

Joint Oil Sands Monitoring: Environment Canada Cause and Effects Monitoring for Landbirds

Standard Operating Procedure (SOP) 1: Preparing for the Field Season

This Standard Operating Procedure identifies preparatory steps that must be taken prior to the field season of the Environment Canada (EC) Cause and Effects Monitoring Program for Landbirds.

1. Hiring the Field Crew

Hiring for the Field Crew Lead and the Field Technicians should begin in January of the current year. A detailed job description and application procedure should be posted on multiple recruitment web sites including the following:

- Society for Conservation Biology: <http://www.conbio.org/jobs>
- Alberta Society of Professional Biologists: <http://www.asps.ab.ca/jobs>
- GoodWork Canada: <http://www.goodworkcanada.ca>
- Canadian Society of Environmental Biologists: <http://www.cseb-scbe.org/index.html>
- Ornithological Societies of North America: <http://www.osnabirds.org/Jobs.aspx>
- Ornithology Exchange: <http://www.ornithologyexchange.org/forums/forum/11-ornithological-jobs/>
- Indeed.com: http://employers.indeed.com/post-job?co=CA&hl=en_CA
- Naturejobs.com: <http://www.nature.com/naturejobs/science/orders/64901/jobs/new>
- University of Alberta CaPS: <http://www.caps.ualberta.ca/>

1.1 Hiring the Field Crew Lead

Field crews will be comprised of a field crew lead and one or more field technicians. Field crew composition and size will depend on the annual sampling plan and the specific objectives identified in the annual sampling plan. Qualities to seek in potential Field Crew Leads include the following:

- Proficiency at identifying western boreal landbirds by sight and sound.
- Bird survey experience, preferably conducting point counts with distance estimation in boreal ecosystems (minimum of 3 seasons).
- Substantial backcountry orienteering and hiking experience.
- Substantial experience living and working in a remote tent camp.
- Substantial experience conducting ecological field studies (monitoring, research) in boreal ecosystems (minimum of 2 seasons).

- Familiarity with western boreal ecosystems and plant communities.
- High level of physical fitness.
- Leadership experience.
- Strong organizational skills.
- Strong interpersonal and communication skills.
- Ability to work with others in a field crew setting.

1.2 Hiring the Field Technicians

Qualities to seek in potential Field Technicians include the following:

- Proficiency at identifying western landbirds by sight and sound. If self-training and a full pre-season training session is planned (see SOP 2: Training Observers) then this requirement may be relaxed slightly. Successful candidates should be nearly proficient at identifying common western boreal landbirds by sight and sound, or be proficient at identifying landbirds of other regions by sight and sound and be able to demonstrate enthusiasm and ability to learn to identify new species.
- Bird survey experience, preferably conducting point counts with distance estimation in boreal ecosystems (minimum of 1 season).
- Substantial backcountry orienteering experience.
- Substantial backpacking and camping experience.
- Familiarity with western boreal ecosystems and plant communities.
- High level of physical fitness.
- Ability to work with others in a field crew setting.

Hiring procedures should include a telephone interview to verify knowledge and personal suitability and a reference check. The interview should include a visual and audio examination component that is emailed to the candidate during the telephone interview. A detailed description of the expectations, duties/responsibilities, and compensation package will be outlined during the telephone interview. Soon after being hired, Field Crew Leads and Field Technicians should be sent the following:

- Letter of Offer to be signed and returned.
- A list of all bird species likely to be encountered during the field season (see SOP 2: Training Observers).
- Song recordings and/or other materials that will assist Field Crew Leads and Field Technicians to improve and refine their visual and aural bird identification skills prior to the field season.
- A list of required and recommended personal equipment.

2. Organizing Field Supplies and Equipment

An equipment list should be compiled and equipment purchased, organized, and made ready for the field season several weeks in advance of the arrival of Field Crew Leads and Field Technicians. This allows time to make needed repairs and order equipment. Table 1 provides a list of field equipment needs for each pair of crew members.

Table 1. Field equipment for each pair of field crew staff.

Number Needed	Item
	Survey Equipment
2	Binoculars
2	GPS unit
2	Thermometer
2	Rangefinder
2	Audio recording units
2	Backpack
2	Clipboard
2	Map case
2	Compass
2	Scale Ruler
1	'Office supplies' kit
3	Backroad map books
2	ATV
1	ATV trailer
	General Camping Equipment
1	Tarp
2	Tent
1	Bug tent
2	Sleeping pads
1	Stove
1	Mess kits
1	Folding table
2	Folding chairs
2	Food storage bins
1	Car charger/converter

In addition to the equipment specified in Table 1, field crews need access to field guides to aid them in bird and plant identification. Recommended field guides and reference materials for bird surveys and associated vegetation assessments are listed below:

- Beckingham, J.D. and J.H. Archibald. 1996. Field Guide to Ecosites of Northern Alberta. UBC Press, Vancouver, British Columbia.

- Johnson, D., L. Kershaw, A. MacKinnon, and J. Pojar. 1995. Plants of the Western Forest: Alberta, Saskatchewan & Manitoba Boreal and Aspen Parkland. Lone Pine Publishing and the Canadian Forest Service, Edmonton, Alberta.
- Sibley, D. A. 2003. The Sibley Field Guide to Birds of Western North America. Alfred A. Knopf, New York, New York.

3. Organizing Safety and Communication Equipment

A list of required safety and communication equipment should be compiled and equipment purchased, organized, and made ready for the field season several weeks in advance of the arrival of Field Crew Leads and Field Technicians. This allows time to make needed repairs and order equipment. Table 2 provides a list of field equipment needs for each pair of crew members.

Table 2. Safety and communication equipment for each pair of field crew staff.

Number Needed	Item
	Safety and Communication Equipment
1	First Aid kit-crew
2	First Aid kit-individual
2	Bear spray (pepper spray)
2	Bear noise deterrents (air horn)
2	Knife
2	Hand-held radio
2	SPOT satellite locator beacon
2	Cell phone
1	Satellite phone
1	Cell phone booster
2	H ₂ S Monitor
	Vehicle Safety Equipment
1	Fire extinguisher
1	Toolbox
1	Jumper cables
1	Booster pack
1	Scissor jack
1	Shovel and saw
1	Compressor pump
1	Tow rope
1	Backup flashlight

4. Additional Tasks to Complete Before Field Season

- Contract for Lone Worker Monitoring (e.g. SafetyLine).
- Contract for accommodation (if required).
- Contract for air charter (e.g. helicopter).
- Contract for truck rentals.
- Contract for parking spot rentals during the field season.
- Camping arrangements during field-based training.
- Permits for conducting bird and vegetation surveys within Provincial Parks.
- Booking required training courses (Standard First Aid, Occupational Health and Safety for Employees, ATV Training, Trailering Training, Bear Safety and Awareness, H2S Awareness/Multi-gas Awareness).
- Review of all required Task Hazard Analyses (THA) and Safe Work Procedures (SWP).
- Preparation of Emergency Check-In and Safety Plan.
- Preparation of protocols and sampling plan for the entire field season (See SOP 2: Training Observers, SOP 3: Conducting Point Counts, SOP 4: Classifying Vegetation, SOP 5: Data Entry and Verification, and Sampling Design and Sampling Plan 2012, 2013).
- The pre-season training session needs to be planned in detail including preparing any teaching materials, creating field maps for training survey areas, and arranging camping or lodging for the entire field crew staff throughout the training session.
- An adequate number of overview and field maps, code sheets, and data forms for pre-season training and data collection during the entire field season.

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