

[illegible]

Equipment and Supply Lists

Sampling/data collection

- Convex spherical canopy densiometer (Lemmon Model B), modified with taped “V”
- GPS receiver
- 1 roll each colored surveyor’s flagging tape (2 colors)
- 3 to 4 pairs chest waders with safety belt; various sizes including mens 8 x 1, mens 9 x 2, mens 10 x 1
- 1 or 2 fisherman’s vests with lots of pockets and snap fittings
- Digital camera with extra memory card & battery
- 100 m measuring tape with reel
- Meter stick for bank angle measurements
- Calibrated PVC sounding rod, 2-m length, marked in 0.1 m increments
- Laser range finder (400 ft. distance range) and clear waterproof bag
- Clinometer x 2
- Binoculars
- Bearing compass (Backpacking type) x 2
- Current velocity meter, probe, and operating manual
- Top-set wading rod for use with current velocity meter
- Surveyor’s telescoping leveling rod (round profile, metric scale, 7.5m extended)
- Sounding rod or wading staff or PVC sounding rod
- Field Operations Manual and/or laminated Quick Reference Guide
- Maps and access instructions
- Sampling permits and/or permission letters

For recording data-data sheets

- 2 covered clipboards (lightweight, with strap or lanyard)
- Rite in the Rain – all weather writing paper

- Soft (#2) lead pencils or 0.9 mm HB lead mechanical pencils
- Fine-tipped indelible markers – Sharpie or Lumocolor markers

Data sheets

- 1+ extras field form: Discharge Measurements
- 1+ extras field form: Detailed Cross Sections
- 1+ extras field form: Reach Map
- 1+ extras field form: Standard Transect Assessments
- 1+ extras field form: Reach Characterization
- 6+ extras field form: Photographic Record Sheet

Site Establishment and Marking (in addition to above)

- Rebar, ½” x 20” - 6 for each site/reach + 3 extras
- Rebar driver (e.g. Berntsen RDRV4) – must use urethane faced hammer
- Urethane-faced, dead blow hammer (e.g Lixie 250H-TT)
- Leather gloves
- Safety glasses, ANSI Z87.1 impact resistant
- Labeled tags and wire
- Large nails and washers (three for each site)
- Pliers/locking pliers (e.g. Vise-Grip or Torque Lock pliers)
- Brass hammer (1-2 lbs) for stamping
- Steel stamps for marking dates on tags
- Steel bench block/stamping block
- Tape to hold tags to block
- Chaining pins, set of 11
- Leather quiver for chaining pins

General and Safety Equipment

- First aid kit

- Sanitizer, antibacterial soap, or other way to clean water-exposed hands and skin.
- Batteries
- 1% - 10% Bleach
- Plastic storage tub
- Cell phone, 2-way radios and/or walkie-talkies, smart device
- Satellite messenger (for remote/backcountry work)
- Lifejackets (1/person) ~ 3 x PFDs
- Type IV PFD (Throwable Life Saving device)
- Sunscreen (individuals must provide their own)
- Insect repellent (individuals must provide their own)
- Insect head net for each person
- Water bottles or other hydration systems (e.g., Camelback)

Literature Cited

Thornbrugh, D. J., I. W. Ashton, A. R. Jarding, J. S. Mills, and K. Paintner-Green. 2019. Protocol implementation plan for stream channel monitoring in the Northern Great Plains Network: narrative version 1.0. Natural Resource Report NPS/NGPN/NRR—2019/1918. National Park Service, Fort Collins, Colorado.