



Tracking the Pack

Watching Wolves: Behavioral Observations Provide Clues about Wolf Interactions

by Lori Schmidt, Wolf Curator, International Wolf Center

In summer 2008, the International Wolf Center in Ely, Minnesota, celebrated a historic event. For the first time, the Center's world-renowned Exhibit Pack included wolves of three distinct age groups, each group representing a different North American subspecies of *Canis lupus*, the gray wolf. The Exhibit

Pack is now composed of two arctic wolves (*Canis lupus arctos*) born in 2000, two Great Plains wolves (*Canis lupus nubilus*) born in 2004, and the new members, two Rocky Mountain, or Northwestern, pups (*Canis lupus occidentalis*) born in spring 2008.

A wild wolf pack is a family consisting of parents, pups of the current year and

often offspring of previous years. Thus, in a captive pack, the introduction of pups that are not related to the other wolves must be done carefully and with a plan to predict, monitor and intervene if negative behavior occurs and if there is potential for injury to any of the wolves.

To implement this plan, the Center formed a Behavioral Observation Team. Participants were trained to use a comprehensive behavioral dictionary called an *ethogram*, and each team member was equipped with a new Hewlett-Packard laptop computer for recording every detail of wolf interaction during the first critical days of the pups' introduction to the Exhibit Pack.

Behavioral observations during previous pup introductions at the Center were handwritten on paper. This recording method made it difficult and cumbersome to analyze and interpret the data. This year, a generous grant from Hewlett-Packard enabled the Center to acquire the laptops. The data collection for this "high-tech" approach to pup introduction was more detailed and thorough, and the data analysis more efficient and accurate. This in turn yielded valuable insights into the complex social dynamics of a captive wolf pack.

When staff is observing the Center's pack, they record a wide variety of behaviors:



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Grizzer resting on a Greeting Rock. Determining the wolves' choices of sleeping and resting companions provides an idea about their relationships and individual tolerance of one another.



Shadow asserts dominance over Grizzer, while Maya shows a submissive head posture.

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Shadow (front), Grizzer (left) and Maya howl. A captive pack member's degree of social cohesiveness can be determined by its willingness to start or join in a howl.

Resting. Determining the wolves' choices of sleeping and resting companions provides an idea about their relationships and individual tolerance of one another.

Eating. The degree of confidence when eating or defending food as well as the ability to acquire food from other wolves can be an indication of status. Data collected from observing eating behavior are also important for monitoring each wolf's nutrition.

Walking, wandering, and approaching. Even in a captive environment, wolves spend a fair amount of time investigating and checking scents. These data can reveal a solitary individual as opposed to a wolf that seeks social interactions.

Greeting and muzzle biting. When wolves interact, facial contact includes licking and muzzle biting. Whether the muzzle bites are hard or soft can often reveal

whether there is tension in the pack.

Following and chasing. When dominance interaction occurs in the pack, a more dominant wolf will often attempt to intimidate a lower-ranking wolf by following it. This can result in chasing and "mobbing" by the other wolves. Recording the subtle behavior that leads to this can alert staff to trouble brewing.

Tail and ear postures. Wolves use a variety of body postures to express status and confidence. A high tail is indicative of a confident or aroused animal. Ears perked forward demonstrate interest or intent. This intent can be to display dominance, or it can be a signal of predatory behavior. In contrast, pulled-back ears and a tucked tail are signs of an animal that is fearful or submissive. This is often an indication of potential trouble, as pack members

may interpret fear as weakness and then challenge a submissive wolf.

Howling. In the wild, wolves howl for a number of reasons including rallying the pack and defending territory. In captivity, a pack member's degree of social cohesiveness can be determined by its willingness to start or join in a howl or, conversely, by its sudden retreat when the rest of the pack interacts. The location of a wolf during a howl can also be an indicator of its status or position. At the Center, higher-ranking wolves often climb to the top of a hill or a rock to howl.

The introduction of the 2008 pups was deemed a resounding success. The Behavioral Observation Team worked 24 hours a

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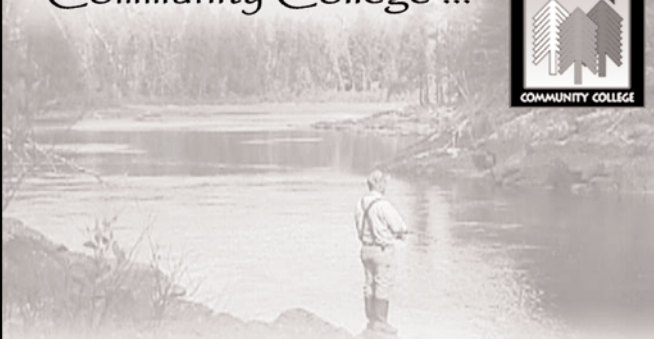


day recording the interactions of the Exhibit Pack. The Wolf Care Staff analyzed and interpreted over 5,000 data entries August 4 through August 8. Pack dynamics will continue to evolve as the pups mature and find their places in the group. We should see some interesting behaviors this winter, and the result will be new insights into our wolves' social interactions. ■

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