

8.0 Fish and Wildlife Management



Figure 25: Access roads must be designed to have minimum impact on migration routes for some species. © BHPBilliton.

Fish and wildlife are valued components of the ecosystem. Proper management of these includes the:

- Preservation and conservation of fish and wildlife species and their habitat
- Continuance of heritage, cultural, recreational, sport and commercial activities
- Protection of human health and safety

8.1 Sensitivities and Concerns

Nearly all exploration activities have the potential to interact either directly or indirectly with fish and wildlife. Preservation of the ecosystem is of vital public concern.

Major concerns are:

- Health and safety of employees and visitors
- Impact on fish and wildlife populations and habitat
- Preservation of threatened and endangered species
- Introduction of non-indigenous plant and animal species

8.2 Impacts

Exploration activities can impact fish and wildlife by:

- Increasing stress that affects, for example, breeding, migration, or nesting
- Causing injury or death
- Introducing non-indigenous species that upset and imbalance the ecosystem
- Disturbing habitat and food supply

Exploration activities should strive to maintain the continuance of heritage, cultural, recreational, sport, and commercial activities. Wildlife can impact field workers with physical attack and illness.

8.3 Planning

Before fieldwork commences, ensure the exploration program is designed and budgeted to take into account all potential sensitivities associated with:

- Fish
- Fish habitat
- Wildlife

Consult with government and non-government interest groups on:

- Fishing and hunting seasons and regulations
- Spawning, migration, nesting, calving, hibernation and den sites
- Endangered and threatened species, and if special precautions are necessary
- Noxious plants, insects and animals

Additionally:

- Schedule activities to avoid critical periods in fish and wildlife life cycles
- Ensure that locations of trap-lines and fishing nets or weirs are documented and that owners are contacted
- Ensure that emergency response plans and procedures are in place in the event of a forest fire or fuel spill
- Minimize wildlife contact and habitat loss by restricting field practices to only what is necessary
- Make sure all personnel know how to protect themselves and how to respond to animal attack
- Obtain prior permission to bring personal pets on-site, and if allowed, ensure they are kept under control at all times

8.4 Work Practices

To minimize wildlife contact and habitat loss:

- Consider annual timing of such events as migration, spawning, and calving in work areas
- Restrict field practices to only what is necessary
- Avoid attracting wildlife to campsites by keeping site clean and neat, storing food in secure containers, incinerating or burying garbage, and not feeding wildlife
- Restrict or minimize fieldwork in highly sensitive areas, augmenting with fences and signs as needed
- Consider using low amperage electric fences to discourage wildlife from approaching campsites

To protect fish and wildlife habitat and life:

- Do not chase, catch, divert, follow, or otherwise harass wildlife by aircraft, watercraft, all terrain vehicle or on foot

- Obtain prior authorization for the trapping or shooting of nuisance animals
- Yield the right-of-way to wildlife
- Limit stream crossings to the minimum required to do the job
- Do not work in riverbeds
- Prohibit or control recreational fishing and hunting on the worksite
- Construct trenches to allow for easy escape of wildlife
- Flag or fence excavations until they are backfilled, to alert people and wildlife to the hazard

To ensure minimum adverse impact upon fish and wildlife:

- Do not contaminate soil and water (e.g., with fuel, silt, grey water)
- Control dust by spraying sources with water, or applying dust suppressants (e.g., calcium chloride)
- Minimize noise by ensuring that all exhaust systems are properly muffled and that all machinery is operating as per specifications
- Use biodegradable detergents, cleaning agents and drilling additives
- Do not use pesticides, except for the purpose of protecting occupational and environmental health
- Remove any wire or other extraneous materials (e.g., flagging tape) upon completion of fieldwork

To maintain the local habitat:

- Strip off and store topsoil in areas of significant ground disturbance, and return topsoil as soon as possible (preferably within six months), to maintain seed viability, nutrient quality and microbial activity
- Ensure a thorough reclamation of disturbed areas
- Design revegetation programs to maintain a balanced food supply for local wildlife.

To prevent the introduction of non-indigenous plant and animal species:

- Remove invasive aquatic plants from boats, motors, trailers and anchors before and after launching, and place plants in a trash can or on high, dry land
- Ensure that trucked-in water does not contain any non-indigenous aquatic plant or animal species
- Ensure that revegetation programs do not introduce any non-indigenous plant species

8.4.1 Vermin Control

Vermin control on the work site and in camps is important as vermin can introduce disease and can damage field gear or be disruptive to operations.

You can control vermin by

- Keeping site clean and neat.
- Storing food in secure containers.
- Incinerating or burying garbage.
- Disposing of wastewater from camps in soak pits, septic pit or septic tank, or other grey water discharge system.
- Not feeding wildlife.

- Ensuring that each enclosed part of a work place, each personal service room and each food preparation area be constructed, equipped and maintained in a manner that will prevent the entrance of vermin.
- Installing screens and where possible electrical vermin control devices.
- Using insecticides and rodenticides.
- Using humane traps

8.5 Dangerous Wildlife

All wildlife, regardless of size or demeanour, should be considered dangerous, as wildlife is unpredictable and also may carry diseases or parasites that are harmful to humans. Field workers should avoid all contact with wildlife and should not harass or feed wild animals.

The following section on Black Bear and Grizzly Bear Safety Tips is an example of the precautions to consider. **EES includes these precautions for information only, not as expert advice.**

Bear Safety Tips

Traveling in the wilderness involves certain risks, including the possibility of a bear attack. Although the actual danger from bears may be small, it is real. The best defence is a cool head and good knowledge of bear habitat and behaviour.

Before starting on a trip:

- Read up on the natural history and behaviour of bears
- Learn how to identify bear signs, such as droppings and marks on trees
- Learn about bear safety
- Take a first aid course
- Learn about the area being traveled through
- Consider bringing a can of bear spray and/or bear bangers and learn how to use them
- Try to anticipate the most likely problems

Precautions to take to avoid surprising a bear include:

- Choosing travel routes with good visibility where possible
- Staying alert and looking ahead for bears
- Approaching thickets from upwind if possible
- Making noise to let bears know a human is approaching (e.g., by using a whistle)

Bear encounters can be minimized by:

- Traveling in groups
- Avoiding travel at night
- Choosing a campsite well away from wildlife trails, human travel routes and areas with heavy bear signs or food sources
- Not crowding a bear by approaching for a closer look or a better photo – use binoculars or a telephoto lens instead

Do not attract a bear by:

- Feeding it
- Using greasy, smelly foods like bacon or canned fish
- Bringing food or cosmetics into your tent

To minimize attractiveness to bears:

- Pack food and garbage in airtight containers, or pack it out in airtight containers
- Move food 100 m or more away from tents at night - put it up in a tree if possible
- Clean any fish far from camp and toss the entrails into the water

If humans see a bear:

- Stay calm
- Stop and assess the situation
- Do not run, crouch down, or play dead too soon

If the bear is unaware of the presence of humans, either:

- Avoid the bear if possible, by leaving the area
- Detour around the bear
- Wait it out

If the bear cannot be avoided, here's some advice about what to do.

Gently alert it to your presence by:

- Moving upwind
- Waving your arms
- Calling out in a calm voice

If the bear approaches you, or is surprised by you:

- Do not run.
- Talk in a calm voice.
- Slowly back away in the direction from which you came.
- Stand your ground if the bear keeps following you.
- If you're with other people, group together to present a stronger front.
- Remain firm but non-threatening, as you give the bear time to think things over.
- If you're carrying bear spray, get it in your hand, point the nozzle away from you, and check the wind direction to make sure the spray doesn't blow back on you.
- Try to figure out if the bear is acting in self-defence or if it is seeking food. If it is a grizzly that you have surprised at close range, and it is accompanied by cubs or has a carcass near by, it is probably attacking in self-defence. If it is a black bear, it is probably seeking food.

8.5.1 Bear Attacks

If the bear attacks, you have 2 choices: play dead or fight back. The right choice depends on whether the bear is acting in self-defence or is seeking food.

If the bear seems to be attacking in self-defence, the best thing to do is play dead, so the bear no longer feels threatened. However, do not play dead before the bear contacts you, especially when the bear is approaching at a distance, or you may actually encourage the bear to attack.

8.5.2 Playing Dead

Play dead by dropping to the ground, face down, knees drawn up to your chest, and hands clasped tightly over the back of your neck. Your backpack may help protect you.

If playing dead works, the bear will make brief contact with you, then will leave when it is convinced you are not dangerous. In this case, play dead as long as possible and do not move until the bear leaves the area.

8.5.3 Fighting Back

You should fight back if you are attacked by:

- Any black bear
- Any grizzly that stalks, or attacks in circumstances that do not involve cubs, a carcass, or surprise at close range
- Any bear that breaks into a tent or building

These bears are motivated by food rather than self-defence. You need to fight back with all your energy with whatever you have. Kick, punch or hit the bear with a rock, chunk of wood or whatever is handy. A bear's nose is a good place to strike.

8.5.4 Using Bear Spray

If a bear approaches slowly or follows at a distance, fire 2 or 3 short bursts of spray between you and the bear while you continue backing away. The spray will create a cloud of deterrent which may stop the bear. But make sure you have enough left to spray the bear in the face at short distance if it keeps coming. If a bear is charging, stand your ground, fire a couple of short bursts to create a cloud in front of you, then save remaining spray for use at close range if necessary.

There is some evidence that bears can become acclimatized and actually attracted to bear spray if they are exposed to it, as they associate it with food. Once you have used the spray successfully therefore, you should leave the area as quickly as possible.