

**U.S. DEPARTMENT OF ENERGY
OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT**

**NUCLEAR WASTE TECHNICAL REVIEW BOARD
ENVIRONMENT AND PUBLIC HEALTH PANEL MEETING**

SUBJECT: SURVEYS PROGRAM

PRESENTER: CATHY WILLS

**PRESENTER'S TITLE
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BIOLOGICAL SURVEYS PROGRAM

Objectives:

- **Identify the potential direct impacts of site characterization activities on important species and important biological resources**
- **Recommend impact mitigation measures**
- **Implement recommended mitigation measures as they relate to important species**

Legislation and Regulatory Requirements:

- **Endangered Species Act (Biological Opinion)**
- **Nuclear Waste Policy Act**
- **National Environmental Policy Act**
- **Federal Land Policy and Management Act (ROW Agreement)**
- **Bald and Golden Eagle Protection Act**
- **Wild Free-Roaming Horses and Burro Protection Act**
- **Migratory Bird Treaty Act**
- **Nevada laws and regulations**

BIOLOGICAL SURVEYS PROGRAM

DOE Orders, Policies, and Procedures:

- **DOE Order 5400.1, “General Environmental Protection Program”**
- **Yucca Mountain Environmental Assessment**
- **Site Characterization Plan**
- **Environmental Monitoring and Mitigation Plan**
- **Terrestrial Ecosystems Environmental Field Activity Plan**
- **Administrative Procedure YAP30-2 (formerly AP8.1)**

PROGRAM COMPONENTS

- **Preactivity Surveys**
 - **Area search**
 - **Flagging species/resources**
 - **Radiomarking desert tortoises**
- **Preactivity Survey Reports**
 - **Recommend mitigation measures**
- **Mitigation Implementation**
 - **Resurveys**
 - **Species monitoring**
 - **Species relocation**
 - **Post-Activity surveys**

PREACTIVITY SURVEYS

Objective: Identify the potential direct impacts of site characterization activities on important species and their important biological resources

Important Species Definition:

- (a) Species commercially or recreationally valuable**
- (b) Species designated as threatened or endangered**
- (c) Species that affect the well being of (a) or (b)**
- (d) Species critical to structure and function of ecosystem or are biological indicators of radionuclides in the environment**

Definition Expanded to Include:

- Candidate species for federal listing**
- Species protected under other federal/state law**
- Critical resources for important species (e.g. burrows, water sources)**

Important Species/Resources at Yucca Mountain:

- Threatened desert tortoise/burrows**
- 8 candidate species**
- 4 Nevada game/furbearer species**
- Golden eagle**
- Wild burro**
- Migratory birds**

PREACTIVITY SURVEYS

Methods:

- **Obtain project description/evaluate direct impact**
- **Identify known important species/resources**
- **Conduct 100% coverage survey**
- **Flag species/resources**
- **Radiomark tortoises**
- **Conduct reclamation inventory**

Status:

- **179 surveys conducted since FY89**
- **17 tortoises radiomarked during surveys**

PREACTIVITY SURVEY REPORTS

Objective: Report results of preactivity survey and recommend measures to mitigate direct impacts of site characterization activities on important species and their important biological resources

Impact Mitigation Definition: (From NEPA 40 CFR 1508.20)

- (a) Avoid by not taking action or parts of an action**
- (b) Minimize by limiting magnitude of action and its implementation**
- (c) Rectify by repairing, rehabilitating, or restoring affected environment**
- (d) Reduce/eliminate over time by preservation/maintenance operations during the life of the action**

Possible Recommendations:

- Proceed as planned following standard mitigation practices**
- Avoid flagged species/resources**
- Redesign the activity**
- Relocate the activity**
- Monitor species/resources near construction**
- Relocate important species**
- Salvage topsoil for future site reclamation**
- Cancel the activity**

STANDARD MITIGATION PRACTICES

Stipulations in Project-Specific Land Access Agreements

- **Attend worker education**
- **Report unflagged species/resources found**
- **Keep activities within flagged project boundary**
- **Avoid tortoises and tortoise burrows**
- **Suspend activities if tortoise seen**
- **Have biologist available within one hour**
- **No unauthorized off-road driving**

FY92-FY93 PREACTIVITY SURVEY RESULTS AND RECOMMENDED MITIGATION MEASURES

<u>Results/Recommendations</u>	<u>Number of Activities</u>
No additional modification/mitigation	32
Adjacent resources flagged to avoid:	
Tortoise burrows	43
Chuckwalla dens	6
Candidate plants	0
Relocate/Redesign activity	8
Resurvey for tortoises prior to construction	68
Monitor tortoises during construction	33
Relocate tortoises	5
Follow reclamation stipulations	54
Cancel activity	0
Surveys conducted for 109 activities	

MITIGATION IMPLEMENTATION

Objective: Implement measures identified during the preactivity survey to mitigate direct impacts of site characterization activities on important species and their important biological resources

Methods:

- **Conduct resurveys at select sites prior to construction**
- **Search and collapse burrows which cannot be avoided**
- **Monitor radiomarked tortoises within 100 m of construction**
- **Relocate tortoises away from construction**
- **Respond to tortoise sightings in Yucca Mountain project area**
- **Conduct post-activity survey to assess direct impacts**

Status:

- **34 resurveys conducted**
- **57 tortoise burrows searched and collapsed**
- **Tortoises near 17 activities monitored during construction**
- **16 tortoises moved away from construction sites**
- **1 tortoise sighting responded to during construction**
- **Post-activity surveys conducted at 53 sites for 5 activities**

BIOLOGICAL SURVEYS PROGRAM

- **Mitigates direct impacts on important species**
- **Provides database by which to evaluate the efficacy of required tortoise mitigation activities**
- **Assists Desert Tortoise Program meet objectives by providing radiomarked tortoises for inclusion into biological and ecological studies**
- **Provides additional data on the abundance and distribution of important species and their sign within the Yucca Mountain project area**
- **Promotes environmental impact awareness among project personnel**