McChesney, Gerry <gerry_mcchesney@fws.gov>

Re: above- and below-ground rodent death percentage

1 message

Isanhart, John <john_isanhart@ios.doi.gov> Mon, Dec 18, 2017 at 3:28 PM
To: Gerry McChesney <Gerry_McChesney@fws.gov>, Gabrielle Feldman <gabriellefeldman@enviropolicysolutions.com>

Also see attached report from 2015 for a 6th source. I don't have any of the 5 papers mentioned below.

"Thus, of the 21 radio-collared rats, 20 (95%) were considered to have died in locations inaccessible to avian predators, and only one (5%) in a location accessible to avian predators."

On Thu, May 18, 2017 at 4:35 PM, Isanhart, John <john_isanhart@ios.doi.gov> wrote:

> From the PIFWO comment letter:
>
> The Risk Assessment for Western Gulls used extremely different metrics for how intoxicated mice respond to diphacinone and brodifacoum. The results of the risk assessment for Western Gulls are skewed in favor of using brodifacoum by using inconsistent parameterization of risk models. The RDEIS states that due to limited data, the Western Gull risk model assumed that 100% of intoxicated mice die above ground after exposure to diphacinone whereas the brodifacoum model assumed that 87% of intoxicated mice go below ground to die and are then unavailable to scavengers. This limited data is based on three references in Table 3-1 (DEIS Appendix F). A review of those references finds the percentage of rats dying underground after brodifacoum exposure was 60% (Table 6, p 17, Buckelew et al 2008), 100% (Taylor 1993), and 86.7% (Howald 1997),Data from studies on diphacinone were not cited. Three studies in Hawaii followed the fate of rats exposed to diphacinone, all of which were done in forested situations, and found that 20% (Lindsey and Mosher 1994), 43 % (Spurr et al 2003a), and 42.9% (Spurr et al 2003b) of radio tagged rats died either underground or under logs.
>
> After a quick skim of my files, I don't think I have any of the following:
>
> Buckelew, S., G. Howald, S. MacLean, S. Ebbert, and T. Primus. 2008. Progress in restoration of the Aleutian Islands: Trial rat eradication, Bay of Islands, Adak Alaska, 2006. Report to USFWS. Island Conservation, Santa Cruz, CA.
>
> Howald, G.R. 1997. The risk of non-target species poisoning from brodifacoum used to eradicate rats from Langara Island, British Columbia, Canada. M.Sc. Thesis. University of British Columbia, Vancouver, BC. 159 pp.
>
> Lindsey, G.D., Mosher, S.M., 1994. Tests indicate minimal hazard to 'Io from diphacinone baiting. Hawaii's Forests and Wildlife 9(4).
>
> Spurr, E. B.; Lindsay, G.D.; Forbes Perry, C.; Foote, D. 2003a. Effectiveness of hand-broadcast application of baits containing 0.005% diphacinone in reducing rat populations in Hawaiian forests. Unpublished report QA-02A, Pacific Islands Ecosystems Research Center, Hawaii Volcanoes National, Park, HI 96718. 222pp.
>
> Spurr, E.B.; Foote, D.; Forbes Perry, C.; Lindsay, G.D. 2003b. Efficacy of aerial broadcast application of baits containing 0.005% diphacinone in reducing rat populations in Hawaiian forests. Unpublished report QA-02B, Pacific Islands Ecosystems Research Center, Hawaii Volcanoes National Park, HI 96718. 189 pp.
>
> --
> John Isanhart
> DOI Office of Restoration and Damage Assessment
> Restoration Support Unit
> P.O. Box 25007 (D-110)
> Denver Federal Center, Bldg 56, Room 1560
> Denver, CO 80225-0007
> (o) 501.228.3665
> (c) 720.219.8868
> (f) 303.445.3887

Mailing address
U.S. Geological Survey
401 Hardin Rd
Little Rock, AR 72211
fax: 501.228.3601

--

John Isanhart
DOI Office of Restoration and Damage Assessment
Restoration Support Unit
P.O. Box 25007 (D-110)
Denver Federal Center, Bldg 56, Room 1560
Denver, CO 80225-0007
(o) 501.228.3665
(c) 720.219.8868
(f) 303.445.3887

Mailing address
U.S. Geological Survey
401 Hardin Rd
Little Rock, AR 72211
fax: 501.228.3601

Spurr et al 2015_report_arial broadcast application of diphacinone biat in Hawaii_efficacy and non-targets.pdf
650K