

APPENDIX VIII

COORDINATION

Wyoming CWCS Mammals Workshop March 14, 2005

Notes Pages:

Started 8:15

Name	Agency/Organization	Address	Phone/E-mail
Kevin Hurley	WGFD	2820 State Hwy 120 Cody, WY 82414	307-527-7125 kevin.hurley@wgf.state.wy.us
Tim Byer	USFS	2250 E. Richard Douglas, WY 82633	307-358-4690 tbyer@fs.fed.us
Kirk Nordyke	WGFD	5400 Bishop Blvd. Cheyenne, WY 82006	307-777-4595 kirk.nordyke@wgf.state.wy.us
Aaron Bronson	WGFD	5400 Bishop Blvd. Cheyenne, WY 82006	307-777-4605 aaron.bronson@wgf.state.wy.us
Reg Rothwell	WGFD	5400 Bishop Blvd. Cheyenne, WY 82006	307-777-4588 reg.rothwell@wgf.state.wy.us
Bob Oakleaf	WGFD	260 Buena Vista Lander, WY 82520	307-332-2688 bob.oakleaf@wgf.state.wy.us
Jena Hickey	USFS	2468 Jackson Laramie, WY 82070	307-745-2412 jenahickey@fs.fed.us
Lynn Jahnke	WGFD	P.O. Box 9249 Sheridan, WY 82801	307-672-7418 lynn.jahnke@wgf.state.wy.us
Martin Grenier	WGFD	260 Buena Vista Lander, WY 82520	307-332-2688 martin.grenier@wgf.state.wy.us
Jim Wright	BLM	2987 Prospector Dr. Casper, WY 82604	307-261-7506 jim_wright@blm.gov
Stan Harter	WGFD	260 Buena Vista Lander, WY 82520	307-332-2688 ext. 237 stan.harter@wgf.state.wy.us
Gary Beauvais	UW – WYNDD	University of Wyoming Dept. 3381 Laramie, WY 82070	307-766-3027 beauvais@uwyo.edu
Tom Bills	BLM – Buffalo	1425 Fort St. Buffalo, WY 82834	307-684-1133 tom_bills@blm.gov

USFS info has been incorporated into the WYNDD database.

Discussion of others that need to be involved in defining map: Other interested individuals will have one additional opportunity to review existing maps and help refine species distribution information. Specifically, they can do this when the document is distributed for public review (April, 2005).

Bats (All)

For now, no bat maps will be changed. The Wyoming Bat Conservation Plan is under development, and more accurate maps will be available in May 2005.

- Martin G. will continue developing bat maps and will provide to Chris B. in May for inclusion in the CWCS.

Bighorn Sheep and Moose

Bighorn sheep and moose should be presented w/ herd unit overlays.

Laramie peak sheep are not as isolated as the maps would indicate.

Map should indicate range map of same scale. **Make the bighorn sheep and moose maps similar to the grizzly bear maps.** (Sheep info should be available, but moose is in progress.)

- Work will be done in Cheyenne and regions.
- Maps to Reg Rothwell by March 30.
- Reservation sheep (and moose?) need to be included. Talk to Pat Hnilicka.
- Moose map needs to include the Laramie peak population, and the population along the Albany/Laramie Co. line. Map needs to include the population in the NW corner Sheridan co.

Black Tailed Prairie Dog

Two BT prairie dog towns are rumored to exist east of Cody? If accurate, they should be included.

Why not use data more current than WOS data? Workshops are meant to identify additional data that may be available.

- Kevin Hurley will check on Park Co. populations.
- Martin G. will develop a new map using the 2001 data.
- WYNDD may have additional info for boundary between BT and WT prairie dogs. Gary B. will send info to Martin G. and Kirk N.
- Workshop participants will update the map.

Canada Lynx

There are denning lynx in Medicine Bow and Sierra Madre ranges. Two lynx have been seen in the Wyoming range. These cats are thought to have moved north from Colorado. Until a more permanent population is established, these habitats will not be included. Map is OK.

Canyon Mouse

Currently, there are no data points for the Canyon Mouse, but the map was felt to be okay. Canyon mouse, points in NE Uinta County.

- Gary B. will send Canyon Mouse points to Bob O. and Kirk N.

Cliff Chipmunk

There are only three data points for cliff chipmunk. Add data points to the map, otherwise the map is OK.

Dwarf Shrew

- WYNDD has more points. Gary B. will provide this info to Bob O. and Kirk N.

Fisher

Two data points, are on the established map, but many known occurrences were not included. Mapped data points are outside of known habitat. Bob O. believes points are missing.

- Bob O. will check to find the other data and make sure the data points/habitat associations are accurate.

Great Basin Pocket mouse

Leave points on the final map. Otherwise, the map is OK.

Hayden's shrew

Include both points. WYNDD has more points; may expand range (Laramie Peak?).

- Gary B. will send info to Bob O. and Kirk N.

Hispid pocket mouse

Include data point (1). Otherwise, the map is OK.

Idaho pocket gopher

No data points. Otherwise, the map is OK.

Least Weasel

Least weasels are thought to occur in the Thunder Basin. The USFS may have more data, but the videotape needs to be reviewed.

- Tim B. will bring the video to the bird workshop on March 15.
- *Upon review, tape did not contain footage of a Least Weasel.*

Martin

USFS has more points, but they won't change the map.

- Don't include data points on the final map.

Meadow Jumping Mouse

WYNDD data indicates Meadow Jumping Mice extend further north. Major changes needed. Use WYNDD data.

WYNDD can provide data and predictive data set. WYNDD data is OK. Be aware of low elevation jumping mice east of the Bighorns, but species is not confirmed as a Meadow Jumping Mouse. Talk about taxonomy in the species write up. Write up should include why species is included when it is not in this matrix.

- Workshop participants will update map at the workshop.

Northern Flying Squirrel

- Include observation points on map. Otherwise, the map is OK.

Olive-Backed Pocket Mouse

Add points. Some data points indicated outside of the habitat (western edge). WYNDD data indicates distribution extends much further west.

- Gary B. will provide this information to Bob O. and Kirk N.

- Participants will make initial modifications to the map.

Pinyon Mouse

Add data points to the final map. Add data from WYNDD. Correct the one data point that is outside of habitat. Spelling is OK.

- Gary B. will provide this information to Bob O. and Kirk N.

Plains pocket mouse

Bighorn observations seem wrong, but there are records east of the Bighorn Mtns. Are the populations really disjointed or are other habitats utilized?

- Bob O. and Gary B. will check records from the bighorns.
- Workshop participants will make the initial modifications.

Prairie vole

One point outside of habitat. Include points on final map.

- Bob O. either needs to revise habitat criteria or eliminate outlying point.

Preble's shrew

WYNDD has additional data points.

- Gary B. will provide this information to Bob O. and Kirk N.

Pygmy rabbit

WYNDD data indicates the population extends further east.

- Gary B. will provide this information to Bob O. and Kirk N.

Pygmy shrew

Include points on the map. WYNDD data indicates the population extends into Albany County.

- Gary B. will provide this information to Bob O. and Kirk N.

River Otters

May exist east of Douglas. Observation near Ft. Laramie. Change map to show rivers. Add additional rivers. Include Park Co. and YNP. And Laramie River. Cheyenne River? Platte R. OK.

- Bob O. will review this map and make the necessary changes.

Silky Pocket mouse

Two data points outside of habitat. Need to revise habitat criteria.

- Bob O. will review this map and make the necessary changes.

Swift fox

Leave points off the final map. Otherwise, the map is OK.

Uinta ground squirrel

Include Jackson and Star Valley populations and Yellowstone, upper green, and big piney. Review records in Albany Co.

- Map will be updated at the workshop by participants.

Vagrant shrew

Many data points aren't within habitats. Either use habitat or river corridors to define distribution, not both. Revise habitat criteria.

- Bob O. will review this map and make the necessary changes.

Water shrew

Restrict to waters w/in habitat areas. Extend to lower elevations than Water Vole.

- The map will be updated by the workshop participants.

Western Heather Vole

Drop habitats in the NE corner. Habitat along Albany/Laramie county line is ok, but remove prairie habitats.

- Map will be updated by workshop participants.

White-tailed prairie dog

There may be WT prairie dogs in southern Converse County and the Shirley Basin. May need to include other systems; indicated disconnectedness of utilized habitats. Revise habitat. Eastern observation near twin pines ranch may be BT prairie dogs.

- Tim B. will check observations near the Twin Pines ranch and communicate species type to Bob O.
- Bob O. and Martin G. will check observations in Converse County and the Shirley Basin.
- Workshop participants will make revisions.

Wolverine

One point was outside the habitat. Wyoming Range does not have established population. There are no permanent populations in the Southern Wind River range. Map is OK.

Wyoming Ground Squirrel

NW Wyoming population? Refine habitats being used across the map.

- Map will be refined at the workshop by participants.

Wyoming Pocket Gopher

WYNDD has additional data that will expand the occupied area. Records along Sweet Water and Carbon counties. Baggs population may have been misidentified.

- Gary B. will provide the dataset to Bob O. and Kirk N.

Final maps – done by April 1.

Include YNP and Reservation boundaries to all maps.

General Comments:

Adding points could have impacts on the species due to commercial/commodity usage. Don't include points on finer scale map.

Monitoring Discussion:

We need to be clear about how monitoring is defined.

Monitoring – tracking populations to collect trends information to aid in making management decisions.

What's Happening Now?

Vast majority of mammal species are not truly monitored. Exception, Swift Fox, Moose, Sheep, Grizzly Bear, Prairie Dogs, BF ferrets, Martens (part of Medicine Bow marten monitoring/hair collection effort). Lynx in the NW (Bridger-Teton National Forest)? Park Service inventory and monitoring program?

Bats – statewide plan is under development and will be available by May or June of 2005.

Martens – The Medicine Bow National Forest monitors martens and has been collecting hair samples for DNA analysis. The methodology has collected hair from a variety of other forest carnivores as well.

Inventory:

ANABAT program.

Kemmerer WT Prairie Dog mapping effort.

Meadow Jumping Mouse efforts.

WGFD monitors big game.

What Needs to Happen?

Many species need more data.

Information needs to be exchanged more freely between agencies. Perhaps address through permitting process. WGFD will allow online data entry into WOS. May deny permits if data is not submitted. However, this change won't include efforts related to hair collection or track transects.

Updates to the WOS system: New programmers were hired, and one has been dedicated to the WOS system. He has contributed significantly to the effort. He has been developing software to replicate field forms in PDA format so observations can be submitted electronically. Much historic data was missing, but much has been found (except Jackson/Pinedale). The WGFD will begin testing PDA entry system. Programmer may be available longer than originally expected.

WOS could be updated using WYNDD data. Would like to bring both databases to the same point. Would be nice to keep all databases updated with available information. Maybe this could occur at the annual TWS meeting. Would be a good use of SWG money.

National Park Service and other agencies keep their own databases. That won't change.

USFS developing the FAUNA database. Although other forests are following suit, the Medicine Bow/Route NF is in the lead for this region.

Is there a need develop a statewide monitoring scheme across agencies? (similar to Partners in Flight). Would like to have trend info on many mammals, but would also like to have enough info to understand population status of species.

Could this effort affect USFS planning rules? There will be less monitoring (MIS gone).

Monitoring could be accomplished more easily (\$) in a multi-agency effort. Could NGOs or the Department(s) take on more? **There is value in having an inter-entity group to coordinate mammal monitoring**, similar to bird monitoring model. Maybe need to consider cross-taxa monitoring. Agencies could focus on their strengths.

Should mammals be broken into smaller groups? (Big Game, small mammals, bats, etc.) Probably cannot monitor everything, but agencies can play to their strengths; work most efficiently.

How do you motivate the sharing of data? It may be a benefit, but could be made a low priority in individual agencies. Could one agency make it a priority or encourage/coordinate this effort? There needs to be some metadata record on how data was collected. Accuracy of personnel is also an issue; need to define levels of expertise.

Who needs to be involved?

Multiple agencies need to be involved.

There are new programs being developed (Gov.'s habitat initiative) and existing programs (LIP, HAEP, etc.) that relate to the CWCS. This document could serve as a central hub for a variety of efforts.

**CWCS Birds Workshop
March 15, 2005**

Started: 8:15

Attendees:

Name	Agency/Organization	Address	Phone/E-mail
Daryl Lutz	WGFD	3030 Energy Lane Casper, WY 82604	307-473-3408 daryl.lutz@wgf.state.wy.us
Jim Wright	BLM	2987 Prospector Dr. Casper, WY 82604	307-261-7506 jim_wright@blm.gov
Alison Lyon	Audubon WY	168 N. Cedar St. Laramie, WY 82072	307-721-8779 alyon@audubon.org
Jena Hickey	Forest Service	2468 Jackson Laramie, WY 82070	307-745-2412 jenahickey@fs.fed.us
Hamilton Smith	WYNDD	1063 N. 10 th St. Laramie, WY 82070	307-766-3035 bhsmith@uwyo.edu

Name	Agency/Organization	Address	Phone/E-mail
Bob Oakleaf	WGFD	260 Buena Vista Lander, WY 82520	307-332-2688 bob.oakleaf@wgf.state.wy.us
Reg Rothwell	WGFD	5400 Bishop Blvd. Cheyenne, WY 82006	307-777-4588 reg.rothwell@wgf.state.wy.us
Andrea Cerovski	WGFD	260 Buena Vista Lander, WY 82520	307-332-2688 andrea.cerovski@wgf.state.wy.us
Stan Harter	WGFD	260 Buena Vista Lander, WY 82520	307-332-2688 stan.harter@wgf.state.wy.us
Tim Byer	USFS	2250 E. Richards Douglas, WY 82633	307-358-4690 tbyer@fs.fed.us
Susan Patla	WGFD	P.O. Box 67 Jackson, WY 83001	307-733-2321 susan.patla@wgf.state.wy.us
Larry Roberts	WGFD	3030 Energy Lane Casper, WY 82604	307-473-3412 larry.roberts@wgf.state.wy.us
Dennis Saville	BLM	P.O. Box 518 Cody, WY 82414	307-578-5926 dennis_saville@blm.gov

Notes:

Change map titles to clarify what is being shown.

All maps modified outside of workshop, corrections need to be provided to Kirk N. and Bob O. by March 25.

American Bittern

One nesting colony missing. Nesting colony = dots. Title should indicate nesting colonies and distribution.

- Map was adjusted during the workshop.

American Three-toed woodpecker

Map should indicate it presents summer distribution.

American white pelican

Title should indicate nesting colonies and distribution.

Ash throated fly catcher

Sightings outside of Lander.

- Andrea C. will check and send corrections to Kirk N. and Bob O.

Bald Eagle

Change title to nesting distribution of ... Nests found on Thunder Basin on hwy 59. Nest report near Campbell/Converse county line. Nest near Bill WY. Tim B. has UTM information that he can provide.

- Bob O. will create a new map indicating winter distribution and concentration sites.
- BLM and WYNDD will work with Bob and Kirk to incorporate new data.
- Initial map was adjusted during the workshop.

Barrows Goldeneye

Map displays breeding habitat. Susan P. has additional data points.

- Map was adjusted during the workshop.

Black Rosy Finch

Map displays breeding habitat. Data is OK

Black Tern

Map displays foraging and nesting colonies. OK

Black Backed Woodpecker

There may be on the Med. Bow. They are on the Route NF.

- Jenna H. will check, but data may not exist.
- Black Hills data are missing. WYNDD will provide data.
- Map was adjusted during the workshop.

Black Crowned Night Heron

WYNDD may have info for Park County. Hamilton will check.

- Upon review, no changes were necessary.

Bobolink

Ok

Boreal Owl

Not documented in the southern Wind River Range. Andrea C.

- Map was adjusted during the workshop.

Brewer's Sparrow

Ok

Brown capped rosy finch

Ok

Burrowing Owl

Major changes are required. Lincoln county and Thunder Basin populations. Sublette County. Map this species using prairie dog (WT and BT) distribution map. Also use other mammal's burrows not just prairie dogs.

- Map was adjusted during the workshop.

Bushtit

Ok

Canvasback

Need Yellowstone data. Remove dots from final map. HUCs should be smaller in size.

- Map was adjusted during the workshop.

Caspian Tern

Ok

Chestnut collared Longspur

Map is breeding distribution. No breeding records in western part of the state.

- Map was adjusted during the workshop.

Clark's Grebe & Western Grebe

Need to check Yellowstone data. Breeding records extend down the western part of the state. Differentiate breeding sites by species (if only one map). May need two maps. Existing is OK for Clarke's but not western. Should have more breeding records.

- Bob O. and Andrea C. will modify after they obtain more data. They will send info to Kirk by March 25.

Columbia Sharp-tailed Grouse

Need a new map. Dots indicate leks. Update changes.

- Map was adjusted during the workshop.

Common Loon

Map indicates concentration sites and nesting areas. They occur on Viva Naughton and Fontenelle.

- Map was adjusted during the workshop.

Dickcissel

Remove areas from western part of the state. Andrea C.

- Map was adjusted during the workshop.

Ferruginous Hawks

Blob near Gillette needs to be expanded. They occur south of Gillette as well. Missing sights in Lincoln (No. of Kemmerer), Converse, and Natrona counties?

- Map was adjusted during the workshop.

Forster's Tern

Ok

Franklin's Gull

Add HUC's to Salt River Range. Susan P.

- Map was adjusted during the workshop.

Grasshopper Sparrow

WYNDD has BBS data that may refine the map. Hamilton will provide.

- Upon review, no changes were made.

Great Blue Herons

Map indicates drainages where we have nesting records. Ok

Great Gray Owl

Map indicates breeding distribution. Ok

Sage Grouse

Don't occur in northern Lincoln County. Should have more data in Albany County.

- Map was adjusted during the workshop.

Greater Sandhill Crane

Cranes stage near Riverton. Larry R.

- Map was adjusted during the workshop.

Harlequin Duck

Map indicates breeding distribution. Electronic map is old version, hard copy is better.

- Map was adjusted during the workshop.

Juniper Titmouse

Map indicates breeding distribution. Ok

Lark Bunting

Occur in prairie dog colonies on TB. Occur in Platte and Goshen counties. Breeding records throughout eastern part of the state.

- Map was adjusted during the workshop.

Lesser Scaup

Map indicates breeding and summer records. Need to identify polygons. Larry R. has more info. Use larger HUC size.

- Map was adjusted during the workshop.

Lewis' Woodpecker

WYNDD has breeding record in Uinta County. WGFD has breeding records in Lincoln County. Correct name in the map's title.

- Upon review, no changes were made to the map.

Long-billed Curlew

Map indicates breeding distribution. Ok

McCown's Longspur

Remove some records from western part of the state.

Merlin

Map indicates nest records and their associated habitats. ok

Mountain Plover

Map indicates breeding distribution. Check distribution in Uinta and Lincoln county line. Breeding north of Gillette.

- Map was adjusted during the workshop.

- No changes made in SW Wyoming.

Northern Goshawk

Map indicates breeding distribution. May have more distribution in the Black Hills.

- Susan P. will try to find data and send points to Bob O. and Kirk N.

Northern Pygmy Owl

Map indicates breeding distribution. No breeding records in the Northeast. No records in Cheyenne area.

- Map was adjusted during the workshop.

Peregrine Falcon

Electronic and hard copy maps are different. Need to identify correct map.

- Map was adjusted during the workshop.

Pygmy Nuthatch

Too much in western part of the state. No breeding records outside of Sheridan, Casper, and Laramie areas. Suspected breeding in NE and SW counties. Few records in Teton County.

- Map was adjusted during the workshop.

Redhead

Map displays summer distribution. Switch map to HUCs and review. Remove dots from the final map.

- Initial map was adjusted during the workshop.

Sage Sparrow

OK

Sage Thrasher

OK

Scott's Oriole

OK

Short-eared Owl

OK

Snowy Egret

Points on map indicate nesting colonies. HUCs indicate foraging distribution. OK

Swainson's Hawk

Minor changes in Casper area, Gillette area, Jackson area, and Afton area.

- Map was adjusted during the workshop.

Trumpeter Swan

Map indicates nesting and winter distribution. Electronic copy is correct. Sightings near Casper, Grey Rocks, Cheyenne, etc. Add the Platte below Pathfinder to Dave Johnson power plant.

- Map was adjusted during the workshop.

Upland Sandpiper

No records in the southwest corner. May not occur on elk refuge.

- Map was adjusted during the workshop.

Virginia Rail

Map indicates WOS points w/ level 6 HUCs. WGFD has additional observations in N. Central and N. East.

- Andrea C. will check WOS and send update to Kirk N. and Bob O.

Western Grebe

See Clarke's Grebe

Western Scrub Jay

Map indicates breeding distribution. OK

White-faced Ibis

Delete marsh area near Eden Res. No recent production.

- Map was adjusted during the workshop.

Willow Fly Catcher

Map based on GAP data. Need to add riparian areas.

- Map was adjusted during the workshop.

Yellow-billed Cuckoo

Map indicates summer distribution and breeding season. Some points outside of habitat (near Flaming Gorge). Some habitat not appropriate for this species. Both maps are wrong.

- Map was adjusted during the workshop.

Monitoring:

What's happening now?

- Breeding Bird Survey Routes (108 total, all by 31 assigned)
- Colonial water bird surveys. (Not breeding duck surveys; historically not used)
- Monitoring Avian Productivity and Survivorship.
- Trumpeter Swan summer and winter monitoring.
- Monitoring Wyoming's Birds (bird)
- Quasi-annual raptor monitoring around TB.
- MIS monitoring for N. Goshawks on Med. Bow.
- Limited Boreal Owl monitoring (nest boxes, but limited ability to count)
- Audubon conducts 13 surveys based on Important Bird Areas (get list from Allison)
- Sage Grouse effort ongoing. (most everybody)

- Columbia Sharp-Tail Grouse limited monitoring.
- Common Loon surveys
- Bald Eagle nesting surveys
- Peregrine Falcon nesting surveys
- Rudimentary info related to Merlin takes by falconers.
- Powder River Basin CBM taskforce has list of species but no funding. BLM and USFS monitor separately.
- Sage Grouse monitoring in Pinedale area.
- Sagebrush obligate songbird monitoring (areas in Lincoln and Sublette counties) is ongoing. Point Res Bird Observatory ongoing effort to find nests.
- Long-billed Curlew survey.
- Hawk Watch has established an observation point in SW Wyoming.
- Open pit mine operators collect information on migratory birds, but information has never been analyzed. Some data better than other.
- Wind Farms and Power line folks collect info related to bird mortalities. (Who has this data?)
- Monitoring ongoing related to effects of West Nile on birds.
- Mt. Plovers, agencies are doing some surveys, but efforts are not coordinated.
- Mt. Plover TB Grassland, biannual surveys related to Mt. Plovers. Historical data that agency hopes to continue.
- Boreal owl surveys.
- WGFD has 6 riparian transects monitored by volunteers.

(see Wyoming Bird Conservation Plan 2.0 for more complete itemization)

Wyoming Bird Conservation Plan compiles data from various agencies and organizations. Monitors birds not well counted by Breeding Bird Survey

What needs to happen?

Various data needs to be captured. Availability for data varies.

What are the gaps? Some BBS routes, differences in personnel proficiency. Limited ability to train.

Same challenges as always: time, personnel, money, and expertise.

Limited good trend data for bird species of concern (4 or 5 - Brewer's Sparrow, Grasshopper Sparrow, Sage Sparrow, Sage Thrasher, Lark Bunting, white pelican, sage grouse). Maybe do follow-up on 6 or 7. However, we collect better data on more abundant species.

19 or 20 birds either surveyed or have reasonable baseline or trend data. Multiple habitats included.

No central repository for many private databases. Sharing is not universal. PIF document good at pointing people in the right direction is seeking data.

How much private land being inventoried in species-specific projects? WGFD is developing efforts (ex. LIP funding), RMBO does OK on private lands.

May have opportunities to tie CWCS to private funding.

All birds cannot be surveyed using the same techniques and same times.

Need more monitoring for Yellow Billed Cuckoo.

Need to settle questions of Merlin nest fidelity. Requires species-specific surveys.

Need better monitoring related to owls. (should be coordinated with the USFS)

Need to revisit Utah Juniper obligates, perhaps work with other states. Perhaps working w/ the RMBO. RMBO does some.

Maybe need a preseason/prebudget coordination meeting. Maybe at PIF meeting? Meet in Nov. 05 for activities in 06. Maybe TWS meetings?

Need monitoring related to Cottonwood habitats (galleries).

Wyoming needs a breeding bird atlas. (State census of breeding birds over a number of years. Requires a dedicated coordinator. Would fill in the gaps in the maps/upgrade data.)

NPS has a developing system related to monitoring.

How solid is existing data? Many issues need to be addressed, statistical rigor. Some efforts better than others. Are data representative?

BBS data does not always make it into the WOS system. (ex. Comments, etc.)

Who needs to be involved? Who's the right entity to do this?

Coordination among agencies would help fill holes in the data. Requires real commitment and money to make coordination happen. Need personnel to help find private money for monitoring.

Do birds serve as surrogate indicators for other habitat obligates?

Many migratory birds are affected by conditions and activities that occur in other countries.

Would work better with a resident species (ex. Sage Grouse). However, MIS species process has not been especially effective (monitoring, untested assumptions, lack of funding, lack of data collection). Monitoring is being de-emphasized in the USFS system; importance of monitoring varies from forest to forest. (ex. MB, Route, TB has \$70K to monitor all MIS species)

With BLM, funding not commensurate with emphasis. (BLM has minimal token funding for monitoring.)

Need to be careful in selection of indicator species; many are not suitable. Also need to be reviewed to determine what they indicate. Few of these indicators are currently on the CWCS list of species.

USFS not truly using MIS to indicate condition of other species. Old list, biologist picked species they liked.

CWCS Reptile/Amphibian Workshop March 16,2005

Started: 8:15

Name	Agency/Organization	Address	Phone/E-mail
David Zafft	WGFD	528 S. Adams St. Laramie, WY 82070	307-745-5180 david.zafft@wgf.state.wy.us
Hilda Sexauer	WGFD	P.O. Box 850 Pinedale, WY 82941	307-367-4352 hilda.sexauer@wgf.state.wy.us
Steve Wolff	WGFD	5400 Bishop Blvd. Cheyenne, WY 82006	307-777-4552 steve.wolff@wgf.state.wy.us

Name	Agency/Organization	Address	Phone/E-mail
Paul Bartelt	Waldorf College	Waldorf College Dept. of Biology Forest City, IA 50436	641-585-8236 barteltp@waldorf.edu
Chuck Peterson	Idaho State University	Idaho State University Box 8007, ISU Pocatello, ID 83209	208-282-3922 petechar@isu.edu
Brian Smith	Black Hills State Univ.	Black Hills State Univ. Dept. of Biology 1200 University St., Unit 9044 Spearfish, SD 57799-9044	605-642-6879 briansmith@bhsu.edu
Debra Patla	Idaho State University	Idaho State University P.O. Box 230 Victor, ID 83455	208-787-2962 dpatla@tetonvalley.net
Susan Patla	WGFD	P.O. Box 67 Jackson, WY 83001	307-733-2321 susan.patla@wgf.state.wy.us
Don Tipton	RMV/WWRM	P.O. Box 4914 Casper, WY 82604	1-877-836-6688 westerngaboona@hotmail.com
Bill Turner	WGFD	528 S. Adams Laramie, WY 82070	307-760-5364 bill.turner@wgf.state.wy.us
Alan Redder	WYNDD	223 Wyo Hall University of Wyoming Laramie, WY 82070	307-766-3018 ajr@uwyo.edu
Leisa Tooker	WGFD	3030 Energy Lane Casper, WY 82604	307-473-3422 leisa.tooker@wgf.state.wy.us

Species Discussion

- USGS has developed a county-by-county analysis of amphibian distribution.
- Maps include actual (since 1985) and predicted distribution (Baxter and Stone and Stebbens, and other appropriate sources).
- GAP may also have info to offer.
- Matt Gates conducted a survey for BLM for herps along the MT/WY border.

Tiger Salamander

More points from NE Wyoming. OK

Boreal Toad

OK

Woodhouse's Toad

More info from the NE. OK

Great Plains Toad

In Nebraska, biologists have seen a significant reduction of this species. OK

Wyoming Toad

OK

Wood Frogs

There may (?) be populations in the Southern Bighorns. OK

Northern Leopard Frogs

Map is an overprediction for YNP. YNP in 1995. No longer found on Jackson Lake. Expected decline in the Black Hills. No leopard frogs found on Seedskaadee. Historic records of leopard frogs disappearing from a site for a decade before being found again.

- Map was adjusted during the workshop.

Columbia Spotted Frogs

Bighorn distribution could be an over representation. Wind River distribution may be an over representation. SW edge may extend too far south. Harold Golden (USFS) has data.

- Map was adjusted during the workshop. No change to the Bighorn or Wind River distributions.

Boreal Chorus Frogs

There are more observations available from WYNDD, but they are not tracked. There may be recent observations for the Med. Bow/Route National Forest. OK

American Bullfrog

HUC's seem to overestimate westward distribution from Nebraska border. Never found in Ft. Laramie. There is a population at Kelly Hot Springs. Dubois population may have been extirpated

- Map was adjusted during the workshop.

Great Basin Spadefoot

Recent specimen from Pinedale. Make contiguous with HUCs further south. Hilda S. will send observation to Bill T.

- Map was adjusted during the workshop.

Plains Spadefoot

Minimal confidence in Black Hills and eastern plains observations. Some additional data available for Bighorn Canyon and Northern Natrona County. Map is OK

Great Basin Gophersnake

Recent roadkill observations near Hoback Junction. There may be additional habitat between the Hoback Jct. and Sweetwater County.

- Map was adjusted during the workshop.

Bull Snake

Over prediction in the NW corner. Only a small part of YNP contains this species.

- Map was adjusted during the workshop.

Pale Milksnake

Map is incorrect. Record along the Belle Fourche in Devil's Tower NM.

- Map was adjusted during the workshop.

Rubber Boa

Connect isolated population in Fremont County with Upper Wind River Range. Sightings in Wind River Canyon made by former WGFD employee.

- Map was adjusted during the workshop.

Smooth Green Snake

Link HUC's in the Black Hills.

- Map was adjusted during the workshop.

Black Hills Red Belly Snake

There may be additional WY records. Brian S. will send to Bill T. and Kirk N. OK

Prairie Rattlesnake

Map overpredicts presence in the NW. Include HUCs in Laramie County. Josh Parker may have info about Sweetwater County.

- Map was adjusted during the workshop.

Midget Faded Rattlesnake

Josh Parker should review this map, but is ok for now.

Common Garter Snake

Under represents distribution in NE Wyoming downstream of Devil's Tower NM on the Belle Fourche. Need more areas in SW Yellowstone, West slope of the Tetons, and area east of Jackson Lake.

- Map was adjusted during the workshop.

Intermountain Wandering Gartersnake

May now be called Wandering Gartersnake. Map over represents distribution. Not at Devil's Tower or Fort Laramie. Were not found in the Northwest. More common around 6000 feet in Black Hills, but not below 4500 feet. Using HUCs is misleading for this species. Maybe use elevation filter. OK for now, but come back to later.

Eastern Yellow-bellied Racer

They may not occur on the east slope of the Wind River Range. Maybe use 5th or 6th order HUCs to eliminate higher country. Map is OK.

Plains Black-headed snake

Known from one occurrence near Glendo. More area is shown in various texts. Bill T. will call Stebbens to confirm. Should continuity be shown through Wheatland? Map is OK.

Plains Gartersnake

Does not occur at Ft. Laramie or Devil's Tower. BLM has identified this species on Thunder Basin National Grassland. Likely occur in most areas along I-90

- Map was adjusted during the workshop.

Plains Hog-nosed Snake

Main stem of the Powder River and Crazy Woman Creek need to be included in the map. Look at Montana to determine if any northern HUCs need to be included.

- Map was adjusted during the workshop.

Great Plains Earless Lizard

OK

Cliff Tree Lizard

Talk to Josh Parker about distribution. OK

Prairie Race Runner

Occurs primarily on sandy soils. OK

Northern Plateau Lizard

OK

Red-lipped Plateau Lizard

OK

Greater Short-horned lizard

Anecdotal evidence of range-wide decline. Occur on loose sandy soils with minimal vegetation, but can occur in or near forested landscapes. OK

Northern Sagebrush lizard

Occur around thermal features around YNP. Some along the Snake River, but not along west slope of the Tetons.

- Map was adjusted during the workshop.

Many-lined Skink

OK

Northern Prairie Lizard

This species is difficult to find. OK

Ornate Box Turtle

Drop western two points from paper maps. Goshen County record may not be valid. May ask Chris Madson about records from LuRay Parker photo in Wild Times. Limited to deep sandy soils for hibernation burrows.

- Map was adjusted during the workshop.

Western Painted Turtle

Not found in Devil's Tower, but could be in the lower Belle Fourche. Found in Ft. Laramie.

- Map was adjusted during the workshop.

Western Spiny Softshell Turtle

Surprising to find them in Uinta County. Remove the Uinta County observation. They occur in the Belle Fourche. They occur in Clear Creek, but were not recently found in the Powder River and Crazy Woman Creek. They occur in the Belle Fourche in South Dakota, likely they occur in river west of the state border. They occur in the Cheyenne River.

- Map was adjusted during the workshop.

Monitoring

What is happening?

- Working to refine the ranges of herps; drainage by drainage. So far, Green River, Southern Boreal Toads, Powder River.
- Greater Yellowstone/Nat. Park Service conducting amphibian monitoring. Random selection of 8th level HUCs. Developing population and distribution trends of all amphibians in YNP, GTNP, and Bighorn Canyon based on population groupings/breeding populations. Distribution data most important in determining condition of a species.
- USGS developing “Occupancy Analysis”. Based on covariance of occupancy and detectability. Based on history of visits similar to a mark/recapture methodology. Detectability measure really helps clarify trends analysis. Could be applicable to future work in the Bighorns. Good for tadpoles, but mobility of reptiles and adult amphibians can confuse the results and methods.
- In Idaho, repeat of previous research in various areas to see how things have changed. Plan is to repeat surveys once a decade. Annual variation is problematic. May need to establish some control areas to temper effect on annual variation. Helps build confidence in discussion of species of concern.
- Forest Service (Todd Alison) working on boreal toads drifting down stream in Medicine Bow NF (little Laramie area). Based on efforts by Mike Young in Montana. May be applicable w/ Green River area boreal toads.
- Leopard Frog survey in Berger draw/ Powder River drainage. Considerable work being done by private consultants. Would be nice to know about these efforts, but much work doesn’t require a permit.
- No bait dealers collecting amphibians for bait, no enthusiast permit collections; law enforcement concerns related to midget faded rattlesnakes. No commercial collection for biological supply houses.
- Herp management guidelines may be under development for western Wyoming (Snake River drainage).

What needs to happen?

- Need to develop a geographically discrete index of herps. Helps to summarize information, direct work, and prioritize needs. Can help use as a predictive tool. (Existing models from the Black Hills and WYNDD). Models can be developed for multiple species based on habitat conditions and possibility of species presence.
- Need to more clearly define a “site”.
- Maybe add repeat visits to ongoing survey work (see bullet 3 above).

- Need legislation in place to better regulate collection, reasonable to obtain one so can be monitored and modified if a problem is found.
- Maybe create a Partners in Reptile and Amphibian Conservation (PARC) group. Similar to Idaho efforts. Similar to Partners in Flight. Perhaps academic groups or amateur societies? For Idaho PARC meetings, determine what people and organizations are doing in the field. Post minutes on the website to keep members informed.
- Perhaps a multi-state meeting (ex. Idaho, Montana, Wyoming). Similar efforts could yield significant participation. Maybe an Inter-Mountain West PARC? Might be good to get non-wildlife agency folks (DOT, Corps of Engineers, Power companies, etc.)

Who needs to be involved to make this happen?

- In Utah, utilized amateur breeders to help survey certain reptiles (ex. Milk snakes).
- Nationwide, PARC experiencing varying degrees of success depending upon the parts of the country. Many efforts trying to work with private landowners.
- National Park Service; small park surveys in 2002 and 2003. However, no additional plans for monitoring or inventory.
- Tribal Lands; no known herp efforts. Potential political landmines when dealing with tribal entities.
- In SD, good relations with private landowners. More inviting to academics rather than state govt. officials. Could take years to develop a sufficient network. In Wyoming, we've had mixed results with dealing with private lands. Must be careful in how efforts with landowners are worded, can lead to hard feelings with landowners (Idaho example.)
- TNC has been a help in efforts in the Black Hills. May applicable in Wyoming.
- Lava Lake Ranch (Idaho) huge ranch in Idaho. May be similar opportunities in Wyoming. Many ranchers are stewards of the landscape in SD and can lead to many natural alliances.

**CWCS Fish Workshop
March 17, 2005**

Started: 8:15

Attendees:

Name	Agency/Organization	Address	Phone/E-mail
David Zafft	WGFD	528 S. Adams St. Laramie, WY 82070	307-745-5180 david.zafft@wgf.state.wy.us
Sarah Comiskey	BLM	2987 Prospector Dr. Casper, WY 82604	307-261-7541 sarah_bucklin-comiskey@blm.gov
Dirk Miller	WGFD	5400 Bishop Blvd Cheyenne, WY 82006	307-777-4556 dirk.miller@wgf.state.wy.us
Hilda Sexauer	WGFD	P.O. Box 850 Pinedale, WY 82941	307-367-4352 hilda.sexauer@wgf.state.wy.us
Steve Yekel	WGFD	2820 State Hwy 120 Cody, WY 82414	307-527-7125 steve.yekel@wgf.state.wy.us
Bud Stewart	WGFD	P.O. Box 6249 Sheridan, WY 82801	307-672-7418 bud.stewart@wgf.state.wy.us

Name	Agency/Organization	Address	Phone/E-mail
Dave Dufek	WGFD	260 Buena Vista Lander, WY 82520	307-332-2688 dave.dufek@wgf.state.wy.us
Al Conder	WGFD	3030 Energy Lane Casper, WY 82604	307-473-3405 al.conder@wgf.state.wy.us
Steve Wolff	WGFD	5400 Bishop Blvd. Cheyenne, WY 82006	307-777-4552 steve.wolff@wgf.state.wy.us
Christina Barrineau	WGFD	528 S. Adams St. Laramie, WY 82070	307-745-5180 christina.barrineau@wgf.state.wy.us
Robert Keith	WGFD	351 Astle Ave. Green River, WY 82935	307-875-3223 robert.keith@wgf.state.wy.us
Rob Gipson	WGFD	P.O. Box 67 Jackson, WY 83001	307-733-2321 rob.gipson@wgf.state.wy.us

Maps can include soft data, but we need to preserve information indicating HUC inclusion is based on something other than hard data.

Species

Shovelnose Sturgeon

Eliminate two HUC's on Crazy Woman Creek. On Powder, range extends south to I-90.

- Map was adjusted during the workshop.

Goldeye

Thompson creek HUC does not contain water. Should not be highlighted. Doubtful these fish exist in upper Powder River HUC or Upper Little Missouri HUC. Wild Horse Creek doesn't flow most of the time. Wildcat? Dry Fork of the Powder has no water. Four HUC's were removed.

- Map was adjusted during the workshop.

Central Stoneroller

Certain HUC's need to be removed. The Lower Lodgepole HUC needs to be added. Lower Horse Creek HUC needs to be added. Two HUC's were added.

- Map was adjusted during the workshop.

Lake Chub

Remove one HUC in Carbon County. Lower Shell Creek should be highlighted. Remove Thompson Creek. They should occur in Rock Creek/Upper Clear Creek HUC's; highlights these.

- Map was adjusted during the workshop.

Leatherside Chub

They are in Twin Creek, but no record of them in the main stem of the Bear River.

Ok

Roundtail Chub

Not found in one of the highlighted drainages in W. Sublette County. South Piney/Beaver Creek. Not found above confluence of New Fork and the Green River main stem. Upper Big Sandy record is questionable, but research is ongoing. Leave that HUC alone.

- Map was adjusted during the workshop.

Western Silvery Minnow

Remove Thompson creek on MT Border. Are they really in the Belle Fourche? Upper Little Powder and Upper Little Missouri. Remove Dry Fork of the Powder.

- Map was adjusted during the workshop.

Plains Minnow

Remove Thompson Creek HUC. Remove from three HUC's in the Cheyenne River drainage (Dry Fork and Antelope Creek). Remove from Dry Fork of the Powder. Question Salt Creek and South Fork Powder/Wallace Creek; maybe no water. Check but leave in for now. Additions, Little Thunder Creek, Lower Lance Creek, and Upper Lance Creek. Remove Lower North Fork Of Shoshone.

- Map was adjusted during the workshop.

Common Shiner

Add Lower Lodgepole, add LaPrele Creek

- Map was adjusted during the workshop.

Sturgeon Chub

Remove Dry Fork of the Powder. They could be in Lower Clear Creek up to the diversion; add.

- Map was adjusted during the workshop.

Northern Pearl Dace

Remove from westernmost HUC, Quinn Creek.

Hornyhead Chub

Remove from Upper Laramie River/One Mile Creek.

- Map was adjusted during the workshop.

Bigmouth Shiner

Remove several HUC's from comments previously submitted. Remove Upper Horse Creek. Add Pass Creek. Known to exist in the Medicine Bow drainage, Little Medicine Bow River, and Sheep Creek, but specific HUC's are in dispute. Keep Middle Medicine Bow and Lower Medicine Bow. Keep Lower Rock Creek on. They were found in the Sweetwater; add additional HUC's.

- Map was adjusted during the workshop.

Suckermouth Minnow

Remove Upper Horse Creek HUC.

- Map was adjusted during the workshop.

Finescale Dace

OK

Flathead Chub

Remove Upper North Fork Of The Shoshone. Remove Thompson Creek, remove Upper Little Powder. Much data on Little Missouri appears suspect, remove all HUC's. Remove two HUC's from Dry Fork of Cheyenne, Remove from Antelope Creek. Remove Upper middle fork of the Powder and Lower Salt Creek. Add Little Thunder Creek.

- Map was adjusted during the workshop.

Kendall Warm Springs Dace

OK

River Carpsucker

Add Lower Horse Creek. Remove Thompson Creek and other Little Missouri R. HUC's. Remove Dry Fork Of The Powder. Remove Antelope Creek and Upper and Lower Dry Forks of the Cheyenne. Remove North Fork of Crazy Woman Creek.

- Map was adjusted during the workshop.

Quillback

Remove Lower North Laramie.

- Map was adjusted during the workshop.

Bluehead Sucker

Likely they occur in Flat Creek; add. Data indicates species occurs in Bear River along Utah line; include Bear River, Twin Creek and Bridger Creek. Remove Upper Salt R. and Middle Salt River. Remove Middle Beaver Creek, Cottonwood Creek, Boulder Creek.

- Map was adjusted during the workshop.

Flannelmouth Sucker

Remove Roaring Fork, Big Twin Creek, Cottonwood Creek, Beaver Creek, Middle Beaver Creek.

- Map was adjusted during the workshop.

Mountain Sucker

Add the Owl Creek drainage? No. Remove from Dry Fork of the Powder. Add Upper Gros Ventre, Fall Creek. Add Utah HUC.

- Map was adjusted during the workshop.

Shorthead Redhorse

Remove Thompson Creek, Dry Fork of the Powder, and Upper Little Powder. Remove Dry Laramie, and Upper Sybille. Add Dry Creek.

- Map was adjusted during the workshop.

Black Bullhead

Many occur outside of the native range. Baxter and Stone indicate range extends into the Bighorn. SD and MT consider this species to be nonnative. Remove Thompson Creek. Remove Upper Middle Fork of the Powder River. Add lower Salt Creek. Add Prairie Dog Creek.

- Map was adjusted during the workshop.

Channel Catfish

Add Middle Crow Creek, Lower Horse Creek, Lower Lodgepole, Bear, Lower Sybille, Cherry Creek. Add No Wood/Big Cottonwood Creek. Remove Dry Fork of Powder River, Thompson Creek, Little Missouri, and Upper Little Powder.

- Map was adjusted during the workshop.

Stonecat

Remove Little Missouri River HUC's. Remove Dry Fork of the Powder and "smoking rabbit HUC"; remove lowest HUC on Powder River. Add Dry Creek, Paint Rock Creek, and additional HUC in Sheridan region. Remove Stonecat from Ocean Lake

- Map was adjusted during the workshop.

Yellowstone Cutthroat

All HUC's in YNP east of the Continental Divide. Remove HUC's in Teton County. Add Paint Rock Creek. Reservation info has already been included. Add Upper No Wood Creek, Deep Creek, and Big Goose Creek.

- Map was adjusted during the workshop.

Westslope Cutthroat

OK

Snake River Cutthroat

OK

Colorado River Cutthroat

Remove Roaring Fork and Boulder Creek.

- Map was adjusted during the workshop.

Bonneville Cutthroat Trout

Add Utah HUC.

- Map was adjusted during the workshop.

Mountain Whitefish

Remove from Ocean Lake, Add Coon Creek and Dry Creek HUC's in lower portion of the Shoshone. Add Bear River and Bridger Creek.

- Map was adjusted during the workshop.

Arctic Grayling

OK

Burbot

Remove Ocean Lake and Warm Spring Creek.

- Map was adjusted during the workshop.

Plains Topminnow

Add Lower Lodgepole, Muddy Creek, Lower Horse, Laramie River.

- Map was adjusted during the workshop.

Mottled Sculpin

Add Twin Creek, Bear River, and Bridger Creek.

- Map was adjusted during the workshop.

Paiute Sculpin

Only identified in Lander Creek in Bear River drainage. May have been misidentified. May also have hybridized with Mottled Sculpins when they share drainages.

Add Upper Snake Coulter Creek HUC.

- Map was adjusted during the workshop.

Iowa Darter

Remove Lower Little Medicine Bow River.

Add Lower Lodgepole.

- Map was adjusted during the workshop.

Orangethroat Darter

OK

Sauger

Add Powder River Beaver Creek, Lower Crazy Woman, and Spotted Horse.

- Map was adjusted during the workshop.

Monitoring

What is being done now?

- Fish Division has started surveying previously overlooked waters (prairie streams).
- Surveys focusing on more than sport fish.
- Focusing much effort on Powder River and Green River basins related to energy development.
- SWG proposal submitted for monitoring in Bighorn and Wind River.
- SWG to continue on Green and Bear Rivers.
- USGS this summer only, Powder, Cheyenne, Belle Fourche inventories. (Snapshot data transects).
- COOP Unit
- Rawlins BLM, via the COOP, working on Muddy Creek drainage on various Chubs collecting much baseline information.
- Aquatic task group has developed a monitoring plan for eastern rivers. No money or personnel. Ties into the USGS proposal.

- CBM consultants mostly focused on water quality, but minimal fisheries work.
- Minimal communication with several BLM offices, minimal fisheries personnel in Wyoming. Generally BLM doesn't deal much with fisheries due to lack of time and personnel. May be more focused on restoration and permitting.
- Cooperative monitoring with USFS, USFWS, etc. Some work with various National Forests. No fisheries person in GTNP. Some work with YNP. USFWS/Tribal cooperation especially on boundary waters. Bighorn NF focused on YNP.
- Uncontrolled commercial harvest of many of these species in some drainages and areas (seining licenses). Unmonitored.

What needs to be done?

- Continue collecting good baseline information (ex. Powder River and Crazy Woman Creek).
- Prioritize drainages or regions for surveys and collecting of baseline information. Develop a prioritization system (similar to Herp approach).
- Document and justify information used in distribution mapping.
- Publish data to document trends to help handle controversies. Some information may not be publishable. However, establishing protocols would be valuable.
- Information sharing? Does this occur in Wyoming (similar to PIF or PARC)? No. In future, will need more than Fish info to set priorities and set larger multi-agency efforts (land managers, etc.). Agencies do OK in a reactive fashion; need a more proactive effort based on the electronic tools currently being developed.
- Need to do more monitoring for the other species; especially exotics.
- How is data quality checked and controlled? Need to establish protocols or central authority.

Who needs to be involved in doing this work?

- Is the WGFD adequately set up to be the monitoring entity for these species? We are the right entity, but may not be able to do it all for all 40 species. Not currently set up to do the work, may not be appropriate for WGFD to do this (ex. Discharge and water quality issues; site specific).
- Others will be involved, but the WGFD should take the lead. Staffing and budgets will be limiting factors. May have opportunities to work with others, but unlikely to have as sufficient information as we like.
- Monitoring/inventory work often leads to more questions that will affect future management decisions and priorities. Again, money and personnel are limiting factors.

**CWCS Invertebrate Workshop
March 18, 2005**

Started: 8:15

Name	Agency/Organization	Address	Phone/E-mail
Bill Turner	WGFD	528 S. Adams Laramie, WY 82070	307-760-5364 bill.turner@wgf.state.wy.us
David Zafft	WGFD	528 S. Adams Laramie, WY 82070	307-745-5180 david.zafft@wgf.state.wy.us
Alan Redder	WYNDD	223 Wyo Hall University of Wyoming Laramie, WY 82070	307-766-3018 ajr@uwyo.edu
Dirk Miller	WGFD	5400 Bishop Blvd. Cheyenne, WY 82006	307-777-4556 dirk.miller@wgf.state.wy.us
Dennis Oberlie	WGFD	260 Buena Vista Lander, WY 82520	307-332-2688 dennis.oberlie@wgf.state.wy.us
Sarah Comiskey	BLM	2987 Prospector Dr. Casper, WY 82604	307-261-7541 sarah_bucklin-comiskey@blm.gov
Alan Cvanara	WGFD-Volunteer	4920 S. Oak St. Casper, WY 82604	307-266-6733 acvan@coffey.com
Todd Koel	NPS		307-377-2281 Mammoth (winter) 307-242-2442 Lake (summer) todd_koel@nps.gov

Species:

Maps based on a combination of data sources; field collections, published records, volunteer efforts.

Dorothy Beetle, published list of mollusks in Wyoming (1989). Minimal location information below county level. Some, but not all, specimens stored in Field Museum of Natural History in Chicago.

Future storage for specimens; need both security and accessibility.

All maps include point locations.

Giant Floater

Only collected from Keyhole Reservoir. Collected by Bud Stewart from Sheridan. Why have upstream HUC's been included? Remove upstream HUC. Check w/ Roy.

- Map was adjusted during the workshop.

Fatmucket

Check w/ Pat Hnilicka about distribution on the Reservation; Dennis O. will ask. Occurrence on the Little Wind River in 2004. Bighorn River, collected on Spadt farm Zone 13, E 265,947 N4,886,026.7 (Live Occurrence). Found in Boysen Reservoir. Empty shells above Casper.

- Map was adjusted during the workshop.

Cylindrical Papershell

Haven't been found alive in recent years. Empty shells collected. Holk, has published account on Lodgepole creek; collected alive in 1978. Young of this species can be confused with the Giant Floater.

Map is OK.

Western Pearlshell

Check with the Park Service. Yellowstone Localities based on Beetle and current collecting by researcher in Montana (Gustafson?). September 2004, Flat Creek in Jackson dead specimen collected. N. Fork of Fisherman Creek East of Bondurant 6 paired shells collected; Zone 12 E 577,200 N 4,778,900. Seems to prefer colder streams.

- Map was adjusted during the workshop.

Plain Pocketbook

No live occurrences. Old specimens collected upstream from Casper. Map OK.

White Heel Splitter

Based on a single dead occurrence in Hulett. Single left valve.

Map is OK.

California Floater

Reported by Beetle within the Bear River. Many empty shells found in the area since then.

Map OK.

Other Species?

Fingernail/Pill clams not included on the list; max size $\frac{3}{4}$ inch long. Three Genus; Sphaerim (largest) Pisidium (smallest) Musculium (mid-sized) each have multiple species. Sphaerim and Pisidium both found alive in Wyoming. Found in finer sediments along stream edges. Add to the CWCS in five years, but review

Snails? Nothing much to add.

Monitoring:

What's being done now?

Inventory program in its infancy. Specimens being collected and stored in the Casper RO. WGFD personnel maintain specimens and Dr.'s Cvancara and Lippencott identify.

WGFD datasheet distributed to regional fisheries crews around the state. Observations coming in when people are conducting other research. Interest among fisheries folks is increasing.

WYNDD has an established database that can meet the needs of this program. WYNDD working to obtain an invertebrate specialist.

BLM, not actively interested in invertebrates. However, they may be able to participate in the inventory efforts when their riparian teams are surveying.

Wyoming is in the discovery phase related to mussels. Need to establish a baseline of information before we can start true monitoring.

In Seedskaadee, they may have a diver?

What else needs to be done?

First order of business. Need to establish a database of occurrences and collection sites. Allow for the development of better maps. Allow for better prioritization of species and habitats. Identify fish host species. Identify ecological relationships that restrict the distribution of species.

New fisheries person will take on mollusk responsibilities. This person will be stationed in Casper. Should work to help maintain the momentum of this effort.

What kind of inventory efforts needed? Continue WGFD efforts.

How to preserve live specimens? 70% alcohol.

Need to continue efforts to identify what we actually have.

In future, perhaps tie into USGS stream gauge data to help monitor trends.

Techniques to use to find mussels:

Limited time: Walk the banks and look for shells, especially with adhering flesh. Collect several specimens of each specimen. Look for areas where predators have been feeding. Keep track of how much ground is covered to estimate abundance. Pill Clams, strain them.

Unlimited time: Use viewing tube while wading in the channel. Where to look, look in sand and mud or mixed sediment. Look in pools down stream from the riffle. Turbid waters, use the touch method.

Even more time: Snorkeling equipment works well. Ultimate; scuba gear.

Who needs to be involved?

WYNDD has volunteered to help create database.

As many people and agencies as possible.

Is there a possibility to include private citizens? Yes, based on interest expressed for reptiles and amphibians. Maybe incorporate into the website? Maybe model on the efforts like birding community.

USGS may have the ability to help collect.

Park Service may be another good contact.