

# 1728-G30/ 1728-G40 Petite Ponar® Grab

## Safety:

1. Be sure you are able to keep the boat in proper balance at all times. Lifting the Ponar® Grab into the boat, dumping its contents, and washing those contents may require leaning over the side of the boat.
2. Severe injury to fingers or hands can be caused by movement of the lever arms. Push the safety pin through both locking holes; unexpected movement of the lever arms or scoops can be dangerous.

## Description:

**Wildlife Supply®** manufactures the Ponar® grab to the original specifications and owns the trademarks and patents. Only **Wildlife Supply®** has the right to use the word "Ponar®" in conjunction with our grabs.

The Ponar® Grab Sampler enjoys widespread use on all types of bottoms for sampling of benthos sediments, except the hardest clays, in both fresh water (1728-G30) and salt water (1728-G40).

It is recommended for:

- a. **Firm, hard bottoms**, free from vegetation, such as sand, gravel, consolidated marl, clay.
- b. **Mixtures of sand, stones**, coarse debris
- c. **Soft or mucky sediments**

**Wildco's®** significant contribution to the popularity of this instrument is the exclusive "Safety Pin" lock. This lock prevents closing of the dredge until its removal and safeguards you from untimely, unexpected closings.

Sturdily built of all steel, except for brass screens, it is a deliberately heavy device. Its total weight, augmented by extra weights and the mechanical leverage exerted during the closing action, allows it to bite deep into the bottom. The unique design and construction of jaws with an attached underlip enables the grab to wipe free most stones and gravel which may jam open otherwise. Tapered cutting edges assist in easy soil penetration. Closing should occur over 90% of the time. If it does not, this may mean it needs to be cleaned.

The center pivot scoop causes minimal disturbance to the sample. It samples well, clear firm clay bottoms to the depth of its scoops, or, if the clay is very hard, as deep as most aquatic invertebrates dig. Heavy duty hinges easily absorb heavy impacts. Features include all stainless steel scoops and bottom underlip and removable stainless steel top screens which slide on and off. The underlip wipes clean most pebbles and small cobble that would prevent the scoops from closing completely. Removable side plates prevent the lateral loss of sample when scoops are closing. Scoop volume is 8200 mL.

First produced in 1966, it has remained one of the mainstays in environmental science.

## Accessories:

*The following accessories are manufactured by **Wildlife Supply®** for express use with the equipment you have bought. As always, we recommend purchase of crucial replacement parts **before** your sampling session.*

- Braided polyester line  
*We recommend 3/16" line, #62-C15*
- Wash Frame
- Winches, especially for use with the heavier Standard Ponar® Grab  
*We recommend #66-C10*
- Cranes
- Wash Bucket for dumping the contents of the Petite Ponar® Grab  
*We recommend #196-E20*

**1728-G30 is not recommended for salt water sampling. Use 1728-G40 (all stainless steel) for salt water sampling.**



**66-C10** General Purpose Winch



**188-E10** Wash Frame, Complete



**190-E20** Wash Bucket - Custom mesh sizes available

*Note: Studies made in Lake Michigan by .A. Robertson and C.F. Powers of the Great Lakes Research Division, University of Michigan at Ann Arbor; indicate that the Ponar® is a more efficient quantitative sampler of the macrobenthos than the orange peel, Petersen, or Smith-McIntyre. Study depth ranged from 23 to 150 meters in variety of hard and soft sediment types.*

### Preliminary Techniques:

1. It is advisable to take one or two trial samples at the beginning of a sampling program as a means of determining whether added weights are necessary to make certain that the grab will bite deep enough into the bottom being sampled.
2. If a stick, rock or other hard object should be wedged between the jaws and prevent complete closure when the sample is being taken, that sample must be discarded as imperfect.

### Operating Instructions:

1. Inspect the sampler to ensure all parts are in good working condition and that the unit is securely fastened to the line on the hoist.

**Safety Tip:** Do not handle or move the Ponar® grab

unless the safety pin is fully pushed in the locking holes. To insert the Safety Pin lock, keep clear of the jaws and other working edges. Move the jaws to the open position. Bring the free end of the horizontal locking bar into position in the locking notch on the upper bar.

2. **Attach your line.** We recommend use of Wildco®'s

3/16 braided polyester line (62 - series). Loop your line through the clevis at the top center of the lever arms and **tie securely!** Strong, tight knots are essential for operator safety and to prevent losing the sampler.

3. **Use a winch with the Standard Ponar®.** Due to its weight (45 lbs.) a winch such as Wildco®'s **66-C10** is generally used for the heavier grabs. The Petite Ponar®, at 24 pounds, is usually hand-held.
4. **Tie the other end of your line to your boat or float.** To prevent loss of the sampler, attach the free end of the line securely to the boat or a float for easy recovery. It is obvious what will happen if this is not done. Avoid being one of the professionals who phone us for rush replacements, sometimes while still on the boat, who have just watched their equipment plummet to the bottom of the lake. With the boat or platform on location for the first sampling, use the hoist to lift the grab clear of the deck and outboard.
5. **Insert the pinch pin™.** Just before lowering the

grab into the water, and with the line taut, remove the safety pin so that the closing mechanism will release when the sampler is on the bottom. Firmly push the Pinch-Pin™ in its place. As long as the line is taut the pinch-pin will stay in place. When the line becomes the least bit slack, the pinch-pin spring will pop out of the lever arm holes, allowing the scoops to close.

6. **Lower the sampler slowly.** Top surfaces are covered with No. 30 mesh brass screen to reduce shock wave and drift, yet prevents bottom sediments and organisms from escaping. When the line slackens, which means you've attained the depth desired, the pinch-pin pops out, and you're ready to sample.
7. **Take your sample.** When the grab reaches the bottom, allow a moment for it to sink into the sediments. Then slack off on the cable. Letting the cable go slack serves to release tension on the upper bar, permitting the movement that allows the horizontal locking bar to drop out of the locking notch. Now the tension on the cable is resumed to exert a closing motion, transmitted mechanically through the bars and to the jaws of the grab. This mechanical action, plus the force exerted downward by the weights bolted to the jaws, tends to force the jaws deeper into the bottom as they are moving to close. The machine tapered butting edges on the jaws add to the ease of movement through bottom materials.
8. **Retrieve your sample.** Pull the line up. This causes the lever arms to drive the scoops into the bottom and closes the scoops before the grab is lifted.

*With a 1725 standard Ponar®, use the winch to*

*maintain tension on the cable. Close the sampler and raise the apparatus back to the surface with a steady, slow lift.*

*Closing should occur over 90% of the time.*

If it does not, carefully inspect all moving parts for cleanliness and ease of movement. Clean and adjust as needed.

8. **Remove the sample** When the grab reaches the surface, lift it clear and swing it inboard to a position over a tub placed to receive the sample. The Petite Ponar® sample may be dumped into a **196-E20** wash bucket or similar bucket. Both grabs can use the Wash Frame **188-E10** and can be rinsed clean with water.
9. Taking care to stay clear of the edges of the grab jaws, open the sampler and discharge the sample into the tub. Samples should be screened, sieved, separated, bottled, labeled and otherwise processed for analysis and classification studies by the standard procedures outline for the work in progress.
10. If your specimens are not analyzed at once, **place them in a labeled plastic bag** or jar for later analysis.

- At the end of sampling operations, replace the “Safety Pin” to prevent accidental closing of the grab jaws in handling or shipping. Then wash and inspect the grab and make necessary repairs or adjustments in preparation for the next use.

**Operating Tip:** To take small sub-samples, keep the scoops closed and slide open the top screen. Then push several small diameter clear plastic tubes through the collected sample down to the scoops. Withdraw the tubes and throw back the balance of the sample.

There are many other ways to process the sample, depending upon the reason for taking the sample.

## Maintenance:

- Keep lightly oiled and/or greased!** Lever arm pivots and the big hinge pin use an **automotive grade grease** or oil. Clean and adjust for smooth and easy motion.

*Tip: When the grab is out of service for a long time, apply a coat of oil or other rust barrier to protect its metal surfaces. Coat all surfaces, joints, bolts and stud-bolt holes if these are to be left open.*

- Daily Cleaning:** Thoroughly rinse with fresh water to remove any residue chemicals **after** each sampling session, with particular care after use in salt or acid water. Do the same with all equipment - cable, crane, winch, boats etc.

*Never store any aquatic sampling instrument or device while wet or damp. Always allow to air dry completely. Otherwise mildew or rust may form.*

- Wash the grab after each sample drop; at the close of the day’s work, give the entire apparatus a thorough washing with fresh water.
- Inspect the cutting edges after each sample drop. Severe nicks or dents may require reworking these edges to assure a good cutting action and tight closure.
- Removable top screens:** During your last washing, before storing, remove the two top screens and wash out any dirt or debris from the slots they slide in. Adjust the tension of the top screen by increasing or decreasing its twist. Hold by the short sides, twist as needed.
- Hard Water Scale:** After extensive sampling in hard water, calcium carbonate and other insoluble particles may build up. These may be removed by soaking the entire sampler in a 3 N solution of nitric, sulfuric or

hydrochloric acid. These solutions will remove the scale without damaging the metal or plastic parts. Limit soaking time to 30 minutes. Rinse thoroughly. Check it carefully by eye. Repeat as necessary.

*If needed, the side plates and underlip can be removed, unscrewed, straightened by hammering and replaced.*

## Bottom Sampling Criteria:

The requirements of bottom sampling are so diverse that no one sampler has been devised which will serve all purposes. For preliminary or reconnaissance work, certain simple forms of samplers may be used in most situations. For more precise work, however, the instrument must be chosen in accordance with the particular needs of the program and the structure of bottom materials.

### Considerations include:

- General purpose of the project as a whole
- Nature of the bottom - kind of materials and degree of uniformity
- Types of analyses to be made
- How the results will be used

Important to the success of the project is the taking of samples that are accurately representative of the entire area. Since no two sampling projects are identical as to physical properties and problems encountered, no predetermined guidelines can be formulated to assure this. Therefore you must rely upon the experience and expertise of the people doing the sampling.

Individual sample size must also be determined by sampling methods used and the physical character of bottom materials.

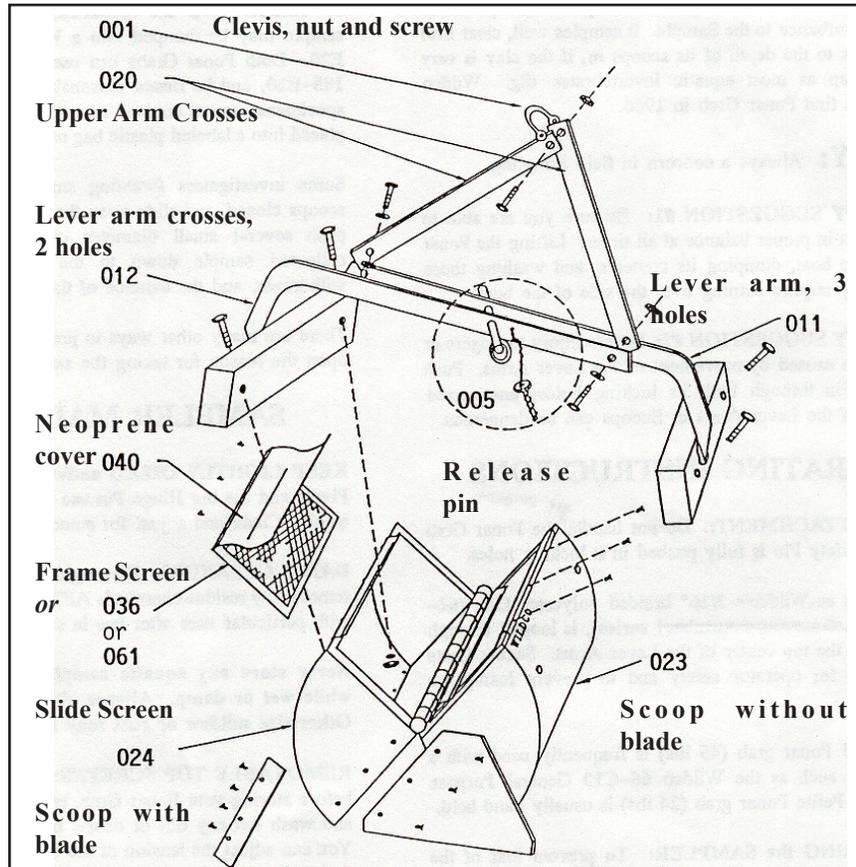
### General types of sampling techniques employed include:

- Horizontal sampling over the selected area. This may be performed by the random sampling method done in a totally random way or by the distribution of individual samples along transects planned in advance.
- Vertical, seasonal and special sampling require advance planning dictated by the work objective.

### Warranty and Parts:

We replace all missing or defective parts free of charge. For additional parts, we accept Mastercard, Visa, American Express, checks, institutional P.O.’s. All products guaranteed free from defect for 90 days. This guarantee does not include accident, misuse, or normal wear and tear.

**Trademarks:** Ponar®, Wildco® and Pinch-Pin™ are registered trademarks of Wildlife Supply Company®



**Petite Ponar® (1728-G30/1728-G40) Replacement Parts**

*It is strongly recommended that replacement parts be purchased before going into the field. In this way you need not lose precious sampling time waiting for critical parts.*

- 1728-G34 Replacement screen stainless steel, with screw (*pre-1995*)
- 1728-G36 Current replacement screen, stainless steel, for slide-type
- 1728-L11 Upper arm cross, stainless steel, 2/set
- 1728-L12 Release pin with chain and spring
- 1728-L13 Upper arm crosses, pair
- 1728-L20 Replacement flap & retainer w/ screws
- 1728-L21 Clevis for 1728-G30
- 1728-L24 Clevis for 1728-G40, all stainless steel
- 1728-L27 Scoop Blade Only
- 1728-L43 Scoop with blade (lip and 1 side plate)
- 1728-L44 Lever arm with 3 holes, plated steel
- 1728-L45 Lever arm with 3 holes, stainless steel
- 1728-L47 Neoprene cover only, 2 pack
- 1728-L48 Scoop, 1 side plate
- 1728-L56 Lever arm with 2 holes, stainless
- 1728-L58 Lever arm with 2 holes, plated steel

**Optional Weights for Petite Ponar®  
(1728-G30 and 1728-G40)**

- 1726-G12 Extra weights, plated steel
- 1726-G52 Extra weights, stainless steel

**P/N 24-1728**

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