

Located at:

www.scottchurchdirect.com >> www.scottchurchdirect.com/neoconservatives.aspx/endangered-species

THE NATIONAL CANADA LYNX SURVEY

A Congressional petition letter.

By Scott Church

April, 2002

This letter was sent to Senators Patty Murray and Maria Cantwell from my own home state of Washington, and numerous other members of both the U.S. House and Senate, and the Washington State Legislature in spring of 2002.

Dear Senator Murray/Cantwell,

My name is Scott Church. I am a Seattle based IT professional and landscape photographer who has a great interest in environmental issues. I am writing to you today to express my concern regarding the so-called "lynxgate" controversy. As you are probably aware, it was discovered last fall that several field technicians participating in the National Canada Lynx Survey on behalf of the US Forest Service and the Washington Dept. of Fish and Wildlife were caught submitting hair samples from a captive lynx and a bobcat and reporting them as being from the Wenatchee and Gifford Pinchot National Forests. Since then, this issue has become a lightning rod for critics of the Endangered Species Act and large predator conservation measures throughout the country. I too am concerned about this incident and am glad that it is being investigated at a Congressional level. There is NEVER any excuse for falsifying data in a scientific study. However, based on numerous popular press accounts, newsgroup discussions and personal contacts with policy makers, I have become deeply concerned about both the accuracy of reporting about it and the objectivity of the subsequent investigations. Given the gravity of the issue and your position to defend the ESA and NCLS in Congress, I would like to take a few moments to share what I know about this incident and why I feel that programs like these should be protected in spite of it.

The National Canada Lynx Survey (NCLS)

In 1999 the US Forest Service, in cooperation with several other federal and state agencies, initiated the National Canada Lynx Survey (hereafter referred to as NCLS) to determine the range and health of the Canada Lynx (*Lynx Canadensis*) on federal lands within its historic range in the lower 48 states to support of the requirements of the Endangered Species Act (hereafter referred to as ESA). It is widely known that populations of *Lynx Canadensis* in North America have plummeted from their historic numbers and its range has been drastically reduced. Yet recovery efforts have been hampered by a shortage of quality data regarding its current range and population status. The ongoing NCLS is intended to rectify this situation. *Lynx Canadensis* is by nature a shy animal, difficult to detect and track, and given its depressed numbers and range, reliable data about it can be difficult to come by. As recently as 1994, there were large gaps in knowledge of its range and numbers (Ruggiero et al., 1994). Even so, much is known about its ecology and conservation requirements. As a large boreal forest predator, it has very specific habitat and prey requirements and is quite susceptible to having these degraded and its movement and behavior interfered with by various human economic and recreational activities (Quinn & Parker, 1987; Koehler & Brittell, 1990; Koehler, 1990; Koehler & Aubry, 1994; Mowatt et al., 2000; McKelvey et al., 2000; Ruggiero et al., 2000a; Ruggiero et al., 2000b; McCord & Cardoza, 1982; Bittner & Rongstad, 1982; Ruediger et al., 2000). Thus, efforts to protect *Lynx Canadensis* populations could have wide ranging impacts for it and the human communities that share its habitat, and it is of the utmost importance that its range and numbers be accurately determined before policy decisions are made (Ruediger et al., 2000). Among other things, this means that it is just as important to determine where *Lynx Canadensis* does NOT exist as where it does. False positive data may lead to inflated population numbers that might make it appear less threatened than it actually is and/or lead to investments of time and limited resources on follow-up efforts where they will not be productive (McKelvey, 2002). This point is commonly overlooked by critics of the ESA and NCLS, many of who seem to think that conservationists have something to gain from false positive results. Given limited funds and

Located at:

www.scottchurchdirect.com >> www.scottchurchdirect.com/neoconservatives.aspx/endangered-species

manpower, the NCLS was set up along specific guidelines that were intended to insure uniformity and reliability of all data and its verification. These guidelines were based on lessons learned from previous efforts. The history of events leading up to this incident is as follows.

History of the NCLS

In 1998, the USFS, Region 6 contracted biologist John Weaver to survey possible populations of *Lynx Canadensis* in areas covered by the Northwest Forest Plan, which mainly covers the Washington and Oregon Cascades. His work was based on a hair snagging technique he had devised for this survey. This technique, which was based on observations of captive lynx behavior, uses a 6" square carpet pad nailed to a tree and used in conjunction with visual attractors and scents to elicit neck rubbing. When the lynx rubs its neck on the pad, hairs are left behind which are then gathered by field technicians and sent to a lab for mitochondrial DNA (mtDNA) analysis. The survey, which ran throughout the year, turned up positive results for lynx at 15 evenly spaced locations from northern California to the US/Canada border. The results were made public, and due to the wide range figures cited and a significant number of positives, several environmental organizations called for a moratorium on logging in the Washington and Oregon Cascades. However, Weaver's results were widely questioned by large predator biologists for several reasons,

- Details of his DNA analysis protocol were never formally made available for scientific peer-review or blind tested for accuracy and robustness.
- Given that detection rates from hair snagging techniques of this type are usually low (only small portions of given populations are expected to be sampled), the proportion of positives in his data showed a pattern that was highly suspect on statistical grounds. If his data were to be taken at face value, lynx populations should be high enough to support extensive visual sightings. These simply did not exist.
- His results contradicted everything that is currently known regarding the range of *Lynx Canadensis*, which has never been known to exist in the Cascades (in Washington, populations have been verified only in the Okanogan National forest and small portions of the northeast corner of the state).

Based on these concerns, many USFS large predator biologists questioned Weaver's results and called for independent verification. In March 2000, *Lynx Canadensis* was listed as Threatened under the ESA (USFWS, 2000; Federal Register, Vol. 65, No. 58). The Weaver study was cited in this report, but as *preliminary data only*, and it played no significant role in the Threatened listing. Later that year, Weaver was compelled to provide hair samples from his survey. These were independently analyzed and found to be from bobcats and coyotes. The General Accounting Office (GAO) investigated Weaver's survey in July/August, 2000 and found no evidence of tampering. It was concluded that his spurious samples were the result of contamination (GAO, 2000). An extensive check of the Internet by me revealed no further references to the study by environmental groups or anyone else dated later than early 2000 (at which time the survey results had not been falsified).

In 1999 under the auspices of the USFS Rocky Mountain Research Station, the NCLS was launched to resolve gaps in knowledge of lynx populations and to resolve the issues raised by the Weaver study. The NCLS was based on a two pronged Detection -> Follow-Up Confirmation approach and designed to use very specific protocols regarding data gathering and processing that drew heavily from lessons learned previously. Due to the large historical range of *Lynx Canadensis* and the difficulties in detecting and tracking it, the USFS did not have the manpower to dedicate the number of field scientists necessary for a thorough study. Therefore, the Detection phase was to make use of a significantly improved version of the Weaver hair snagging technique (particularly regarding the attractants and protocols for placement of pads, sample gathering and record keeping) designed specifically for implementation by non-technical field personnel. The hair snagging protocol was subjected to formal peer review (McDaniel et al., 2000) and was designed to be simple enough for these non-technical field workers to follow in a straightforward manner without special skills. Detailed directions were provided to all field technicians, a precise plan for location of the data gathering stations was set up and records were kept of where all samples were gathered and under what circumstances, and a special kit was provided containing all necessary supplies and directions. Once gathered, hair samples are sent to the USFS/U. of Montana Carnivore Conservation

Located at:

www.scottchurchdirect.com >> www.scottchurchdirect.com/neoconservatives.aspx/endangered-species

Genetics Laboratory (CCGL) in Missoula, MT. There, mitochondrial DNA is extracted from the samples, amplified using polymerase chain reaction (PCR) techniques and analyzed using a protocol developed specifically for this purpose. This mtDNA analysis protocol was also peer-reviewed and extensively blind tested at the USFWS Forensics Lab in Ashland, OR against known felid DNA samples and found to be 100% reliable (Mills et al., 2000). Results are also compared with Genbank (a large international database of genetic information on a wide range of species). These analyses allow for both positive identification of felid predators and verification of the genetic diversity within subpopulations against known data (isolated breeding populations should show certain types and degrees of allele variation that will also be more or less range specific). Among other things in conjunction with the Follow-Up Confirmation surveys, this allows for false samples, domestic specimens and fur farm escapees to be identified as such. Where positive results are obtained, the Follow-Up Confirmation surveys are implemented using an intensive winter snow tracking protocol and possibly trapping and radio tracking of some specimens. No conservation policies are to be proposed until this process is completed. As of this writing, the NCLS has gathered and analyzed over 1200 positively verified hair samples. Of these, only 4 came from areas where the lynx was not previously thought to be present (the Boise and Shoshone National Forests). In both cases, the Follow-Up Confirmation studies are being fully implemented prior to any policy proposals (McKelvey, 2002).

The "Lynxgate" Incident

In September of 1999 and again in September 2000, several field technicians working on the NCLS for the Washington Dept. of Fish & Wildlife in the Wenatchee and Gifford Pinchot National Forests in Washington State (areas where Lynx Canadensis is not known to have present in recent history) submitted hair samples from a stuffed bobcat (owned by one of the technicians) and a captive lynx as part of the survey for this region. The samples were submitted with made up Site Numbers so as to prevent them from being included in the actual NCLS survey data, the techs in question kept personal records of their activity at their offices (WDFW, 2001), and in both cases immediately notified their supervisors of their activities (WDFW, 2002) (this is HARDLY the behavior one would expect from someone involved in a conspiracy to deceptively slant a study for political reasons!). In the spring of 2001, the USFS hired independent consultants to investigate the incident. When questioned, the techs claimed to have had reservations about the reliability of the CCGL's protocols and wished to test them with a "control". It should be noted that, despite peer-review and blind testing of the CCGL protocols, not everyone was happy with the rejection of the Weaver study. It is possible, though not certain, that these folks intended to "prove" that the CCGL had fallaciously rejected Weaver's results. At least one of the individuals in question has since publicly identified himself in an interview with Outside magazine and said he was "only after the truth" (Outside, 2002). Nevertheless, this behavior, well intentioned or not, was a severe and highly unprofessional break from NCLS procedures. After the USFS internal investigation was concluded, the techs in question were cleared of all charges of intent to skew the survey, but were taken off of the NCLS team and were banned from participating in other such studies (in my opinion, rightly so). In any event, regardless of their motives, the samples did not survive analysis at the CCGL and were removed from the survey over 5 months BEFORE the story went public last December (Seattle Times, Dec. 18, 2001)—a classic example of the self-correcting nature of proper scientific method. Thus, there is currently no evidence to suggest that the incident was an attempt to falsely represent the range of Lynx Canadensis and the false samples have had virtually no impact on the survey's results.

Despite this history however, in the fall of 2001 a "whistle blower" at the USFS (whose identity has to my knowledge, never been revealed) contacted the Washington Times (WT) about the incident, and they subsequently ran a story accusing the USFS and environmental groups of deliberately perpetrating a massive and deliberate "hoax", the purpose of which was to "skew" the survey results for "so-called higher purposes". The nature of these alleged "higher purposes" was never clarified in the article (Washington Times, Dec. 17, 2001). The controversy has since spread like wildfire in public forums and Congressional circles and become a rallying point for Property Rights and Resource Use advocates and others who oppose many environmental policies like the ESA.

In light of the history of this incident and the interest groups involved, it is revealing to compare the facts given above with their renditions in popular anti-environmental forums. The WT article cited above (and numerous other articles since) made the following claims,

Located at:

www.scottchurchdirect.com >> www.scottchurchdirect.com/neoconservatives.aspx/endangered-species

- "Fake" hair samples were planted on rubbing pads in the Wenatchee and Gifford Pinchot National Forests by USFS biologists.
- The perpetrators were "rogue biologists trying to influence natural-resources policy". Their specific intentions were to advance an undisclosed political agenda by trying to deceptively skew the survey data so as to indicate the presence of the Canada Lynx where it does not exist.
- If the false samples had not been detected, entire National Forest regions would have been closed permanently to most recreational and economic uses, the result of which would have been the destruction of entire rural communities and the "wrecking of some people's way of life".
- This incident is the latest in a string of interrelated plots by "rabid environmentalists" to bring about the destruction of rural America, including the 1998 bombing of a \$12 million ski resort project in Vail, CO by the Earth Liberation Front.

As you may know, shortly after this story broke, several prominent members of Congress demanded a full investigation of this incident claiming that it "threatened the very economy of rural America". It is now under investigation by the GAO, the USDA Inspector General, and other Congressional entities.

Comments

I am writing to you today because as a voter and concerned citizen, I am deeply worried about the impact this incident may have on the future of the lynx and current efforts to save it. Though I believe firmly that this incident should be investigated, I have deep concerns about the objectivity of the investigations currently being conducted—particularly those that are being overseen by some members of Congress with a history of anti-environmental views. Since this story broke, I have been following it in various popular forums and newsgroups. From popular accounts right up to Congressional commentary, I have observed a general carelessness with facts on the part of critics of the ESA and NCLS. As a result, I fear that these investigations may have become witch-hunts rather than serious inquiries. The following examples should illustrate my concerns,

Located at:

www.scottchurchdirect.com >> www.scottchurchdirect.com/neoconservatives.aspx/endangered-species

- NCLS critics have repeatedly claimed that the false hair samples in question were planted in the National Forest survey regions when in fact the samples were taken from other locations (including a stuffed bobcat owned by one of the technicians) and sent directly to the CCGL lab. This may seem like a minor distinction (it is), but it is exemplary of their frequent carelessness with details and their unfamiliarity with the basic NCLS protocols, which they appear not to have bothered to learn.
- NCLS critics have repeatedly referred to the people who were responsible for the false samples as "scientists" or "biologists". In fact, they were *non-technical field personnel*. Most had only bachelor's degree level training, if anything, and they were certainly NOT scientists or professional large predator biologists. As mentioned above, the NCLS protocols were specifically designed to be consistently and repeatably implemented by non-technical personnel who followed specifically spelled out guidelines.
- NCLS critics claim that this was a deliberate attempt to falsify the NCLS data for political reasons. Yet they routinely ignore facts that are inconsistent with such motives. It is clearly stated in the NCLS protocols that every sample must come from a predetermined location with a specific Site Number. The false samples in question however, were deliberately reported as having *not* come from one of these sites (WDFW, 2001)—a fact that would be immediately noticed by the survey's principle investigators. Why would someone trying to sneak false data into a study have done something like this? Why would they keep written records of this activity at their work desks—the first place an investigator would look if the incident ever became public? And for heaven's sake, *why would they actually tell their supervisors what they were doing?* Such behavior, however unprofessional, is NOT consistent with a desire to secretively skew a survey for any "higher agenda".
- NCLS critics repeatedly relate this incident to the 1998 Weaver survey. One member of the Washington State Legislature even told me in a personal e-mail that, "a central theme of the chain of events is the distrust of the 1998 Weaver lynx survey of the Cascades". He said that there is great concern over whether falsified samples were part of that study, claimed that the USFS had never explained to him or to its field technicians how the NCLS would be more accurate and that he was requesting the GAO to investigate. But as was pointed out previously, the GAO had already investigated the Weaver survey and ruled out tampering (GAO, 2001). The lessons learned from the Weaver incident and demonstrations of the NCLS's improved accuracy have already been provided (McKelvey, 2002). The protocols for hair gathering and mtDNA analysis have been blind tested, verified against existing mature data, and peer-reviewed, and are published (Mills et al., 2000; Mills, 2002; Schwartz et al., 2002; McDaniel et al., 2000; McKelvey, 2002). Regarding the education of field technicians, there is no need for them to know details of the design and effectiveness of the protocols involved since they were designed to be consistently and reliably implemented by non-technical personnel to begin with (McKelvey, 2002). None of this information appears to have been consulted, though any reasonable search should have turned it up.
- NCLS critics (including the Washington State legislator mentioned above) have repeatedly claimed that the Threatened listing for *Lynx canadensis* in the ESA was based on the Weaver study. However, the listing report clearly cites the Weaver survey as "*preliminary data only*" and states that it played little role in the decision to impart Threatened status (USFWS, 2000; Federal Register, Vol. 65, No. 58). Once again, this information is also easily obtainable in the public domain, yet appears not to have been consulted.

Located at:

www.scottchurchdirect.com >> www.scottchurchdirect.com/neoconservatives.aspx/endangered-species

- There is an extensive amount of peer-reviewed science on the ecology and conservation of Lynx Canadensis that underscores the need for studies like the NCLS (see the references below, which I might add are by no means complete). Most of it is easily available online or from various libraries and academic databases. Yet despite this, I have seen few if any attempts on the part of NCLS critics to investigate any of it, and many of them are citing this incident as proof that the NCLS and the ESA need to be drastically rolled back or even eliminated. The original WT article makes no reference whatsoever to any science, peer-reviewed or otherwise. A few remarks were made about the NCLS being "rigged from the word go" and "full of bad biology and bad politics", but no scholarly citation or corroborating evidence of any kind was offered in support of this. The only supporting commentary provided came from representatives of the National Wilderness Institute (NWI). A check of their root URL (www.nwi.org) reveals them to be a Property Rights and Resource Use advocates group whose board of directors reads like a who's who of the ultra-conservative Wise Use Movement. While there is nothing wrong with this in itself (these interests are certainly entitled to their views and a forum to express them), they can hardly be called objective scientific sources. Furthermore, I have been in contact with state and federal policy makers who are highly critical of the NCLS and the ESA regarding this matter, and in every case their comments appear to have been based only on the WT's account and carefully selected portions of the USFS inquiry—virtually never on peer-reviewed scientific sources. I have even offered to *provide* such science to these individuals directly (abstracts and/or full text journal articles such as the ones listed below), but to date no one has accepted my offer. This widespread neglect of established peer-reviewed science is disturbing.
- It has been repeatedly claimed by the Washington Times and some members of Congress that if the falsified hair samples had not been exposed, entire regions of national forest would have been closed to all economic and recreational activity and "threatened the very economy of rural America". There would be "carte blanche to go after ski resorts, stop road building and go after ranchers and tree cutters" (Washington Times, 2001). Yet as has been shown, the NCLS includes a Follow-Up Confirmation phase. All positive sightings in areas not known to have populations of Lynx Canadensis are to be verified with extensive protocol controlled snow tracking. Without this confirmation, the presence of Lynx Canadensis would not be considered verified and further action would not be warranted. The NCLS has already identified two other populations of Lynx Canadensis in areas where it was not thought to exist (the Boise and Shoshone National Forests) and this follow-up plan is in fact currently being implemented in both locations (McKelvey, 2002). Furthermore, proposed conservation plans for Lynx Canadensis in areas where it is known to exist involve a wide range of contingencies with varying impacts and there is no reason to assume that the total and complete shutdown of all economic and recreational activity will necessarily be involved (Ruediger et al., 2000; Seattle PI, Dec. 18, 2001). Yet again, critics seem to have assumed outright that the most extreme possible options would be implemented with little or no attempt to consult any of this information.
- The whistle blower at the USFS elected to work with a highly partisan source like the Washington Times despite the fact that numerous moderate outlets were available (e.g. – Reuters, Associated Press, CNN, etc.). The WT is owned by Rev. Sun Myung Moon and the Unification Church (UC) and has a long history of anti-environmental bias on a wide range of issues. This is not surprising since Moon and the UC have large holdings in numerous polluting and extraction industries and these make up a significant portion of their revenue stream. They stand to profit heavily if environmental protections are rolled back. The church also has a bizarre messianic theology (UC online, 2002, see Footnote 1) and a history of Congressionally investigated high-level subversive activity that do not bode well for their objectivity on environmental matters (Frazier, 1978). We might just as well depend exclusively on sources like the Socialist Worker or the Earth Liberation Front newsletter. This is *not* acceptable scholarship.

Taken together these examples display a general carelessness with facts and a trigger-happy attitude toward the agencies involved that concerns me. As the citations I have provided show, a great deal of information is easily available in the public domain about this incident, the ecology and conservation of Lynx Canadensis, and the NCLS—all from peer-reviewed scientific journals and reliable moderate sources. Most of it was available when the story broke last fall and much of it is even online. Any serious attempt at responsible research should have

Located at:

www.scottchurchdirect.com >> www.scottchurchdirect.com/neoconservatives.aspx/endangered-species

turned this information up and corrected the errors and omissions described above. I find it odd, and disconcerting, that NCLS critics appear never to have done this in high level, and supposedly objective investigations into this matter.

I would like to draw your attention to this carelessness, and ask you to fight for reasonable alternatives. Too many people seem only to be concerned with short-term economic gains or recreational opportunities rather than long-term sustainable solutions. Yet I see no other way. To those who have little or no respect for creation, the Canada Lynx may seem like a small matter—an annoyance blocking traffic on the road to wealth, job growth or weekend fun. But large predators like it are necessary parts of the complex ecosystems where they live—ecosystems that ultimately include US. The systematic decline and loss of such creatures is a wake-up call that our activities are ecologically stressing the regions we live in ways that will have consequences and this cannot be ignored forever.

I am quite aware of the economic struggles of many rural communities. I am currently out of work and have been so for some time, another victim of the Dot-Com crash. I too, am worried about the economy and my future. But there is more to issues like this one than an economically comfortable status quo and snowmobile trails. It may sound trite to say so, but the Canada Lynx is a rare and beautiful animal. Like the boreal forests it inhabits and the ecosystems that support it, it is a gift from God. If we lose these things, and everything they symbolize, we will all be poorer. The fact of the matter is that it IS possible to create sustainable economies and ecologies and there are no valid reasons why we cannot live and play alongside these marvelous creatures if we choose. But this will not be possible until we set aside the sort of hysteria, protectionism, and scholarly sloppiness documented above.

It cannot be emphasized enough that *there is NO substitute for the scientific peer-review process*. True scientific knowledge is always reached inductively rather than deductively. That is, by working with the full body of available evidence, struggling with questions, carefully weighing conflicting evidence in search of the best balance. This kind of science is quick to acknowledge uncertainties and areas where more research is needed. It always states its conclusions with a certain humble tentativeness that is characteristic of objectivity, and steadfastly resists all temptation to reach quick, emotionally charged easy answers to complex mysteries before a robust knowledge base can be built. This path is long, arduous, and often tentative when we would rather have decisive answers. But is the *ONLY* way to reach trustworthy conclusions that will stand the test of time.

So I write to you today to ask you to please protect the National Canada Lynx Survey and the Endangered Species Act. This incident will almost certainly appear again in Congressional session. Many will try to use it as a pretext to roll back the ESA or cut off funding for programs like the NCLS. When they do, please do not settle for hysteria and sloppy research. It is a basic principle of critical thought that *extraordinary claims require extraordinary proof*. Demand it from them! When they present grandiose tales of vast conspiracies, full of superlatives and innuendos ("Rabid enviros are out to cleanse rural America!..." "They blew up the ski resort, and now they have carte blanche to go after my livelihood!..."), do not settle for less than broadly based, peer-reviewed and properly cited data, and news from established moderate sources. Beware of statements based on nothing more than inflammatory comments and limited information from highly partisan advocacy groups. Particularly those that deliberately attempt to present a public image that differs significantly from their actual agenda (e.g.—the National Wilderness Institute cited in the WT article above, which promotes itself as a "wilderness protection" organization, but actually lobbies for timber industry, property rights, and resource use interests). Beware of those who preach to you about their "sound science" and someone else's "bad biology and bad politics", yet never quite seem to get around to actually *demonstrating* any of it.

Many today are interested only in protectionism and short-term gain and have little or no interest in proper research. It is up to us to protect our priceless national treasures from them. Lynx Canadensis cannot survive with less. Ultimately, neither will we. Thank you so much for taking time from your busy schedule to read this.

Sincerely,

Scott Church

Located at:

www.scottchurchdirect.com >> www.scottchurchdirect.com/neoconservatives.aspx/endangered-species

Footnotes

- 1) The Unification Church believes that a second messiah will soon appear on Earth. This messiah (whom they refer to as the "Lord of the Second Advent") will complete the salvation of the human race (something they believe Jesus of Nazareth began, but failed to complete by not procreating) and will rule over a worldwide theocratic government. Though Moon has never publicly said so, he has been setting himself up for this role and is widely believed to be this messiah by his followers. Former church members consistently report that high-level church economic and political activities have been directed toward preparing for this "second advent" for years. The UC has a long history of various high-level subversive activities conducted through a worldwide network of front groups and businesses (of which they own literally thousands valued at many billions of dollars). The church's media holdings, such as the Washington Times and the UPI newswire, frequently promote views consistent with their larger objectives. Since many of their business holdings are in polluting and extraction industries that provide a large percentage of the church's revenue stream, the church stands to be penalized by environmental conservation policies. Hence, they view these policies as contrary to the establishment of their coming spiritual kingdom. For more information, see the Unification Church's web site and the Frazier Committee report to the U.S. House of Representatives on Koreagate. Both are cited above.

References

Bittner, S.L., and O.J. Rongstad. 1982. Snowshoe hare and allies. Pages 146-163 in J.A. Chapman and G.A. Feldhamer (eds.). *Wild Mammals of North America*. Johns Hopkins University Press, Baltimore, MD.

Federal Register, Vol. **65**, No. 58. March, 24, 2000. Final rule listing for the United States Distinct Population Segment (DPS) of *Lynx Canadensis*.

Frazier Committee Report on Koreagate to the U.S. House of Representatives. 1978. Available online at www.allentwood.com/Frazer%20Report.html.

General Accounting Office. August 14, 2001. "Accidental contamination of samples used in Canadian lynx study rendered the study's conclusion invalid". Available online in PDF format at www.gao.gov/new.items/d011018r.pdf.

Koehler, G.M. 1990. Population and habitat characteristics of lynx and snowshoe hares in north central Washington. *Canadian Journal of Zoology* **68**: 845-851.

Koehler, G.M. and K.B. Aubry. 1994. Pages 74-98 in Ruggiero et al., 1994. The scientific basis for conserving forest carnivores: American marten, fisher, lynx and wolverine in the western United States. USDA Forest Service, Rocky Mountain Forest and Range Experiment Station. General Technical Report RM-254. 184 pp.

Koehler, G.M. and J.D. Brittell. 1990. Managing spruce fir habitat for lynx and snowshoe hares.

Located at:

www.scottchurchdirect.com >> www.scottchurchdirect.com/neoconservatives.aspx/endangered-species

J. Forestry **88**: 10- 14.

McCord, C.M., and J.E. Cardoza. 1982. Bobcat and lynx. Pages 728-766 in J.A. Chapman and G.A. Feldhamer (eds.). *Wild Mammals of North America*. Johns Hopkins University Press, Baltimore, MD.

McDaniel, G.W., K.S. McKelvey, J.R. Squires, and L.F. Ruggiero. 2000. Efficacy of lures and hair snares to detect lynx. *Wildlife Society Bulletin* **28** (1): 119-123.

McKelvey, K.S., K.B. Aubry, and Y.K. Ortega. 2000. History and distribution of lynx in the contiguous United States. Pages 207- 264 in Ruggiero L.F., K.B. Aubry, S.W. Buskirk, et al. (tech. eds.). *Ecology and conservation of lynx in the United States*. Univ. Press of Colorado. Boulder, CO. 480 pp.

McKelvey, K.S. March 6, 2002. Statement before the Committee on Resources U.S. House of Representatives concerning the National Canada Lynx Survey.

Mills, L.S., K.L. Pilgrim, M.K. Schwartz, and K. McKelvey. 2000. Identifying lynx and other North American felids based on mtDNA analysis. *Conservation Genetics* **1**: 285-288.

Mills, L.S. 2002. False samples are not the same as blind controls. *Nature* **415**.

Mowatt, G., K.G. Poole, M. O'Donoghue. 2000. Ecology of lynx in northern Canada and Alaska.

Outside Magazine. April, 2002. Debunking Lynxgate, by Daniel Glick. Available online at outside.away.com/outside/news/lynxgate_1.adp.

Quinn, N.W.S. and G. Parker. 1987. Lynx. Pages 683-694 in Novak, N. and M. Obbard, (eds). *Wild furbearer management and conservation in North America*. Ministry of Natural Resources, Toronto, Ontario. Chapter 9 in Ruggiero L.F., K.B. Aubry, S.W. Buskirk, et al. (tech. eds.). *Ecology and conservation of lynx in the United States*. Univ. Press of Colorado. Boulder, CO. 480 pp.

Ruediger, B., J. Claar, S. Gniadek, B. Holt, L. Lewis, S. Mighton, B. Naney, G. Patton, T. Rinaldi, J. Trick, A. Vandehey, F. Wahl, N. Warren, D. Wenger, and A. Williamson. 2000. Canada lynx conservation assessment and strategy. USDA Forest Service, USDI Fish & Wildlife Service, USDI Bureau of Land Management, and USDI National Park Service. Missoula, MT.

Ruggiero, L.F., K.B. Aubry, S.W. Buskirk, L.J. Lyon, and W.J. Zielinski, (tech. eds). 1994. The scientific basis for conserving forest carnivores: American marten, fisher, lynx and wolverine in the western United States. USDA Forest Service, Rocky Mountain Forest and Range Experiment Station. General Technical Report RM-254. 184 pp.

Ruggiero, L.F., K.B. Aubry, S.W. Buskirk, G.M. Koehler, C.J. Krebs, K.S. McKelvey, and J.R. Squires (tech. eds.). 2000a. Ecology and conservation of lynx in the United States. Univ. Press of Colorado. Boulder, CO. 480 pp. Available online as Publication RMRS-GTR-30WWW at www.fs.fed.us/rm/pubs/rmrs_gtr30.html.

Ruggiero, L.F., K.B. Aubry, S.W. Buskirk, G.M. Koehler, C.J. Krebs, K.S. McKelvey, and J.R. Squires (tech. eds.). 2000b. The scientific basis for lynx conservation: qualified insights. Pages 443-454 in *Ecology and conservation of lynx in the United States*. Univ. Press of Colorado. Boulder, CO. 480

Located at:

www.scottchurchdirect.com >> www.scottchurchdirect.com/neoconservatives.aspx/endangered-species

pp.

Schwartz, M.K. et al. 2002. *Nature* **415**: 520-522.

Seattle Post Intelligencer. December 18, 2001. Scientist's "wild hair" really wasn't, by Lisa Stiffler. Available online at seattlepi.nwsourc.com/local/51046_lynx18.shtml.

Seattle Times. December 18, 2001. Lynx count a hair off? Fur flies over fake find, by Lynda V. Mapes. Available online at archives.seattletimes.nwsourc.com/cgi-bin/texis.cgi/web/vortex/display?slug=lynx18m&date=20011218&query=lynx.

U.S. Fish & Wildlife Service. March 21, 2000. "Canada lynx listed as threatened". Available online at www.fs.fed.us/r6/centraloregon/mediainfo/issues/usfw/lynx.html.

Unification Church official web site. 2002. www.unification.net.

Washington Dept. of Fish & Wildlife. 2001. Media Advisory: Statement from Dr. Jeffrey Koenings, Ph.D., Director, Washington Department of Fish and Wildlife Regarding the Submittal of False Data for Interagency Lynx Study. December 20, 2001. Available online at www.wa.gov/wdfw/do/dec01/dec2001a.htm.

Washington Dept. of Fish & Wildlife. 2002. Submittal of unauthorized study samples during interagency lynx survey. January 2002 Fact Sheet. Available online at www.wa.gov/wdfw/factshts/lynxstudy.htm.

Washington Times. Dec. 17, 2001. "Rare lynx hairs found in forests exposed as hoax", by Audrey Hudson. Available online via account from the Washington Times news archives at www.washingtontimes.com.