

Facts About The PHYSICAL FITNESS TEST

Background

The Missouri Department of Conservation, recognizing the importance of physical fitness status for job performance, has established physical fitness standards for applicants and incumbent agents. The Department conducted a validation study to determine what areas of physical fitness are important for doing the job of Conservation Agents and what level of fitness is necessary to perform the strenuous and essential function of the job. You will be expected to meet the physical fitness test standards when entering the Department and to maintain the position of Agent.

What is Physical Fitness?

Physical fitness is having the physical readiness to perform the strenuous and critical physical tasks of the job. The physical fitness areas that have been determined to be the underlying factors for your capabilities to do the job consist of seven (7) specific and different areas.

1. **Aerobic power or cardiovascular endurance.** This is having an efficient heart and cardiovascular system so that you can perform physical tasks over a sustained period of time. It is an important area for performing job tasks such as making foot pursuits and long-term use of force situations.
2. **Anaerobic power.** This is having the ability to make short intense bursts of effort. This is an important area for performing job tasks such as short sprint pursuit situations.
3. **Upper body absolute strength.** This is having upper body strength to make maximal efforts against resistance. This is important for performing physical tasks that require lifting, carrying and pushing.
4. **Upper body muscular endurance.** This is having the capability to make repeated muscular contractions with the upper body without getting fatigued. This is important for use of force tasks.
5. **Trunk or abdominal muscular endurance.** This is having the capabilities to make repeated muscular contractions with the abdominal area without getting fatigued. Your abdomen is the fulcrum of your body and is important in many tasks involving lifting, pulling and dragging.
6. **Leg explosive strength or power.** This is having the capability to jump with power. This is important for performing many tasks such as jumping over obstacles and running up and down stairs in pursuit situations.
7. **Agility.** This is having the ability to make quick movements while sprinting. This is important for making movements and changes of direction around obstacles during pursuits.

There are other areas of physical fitness to include 1) flexibility, and 2) body composition of % body fat. Those areas are important for overall fitness; however, they have not been determined to be predictive of how well an individual can perform the duties of a conservation agent.

Why is Physical Fitness Important?

First, physical fitness is important because the seven physical fitness areas determine an individual's capability to do strenuous job tasks. Physical fitness is a bona-fide occupational qualification (BFOQ).

Secondly, physical fitness is important to minimize risks for health problems such as heart disease, stroke and obesity – all of which can affect job performance capabilities.

How Will Physical Fitness be Measured?

There are six (6) physical fitness tests that will be given in one day as a battery of tests. The tests are as follows:

1. **Minimum pushup test.** This measures the muscular endurance of the upper body. The test consists of doing as many pushups from the front, lean and rest position with no time limit. These are standard pushups with participants making contact with ground by their toes/feet and hands only.
2. **1 minute sit up test.** This measures the abdominal or trunk muscular endurance. Lying on your back, knees bent heels flat on the floor. Hands clasped behind the head with partner holding feet. You will be given 1 min. to do as many bent leg sit ups as you can.
3. **Vertical jump test.** This measures leg power. The test consists of jumping up on a wall and marking how high you jump from a standing position.
4. **Agility run.** This measures agility. The test consists of sprinting and dodging around one foot obstacles (traffic cones) over a set course, as fast as possible. (See diagram)
5. **300 meter run.** This measures anaerobic power or the ability to make intense bursts of effort for a short time period or distance. The test consists of sprinting 300 meters as fast as possible.
6. **1.5 mile run.** This measures aerobic power or cardiovascular endurance (the ability to have stamina over time). The test consists of running/walking as fast as possible, the distance of 1.5 miles.

WHAT TEST STANDARDS MUST I MEET?

Each test is scored separately and you must meet the standard on each and every test. The standards are as follows:

<u>TEST</u>	<u>STANDARD</u>
Minimum pushups	19
1 minute sit ups	25

Vertical jump	15.5 inches
Agility run	20.4 seconds
300 meter run	71.4 seconds
1.5 mile run	16:30

You will be given the tests in the following sequence. There will be rest periods between each event.

EVENT

- | | |
|------------------|------------------|
| 1. Pushups | 4. Agility run |
| 2. Sit ups | 5. 300 meter run |
| 3. Vertical jump | 6. 1.5 mile run |

HOW DO I PREPARE FOR THE TESTS?

You must first consult with your physician before beginning any physical fitness training program.

You will have to train to meet the standards. Each test has a different training routine.

Minimum pushup To prepare for this test follow this routine.

The first step is to see how many pushups you can do. That will become your initial training repetition dose, or **ITRD**

<u>Week</u>	<u>Sets</u>	<u>Repetitions</u>	<u>Frequency</u>
1	1	ITRD	3/week
2	2	ITRD divided by ½	3/week
3	3	ITRD divided by ½	3/week
4	3	ITRD divided by ½ plus 2	3/week
5	3	ITRD divided by ½ plus 4	3/week
6	3	ITRD divided by ½ plus 6	3/week
7	3	ITRD divided by ½ plus 8	3/week
8	3	ITRD divided by ½ plus 10	3/week

For successive weeks, keep adding 2 more repetitions per week. If you cannot do a regular pushup at first, do the modified pushup for several weeks following the same routine then advance to the regular pushup.

1 Minute Sit Up To prepare for this test follow this routine.

The **first step** is to see how many sit ups you can do in a minute. That will become your initial training repetition dose or **ITRD**.

<u>Week</u>	<u>Sets</u>	<u>Repetitions</u>	<u>Frequency</u>
1	1	ITRD	3/week
2	2	ITRD divided by ½	3/week
3	3	ITRD divided by ½	3/week

4	3	ITRD divided by ½ plus 2	3/week
5	3	ITRD divided by ½ plus 4	3/week
6	3	ITRD divided by ½ plus 6	3/week
7	3	ITRD divided by ½ plus 8	3/week
8	3	ITRD divided by ½ plus 10	3/week

For successive weeks, keep adding 2 more repetitions per week.

Vertical Jump To prepare for this test, you will need to do plyometric training.

Basic plyometric exercise routine: (There are 2 of them)

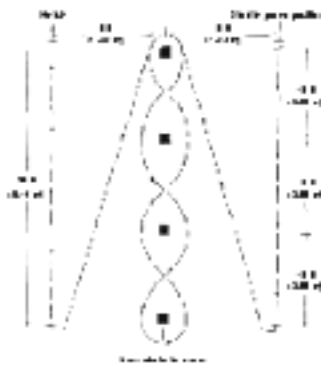
- a. double leg vertical jump
- b. single leg vertical jump

1. Perform each exercise with 1 set of 10 repetitions, 3 days a week.
2. Do the repetitions ballistically without stopping.
3. Rest 3 minutes between each set of each exercise.

<u>Exercise</u>	<u>Sets</u>	<u>Reps</u>	<u>Rest</u>	<u>Frequency</u>
Double leg vertical jump	1	10	3 min	3/week
Single leg vertical jump	1	10	3 min	3/week

Agility Run To prepare for this test you will need to practice sprinting around obstacles.

1. Set up a course by spacing at least four (4) obstacles (chairs, cardboard boxes, etc.) 10 feet apart for a total distance of at least 30 feet.
2. At least two days a week do two (2) sets of sprinting around the obstacles four (4) times non-stop.



The length of the course is 10 yards and the width (distance between the start and finish points) is 5 yards. 4 cones can be used to mark the start, finish and the turning points. Each cone in the center is spaced 10 feet apart. Subject lies on the ground with hands stretched out on the START line. At the “GO” subject gets up, sprints to the line (30 ft. away), places one foot over the line then sprints back to the start line. Subject makes a left turn around the first cone, then zig zags in

a figure 8 fashion around the four cones and back to the start line. Subject then sprints up and back as described in figure b.

300 Meter Run To prepare for this test you will need to do Interval Training.

The **First Step** is to time yourself for an all out effort at 110 yards. This is called your initial or IT

The **second step** is to divide the **IT** by .80 to get your starting training time, and then follow the schedule below.

Week	Training Distance	# times you sprint Repetitions	Time for the sprint training time	Rest Period between	Frequency
1.2	110 yds	4	.80 of IT	2 min	1/week
3.4	110 yds	5	.80 of IT minus 2-3 sec.	2 min	1/week
5.6	110 yds	6	.80 of IT minus 5-6 sec.	2 min	1/week
7.8	220 yds	4	.80 of IT times 2	2 min	1/week
9.10	220 yds	4	.80 of IT times 2 minus 4 sec.	2 min	1/week

1.5 mile run*

To prepare for this test, you need to gradually increase your running endurance. The schedule below is a proven progressive routine. If you can advance the schedule on a weekly basis, then proceed to the next level. If you can do the distance in less time, then do so.

Week	Activity	Distance	Time	Frequency
1	walk	1 mile	17-20 min	5/week
2	walk	1.5 miles	25-29 min	5/week
3	walk	2 miles	33-35 min	5/week
4	walk	2 miles	28-30 min	5/week
5	walk/jog	2 miles	27 min	5/week
6	walk/jog	2 miles	26 min	5/week
7	walk/jog	2 miles	25 min	5/week
8	walk/jog	2 miles	24 min	5/week
9	jog	2 miles	23 min	4/week
10	jog	2 miles	22 min	4/week
11	jog	2 miles	21 min	4/week
12	jog	2 miles	20 min	4/week

*One mile walk test may be substituted upon request prior to testing. Any employee who asks to be exempted from the 1.5 mile run test may participate in a one mile walk test. The standard measure of oxygen consumption that is estimated using several different variables. **The aerobic capacity requirement to meet is 30.75 ml/kg/minute.** Meeting or exceeding this will be considered as passing the minimum standard for aerobic capacity in the overall physical fitness test.

$$132.853 - (.0769 \times \text{wt} \text{ ______}) - (.3877 \times \text{AGE} \text{ ______}) + 6.315 - (3.2649 \times \text{time} \text{ ______}) - (.1565 \times \text{HeartRate} \text{ ______}) =$$

$$132.853 - \text{ ______ } - \text{ ______ } + 6.315 - \text{ ______ } - \text{ ______ } = \frac{\text{ ______ }}{\text{VO2max}}$$

* This is not an option for those entering the Training Academy.