

# MEMORANDUM

**TO:** PROFESSOR KAREN THOMPSON  
**FROM:** WESLEY FIELD  
**SUBJECT:** DEVELOPING PROSE  
**DATE:** 30 NOVEMBER 2012

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This memo is defining Johnson's four orders of habitat selection. Johnson's four orders of habitat selection start very broad and finish by focusing on very specific feature of habitat.

## **Audience**

This is directed to help fish and wildlife students entering upper division level courses.

## **Purpose/Problem**

The purpose is to help junior level fish and wildlife students a better understand the four orders of habitat selection.

## **Placement**

This technical definition is to be placed on a course website for students to study Johnson's four orders of habitat selection.

## **Johnson's 1<sup>st</sup> Order of Selection**

The first order of selection is at the range of a species. This encompasses every part of land that a particular species is present. This is the broadest order of selection. In other words, the first order of selection all land encompassed by the distribution that a species occurs. At this level, the only part of habitat being looked at is the landscape feature (e.g. shrub steppe, coniferous forest, high dessert, etc.).

## **Johnson's 2<sup>nd</sup> Order of Selection**

The second order of selection looks at the home range of a species. Home range is the area within which an animal spends most of its time; a home range is not defended (Pough et. al). At this level only the area at which an individual routinely visits is looked at. Think of the places you routinely visit (e.g. house, store, gas station, work/school) as the perimeter of your home range and the area that is within those points.

### **Johnson's 3<sup>rd</sup> Order of Selection**

The third order of selection deals with specific features within the home range of an individual of a species. Researchers look to see the features that are being exploited or being left alone by an individual. Another thing researchers would take into consideration is dominant features within a home range (e.g. steepness of hillside, presence of water, types of plant, etc.) Other data that can be obtained at the third level of selection is habitat availability. This data will show the presence of different habitat within a home range. Once available habitat is defined, researchers can determine habitat use and habitat selection.

### **Johnson's 4<sup>th</sup> Order of Selection**

The fourth order of habitat selection only looks at plants for forage within a home range of a species. Researchers are only concerned about the plants being foraged by an individual. With the data collected at this level, researchers can make assumptions on what is important forage for a species. This data also can lead to information on what can be considered high quality forage and low quality forage for a species.

### **How are Johnson's Four Orders of Habitat Selection Used?**

Most journal articles do not clearly define what order of habitat selection the researcher(s) were using. It is the readers' job to figure out what level the author(s) is referencing. All the four orders of selection do is give a general definition for an audience to relate back too.

## Works Cited

Pough, F. Harvey, Christine M. Janis and John B. Heiser. "Vertebrate Life." 2009. G5.