM to 6 PM	351.31	12.90	12	0.6	210.79	7.74
6 PM to 7 PM	420.56	14.07	1	0.05	21.03	0.70
7 PM to 2 AM	421.39	12.90	7	0.35	147.49	4.52
Total			20	1	379.30	12.96

Spring (Rainy)

6 AM to 9 AM (3 hours)

Fish	Chance	Price	Energy	Adjusted Price	Adjusted Energy
Catfish	0.32	450	80	144.00	25.60
Green Algae	0.2525	0	13	0.00	3.28
Chub	0.3575	150	85	53.63	30.39

Mountain Lake

Variables:

Facing direction for this area: Right

Calculations:

Average fish catch time (base): 7275
 Animation penalty: 1665
 Adjusted average fish catch time: 8940
 Fish catches per hour: 4.70
 Cost of bait per hour: 23.49

Spring (both Sunny & Rainy)

6 AM to 7 PM (13 hours)

Fish	Chance	Price	Energy	Adjusted Price	Adjusted Energy
Largemouth Bass	0.2013	300	98	60.39	19.73
Carp	0.2225	90	73	20.03	16.24
Green Algae	0.1617	0	13	0.00	2.10
Bullhead	0.181	225	85	40.73	15.39
Chub	0.2225	150	85	33.38	18.91
Random Trash	0.011	0	0	0.00	0.00
Total	1			154.52	72.37

Average gold per hour: 725.91
 Average gold per hour w/ bait cost: 702.42
 Average energy per hour: 15.40

7 PM to 2 AM (7 hours)

Fish	Chance	Price	Energy	Adjusted Price	Adjusted Energy
Carp	0.2759	90	73	24.83	20.14
Green Algae	0.198	0	13	0.00	2.57
Bullhead	0.2226	225	85	50.09	18.92
Chub	0.2759	150	85	41.39	23.45
Random Trash	0.0276	0	0	0.00	0.00
Total	1			116.30	65.09

Average gold per hour: 546.38
 Average gold per hour w/ bait cost: 522.89
 Average energy per hour: 13.85

Combined

Time Frame	Avg. Gold per Hour	Avg. Energy per Hour	Num. Hours	Percentage of the Day	Weighted Gold per Hour	Weighted Energy per Hour
6 AM to 7 PM	702.42	15.40	13	0.65	456.57	10.01
7 PM to 2 AM	522.89	13.85	7	0.35	183.01	4.85
Total			20	1	639.58	14.86

Ocean

Variables:

Facing direction for this area: Right

Calculations:

Average fish catch time (base): 7275
Animation penalty: 1665
Adjusted average fish catch time: 8940
Fish catches per hour: 4.70
Cost of bait per hour: 23.49

Spring (Sunny)

6 AM to 11 AM (5 hours)

Fish	Chance	Price	Energy	Adjusted Price	Adjusted Energy
Anchovy	0.1245	90	73	11.21	9.09
Sardine	0.2719	120	73	32.63	19.85
Herring	0.1915	90	73	17.24	13.98
Seaweed	0.1403	0	73	0.00	10.24
Halibut	0.1738	240	85	41.71	14.77
Flounder	0.0942	300	98	28.26	9.23
Random Trash	0.0038	0	0	0.00	0.00
Total	1			131.04	77.16

Average gold per hour: 615.62
Average gold per hour w/ bait cost: 592.13
Average energy per hour: 16.42

11 AM to 7 PM (8 hours)

Fish	Chance	Price	Energy	Adjusted Price	Adjusted Energy
Anchovy	0.148	90	73	13.32	10.80
Sardine	0.3336	120	73	40.03	24.35
Herring	0.2304	90	73	20.74	16.82
Seaweed	0.1673	0	73	0.00	12.21
Flounder	0.1115	300	98	33.45	10.93
Random Trash	0.0092	0	0	0.00	0.00
Total	1			107.54	75.12

Average gold per hour: 505.21
Average gold per hour w/ bait cost: 481.72
Average energy per hour: 15.99

7 PM to 8 PM (1 hour)

Fish	Chance	Price	Energy	Adjusted Price	Adjusted Energy
Anchovy	0.1659	90	73	14.93	12.11
Herring	0.2613	90	73	23.52	19.07
Seaweed	0.1879	0	73	0.00	13.72
Halibut	0.2355	240	85	56.52	20.02
Flounder	0.1244	300	98	37.32	12.19
Random Trash	0.025	0	0	0.00	0.00
Total	1			132.29	77.11

Average gold per hour: 621.49
Average gold per hour w/ bait cost: 598.00
Average energy per hour: 16.41

8 PM to 2 AM (6 hours)

Fish	Chance	Price	Energy	Adjusted Price	Adjusted Energy
Anchovy	0.1866	90	73	16.79	13.62
Herring	0.2966	90	73	26.69	21.65
Seaweed	0.2118	0	73	0.00	15.46
Halibut	0.2666	240	85	63.98	22.66
Random Trash	0.0384	0	0	0.00	0.00
Total	1			107.47	73.40

Average gold per hour: 504.90
Average gold per hour w/ bait cost: 481.41

