

Minutes of Invasive Species Task Force – January 30, 2008
Natural Resources Education Center – Fort Benjamin Harrison State Park

Members Present: Ellen Jacquart (Co-Chair, TNC), John Miller (Oak Heritage LT), Doug Keller (DNR-FW), Phil Marshall (Co-Chair, DNR-DoE), Keith Ruble (Vigo Co. Parks), John Seifert (DNR-DoF), Steve Yaninek (Purdue-Invasive Species and Ag Terrorism) Phil O'Connor, Sandi Norman

Others Present: Eric Bitner (DNR-DoE, botanist) and Lynn Dennis (TNC)

David Lodge and Rick Haggard not able to attend because of weather-related issues.

Eric Bitner, Nursery Inspector with Division of Entomology and Plant Pathology, joined in the meeting to offer additional input from the State Entomologist's office.

Minutes adopted with change to service area description of Oak Heritage.

Doug Keller will facilitate the posting of the minutes and newsletters on the state website. They will be located at www.invasivespecies.in.gov.

Presentations of the other Taxa continued with Doug Keller and Sandi Norman.

Doug Keller – Aquatics and Vertebrate Invasive Species

Aquatic invasive species with which we are dealing:

Fish and Mollusks: Asian bighead carp and silver carp (the jumping carp) are dominating many rivers in the Mississippi Basin and arrived to the U.S. through the aquaculture pathway. Sea lamprey came to the upper 4 Great Lakes through the Welland Canal which bypasses Niagara Falls. Lampreys cost millions annually to control but without those controls the trout and salmon fishery would be devastated. Round goby are small bottom feeders and predators of small fish and mollusks that likely arrived through ballast water discharges into the Great Lakes. Snakeheads are another potential problem that were once popular in the aquarium trade (now declared a federal injurious species). They can move across land, breathe air for awhile, but need to stay moist. They are fierce predators and can be very aggressive, even toward humans, when guarding their nests. There are numerous aquarium fish caught from our waters each year, including Arowana, piranha, etc. Generally, they don't make it through our winters, but if released in they spring can survive through fall.

Zebra mussels and other mollusks are problematic. They are found over the entire state, but are mostly in the northern natural lakes region. Brookville Reservoir and the Ohio and Wabash Rivers are the only southern water bodies with them. Large southern impoundments like Patoka and Monroe are at great risk due to their popularity with boaters and anglers and their close proximity to the Ohio River. Rivers do not seem to be impacted like lakes, possibly because of the faster moving water and limited hard substrates for them to attach to.

New Zealand mudsnails are a very small snail, 2 million per square meter, which are completely changing substrates of rivers out west. They have also been documented in Lake Superior.

There are aquarium types of mollusks that are showing up in a number of waters in Indiana (i.e. Chinese Mystery Snail)

Diseases: VHS - Viral hemorrhagic septicemia. Not sure how it was introduced but is responsible for some considerable sport fish die-offs in the Great Lakes region.

Plants: Purple loosestrife, Eurasian water milfoil, curly-leaf pondweed, phragmites have been in our state for many decades and have spread throughout the state. Eradication is unlikely due to the wide spread. Even if they are eradicated from a particular body of water they would likely get reintroduced quickly due to the number of other waters that contain them.

One of the newest plant threats is Brazilian elodea. The first discovery of this plant in Indiana was Griffy Lake near Bloomington 2003. Besides Griffy Lake there are 15 private ponds and small lakes with it. Since Brazilian elodea can reproduce via fragmentation, one plant can easily be dispersed over an entire body of water just from recreational disturbances. It has the ability to spread 100 acres per year. It is suspected the Griffy Lake population was the result of an aquarium dump. Brazilian elodea is used in classroom aquariums and two known locations in Indiana are likely the result of the schools dumping their aquariums rather than disposing of the plants properly. Brazilian elodea is probably the most widely used plant in aquariums since it is easy to care for. There are also intentional planting in ponds since the plant is sold as an "oxygenator". An accidental means of introduction through the water garden industry is through Brazilian elodea fragments intertwining with intentionally purchased and planted species like water lily.

Hydrilla is the newest invader which was found in Lake Manitou in 2006. Southern states have significant populations, although the one found here is only found north of Virginia. The two most likely means of introduction were either a fragment transported on recreational equipment from an east coast infested water or intentional planting of another species that had hydrilla tubers contaminating the soil. Cost to eradicate hydrilla in Lake Manitou is estimated to be \$2 million over 5 years.

How are they getting here?

Ship ballast water: 180 exotic species found in the Great Lakes and many of these can be attributed to ballast water release. MI has a statute against releasing ballast water and WI is pushing for a similar statute. Indiana has chosen not to pursue but rather prefers federal ballast water legislation, which seems to have some momentum now.

Aquaculture: Asian carp came from aquaculture farms in southern state. They are now in our big rivers at least up to the first dam they encounter.

Hitchhikers on recreational equipment: Of most concern are aquatic plants, invasive mussels, and pathogens.

Water gardens and aquariums: There are an incredible number of exotic plants and animals in this trade pathway some of which are known invasives. There is a new aquatic invasive plant group now looking at aquatic plants in trade and deciding which ones present the greatest threat to Indiana.

Even wading anglers can move invasives. Snails and fish pathogens are most likely to be moved by this pathway. In western trout streams New Zealand mudsnails are being moved as the snails get trapped with mud in the lugs of waders.

How do we detect?

We perform very limited specific surveys for invasives. Fisheries biologists doing plant community surveys which have resulted in some new discoveries (i.e. Manitou hydrilla). Some target sampling for invasives after a find. There are contracted LARE plant surveys but these only take place on publicly accessible waters when there are well organized lake associations in place.

Since DNR does not work on private waters we have to rely on public reports of invasive species. Of the 15 private water Brazilian elodea discoveries, all have been found because of inquiries from the public (i.e. the private pond owners sends a sample of a very troublesome weed and they want advice on controlling it). DNR does not have the manpower to search private waters for Brazilian elodea.

Aquatic Animal Strategies: Educate public to prevent their spread. There are very few eradication efforts and few tools available. Part of the problem is that tools usually are not selective (fish toxicants kill all fish not just the invasives) so there is an outcry when they use them.

Plant Strategies: In the past we just tracked the movement of them, and only performed controls when they interfered with recreational uses. Now understanding the threats invasive aquatic plants pose we are now being more aggressive with the new invaders and rapidly responding in an attempt to achieve eradication. We cannot continue to rely on rapid response, however. We need to focus on preventing introductions in the first place. We need to educate people on why invasive aquatic plants are a threat and the steps they can take to prevent the spread. Another important prevention strategy is regulating the plant trade to keep the invasives from being sold.

We need to investigate eradication options and seek funding. That is a huge challenge. We have received some money from the General Assembly to eradicate hydrilla, making it possible to implement eradications plans.

Success of eradicating invasive species in rivers is pretty low. Plant controls in closed bodies have been somewhat successful (e.g. Brazilian elodea in Griffy Lake).

It is never an easy fight. You have to close access to the bodies of water to prevent boaters spread – a cost in both recreational loss, as well as economic costs. Two years to treat 109 acres at Griffy cost \$135,000 (\$1,240/acre) and that did not include staff time, just contracted treatment and surveys.

Lake Manitou also has an access closure until further notice. The whole lake chemical treatment is expected to take 3 years minimum. Costs are expected to reach \$2m to eradicate hydrilla from the 735 acre lake (\$2,720/ac). The first year of eradication (2007) was very successful. There were collateral impacts however to native submersed plants. There should be a native plant seed bank that will repopulate the plant community when the eradication is complete, but they are willing to replant if necessary. The goal right now is to eradicate hydrilla and we are willing to accept some non-target damage if that is what it takes to eliminate the invasive.

Laws/rules in place: DNR has 10 blacklisted fish species. There is also the federal injurious fish list (through the Lacey Act), but they are very slow at blacklisting anything – there must be damage before they will black list.

Indiana has been a little more proactive. We have never seen exotic catfish, but they have been black listed. New species in GL we are black listing. Most of neighboring states listed species mirrors ours.

Our bait laws are lacking. You can't use common carp and gizzard shad or any of the black listed species; but all other invasive fish could legally be used as bait. You could use a live piranha if you wanted to. We began exploring more rules on bait a couple of years ago but the arrival of VHS into the Great Lakes basin forced us to step back and reevaluate what we were considering. We are considering a white list approach for bait and possibly regulating the movement of wild caught bait.

We have few rules on Crayfish, but we do have authority. Surrounding states are pushing us to have more rules. Rusty crayfish very problematic in the upper Midwest, but they are native to Indiana. The question is do we list them because they are problematic to other states and prevent an Indiana angler from using a native species for bait?

Aquatic invasive plants – DFW provides permits for control of aquatic plants at public waters, but there is no mandate that AIS plants have to be targeted. DFW does not regulate the importation or possession of AIS plants. The authority for AIS plants resides in Entomology and Plant Pathology.

Other than the few regulated invasive aquatic plants - purple loosestrife, Hydrilla, Brazilian elodea - everything else can be bought and can be planted in the wild.

Federal Noxious Aquatic Plants – many more than what we regulate but many are not hardy in Indiana. USDA puts out the noxious weed list, and most of the aquatic species listed are in response to the rice farms in south. If a plant is just bothersome for boating, you may not find it on their list – needs to impact agriculture. The federal noxious law simply prohibits moving

these plants across state lines. Once a federal noxious plant becomes established in a state, it can be freely transported and traded in that state without federal recourse.

Plant regulation needs:

Need authority to blacklist (ban) troublesome plants.

Need authority to white list (allow) benign plants. If not on list then it can't be in trade.

We think we do have authority to white list but this needs to be confirmed. Have done it before (some barberry)

Black List is the way most states have gone. This is reactive because the listing usually occurs after a species has demonstrated it can be problematic in the state or region. If you screen before you allow a species in the state and then you white list, you are being proactive.

Fish stocking permits: Cannot stock in public bodies of water without permit. Biologists review those permits to be certain the stocking is necessary, it is not counter to the current management strategy at that water, and invasive species or pathogens will not be introduced.

Fish culture: DFW has a white list of species that may be reared in Indiana without a permit. Permits are required to import (live) or rear fish that are not on the white list. Banned (black listed) species may not be imported (live) or cultured. We require permits for fish haulers and suppliers no matter what kind of fish; we just want to know what they are moving. If the fish is on the white, no more questions are asked.

Pet trade has no requirements and is not being regulated. The only things that can't be brought in are the black listed species. Doug believes we don't know what is in trade and that is why we haven't dealt with it. If we knew what was in trade, we could assess the risk. Private hatcheries and haulers have to comply through permitting. Maybe the aquarium trade should have to be certified to be free of pests and pathogens.

Aquaculture permits. Those white list species okay, but anything else has to be permitted.

Issues with regulating aquatic recreation: Does DFW have the authority to regulate boat trailers? Can we regulate water in the boats or bait buckets? Usually we regulate a particular organism, but if we want to get serious about preventing the spread of invasives we may have to regulate the vectors and not just the species (i.e., drain all water after boat removal, remove all aquatic plants from boat trailer, etc.). Wisconsin and Minnesota have rules preventing weeds on boat trailers. Due to the arrival of VHS, Wisconsin has implemented rules on the movement of water and even prevents the movement of live fish (including bait) away from a body of water.

The inspectors are under Entomology. They have 9 inspectors. Bait buckets, boat trailers, etc. would be under control of conservation officers.

What's missing?

Currently there is no manpower to conduct survey on AIS other than on publicly accessible waters.

Laws and ability to white list and black list

No mandate to control invasive aquatic plants, except for hydrilla and Brazilian elodea as written in the Entomology rules (required to eliminate using lawful means if on your property)

Indiana should concentrate on making our laws and rules strong enough so that we do not have to rely on USDA or USFWS. USDA usually has an ag-related interest and USFWS cannot react as quickly as we need to.

Look at pet, aquarium, and water garden trade and permitting

Look at aquaculture

After surveys on all the public access sites – internally take care of addressing that.

Do we have authority to regulate the watercraft, the bait buckets, trailers – equipment not organisms?

Dr. Yaninek noted that we must get a handle on pathways vectors – understand where many or most of these are coming from.

Terrestrial Invasive Vertebrates (With help from DFW wildlife section and nongame section)

Early detection: Happens mostly through reports from public. Non-game biologists conduct surveys and will record and report invasives. Wildlife section's waterfowl survey has been used to inventory mute swans.

Control and management: Hunting and trapping is a tool for some animals, others can present unique challenges. Reproductive intervention, such as addling eggs, is easier to do on geese than on swans. Sometimes you can scare them away, but they adjust, e.g. starlings have gotten used to noise. Eradication for most species is unlikely.

Birds of concern: Mute swan, starling, rock pigeon, English sparrow, house finch, ring-neck pheasant, monk parakeet, Eurasian collared dove.

Mammals of concern: Feral hogs, armadillo (expanding their range naturally), nutria (moving further and further up Mississippi)

Herps of concern: Wall lizard at Falls of the Ohio state park – not sure what they are replacing/displacing; River cooter (turtle) - could displace some of our native; 3-toed box turtle – could displace our native box turtle which is already struggling; Bait salamanders - the problem may not be so much the salamanders but they have been implicated in carrying a fungus that can cause frog mutations.

Law and permits:

Exotic mammal law – prevents the taking of species on the list - can't shoot any pigs, except feral pigs which are domestic. Invasive birds can be taken at any time (English sparrow, starlings, etc.)

Game breeders license.

Importation permits for release

Cervidae possession permit

Possess, sale and transport of dangerous reptiles – crocodilians are not regulated until 5 feet long
Venomous reptiles

There is a classification of wild animals requiring permit – Classes I-III depending on danger level

Regulatory needs:

None identified by wildlife or nongame section, they feel statutes are in place to regulate invasive species.

Screening process and subsequent white list authority for trade organisms would probably be beneficial for terrestrial vertebrates.

Dr. Sandi Norman - Invasive Species – Animals

Office of the State Veterinarian – Indiana State board of Animal Health
11 member board 140 staff members
Veterinarians, animal health, support
Meat, poultry dairy inspections

15-2.1-3.11 – BOAH charge
Animals in general and their diseases

Primary Missions:

Animal Health - Pseudorabies, tuberculosis, scrapies (sheep), rabies (bats number one vector for infection to humans)

Food safety - Meat and poultry, dairy inspection

Emergency preparedness - SAVE, Animal Issues in disaster, ASERT (disease surveillance for emergency response)

We are using districts set up by Indiana Department of Homeland Security. 10 districts with 10 field veterinarians; 4 livestock inspectors statewide each veterinarian has a specialized area of expertise. They are trained in foreign and emerging diseases, conduct investigation and testing as needed

Foreign animal diseases.

Special training at Plum Island NY (off of Long Island) USDA biosecure level 3
FADD designation - Foreign animal disease diagnostician – soon we will have 15 FADDs in Indiana.

States are bidding on a new biodefense laboratory to be built in their state. Difficult to maintain facility in New York area-location, cost of living can be barriers. Foreign animal disease; investigate source; trace movements; collect samples; and quarantine premise.

Example of need:

If foot and mouth disease got into this country, it would be in 28 states in 10 days and would be an economic disaster.

National Animal Identification system with goal of:

- 48-hour trace back by livestock
- Provide the right info to the right people at the right time
- Industry-driven
- ID (each producer may have) may be different for each species
- National drive, controlled by states
- What a National Animal ID system : Disease surveillance, control eradication (herd of origin)
- Market access – domestic and international
- Human and animal health (foot and mouth most contagious disease agent that is known to man of either animal and human origin) zoonotic – transmits from animal to human – west Nile example
- Food safety
- Consumer confidence

PREM ID required by 9/1/06 of the following premises:

- Livestock dealers (animals housed)
- Exhibitions (including recordkeeping)
- Disposal plants (renderers)
- Slaughters plants
- Dairies (farms, plants, transfer stations)
- CEM quarantine facilities

Industry driven – they may keep their own registration (poultry)

Beagle Brigade

80-160 of them – they find food products, then they sit down beside the suitcase. Dogs are stationed at our ports of entry to inspect for food products that may bring disease. Don't have enough beagles or trained trainers. They are at O'Hare, Cincinnati, and any other international port of entry (focus where the most international traffic comes in.)

Pathogens:

- Foreign Animal disease (FAD)
- Foot and mouth disease
- Classical swine fever (hog cholera)
- African horse sickness
- Exotic Newcastle disease (END)

Other disease of concern:

- Avian influenza
- Brucellosis – TX is trying eliminated but they move a lot of cattle for breeding purposes- also brought up from Mexico

- Tuberculosis – found in deer herd in MI in 1995, spread to domestic animals in area – once in deer difficult to keep it from cattle. If you have TB, the herd is destroyed and there is a period of time before repopulation. If a state has two positive herds, it loses free status and must test all outgoing cattle before shipping, which is a huge added burden to herd owner, veterinarian and state officials.
- Transmissible Spongiform Encephalopathies (TSE), include: BSE [Mad Cow], Chronic Wasting Disease, Scrapie) - in midst of eradication for Scrapie in our sheep industry.
- Rabbit Hemorrhagic disease (RHD)- Highly contagious virus, high death loss, very quickly, no treatment or vaccine. Only 4 cases in western hemisphere. Threatens domestic rabbits. Poor sales records – sold a swap meets making source of infection difficult to trace. Potential threat to wild species when domestics released wild. American cottontails and jackrabbits not susceptible
- Monkey Pox

Provided a case study of an incident with Monkeypox found in prairie dogs.

Monkeypox 2003: Prairie dogs were the victims, victim of exotic pet trade. Orthopox virus (very devastating to immune suppressed people, squirrel family.) Common in central Africa. Zoonotic (shared between animals and humans), flulike symptoms, lesions. Little known. No treatment or cure. No definitive live animal test.

The threat was the human health impact and an unknown list of species affected.

Provided a case study of an incident with Monkeypox that found Prairie dogs the victim. Other animals from Africa infected the prairie dogs. If it had not been dealt with quickly, could have been a very serious problem and would have been fatal to native squirrels. Wisconsin discovered an unknown disease in prairie dogs, human transmission, likely sales in other states including IN

Time line:

ISDH confirms IN human case

BOAH emergency rule

BOAH, ISDH begin notification

CDC didn't know anything about disease. Didn't know how to test for it.

BOAH issued quarantines

41 of them originally

Weekly checks, phone or site visits; found out calling didn't really work people not truthful

Interagency communication – local state federal

CD identifies virus in animals with no clinical signs died by other means

CD recommended euthanasia

All rodents on April 9 shipment

All African rodents, prairie dogs from infected premises

6-week quarantine following removal.

Owners were compensated for their animals when they were removed from the home. (BOAH has small account to compensate owners for condemned animals.)

Challenges:

- Inaccurate info provided at sale made traces difficult or impossible
- Lack of trust by exotic owners - reluctant to share info with state
- Multiple agency coordination, state and federal investigations
- Communicating to media
- Little known about disease, scenario
- CDC did not place a high priority on this because no human died

Screwworm a parasite with short life cycle with flies, eggs, larvae, 31-day lifespan, eradicated from U.S.s in 1966.

- Common in South America.
- Enters open wounds and feeds on host.
- Infects warm-blooded animals
- Livestock and house pets
- Identified by small animal vet
- Life cycle completely on the cow and make them less productive; the meat is ruined and the hide is ruined

Feral pigs

- Free-ranging wild pigs
- Found in 39 states and they are primarily in southern and east-central in Indiana
- Biggest threat is the disease transmission to domestic hogs; compete with native wildlife and habitat/flood; crop and pasture losses; destruction to water ways, native plants, wetlands and threatened and endangered species.

Indiana feral pig policy:

- Nonnative species with significant threat
- Promote removal with no specified season – permission of owner
- Landowners can remove destroy at any time
- Cannot be stocked for hunting
- They can remove them if landowner doesn't want them removed
- Problem is, more and more of them.
- In southwest Indiana, some exotic Russian species'
- Very prolific

Ellen brought up that there are no hog surveys so we don't really know how many are out there – with sows producing 3 litters/year of 15 piglets, the population is likely increasing at a very high rate. It is not generally natural movement? There is a tremendous underground movement of hogs by those wanting to establish them in areas to hunt.

Another Case Study:

African Snails:

1966 A boy smuggled in three snails. His grandmother released them into the garden. Within 7 years there were 18,000 snails. It took 10 years to eradicate at \$1 million.

African snails are hermaphroditic animals with huge appetites. They are known to eat 500 types of plants. They will eat paint and stucco and can carry parasites, Meningitis, and Salmonella.

Summary:

- Surveillance at national, state level
- Challenge to keep up with the global market
- Increasing ownership of exotic species

Challenges to control/containment/eradication

- Multiple agencies/jurisdiction
- Diverse industries impacted
- Varied regulations

Maintain trade status/protect economy

- Constant vigilance at border
- Interagency communication
- Cooperation with industries

Is statute sufficient at this point?

Probably have power to regulate some animal issues, but need legislative directive. Limited by budget as to what can be accomplished.

Exotic mammals, fish, etc. need to be regulated . BOAH would also agree with DNR to define “exotic” and “invasive”.

If there are any number of animals coming into this country, we need to know where they are going and what they could be carrying to our domestic animal populations.

Doug asked: Does BOAH have the ability regulate the vectors? Answer: No they don't, except they do have some authority when a disease is involved. (We regulate the organisms not the vector.)

She said they would prefer to be proactive but frequently are reactive because not always aware of shipments and activity.

There are several states with BOAHs that are not part of their dept of agriculture. It works more efficiently when animal health is a stand alone agency. They can quickly react at the board level now.

SUB GROUP Meeting Discussion

The Task Force members were sent a straw man document developed by the subgroup. Discussion on this first draft ensued.

Keith: Unless it impacts agriculture, it doesn't get funded and doesn't matter. How do we get them to understand this?

Ellen noted we didn't address who would run it.

Some states have an invasive species coordinator

Some have a rotating chair, DNR one year, BOAH next yet, etc.

John doesn't think rotating chair will work well. All these folks are busy people and would have to neglect other things the year they are chair. Suggested putting it with the Natural Resources Commission and let them fund it.

Steve pointed out that the federal government hired a coordinator, but the chair of the council rotates.

John says then that means money to make the coordinator happen, etc., whereas the rotating arrangement does it with existing staff.

Phil liked the idea of the hired coordinator and rotating chair. This individual has work beyond the State of Indiana and could be a go between for us.

Ellen, who would that executive director work for?

Sandi, maybe DNR since more issues there.

Lynn suggested maybe something like the State Chemist except they are a coordinator not a regulator.

Jack asked why State Chemist? Because they administer state weed seed law and feed law. Why both Pesticide Review board and State Chemist isn't that duplicative. Ellen explained the appointment of a council member representing each of the regulatory divisions and then a corresponding designee from their rule-making body.

Phil O'Connor said that he thought the NRC members are already busy and hard to get them to Commission meetings without adding other requirements. Ellen said they also talked about adding an invasive species spot on each of the boards.

Steve asked who this group is going to report to: the Legislature through the Natural Resources Study Committee. Do they have other avenues of reporting to the legislature? Yes

Why do you have that top layer? Phil explained that the top layer are rulemaking and so that strengthens the bond between the Invasive Species council and the respective rulemaking bodies.

Phil asked if we were putting them in a conflict of interest. We think this needs legal review. Ellen said we could make them nonvoting members, but we still get the relationship built in.

Doug Keller said they do not dream up the rules on their own. But if a commission member brings it up, the other commissioners usually go along with it.

Phil M.: 57 steps to start a rule through beginning to end. It takes a minimum of a year. Sandi said theirs is a minimum of 6 to 9 months. They don't bring a rule unless we are pretty certain that it will be adopted.

Jack asked if we were thinking this would result in a budget for invasive species control.

Ellen said we are thinking more about an Invasives Species Council. Then it would be the work of the Invasive Species Council to look at that and make a recommendation. Working all together might make it more likely.

John said this has to be set up so no money would go through this council. Correct.

Jack says that has a huge impact. Think about it.

Ellen indicated that she wants to hear if Task Force Members think this would help develop a case for it.

Jack said the closest example he could think of currently in is SHPO – DNR director is the state SHPO. He said there is line item potential, as in the CR&R budget.

Phil brought up the model of Slow the Spread. There are 11 states that create budgets, create workload, and then take it to the board of directors. They are the bosses. They give final approval of that budget as a body.

Administrative side and budget side – that is the reason Jack brought this up.

Steve brought up that there could be overlap with this council and the agencies. So we need to identify the council's goal and what value it adds to this discussion: Setting state priorities, coordinating priorities of the state, and to be an advocate for invasive species in the legislature, etc.

Sandi adds that an animals industry representative as a nonvoting member (Ag Resource Council) should be added.

Members discussed whether the Department of Tourism and Department of Administration are needed members.

It was noted that there weren't many landowner groups. How do we get the right groups/persons involved here?

Keith posed the question: Do we want to make this a science based group?

Science can get a little better leg up on the politics.

Next steps:

March 19. Between now and then Ellen will get out a recap and you need to talk about this with partners and gather input to make improvements..

Meeting next week with DNR deputy directors.

Reviewed draft outline of Findings and Recommendations document and writing assignments.

It was pointed out that we need input on what the problem is so we can tell the story to legislators about the problem. We can tell them what is going on.

Steve Yaninek noted that they are looking regionally at forest pests and pathogens. We'll need to incorporate projects like this into our findings, e.g. here is the state view, here is the regional view that Indiana is involved in. We need to look at what each of you prepare as a starting point and then we can add to it.