

Humboldt marten

(*Martes caurina humboldtensis*)



Martens, small carnivores in the weasel family, are common in the Cascades, but rare in coastal forests. They are identified as a strategy species in the Oregon Conservation Strategy and are a Forest Service Sensitive Species. Martens are currently open for furbearer harvest throughout the state Nov 1-Jan 31.

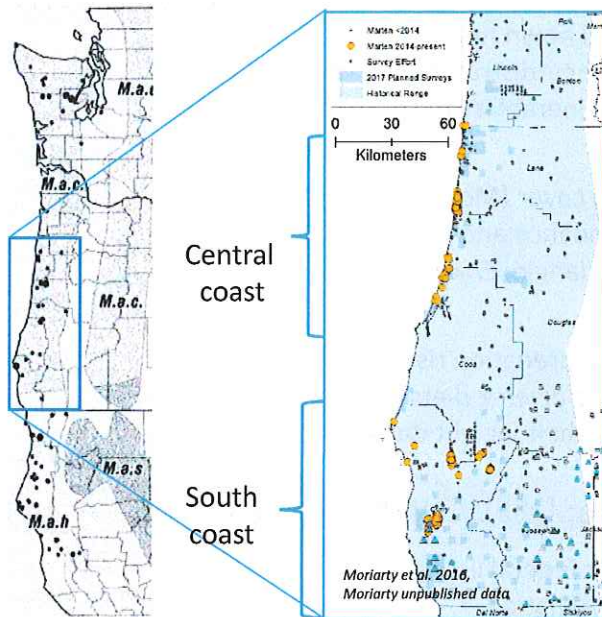
Restricting legal trapping in Oregon's coastal ranges will benefit conservation efforts, education, and research.

Where: Two marten populations persist in the *central* and *south* coast of Oregon.

Historically, martens occurred throughout the coastal forests of Washington, Oregon, and California (black dots = historical locations).

Zieliński et al. 2001, *Journal of Mammalogy*

Zieliński et al. 1996



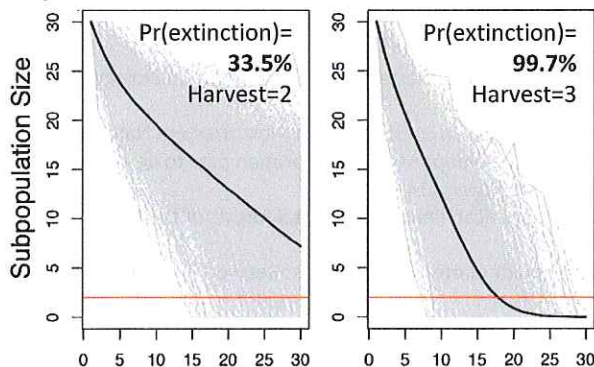
Through extensive camera and scat dog surveys, we have thus far only identified two small coastal sub-populations of martens between Coos Bay and Newport west of highway 101 (central coast) and a population in the south coast which has yet to be verified as connected to the northern California marten population. Currently, the marten distribution is restricted to public lands – unrestricted for trapping access.

Collaborators of this vast effort include state and federal agencies, industrial timber owners, and tribal partners.

Moriarty et al. 2016, *Northwest Naturalist*

Why: Coastal marten populations persist in small numbers. With all other factors stable, harvests as few as 2 or 3 martens create a 33.5% and 99.7% likelihood of sub-population extinction.

Even in the best case scenario without environmental or demographic stochasticity, there was a 99% probability of a marten subpopulation at carrying capacity going extinct in <30-years with a stochastic harvest averaging 3 killed annually. The population viability analysis assumed $r_{max} = 0.2$, equivalent to a 22% annual population growth rate.

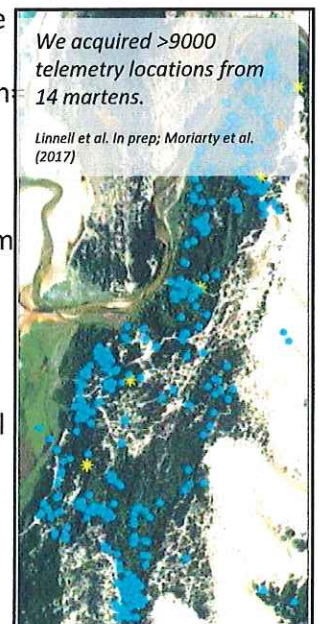


Levi, Unpublished data

Years

Both spatial-mark recapture and territorial mapping of GPS telemetered martens (n=14 marten) confirmed the average estimated population size in central coastal Oregon, at maximum capacity, is less than 75 adults. The population is separated by the Umpqua river (600m wide) and Reedsport (Credible interval = 23-42 adults within each sub-population).

Linnell, Moriarty, Green., In prep.





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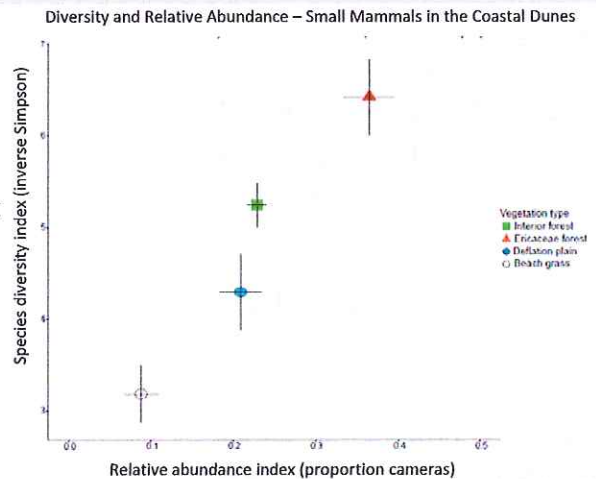
Current trapping effort is low, but research and outreach will highlight the existence of this imperiled population. The subpopulations are currently small enough to be extirpated by a single trapper.

Ecology: These coastal martens are unique globally, persisting in areas without snow.

Martens in the central coast have the smallest known home ranges in North America and are restricted in their distribution (Moriarty et al. 2017), potentially increasing vulnerability to disease.

Coastal martens live in areas with dense shrub cover (Moriarty et al. In prep). These areas have higher prey abundance and diversity than adjacent vegetation types (red triangle, Eriksson 2016, Masters thesis).

Shrub cover may also mediate competition and predation risk (Eriksson et al. In prep). These populations have diverse diets (Eriksson et al. In prep), and consume ~25% of their weight daily.



Federal listing petition and timeline: USFWS will make a new determination in 2018

Humboldt martens were petitioned in 2010 for federal listing consideration., with trapping identified as a population stressor.

U.S. Fish and Wildlife Service withdrew the proposal (2015), but that decision was overturned in the federal Northern District court of California (Mar. 28, 2017).

New evidence is being accumulated, with the USFWS revised finding due October 2018.

Oregon has hence far demonstrated a commitment to pre-emptively mitigating threats.

UNITED STATES DISTRICT COURT NORTHERN DISTRICT OF CALIFORNIA	
<p>CENTER FOR BIOLOGICAL DIVERSITY, et al.,</p> <p style="text-align: center;">Plaintiffs,</p> <p style="text-align: center;">v.</p> <p>U.S. FISH & WILDLIFE Service, et al.,</p> <p style="text-align: center;">Defendants.</p>	<p>Case No. 15-cv-05754-JST</p> <p>ORDER RE: SUMMARY JUDGMENT Re: ECF Nos. 54, 57, 59</p>
<p>Before the Court are Plaintiffs' Motion for Summary Judgment, ECF No. 54, Federal Defendants' Cross Motion for Summary Judgment, ECF No. 57, and Defendant Intervenor's Cross Motion for Summary Judgment, ECF No. 59. For the reasons set forth below, the Court denies Defendants' and Intervenor's motions, and denies in part and grants in part Plaintiffs' motion.</p>	

Literature cited:

Eriksson, C., 2016. Martens in a novel habitat - the importance of prey and habitat structure. Masters Thesis. Conservation Biology, Department of Biology. Lund University, Lund, Skåne, Sweden, p. 33.

Moriarty, K.M., Bailey, J.D., Smythe, S.E., Verschuyf, J., 2016. Distribution of Pacific marten in coastal Oregon. *Northwestern Naturalist* 97, 71-81.

Moriarty, K.M., Linnell, M.A., Chasco, B., Epps, C.W., Zielinski, W.J., 2017. Using high-resolution short-term location data to describe territoriality in Pacific martens. *Journal of Mammalogy*, <https://doi.org/10.1093/jmammal/gyx1014>

Zielinski, W.J., Slauson, K.M., Carroll, C.R., Kent, C.J., Kudrna, D.G., 2001. Status of American martens in coastal forests of the Pacific states. *Journal of Mammalogy* 82, 478-490.

Zielinski, W.J., Golightly, R.T., 1996. The status of marten in redwoods: is the Humboldt marten extinct? *Coast Redwood Forest Ecology and Management*, Arcata, California, USA.