Alaska Department of Fish and Game
State Wildlife Grant
ANNUAL INTERIM PERFORMANCE REPORT

Grant Number: T-1 **Segment Number:** 6
Project Number: 5
Project Title: Distribution and seasonal habitat use of American dippers
Project Duration: July 1, 2004 – June 30, 2006
Report Period: July 1, 2004 – June 30, 2005
Report Due Date: September 30, 2005

Objectives (*as submitted in grant project statement*):

1. Determine distribution of American dippers in the Juneau area with respect to watershed and stream characteristics in nesting and wintering seasons;
2. Evaluate the limits to local dipper population size.

Summary of Accomplishments *(Describe accomplishments related to the work that was proposed to be done during this same period in the Project Description and work schedule)**:***

The following accomplishments are related to Objective 1.

1. In the 2004 breeding season, 30 birds were colorbanded for the purpose of determining distribution and seasonal habitat use. Nine of these were resighted during the winter surveys; 10 were not seen during winter but appeared on nesting territories in spring 2005. 19 previously banded birds (including some banded in 2003) initiated nests in 2005; none moved to a different watershed, but some changed territories within a watershed. The estimated "apparent" annual mortality rate was about 50%.

2. Surveys for wintering dippers were conducted on the intertidal deltas and upper reaches of 7 local stream systems. Unbanded dippers were found on most of these steams; banded dippers were found only on Switzer Creek. Switzer is a tiny, spring-fed creek that does not freeze in winter; it appears to provide important winter habitat for 8 – 10 dippers, and will be critical for the conservation of local dipper populations. Dipper use of intertidal areas for winter habitat and marine prey has not been reported by previous studies.

3. By the end of June 2005 20 local streams were searched, and 39 nests located. Monitoring efforts for nesting success are ongoing.

4. An additional 28 adults were banded in 2005.

5. Digital images were made of all nest sites and will be used to quantify site characteristics; these are entered into a nest catalog along with nest location, nest fate, and band information for the associated adult dippers. In addition, data on stream gradient, vegetative cover, streamflow, stream substrate, water temperature and pH were collected for a 400m core of each nesting territory.

6. Preliminary results from this study were presented to students in a seminar at University of Alaska, Southeast. Two UAS classes have participated in the project: one focused on streamflow and dipper occupation, the other on the in-stream transition between stream insects and marine amphipods.

Objective 2 accomplishments:

Based on a preliminary assessment, dipper limiting factors are clearly complex, and include more than the availability of nest sites as reported in the scientific literature. USGS equations were used to relate watershed size, elevation, and precipitation to estimated streamflow. While not precise, they clearly show that the smaller streams are not occupied by nesting dippers (though they still may be used in winter). Sampling of benthic insects in occupied and unoccupied streams in 2004 showed that the average density of prey was significantly less in unoccupied streams. In addition, because the unoccupied streams are smaller, there is also less substrate area for prey. Both factors combine to produce lower prey availability in the unoccupied, smaller streams. However, lack of suitable nest sites on some larger streams may indeed preclude occupation by nesting dippers, and anthropogenic provision of nest sites (on I-beams under bridges, in old wooden dams) may allow nesting on stream reaches that would otherwise be unoccupied. In 2005, several territories that are known to have been used successfully in previous years were vacant, as were several others that had occasional use in the past. This suggests that there were insufficient birds to fill all the available nest sites.

Significant Deviations *(if any, and explain the reasons for these):*

None

Actual Costs during this Report Period *(personnel plus all operating expense totals)*:

Federal (from ADF&G):	Partner (nonfederal share):
$49,284.96	$16,428.32

Project Leader *(or Report Contact Person)*: Mary Willson

Additional Information: *(Not required. Add any additional detail, if desired, related to the progress of the project)*:

This project cooperatively provided information on body mass, wing length, and tail length of Alaska dippers to the USGS office for the Black Hills to be used in their process for listing the Black Hills dipper populations as threatened or endangered.