

TSSDS Environmental Hazards Outliner

1. General Comments (Content Issues)

- Remove DOD types. If necessary add federal, state, and local types. It may be appropriate to create federal, state and local classes.
- I am assuming that the class env_haz implies a negative environmental impact and "waste" in the entity class definitions implies a product due to human activity. There are chemical, radioactive, etc. residuals or contaminants that natural. For example a natural gas seep into an aquifer used for drinking water. The natural gas seep could render the aquifer unusable as a water supply source. This is an environmental hazard yet not a waste supplied by human activity.
- Pollution plumes in some of the entity types imply a detriment to the environment. However, some plumes, such as discharges to streams from sewage treatment plants, actually can improve an aquatic ecosystem in a stream that is already stressed due to some other source. For example, a discharge could add nutrients to a stream that is sterile due to a major dam upstream or increasing the hardness/alkalinity of a stream making certain constituents less toxic to aquatic organisms.
- A waste or residual is only a hazard when a concentration reaches a point that it becomes a negative impact.
- The geology set might work in California but not in the Northeast. Need sinkholes, strike and dip pts, glacial features, slumps/landslides, seismic (or other data) line locations, structural identification, etc.
- In each set related to pollution there should be a sample pt. location. This would require a lot of chemical data attached which would be difficult but desirable to standardize. Plumes, etc. without the defining pt locations can be a problem.
- Environmental hazards - water related. The classes of water (hydrography set) should be reflected in env_haz. For example - there is a wetland class/type should there be a class/type of env_haz referring to wetlands?

2. Additions (Content Issues)

- Many of entity types are repeated (radioactive, petroleum, mixed, medical, and chemical) under that different entity classes (surface water, sediment, soil, etc). There are no references to biological contamination. Medical waste does not cover all biological wastes. Suggest adding a biological entity type to each entity class.
- For example: `biological_waste_polluted_surface_water` and use the definitions from the other entity types substituting the word biological.

3. `env_haz_surface_water_pollution`

3.1 `surface_water_pollution_plume_area`: Line on either a two or three dimensional plane in the surface water which represents a constant measured or modeled pollution chemical constituent value (e.g., concentration) considered to dangerous to the environment.

- Remove "constant".

3.2 `surface_water_pollution_isoline_area`: Line on either a two or three dimensional plane in the surface water which represents a constant measured or modeled pollution chemical constituent value (e.g., concentration).

- What is a three dimensional plane?
- "_line" not "_area".

3.3 `radioactive_waste_polluted_surface_water_area`: Area where radioactive waste residues are present in the surface water at concentrations considered to be detrimental to the environment.

- End after "water".

3.4 `petroleum_waste_polluted_surface_water_area`: Area where waste product residues composed of petroleum based fuels, lubricants, or products are present in the surface water.

- No comment.

3.5 `mixed_waste_polluted_surface_water_area`: Area where mixed (i.e. radioactive & chemical) waste residues are present in the surface water at concentrations considered to be detrimental to the environment.

- End after "water".

3.6 medical_waste_polluted_surface_water_area: Area where medical waste residues are present in the surface water at concentrations considered to be detrimental to the environment.

- End after "water".

3.7 chemical_waste_polluted_surface_water_area: Area where chemical waste residues are present in the surface water at concentrations considered to be detrimental to the environment.

- End after "water"

4. env_haz_solid_waste_management

4.1 ash_monofill_area: Receptacle where residue from an incinerator or similar combustion process is placed.

- No comment.

4.2 landfill_runoff_retention_area: Receptacle or reservoir where landfill surface runoff is collected and sampled to determine environmental quality prior to disposal or discharge to the environment.

- No comment.

4.3 landfill_runoff_drain_line: Ditch or piping system used for collecting and transporting landfill surface drainage to a monitoring and control location.

- No comment.

4.4 landfill_leachate_treatment_plant_point : Device or equipment used to reduce contaminants in landfill leachate to acceptable levels prior to discharge to the environment or disposal.

- A plant is not a device or equipment, it is a system of devices and equipments. A plant is a area not a point.

4.5 landfill_leachate_pump_point : A mechanical device that draws material into itself through an entrance port and forces the material out through an exhaust port.

- No comment.

4.6 landfill_leachate_collection_sump_point: Receptacle receiving landfill leachate collected by collection piping.

- This could be an area depending no size of sump.

4.7 landfill_gas_treatment_plant_point: Device or equipment used to reduce contaminants in landfill gas to acceptable levels prior to discharge to the gas flare or environment.

- This is an area.

4.8 landfill_transport_pipe_line: Piping system for conveying pumped or pressurized landfill gas and/or leachate from a compressor or pump to a treatment system, gas flare station, or collection receptacle.

- No comment.

4.9 landfill_gas_transport_compressor_point: Device for introducing pressurized air into a landfill gas collection system for the purpose of conveying collected gas to a gas flare station.

- No comment.

4.10 landfill_gas_flare_station_point: Device creating a vacuum on the gas collection system bringing the collected gas to a flare where it can be safely combusted.

- Too technical, simplify.

4.11 landfill_gas_collection_well_point: Shaft drilled in the earth for the purpose of collecting and conveying gas from underneath a landfill to the ground's surface.

- No comment.

4.12 landfill_collection_pipe_line: Pipe for capturing and conveyance of landfill leachate and/or gas to a location for treatment or management.

- No comment.

4.13 solid_waste_incinerator_point: Furnace or container for disposal of solid waste by burning at high temperature.

- This could be an area

4.14 solid_waste_transfer_station_point: Area or structure where solid waste is transferred from a collection truck or receptacle to another truck or receptacle for transporting to a disposal or treatment facility.

- Station_area vice point.

4.15 solid_waste_stockpile_area: Area used for short term collection and storage of solid waste prior to it's transfer to a disposal or treatment facility.

- No comment.

4.16 solid_waste_composting_facility_point: A receptacle or structure specifically designed and operated for the purpose of reducing solid waste to decayed organic matter.

- What is the difference between a receptacle and a structure?
- How can a structure be a point? How does scale affect determination of a location being point or area? onmly at the smallest scales would point be appropriate

4.17 solid_waste_compactor_point: A receptacle or structure containing a device which compresses solid waste.

- Must be an area.

4.18 solid_waste_material_recovery_facility_point: A receptacle or structure where solid waste materials are collected for recycling.

- Recycling should be in the name because it is the focus of the entity. Also, the name could be shortened.
- Area.

4.19 solid_waste_landfill_area: A facility or site, permitted by a regulatory authority, which is specifically designed and managed for the land disposal of solid waste.

- No comment.

4.20 solid_waste_dump_area: Any discernible unit at which solid wastes have been discarded or disposed of at any time, which was not specifically designed, managed, and/or permitted for such purpose.

- No comment.

4.21 landfill_cell_area: Excavated or constructed receptacle used for the disposal of solid waste.

- No comment.

5. env_haz_soil_pollution

- Please refer to comment made with the entity types defined under env_haz_sediment_pollution

5.1 soil_pollution_plume_area: Line on either a two or three dimensional plane in the soil which represents a constant measured or modeled pollution chemical constituent value (e.g., concentration) considered to dangerous to the environment.

- What do you mean by a three dimensional plane?
- Remove "constant".

5.2 soil_pollution_isoline_area: Line on either a two or three dimensional plane in the soil which represents a constant measured or modeled pollution chemical constituent value (e.g., concentration).

- Line not area.

5.3 petroleum_waste_polluted_soil_area: Area where waste product residues composed of petroleum based fuels, lubricants, or products are present or buried in the soil.

- No comment.

5.4 mixed_waste_polluted_soil_area: Area where mixed (i.e. radioactive & chemical) waste residues are present in the soil at concentrations considered to be detrimental to the environment.

- No comment.

5.5 medical_waste_polluted_soil_area: Area where medical waste residues are present in the soil at concentrations considered to be detrimental to the environment.

- No comment.

5.6 radioactive_waste_polluted_soil_area: Area where radioactive waste residues are present in the soil at concentrations considered to be detrimental to the environment.

- No comment.

5.7 chemical_waste_polluted_soil_area: Area where chemical waste residues are present in the soil at concentrations considered to be detrimental to the environment.

- No comment.

6. env_haz_site_management

6.1 superfund_site: A site designated by the Environmental Protection Agency as a National Priority List site.

- Probably a polygon, not a point.

6.2 hazards_potential_concern_site: A site of suspected environmental contamination.

- No comment.

6.3 dod_other_environmental_hazards_site: A department of defense (dod) owned or used site area with known environmental hazards which is not separately identified.

- No comment.

6.4 dod_installation_restoration_program_site: A site currently owned or used by the Department of Defense which has been identified for investigation/remediation under the Installation Restoration Program (IRP).

- No comment.

6.5 dod_formerly_used_defense_site: A site which was formerly owned or used by the Department of Defense which has been identified for assessment/investigation/remediation under the Defense Environmental Restoration Program - Formerly Used Defense Sites (DERP-FUDS).

- No comment.

7. env_haz_sediment_pollution

7.1 sediment_pollution_plume_area: Line on either a two or three dimensional plane in the sediment which represents a constant measured or modeled pollution chemical constituent value (e.g., concentration) considered to dangerous to the environment.

- Should remove "constant" from definition. Concentrations are not constant within a plume.

7.2 sediment_pollution_isoline_area: Line on either a two or three dimensional plane in the sediment which represents a constant measured or modeled pollution chemical constituent value (e.g., concentration).

- Change _area to _line. Concentrations will not remain constant within an area.
- Line not area.

7.3 radioactive_waste_polluted_sediment_area: Area where radioactive waste residues are present in the sediment at concentrations considered to be detrimental to the environment.

- The word "waste" infers contamination due to some human activity and does not consider contamination due to natural conditions or occurrences.

7.4 petroleum_waste_polluted_sediment_area: Area where waste product residues composed of petroleum based fuels, lubricants, or products are present in the sediment.

- The word "waste" infers contamination due to some human activity and does not consider contamination due to natural conditions or occurrences.

7.5 mixed_waste_polluted_sediment_area: Area where mixed (i.e. radioactive & chemical) waste residues are present in the sediment at concentrations considered to be detrimental to the environment.

- The word "waste" infers contamination due to some human activity and does not consider contamination due to natural conditions or occurrences.

7.6 medical_waste_polluted_sediment_area: Area where medical waste residues are present in the sediment at concentrations considered to be detrimental to the environment.

- End after "sediment".

7.7 chemical_waste_polluted_sediment_area: Area where chemical waste residues are present in the sediment at concentrations considered to be detrimental to the environment.

- The word "waste" infers contamination due to some human activity and does not consider contamination due to natural conditions or occurrences.

8. env_haz_regulated_tank_manage

- Add entity types to include abandoned tanks because these are the tanks that are more of a concern to the environmental community.

8.1 regulated_storage_tank_farm_area: A defined or bounded geographical area where regulated storage tanks are located.

- Would prefer to use the word "field" rather than "farm". Farm has a agricultura conotation. However I can live with "farm".

8.2 regulated_aboveground_storage_tank_point: A receptacle or chamber used for storing bulk fuels or chemicals of which 90 percent or more is located above the surface of the ground.

- (See underground entity definition).

8.3 regulated_underground_storage_tank_point: A receptacle or chamber used for storing bulk fuels or chemicals of which 0 percent or more is located beneath the surface of the ground.

- Aboveground is defined as 90 percent or more above. To match up with other definition an underground tank has to be greater than 10 percent.
- (See aboveground entity definition)

9. env_haz_pollution_remediation

9.1 remediation_thermal_desorption_unit : The location of a pollution remediation thermal desorption unit.

- Don't understand this definition. Futher define remediation process.

9.2 remediation_incinerator: The location of a pollution remediation incinerator.

- No comment.

9.3 hazards_operable_unit_area: One or more areas possessing environmental contamination characteristics which are amenable to the same type of remediation, treatment, or management procedure.

- No comment.

9.4 hazards_temporary_stockpile_area: A designated area for the temporary stockpiling of contaminated soil.

- No comment.

9.5 hazards_remediation_excavation_area:The area where contaminated soil, buried drums, buried tanks, etc. are to be, or have been, excavated and removed.

- This is OK if one is referring to a two dimensional representation on a map. This definition does not lend itself to a particular depth of the area.

10. env_haz_munitions_remediation

10.1 munition_waste_disposal_area: Location where munitions waste (conventional, chemical, or biological) has been disposed of (e.g., pit, buried containers, etc.).

- No comment.

10.2 biological_warfare_waste_area: Area where biological warfare waste residues are present or buried in the water, soil, or sediment.

- No comment.

10.3 chemical_warfare_waste_area: Area where chemical warfare waste residues are present or buried in the water, soil, or sediment.

- No comment.

10.4 ordnance_explosive_waste_area: Area where ordnance and explosive waste residues are present or buried in the water, soil, or sediment.

- No comment.

11. env_haz_hazmat_hazwaste_manage

11.1 contained_pcb: The location of contained polychlorinated biphenyls (e.g., electrical transformers, etc.).

- No comment.

11.2 hazardous_waste_storage_vault: The location of a secured vault or cabinet designated for the storage of contained hazardous waste.

- No comment.

11.3 hazardous_waste_storage_room: The location of a room designated for the storage of contained hazardous waste.

- No comment.

11.4 hazardous_materiels_storage_vault: The location of a secured vault or cabinet designated for the storage of contained hazardous materiels.

- No comment.

11.5 hazardous_materiels_storage_room: The location of a room designated for the storage of contained hazardous materiels.

- No comment.

11.6 contained_hazmat_storage_building_point:The location of a building designated for the storage of contained hazardous materiels.

- This should be a polygon, not a point, change name accordingly.
- A point or polygon is a matter of scale. Therefore should there be two speparate entity types?

11.7 hazardous_materiels_storage_area: A defined area designated for the storage of contained hazardous materiels.

- No comment.

11.8 contained_hazmat_storage_area: A defined or bounded geographical area designated and used for the storage of contained hazardous materiels.

- No comment.

11.9 contained_hazwaste_storage_area: A defined or bounded geographical area designated and used for the storage of contained hazardous waste.

- No comment.

11.10 contained_hazwaste_storage_building_point: A building or structure which is designated and used for the storage of contained hazardous waste.

- A point or polygon is a matter of scale. Therefore should there be two speparate entity types?

12. env_haz_groundwater_pollution

- Should consider biological, bacteria, pathogens as additional entity types.

12.1 radioactive_waste_polluted_groundwater_area: Area where radioactive waste residues are present in the groundwater at concentrations considered to be detrimental to the environment.

- The word "waste" infers contamination due to some human activity and does not consider contamination due to natural conditions or occurrences.

12.2 petroleum_waste_polluted_groundwater_area: Area where waste product residues composed of petroleum based fuels, lubricants, or products are present in the groundwater.

- The word "waste" infers contamination due to some human activity and does not consider contamination due to natural conditions or occurrences.

12.3 mixed_waste_polluted_groundwater_area: Area where mixed (i.e. radioactive & chemical) waste residues are present in the groundwater at concentrations considered to be detrimental to the environment.

- The word "waste" infers contamination due to some human activity and does not consider contamination due to natural conditions or occurrences.

12.4 medical_waste_polluted_groundwater_area: Area where medical waste residues are present in the groundwater at concentrations considered to be detrimental to the environment.

- The word "waste" infers contamination due to some human activity and does not consider contamination due to natural conditions or occurrences.

12.5 chemical_waste_polluted_groundwater_area: Area where chemical waste residues are present in the groundwater at concentrations considered to be detrimental to the environment.

- The word "waste" infers contamination due to some human activity and does not consider contamination due to natural conditions or occurrences.

12.6 groundwater_pollution_plume_area: Line on either a two or three dimensional plane in the groundwater which represents a constant measured or modeled pollution chemical constituent value (e.g., concentration) considered to be dangerous to the environment.

- Should remove "constant" from definition. Concentrations are not constant within a plume.

12.7 groundwater_pollution_isoline_area: Line on either a two or three dimensional plane in the groundwater which represents a constant measured or modeled pollution chemical constituent value (e.g., concentration).

- Change _area to _line. Concentrations will not remain constant within an area.

13. env_haz_general_pollution

13.1 polluted_area_of_concern: The defined area of a polluted area of concern located within an environmental hazards site.

- No comment.

13.2 pollution_source_site: Site which contributes pollution to the environment (e.g., agricultural cropland).

- Should be a point source, therefore "cropland" is not an appropriate example, perhaps, pipe outfall instead

13.3 hazardous_waste_disposal_area: A location where hazardous waste has been disposed of (e.g., pit, buried drums, etc.).

- What about point locations? Perhaps need a new type.

14. env_haz_general

14.1 hazards_seasonal_restriction_area: An area where access is restricted due to environmental hazards or safety reasons.

- No comment.

14.2 washdown_water_tank_point: A receptacle for collecting water from equipment cleaning and decontamination operations.

- No comment.

14.3 equipment_decontamination_pad_point: A designated area or structure located within the contamination reduction zone where large equipment is cleaned and decontaminated.

- No comment.

14.4 hazards_support_zone_area: A designated area outside the contamination reduction zone where environmental hazard investigation, response, or remediation support operations take place.

- No comment.

14.5 hazards_staging_area: A designated area outside the contamination reduction zone where environmental hazard investigation, response, or remediation equipment is assembled, stored, or maintained.

- No comment.

14.6 hazards_site_information_center_point: An onsite (usually temporary) building, structure, or area where information concerning an environmental hazard investigation, response, or remediation activity is maintained for review or dissemination to the public and visitors.

- No comment.

14.7 hazards_onsite_command_post_point: An onsite (usually temporary) building, structure, or area where environmental hazard investigation, response, or remediation activities are coordinated and managed.

- No comment.

14.8 hazards_exclusion_zone_area: A designated area which contains contaminants at concentrations considered hazardous for personnel or workers not wearing personal protection equipment.

- No comment.

14.9 decontamination_line: A line located within the contamination reduction zone where workers and equipment progress for sequential cleaning and removal of contaminants.

- No comment.

14.10 contamination_reduction_zone_area: A designated area where contaminants are removed from workers, and equipment prior to their exit from a polluted site.

- No comment.

15. env_haz_emergency_preparedness

15.1 spill_containment_tank_point: Receptacle or chamber constructed at a potential spill/release location for the purpose of containing a potential spill..

- No comment.

15.2 spill_containment_feature_area: Device or feature prepositioned or constructed at a potential spill/release location for the purpose of containing a potential spill. This includes the orientation of booms on the water and fixed berms on the land.

- Simplify. Second sentence is too academic.

15.3 spill_response_staging_area: Location of prepositioned equipment that is used to respond to a spill or release.

- Delete "prepositioned" and add "support".

15.4 hazards_potential_release_point

- "Location of an item which has been identified as a potential spill, emission, or pollution release source."
- What is the "item" that is referred to?
- Is a point pollution source?

15.5 spill_response_feature_point: Equipment, measures, or devices to be used in response to a spill emergency or preventative devices.

- Is this redundant?

15.6 emergency_shower_point: A fixture or apparatus whose purpose is to apply potable water to the entire body of workers in the event of an accident.

- No comment.

15.7 emergency_eyewash_point: A fixture or apparatus whose purpose is to flush the eyes of workers with potable water in the event of an accident.

- No comment.

16. env_haz_characterization

- I am confused about the definitions for field_point vs. Surface or groundwater station. I believe the difference is one has equipment installed whereas the other is just a location?
- Above comment refers to the list of entity types under this group.

16.1 surface_water_quality_monitoring_station: Equipment installed at predetermined location for the automatic or manual periodic collection of samples for monitoring the environmental quality of surface water.

- Delete "at predetermined location for the automatic or manual".
- The station may not have equipment installed. A station maybe just a location where a manual sample is collected.

16.2 groundwater_quality_monitoring_station_point: Equipment installed at a predetermined location for the automatic or manual periodic collection of environmental groundwater samples.

- See comment for surface water above.
- The station may not have equipment installed. A station maybe just a location where a manual sample is collected.

16.3 magnetometer_detection_point: Location where the possible presence of subsurface munitions, tanks, drums, and other features are detected using a magnetometer or similar instrument.

- No comment.

16.4 air_quality_monitoring_station_point: Equipment installed at a predetermined location for the automatic or manual periodic collection of environmental air samples.

- See surface water comment above.

16.5 landfill_gas_monitoring_probe_point: Shaft placed along the perimeter of a landfill, in native soil, to detect escaping gas before it poses a threat to the adjacent environment.

- No comment.

16.6 field_sample_collection_location_point: The physical location at which one or more environmental hazards field samples are collected.

- No comment.

17. env_haz_bldg_hazard_remediation

17.1 building_environmental_hazard_site: Site of building or structure which contains one or more building environmental hazards.

- No comment.

18. env_haz_air_pollution

18.1 air_emissions_source_point: A specific location where air emissions or air pollution originates.

- No comment.

18.2 air_pollution_source_site: A defined area where air emissions or air pollution originates.

- Specific location of release.
- Defined area is too vague.

18.3 air_pollution_plume_area: Line on either a two or three dimensional plane in the air which represents a constant measured or modeled pollution chemical constituent value (e.g., concentration) considered to dangerous to the environment.

- Not necessarily a danger to the environment, could be simply measureable.
- Not a line but a polygon.
- Remove "constant" and leave as measured or modelled.

18.4 air_pollution_isoline_area: Line on either a two or three dimensional plane in the air which represents a constant measured or modeled pollution chemical constituent value (e.g., concentration).

- Line not area.

18.5 radioactive_waste_polluted_air_area: Area where radioactive waste residues are present in the air at concentrations considered to be detrimental to the environment.

- End after "present in the air." all concentrations can be considered detrimental.

18.6 petroleum_waste_polluted_air_area: Area where waste product residues composed of petroleum based fuels, lubricants, or products are present in the air.

- No comment.

18.7 mixed_waste_polluted_air_area: Area where mixed (i.e. radioactive & chemical) waste residues are present in the air at concentrations considered to be detrimental to the environment.

- Stop after "air".
- Change "i.e." to "e.g."

18.8 medical_waste_polluted_air_area: Area where medical waste residues are present in the air at concentrations considered to be detrimental to the environment.

- No comment.

18.9 chemical_waste_polluted_air_area: Area where chemical waste residues are present in the air at concentrations considered to be detrimental to the environment.

- No comment.