

THE BANDER'S MERIT BADGE

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We have developed a checklist (Appendix 1) of knowledge that a trainee needs to become a competent bander, and incorporated it into a useful reference tool for both the trainee and instructor.

The banders' merit badge system was implemented by the Redwood Sciences Laboratory, Klamath Bird Observatory, Humboldt Bay Bird Observatory and members of the Klamath Demographic Network in 2002 in order to continue the improvement of our landbird monitoring techniques training and information exchange. We have based the checklist, in large part, on the North American Banding Council (NABC) requirements for Bander level certification. In doing so we encouraged new trainees to undertake the certification by providing them clear objectives to achieve certification. At the end of successful completion, the trainee was awarded a patch, or "merit badge" (Figure 1).

A primary bander (a.k.a. Bander-in-charge) should have all of these 65 skills outlined in the checklist, and be able to instruct interns and volunteers in all procedures. As the trainee completes each of the 65 items, the trainee (first two columns) or trainer (last column) initials and dates one of the three columns as to if the item has been (1) introduced, (2) instructed, or (3) passed, as follows:

1. Introducing the material involves a couple of minutes showing the trainee where the information can be found as written material, and giving a brief introduction on its importance. The trainee then puts in the trainer's initials and the date in the first column.
2. Instruction proceeds after the trainee has read the material, when the trainer gives detailed examples and demonstrations to the trainee on the material. This will usually take five to ten minutes per skill, but can be longer if it is complex subject. The trainee puts in the trainer's initials and date in the second column.
3. Passed - when the trainee feels that he or she has mastered the material, then the trainer reviews it with the trainee. Again, this should take about five to fifteen minutes, with a few exceptions (noted below with an asterisk [*]), which may require multiple observations. The trainer then puts his or her initials and the date in the third column. Note that the trainer is the primary bander in charge and does not have to be a NABC certified Trainer.

The objective of the merit badge system is to organize the required skills and materials needed by new bird banders, or those preparing for the NABC certification, into set tasks that can be practiced until mastered to the satisfaction of a trainer. Advantages over the traditional opportunistic approach to training are many;

- trainers have an organized method of tracking progress of individual trainees and the reference materials that they need to study;
- trainees and trainers can focus their attention on those skills or materials where they need improvement;
- multiple trainers can easily assess the status of trainees with a quick review of the checklist; without the checklist trainees tend to forget to study material/work on skills until they

encounter a need for them during banding (when speed and safety are at a premium).

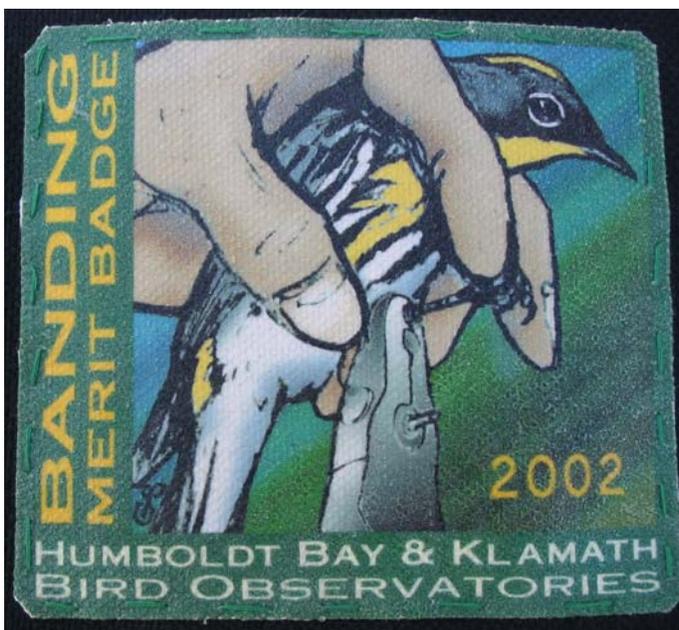
SUGGESTIONS FOR IMPLEMENTATION

- The merit badge checklist outlined below should be tailored to reflect the materials and skills unique to each station (e.g. station management procedures, target species data, etc.).
- It is important to find a method to incorporate the review of the checklist into each day's operation of the station. For instance, when trainees arrive in the morning, they should have the checklists placed out for review or handed to the trainer. Then, when there is a lull in activity the trainer can easily review the checklist and look for opportunities to evaluate a task. However, it should be stressed to trainees that it is their responsibility to point out the opportunities to evaluate each task as the opportunities arise, and it is their responsibility to initial and date the first two sets of columns.
- We suggest the checklist be attached to the first few pages of a field notebook so that trainees will have them readily available and have a place to write down notes about during training.
- Another useful tool in implementation is to set a date for the completion of the checklist and awarding of the merit badge. Although the end of a season, internship or workshop can act as a firm deadline for completion of the merit badge, it may be preferable to set a reasonable date close enough in the future to motivate individuals to complete the checklist. In our first year of implementation it took our full-time trainees about 2-4 weeks to complete the checklist.

ACKNOWLEDGMENTS

Many thanks to the North American Banding Council for the use of materials in order to promote safer, more effective, bird banding in North America. We offer our special thanks to Carol Ralph for the original idea of a merit badge. Thanks also to Gary Bloomfield of Bloomfield Studios for his exquisite artwork. We also thank Pablo Herrera for assistance with the content of this manuscript.

Figure1. Bander's Merit Badge



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Appendix 1. Bander's merit badge checklist.

Bander's Name: _____

In the first two columns, the trainee fills in the initials of his or her instructor, and the date the material in each row was "Introduced", or when the trainee received information and became "Instructed". In the "Passed" column, the instructor puts his or her initials and the date that the section was completed.

		Introduced Initials/Date	Instructed Initials/Date	Passed Initials/Date
HAVE THE FOLLOWING STUDY MATERIALS				
<input type="checkbox"/>	Ralph, et al. 1993: "Handbook of Field Methods for Monitoring Landbirds"			
<input type="checkbox"/>	"RSL Mist Netting and Station Management Procedures" ('the Red Book') Ralph and Hollinger 2001			
<input type="checkbox"/>	Bird Topography and Data Code Sheets: Ralph, et al. 1993			
<input type="checkbox"/>	Banding Data Form			
<input type="checkbox"/>	Ralph (in review) : A Rapid Method of Removing Birds from Mist Nets			
<input type="checkbox"/>	Sakai and Ralph 2002: "The Tabular Pyle"			
<input type="checkbox"/>	Pyle 1997: An Identification Guide to North American Birds, introductory pages			
<input type="checkbox"/>	North American Banders' Study (NABC 2001a)			
<input type="checkbox"/>	Guide to the Banding of North American Passerines (NABC 2001b)			
<input type="checkbox"/>	Instructors' Guide to Training Bird Banders in North America. (NABC 2001c)			
<input type="checkbox"/>	List of most common 25 species			
BACKGROUND MATERIAL				
<input type="checkbox"/>	Understand the ethics of banding birds			
<input type="checkbox"/>	Understand how banding fits into scientific studies			
CHECKLIST OF PRACTICAL SKILLS				
PROCESSING				
Identification and handling				
<input type="checkbox"/>	Recognize all common species, and document all individuals unusual or in doubt			
<input type="checkbox"/>	Appreciate the importance of minimizing handling time while not compromising safety			
<input type="checkbox"/>	Use the Bander's Grip on a variety of species			
<input type="checkbox"/>	Use the Photographer's Grip safely			
<input type="checkbox"/>	Transfer a bird from hand to hand safely			

<input type="checkbox"/>	Open a bird's bill reliably						
<input type="checkbox"/>	Handle a variety of "awkward" species						
<input type="checkbox"/>	Release a variety of species correctly						
<input type="checkbox"/>	Effectively deal with escaped birds in an enclosed space						
Banding							
<input type="checkbox"/>	Select correct band size						
<input type="checkbox"/>	Read band numbers correctly						
<input type="checkbox"/>	Apply a band correctly						
<input type="checkbox"/>	Correctly apply a lock-on band for small owls						
<input type="checkbox"/>	Correctly apply a color band (if appropriate)						
<input type="checkbox"/>	Recognize when and how to correct an improperly applied band						
<input type="checkbox"/>	Know when and how to remove a band safely						
Storing and carrying birds							
<input type="checkbox"/>	Describe proper bags, show how to place birds in and remove them, and how to carry and hang them.						
Field data collection							
<input type="checkbox"/>	Be familiar with the types of data sheets used and the purposes of the Journal, Banding, Area Search, Breeding Status Lists, and Habitat)						
<input type="checkbox"/>	*Record data clearly, legibly, and accurately on field sheets						
<input type="checkbox"/>	Maintain complete and accurate daily banding journal, including weather and net rounds						
<input type="checkbox"/>	Be able to recognize and take description of and photograph rarities or unusual birds, and the types of supplemental data on certain species.						
<input type="checkbox"/>	Be able to explain the reasons for the various subsections of the "Tabular Pyle"						
<input type="checkbox"/>	Know how to recognize all the characters in the <i>Empidonax</i> identification table in the "Tabular Pyle"						
		Introduced Initials/Date		Instructed Initials/Date		Passed Initials/Date	
Biometrics							
<input type="checkbox"/>	Use and accurately read measuring devices (wing rule, balances, calipers, dividers)						
<input type="checkbox"/>	Correctly and accurately measure various anatomical features commonly taken (wing, weight, tail, culmen)						
<input type="checkbox"/>	Assess a simple wing formulae						

<input type="checkbox"/>	Assess and record molt, molt limits, and juvenal plumage accurately						
<input type="checkbox"/>	Accurately score fat deposits						
Ageing and sexing							
<input type="checkbox"/>	Understand and know how to assign correct age and how aged codes						
<input type="checkbox"/>	*Correctly use Tabular Pyle for ageing and sexing						
<input type="checkbox"/>	Demonstrate knowledge of the life cycle of plumages and molts of passerines						
<input type="checkbox"/>	Accurately score skull pneumatization						
<input type="checkbox"/>	*Correctly use molt limits for ageing SY from ASY						
<input type="checkbox"/>	Correctly use plumage for ageing and sexing						
<input type="checkbox"/>	Correctly use brood patch and cloacal protuberance for sex determination						
USE OF MIST NETS							
Erecting, opening, and closing nets							
<input type="checkbox"/>	Choose an appropriate netting site						
<input type="checkbox"/>	Correctly set up nets and adjust tension and spacing of trammels						
<input type="checkbox"/>	Properly furl and unfurl nets						
<input type="checkbox"/>	Take in and store nets and associated equipment properly						
Operation and extraction							
<input type="checkbox"/>	Judge how many nets to use safely and check them frequently and carefully						
<input type="checkbox"/>	Know how to determine the timing of net rounds and of Area Search Censuses						
<input type="checkbox"/>	*Demonstrate an astute, accommodating approach to extraction using the body pluck method						
<input type="checkbox"/>	*Extract a variety of species quickly and safely, including hummingbirds and small mammals, and the function of orange clothes pins.						
<input type="checkbox"/>	Know how to recognize common injuries, shock, and how to deal with them						
<input type="checkbox"/>	*Deal proficiently with tricky situations, including wrapping between layers and spinning						
<input type="checkbox"/>	Recognize and repair nets that are in poor condition						
AREA SEARCH CENSUSING							
<input type="checkbox"/>	Be familiar with the method and know its relative importance to capture and banding						

<input type="checkbox"/>	Be able to record accurately the data on the form.						
<input type="checkbox"/>	*Recognize all common species by sight and sound						
DATA MANAGEMENT							
<input type="checkbox"/>	Proof and correct banding sheets						
<input type="checkbox"/>	Know how to process data and journal sheets for entering						
<input type="checkbox"/>	Know how to complete banding schedules for submission (primary banders only)						
PUBLIC RELATIONS							
<input type="checkbox"/>	Know methods of communicating effectively with the public about banding, especially in regards scientific value, non-advocacy, and issues of injury						
<input type="checkbox"/>	Know how to deal with visitors at an active netting station for bird safety and visitor enjoyment						
	OTHER SPECIAL AUTHORIZATIONS (as needed)						
<input type="checkbox"/>	Demonstrate proficiency in any special activities, such as night netting for owls, hummingbird bands						
	Completed Merit Badge on:						